PS Audio’s “Digital” Amplifier: RUNS COOL, SOUNDS HOT

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IN REVIEW:
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Mission’s Ultimate Pilastro LOUDSPEAKER
Clearaudio PHONO CARTRIDGE
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Modern Jazz CLASSICS ECM’S :rarum CDs

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– SoundStage!, 2002

“The athena AUDITION series home theater speaker system represents an incredible value by providing terrific sound at an unheard of price.”

– Home Theater Sound, 2002

“athena TECHNOLOGIES’ remarkable AUDITION AS-F2...far exceeded what I thought possible for its price – even twice its price.” – Stereophile, 2002
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• The 36" tall cabinet is available in a variety of exquisite wood, painted, and custom finishes to enhance any home environment.

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— Tim Shea, SoundStage!, July 2002

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"S"uicide junctions," I call 'em. The ones with which I'm most familiar are on I-278, just north of the Verrazano Narrows Bridge in Brooklyn, New York, and along North Mopac in Austin, Texas, but they must exist all over the US. Traffic about to enter the freeway must first cross the line of faster-traveling offcoming cars, the intersection's on- and off-ramps crossing in a shallow X.

Using a suicide junction can be an alarming subjective experience. However, given the huge financial investment made as the result of road planners' decisions and the possibly borrowing body of high-quality audio equipment that would result if such crossings were shown to be dangerous, there must be objective evidence to prove that they're as safe as the more usual cloverleaf.

A similar disparity has long existed in audio, where some components with superb objectively assessed performance produce subjectively disturbing experiences. In the THD Wars of the 1970s, amplifiers offered successively lower levels of harmonic distortion without their designers once trying to confirm whether the "improved" performance correlated with improved sound. In fact, the reverse appeared to be true: by reducing steady-state distortion to vanishingly low values with extremely high levels of negative feedback, further problems were introduced that led to bad sound.

When I decided, back in 1989, to start a program of measurements to accompany our reviews, I believed that if someone could hear something, it would be possible to find a measurement—or, more likely, a collection of measurements—that would begin to explain what was heard. However, my experience in the years since then has convinced me that making the essential causal connection between measurement and observation is far from simple.

The problem is that, as Audio Research's William Z. Johnson said in a Stereophile interview back in August 1994, "hi-fi is one of the few industries where products are measured one way and used in another way... Every measurement that we're aware of falls into the realm of what we call repetitive, or static, measurement. In the real world, the simplest musical signal has component signals one ten-thousandth the size of some of the other signals present, and at many, many frequencies at once. It simply defies the abilities of static circuitry measurement."

Yet static measurements are still all we have available. I remember hearing the late Richard Heyser in London in 1986 present the idea of the hi-fi experience as being multidimensional. The reproduction of music involves five or more separate parameters—as many as you care to identify, in fact—changing instanta-

nously at any one time (time, of course, also being a parameter). But if you want to measure that performance, you can effectively plot only one parameter against another—or, if you have 3-D graphics available, one parameter against two other parameters. The question is: Should we publish a particular graph? Does it throw light on the component's sound? Does it suggest the opposite? In which case is something overlooked to blame?

Sometimes the answers offered by designers suggest that they've been asking the right questions. With the big Mission speaker in this issue, or our 2002 Product of the Year, Halcro's dm58 monoblock amplifier (p.61), it can be assumed that at least some of the reason they sound so good is because of the way they measure. Yet the Sutherland DAC and the PS Audio amplifier—also featured in this issue and both designed by talented electronics engineers—have measured aberrations that psychoacoustic theory would imply are audible at least some of the time. Yet both were well-liked by the reviewers. Are my measurements providing the wrong answers? More work on the suicide junction is called for.

**Five Years of www.stereophile.com**

This month we celebrate five years of uninterrupted webcasting, our website having emerged from the Internet darkness on December 1, 1997, to become, at least in my eyes, an institution. Ralph Waldo Emerson wrote that "an institution is the lengthened shadow of one man," and www.stereophile.com is definitely the shadow of erstwhile high-end audio retailer Jon Iverson.

It was Jon, who is still our webmaster—or "web monkey," as he prefers to be called—who came up with the idea that timely audio news presented regularly would generate the repeat visits that are a website's oxygen. To the five and six stories that have been posted every Monday morning of the past five years, we have added weekly Votes and Soapboxes that allow visitors to take part in dialogues, a comprehensive audio-related links database, and e-commerce pages to promote (among other things) Stereophile's ventures into recording.

But most important, from this editor's point of view, has been the posting on www.stereophile.com of the paper magazine's content. Since December 1998, we have put up at least five archive items every week. As Jon Iverson mentions on p.15, we are now making "Recommended Components"—sometimes copied, never equaled—available on the site as .pdf files, starting with the complete 2002 and 2001 hangings. The economics of Web publishing dictate that we must charge for the .pdf files, but by December 1, there were also 700 equipment reviews, articles, and columns from Stereophile's first 40 years available free of charge in the site's archives.

Stereophile's equipment reports assess components both on how they sound and how they measure. Sounds great but measures bad, as I was discussing above? You'll find it all in the Web reprints, which sometimes include measurement graphs that we didn't have room for in the print edition.

As well as relatively unlimited space, one of the beauties of the Web is that it allows publishing time to be compressed or discarded. Many of our Web reprints therefore include all of the magazine's coverage of a product. For example, the archived version of our report on Sony's first-ever CD player, the CD-101 (www.stereophile.com/showarchives.cgi?193), contains not only J. Gordon Holt's January 1983 review but his August 1983 Follow-Up, his comments on the sound of the first CDs, readers' letters responding negatively to JGH's advocacy of the CD medium, Holt's response to a December 1983 Stereophile article condemning the then-new digital medium by Doug Sax of Sheffield Labs and The Mastering Lab (showarchives.cgi?194), as well as his year-

later thoughts from February 1984.

It is a tribute to the guys who put together www.stereophile.com that I can no longer envisage publishing a print magazine without it being run in harness with a symbiotic website. A lift of the glass, therefore, to Jon Iverson for his webmon- keying, to Harry Willis for his abilities as a newshound, to Wes Phillips and Richard Lehnert for their copyediting skills, to James Wigger for his web-page designs, to Jim Heintz for his programming prowess, and to all of you who have become regular surfers. Sahit.

---

**S**tereophile, December 2002
Features

2002 Products of the Year
John Atkinson and Stephen Mejias bring us the best products of the year, culled from the personal recommendations of each Stereophile reviewer.

Now Still Grave, Speak
Cantus records ... Against the Dying of the Light
Wes Phillips and John Atkinson report on the genesis and recording of the CD.

A Portrait Of The Artist as a...?
Artists through their own eyes (and ears). ECM's new catalog-spanning rarum series allows artists to choose their legacy. Thomas Conrad brings us the story.

Equipment Reports

84 PS Audio HCA-2 power amplifier
(Kalman Rubinson)

97 Conrad-Johnson Premier 18LS preamplifier
(Larry Greenhill)

107 Rogue Audio Magnum M-120 power amplifier
(Chip Stern)

113 Mission Pilastro loudspeaker
(John Atkinson)

119 Sutherland Engineering 12dAX7 USB DAC/preamplifier
(Michael Fremer)

125 Clearaudio Virtuoso Wood phono cartridge
(Robert J. Reina)

131 Grand Prix Audio Monaco Equipment Stands
(Paul Bolin)

Follow-Up

93 Bel Canto eVo2 power amplifier
(Kalman Rubinson)
Columns

5 As We See It
Do hi-fi audio products sound good because of their measured performance or despite it? John Atkinson examines this and other topics.

9 Letters
Two Stereophiles a month? We think not! But we're glad you asked. Other readers: question the integrity of the "audiophile" industry and our coverage of it (Alikey tries to set the record straight); accuse us, yet again, of going for the advertising back with our Class A recommendation of the PS Audio HCA-2; correct our mistakes; and applaud two-channel SACD.

15 Industry Update
High-end news, including dealer-promoted seminars, plus the complete 2001 and 2002 issues of "Recommended Components" available online; the passing of one of Britain's founding fathers of hi-fi, Jim Rogers; Red Rose Music opens in Chicago; Onkyo's universal DVD player; MartinLogan and Tweeter Group join forces to bring hi-fi to mass-market customers; the immorality of music downloading; industry plans for university education against file-sharing "theft"; and more on the UK's Hi-Fi Show.

29 Sam's Space
Sam Tellig listens to the Musical Fidelity A3.2 CS pre and power amplifiers, the X-Car 2.5 headphone amplifier, and names his "2002 Product of the Year."

35 Analog Corner
Michael Fremer hears good tidings for analog lovers from the UK's Hi-Fi Show, visits the new EMI vinyl pressing plant, and listens to three great phone stages.

43 The Fifth Element
John Marks offers some ideas for stuffing your favorite audiophile's holiday stocking, including Christmas-themed recordings, favorite interconnects and cables, and affordable speaker and mini systems.

137 Record Reviews
December's Recording of the Month is Goldblatt's A Rush Of Blood To The Head. On the classical front we have Renee Fleming's Bel Canto and a pair of new Mozart Requiem. In Rock, two new Little Feet albums find favor. And in Jazz we feature the latest by Charles Lloyd and Patricia Barber.

155 Manufacturers' Comments
This month we hear from Stereovox, Hagerman, EX-CELL Power Solutions, Lumia, Egglesfield, Hark, Sutherland, and Rogue.

162 Aural Robert
Is music losing its place in listeners' hearts? Is there a dearth of musical talent these days? Robert Baird travels to the UK and LA to look for clues.

Information

159 Audio Mart
161 Publishers' Statement
151 Manufacturers' Showcase
157 Dealers' Showcase
161 Advertiser Index

Stereophile, December 2002
“... the **Servo-15 rules** ... will do things that no other subwoofer I’ve heard will ...”


![Paradigm speaker](www.paradigm.com)
Walter wants more
Editor:
Do you think that you could publish two magazines a month? I can't get enough.
Walter
Bernuda
action469@northrock.bun

But Rafael's done
Editor:
I recently talked myself into a one-year subscription to Stereophile and now I know that it's paid off. Michael Fremer's comments to Jaime Arbona (Letters, October, p.15) have convinced me that you and your brethren "audiophile" editors are so full of yourselves as to be disbelieved at every turn.

Collectively, you've cheered the use of exotic metals and production techniques for interconnect cables that cost thousands of dollars. You've stretched the limits of superlatives to try to describe infinitesimal differences in exorbitantly priced components, all the while claiming that your golden, trained cars can hear a world of beauty that mortals with consumer-level products will never witness. Yet after all this, Mr. Fremer claims that "you can hear what the Boulder is up to on a car stereo, so I'm sure you'll hear it on your rig, or on a boombox for that matter." All from a CD-R, a medium that he obviously feels is inferior, otherwise he wouldn't be buying a phono preamplifier that costs more than the average American automobile.

I just want to say thanks for laying bare the hypocrisy and utter sham that is the "audiophile" industry. I'm done with my trial subscription to Stereophile.
Rafael Rodriguez
rafael@rodriguezacademics.com

I don't know of any Stereophile writer who claims to have "golden ears," Mr. Rodriguez. We are trained listeners who try to describe what we hear as clearly and as accurately as possible, both to help our readers choose equipment for their systems and to help them become better listeners. Some readers I've met listen as well as if not better than I do — the difference is that I am able to express what I hear in a way that is entertaining for me. I've been doing this for 16 years. While I've made my share of mistakes — I'm indeed a mere mortal — for the most part, readers have decided that their listening experiences match mine, and they trust me to give them a fair and accurate assessment of what something sounds like. It's very gratifying to get letters and e-mails from highly accomplished people — doctors, lawyers, nurses, journalists, CEOs, etc. — saying that my writing has helped them in some way to achieve musical satisfaction in their listening rooms. I'm sure other Stereophile writers get similar feedback.

What I (we) do claim is that a fine audio system, and not necessarily an expensive one, will sound better than most of the corporate commercial gear you'll find at the big chain stores. That's proven again and again when average consumers are exposed to a fine audio system for the first time. It takes most of them but a few minutes to hear what such a system can accomplish.

Over the years, I've invited guys who've done work on my house to sit in my listening chair as I play them a request. Not one of them has had any trouble hearing and expressing what he's experienced, and none of them do it with a sense of astonishment. Usually they say, "I've never heard that sound like that! I heard instruments I didn't know were there, and I've heard that song a thousand times." Or, "It's like they're playing right there. I can see them." Or, "I can hear each instrument separated out in space. I can follow just the piano if I want. I've never been able to do that."

There's nothing mystical, magical, or gold-plated about it. Anyone can hear what a high-end audio system has to offer. When I claim that you can hear what the Boulder 2008 does on a CD-R, played on a boombox, where is the hypocrisy? What's the sham? If I played you the LP directly from the Boulder, it would sound much better than the CD-R made from it, but it still sounds much better than a CD-R made from a poorly designed phono section.

Do you think there's no sonic distinction between a well-mastered CD and a poorly mastered one? Which do you think will sound better: a CD made from an analog master tape played back on a tweaked playback deck, or one made from a third-generation tape played back on an out-of-alignment, poorly maintained deck? In one case, the CD will demonstrate the weak links in the chain, but that doesn't mean the CD will sound as good as the tape — or, in my experience, as good as a properly made LP made with the same playback chain.

I once sent a CD-R I made from a mint original pressing of Van Morrison's Astral Weeks (not using the Boulder 2008, but another excellent phono section) to an industry friend, who compared it to the commercially available CD. His non-audiophile friends couldn't believe how much better it sounded than the commercial CD. I told him to tell them to imagine how much better the undigitized LP must sound. (It does.) Perhaps a well-mastered CD sourced from the original tape might sound as good as, if not better than, my homemade CD-R, but it wouldn't sound as good as the master tape, and most mastering engineers (and engineers from Sony and Philips, who invented the CD) would agree: Again: Where's the hypocrisy? What's the sham?

Mr. Rodriguez, I suggest that you do what I urge all of my readers to do: Don't believe me, and go listen for yourself. Most of them do. There are more than 60,000 Stereophile readers who corroborate what we hear. If you don't hear it, yes, be done with your trial subscription. But first, go listen.

Michael Fremer

Confused?
Editor:
In the October 2002 "Letters" (p.15), Fremer mentions burning a CD-R from vinyl using the $29,000 Boulder 2008 phono preamplifier. The sound of his CD-R is regarded as superior to commercial CDs.

Here is the sequence of tasks leading to this CD-R:
1) The record company makes a master tape from recording-session tapes.
2) They make an RIAA-equalized tape for cutting.
3) They cut a lacquer.
4) After several plating steps, they make a metal stamper.
5) The pressing plant stamps a vinyl disc.
6) Fremer makes a digital transfer of the LP with the Boulder phono preamp.
7) Fremer burns a CD-R.

Here is a shortcut: The record company sends a copy of the master tape to a commercial CD mastering plant. The commercial CD sounds inferior to Fremer's CD-R. Steps 2-6 above can't improve the sound of the master tape, so why is CD inferior to the CD-R?

Larry Marks (confused)
Toronto, Canada
Audio

Corruption

Editor:
I personally cannot believe that you placed the PS Audio HCA-2 amplifier in Class A of October’s “Recommended Components.” In no way can this amplifier be described as “neutral” in character, even from the lips of the manufacturer himself when he talks about “an incredible midbass performance.” Furthermore, the HCA-2’s harmonic distortion is nowhere near as good as other Class A components (except for the corrupted tube designs, of course).

Clearly, you did this for advertising money, since the beloved “Sam’s Space” column does not require measurements (which are horrible for the HCA-2).

Where is the “Follow-Up,” and where are the measurements? I am going to keep asking these questions in audiophile circles until you admit your mistake and remove the amplifier to Class B or C, where it belongs.

Keith Chahov Dkahahov@email.com

Influence

Editor:
About a year ago, I wrote to you marveling about your inclusion of the Tivoli Audio Model One table radio (all of $99) in “Recommended Components.” At that time I had owned one for several months, and your choice of the piece of equipment in the list that I already owned showcased my impression of knowledge of audio matters.

Now I see that you included the Tivoli Audio Model Two stereo table radio in October’s “Recommended Components.” It just happens that I had bought a Model Two several months before. Now I have the sneaking suspicion that you waited for me to buy one before you stamped your prestigious seal of approval on it, basing your decision on my almost bottomless expertise in the field.

Thanks so much for your trust in my audio taste. In the future, would it be possible to agree on a modest fee before you make use of my services? Cassi vonnisa vonnisa@hotmail.com

Anguished cry #1

Editor:
Any reason you dropped the Sony CD-1 SACD player from Class A+ of October’s “Recommended Components”? I had just ordered one.

Roger Polo rpolo@optonline.net

Anguished cry #2

Editor:
Just wondering how the Musical Fidelity Nu-Vista 3D CD player didn’t make it into the October “Recommended Components” list.

David Eide Homer Glen, IL DEide@junos.com

While there may still be small numbers of these two components in dealer showrooms, both were discontinued over a year ago, mandating their deletion from the list.

–JA

Incorrect #1

Editor:
In the August 2002 issue (p.31), Sam Tellig mentioned the Sony CD1-XS777ES. This unit does not exist. Did he mean the CD1-XA777ES?

Loc Tran Loc Tran@bnc.com

Incorrect #2

Editor:
I just wanted to point out a typo in the October 2002 Stereophile. The text on p.79 is okay, but the caption for the lower-left picture on p.77 says that the Piega speakers were driven by Copulare amplifiers. I’m afraid that this is incorrect. Copulare makes audio/video racks only, and the Piega speakers in the Sanibel Sound room at Home Entertainment 2002 were driven by the Italian Aloia 15.01 amplifiers.

Manbir Nag manbira@yaho1.com

Yes, it was the Aloia amplifiers that were being used in the Sanibel room at HE2002, and yes, the Sony SACD player was the 2002 “Digital
"Why would you buy anything else?"

Several years ago Arcam, a company with a 30-year history of producing surprisingly affordable high-performance audio components, gave their engineers a challenge – design a range of flagship products. Spend as much as you like building components that you'd want for yourself. The name of this secret project was Full Metal Jacket and the first product was the legendary FMJ CD23.

You might think this would be like letting kids loose in a candy store. But, you'd be wrong. Something very strange happened. The idea of maximizing performance per dollar (British pound?) was so ingrained in the engineers' thinking that they couldn't quite let themselves go. They simply had to make sure every cent spent contributed to an audible improvement in performance.

The end result was some of the most amazing high-end audio components in the world, at prices that any serious enthusiast can actually afford. The proof of the pudding is that every product in the FMJ range ends up being compared to components costing several times the price.

**FMJ CD23 CD Player**

"Certainly the CD23 outgunned, in every way, my much-cherished xxxxxx, which, though a few years old, cost over twice as much as the Arcam. In sum, the FMJ CD23 is a remarkable machine." *The Absolute Sound*

**FMJ DV27 DVD Player**

- Not content to compare the DV27 to just other DVD players, *The Perfect Vision* put it up against expensive CD players as well. "...the Arcam DV27 is the player I'd buy. Its image quality consistently thrilled me, and it's also a high-end CD player that can complete with dedicated CD players costing multiples of its $2599 price. To me, this player is the elbow where truly superior performance and price meet. ...a true reference-quality product."

**FMJ A32 Integrated Amplifier**

- When *Sound Stage* compared the A32 to amplifiers costing six times the price they said, "...Arcam isn't just offering a great integrated amp at the price, they're offering a great one period. A perfect blend of ergonomics, style and performance... one of the finest audio values I've come across this year."

**FMJ AV8 Surround Processor and P7 Amp**

- As this goes to press in late summer the AV8 & P7 have only been in production for a month – a little early for reviews. However, reports have already started to come in from our toughest critics, our dealers. And guess what? They're putting the AV8 & P7 up against products at twice the price. Watch for AV8 reviews (and announcements of even more FMJ products) in January 2003.
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Component of the Year," the SCD-XA777ES. Both errors were mine. Put the former down to brainfade brought on by rocking out to the Who live at Madison Square Garden the night before I worked on the Show report. —JA

Disappointed
Editor:
I was disappointed with John Atkinson's review of the Thiel CS1.6 loudspeaker in September. The measurements section was longer than the review itself.

A couple of questions were left unanswered: How is the CS1.6 "redefining the 2-grand 2-way speaker," as mentioned on that issue's cover? Where does this speaker rank in relation to other speakers at its price point? I came away feeling that this speaker did not redefine anything. Yes, measurements are part of a review, but I believe we could use less math and graphs, and more real-world information. Mike

You got it wrong — big time
Editor:
I own Thiel CS1.6 speakers and find their sound quality far better than John Atkinson's September review and October "Recommended Components" ranking would suggest. I had fully expected you to give this speaker a Class A rating, perhaps in the "Restricted LF" category, due to its limited bass. Indeed, I find the Thiel's sound quality consistent with reviews that call it a "benchmark" at its price.

JA's review findings reveal either insufficient break-in or inappropriate setup. I have found the CS1.6 to have an extraordinarily long break-in period, as did my old Thiel CS2.3. I suspect this is due to their stiff, fast drivers. And they do respond sharply to even minor changes in gear (power cord, interconnect).

I vastly prefer the CS1.6 to most of your Class B speakers, including Thiel's own CS1.5 and CS2.3. Take a second listen! Play them hard, fully break them in! Then give them good, strong current and a high-quality source. Recall that JA noted that he preferred them with LP. Hint: The CS1.6 reveals the quality of the source and the other components — big time.

Art Altman
San Carlos, CA
artmaltman@yahoo.com

As I said in my review, I wasn't convinced I had got the full measure of the CS1.6. Perhaps a "Follow-Up" is called for. —JA

They got it right
Editor:
Like most readers, I am tired of the SACD/DVD-Audio format war. Competition is healthy, but the time for that was before coming to market. The studios and manufacturers should have been presented with the different formats and voted on the replacement for CD. Then all studios and manufacturers should have been behind the launch. Instead, we have customer confusion, studios backing one or the other, and exciting new formats going nowhere.

I guess they are leaving it up to the consumer. I'm tired of waiting, however, so I'm jumping off the fence and buying an SACD player. The SACD camp realizes the importance of releasing high-resolution [two-channel] stereo recordings, not surround. The only way I will replace my CD collection is with higher-resolution stereo discs. I like surround as much as anyone, but I want the option of playing the music in high-resolution stereo. I also don't want to have to wait a gazillion years for every catalog title to be remixed in surround.

DVD-Audio seems more interested in promoting surround. I think that is a huge mistake. While Warner is issuing DVD-A with both stereo and surround mixes, Silverline and others are issuing music only in surround. This is music that I would have bought, but not without high-resolution stereo versions included. Let's face it: Your center-channel speaker used in surround music is never going to sound as good as your full-range stereo pair.

So thanks to ABKCO for getting me off the fence. The Rolling Stones releases were just the motivation I needed to make the plunge. Other studios: How about keeping this format going strong by releasing the Beatles, Pink Floyd, and Led Zeppelin catalogs on two-channel SACDs?

Rodney Duke
San Diego, CA
rduke@optio.com

What gear?
Editor: What test equipment does John Atkinson employ in his test/measurement lab?

Jonathan Levine
jonathan@annuek.com

For loudspeakers, I use the DRA Labs MLSSA system v.10, calibrated B&K 4006 and Mity Mike omnidirectional microphones, an Italian Outline speaker turntable, and an Audio Control Industrial SA3050A spectrum analyzer. Amplifiers and digital components are measured using an Audio Precision System One Dual Domain PC-controlled system, a Heath digital oscilloscope (1987 vintage with 8-bit resolution, which I use because it doesn't have an input antialiasing filter and so can show true squarewaves), Hitachi and Kenwood analog scopes, a two-board PrismSound DScope II, a Fluke 87 true-RMS AC multimeter, a Neutrik handheld signal generator, home-brewed pink-noise and pulse generators, Dale and Miller Audio Research resistive loads, and the Miller Audio Research Jitter Analyzer, Amplifier Profiler, and QC Suite programs, these last three running on two different National Instruments PC cards. —JA

Stereophile, December 2002
Do you want a major improvement in your audio/video system?

If you want to realize the full potential of your AV system, Nordost cable is the only choice. Derived from technology developed for the aerospace industry, Nordost's unique designs and proprietary Teflon extrusion process produces a level of performance our competitors can only dream of. Nordost's cables are superior in all aspects of measurable performance, such as capacitance, inductance, signal speed and durability. The result is an audible improvement in sound quality and stunning picture quality.

Don't compromise the performance of your system with inferior cables. Make your weakest link your strongest link with Nordost cables.

Nordost Valhalla Cables
Winner of The Absolute Sound Golden Ear Awards 2000

"Let me put this plainly as possible. The Valhalla system from Nordost is the least colored and most neutral cabling ever to hit the marketplace." This stuff costs the proverbial Midas ton, but it’s probably going to rank up there in the stratosphere after all of today’s competing models have been replaced several times with newer and “improved versions.” “A triumph pure and simple.”

Harry Pearson The Absolute Sound Issue 127 used with permission.

Editors Choice and product of the Year
HI FI+UK
Editors Choice and Award Winner Hi Fi News 2002

"These are sensational cables, and you’ll love what they’ll do for your system. The Valhallas get my very highest, most unconditional recommendation.”
Brian Damkroger, Stereophile, November 2001; Recommended Component, Stereophile, April 2002

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THE INTERNET
Jon Iverson

Hard as it may be to believe, 2003 sees the 40th anniversary of Stereophile’s famed “Recommended Components” feature. J. Gordon Holt first set the list to paper just before the Beatles were breaking big in the US, and its appearances since then—in every April and October issue since 1986—have become biannual audiophile institutions.

Stereophile’s “Recommended Components” may be copied by other magazines but it has never been equaled. The problem is, folks wanting our “Recommended Components” issues often find them out of stock at the newsstand, or missing from our list of available back issues. For example, both RC issues from 2001 and the April RC issue from 2002 have been sold out for months.

As a result, we’ve put together two years’ worth of RC features—2001 and 2002—in two bundles, one for each year, for sale via our website’s secure e-commerce pages. Every scrap of text and rating that was in the original RC features is included. And because they’re formatted as .pdf files (file size is around 350kB), we’ve been able to add indexing and search capabilities, making these virtual copies even more convenient than the “real” thing.

Click on https://secure.stereophile.com/stereophile/reccomp.shtml to order the 2001 and 2002 “Recommended Components” features. Each year’s worth of listings costs $9.95 and is sent via e-mail within one business day.

UNITED KINGDOM
Paul Messenger

James Dale ("Jim") Rogers, one of the founding fathers of British hi-fi, died peacefully on August 23, 2002. He was 84. Jim was born November 17, 1917, in Boulogne, France, to an English father and a French mother, and became bilingual before settling in England with the family at the age of 15. As an engineering apprentice at the Woolwich Arsenal during World War II, he anticipated the custom installation movement by 60 years by setting up a factory-wide sound-distribution system for the BBC’s radio broadcasts.

In the 1950s Jim began the small-scale manufacture of amplifiers and tuners above a shop in Blackheath, and by the 1960s Rogers Developments was operating out of a factory in Catford, mass-producing affordable hi-fi electronics, such as the Cadet and HG88 series of tubed amplifiers.

Toward the end of the ‘60s, Rogers Developments began its association with the BBC, as a licensed manufacturer of monitor speakers. More than any other factor, speakers like the two-cubic-foot LS3/6 and the miniature LS3/5A created and cemented Rogers’ international reputation, though the difficulties of manufacturing to the tight tolerances demanded by the BBC spec meant that this activity was less profitable than one might expect.

The arrival of inexpensive Japanese electronics, combined with invidious domestic taxes crippled Rogers Developments in the mid-1970s. Jim left to start up a new venture, JR Loudspeakers, designing and making clever metal-jacket cylindrical speakers, such as the still highly regarded JR149. But by then he was getting on in years, and he soon retired to the south coast of England and his own legendary bespoke hi-fi system.

I didn’t know Jim Rogers well, but I never heard an unkind word about him, and remember him as a gentle, mild-mannered man more enthusiastic than businessman. He was highly regarded by his peers as a designer, and his passion for hi-fi was embodied in the speakers he built for his own use: massively heavy floor-to-ceiling ribbon designs that Stereophile editor John Atkinson once heard [in the summer of 1977—Ed.] and described simply as “awesome.”

US: CHICAGO
Barry Willis

Red Rose Music celebrated the opening of its Chicago store with a grand-opening bash on Thursday, September 26.

More than 18 months in development, the new store, at 672 North Wells Street in downtown Chicago—tel: (312) 266-8630—will offer luxury home-theater systems, custom-installed mony-Link cables. The public is invited. For more info, call AudioNut at (623) 487-1116 or e-mail info@audionut.com.

ARIZONA

● Tuesday, November 26, 7–10pm, Los Olivos Senior Center, 2802 E. Devonshire (28th St., N of Indian School Rd.): AudioNut.com will host “Seven Ways to Improve Sound and Picture,” an Arizona Audiophile Society meeting featuring the Arizona debuts of the new Thiel CS1.6 and Athena AS-F2 speakers, Rega Planet 2000 CD player, Rogue Tempest Magnum integrated amplifier, and the new Harmonic Technology Har-

C A L E N D A R

mony-Link cables. The public is invited. For more info, call AudioNut at (623) 487-1116 or e-mail info@audionut.com.

CALIFORNIA

● Audio Limits is proud to announce the Grand Opening of their new showroom featuring the new Nearfield Acoustics Hemisphere PipeDreams and GamuT system. Audio Limits is the only dealer on the west coast at which the Hemisphere is available for the public to audition. Also an autho-
whole-house electronics, and Red Rose audio products in a lavish environment described by manager Joe Cavanagh as "part art gallery, part upscale home." Among the store's unusual features are a series of paintings commissioned from artist Barry Gross and an Antonia baby-grand piano, on which what Cavanagh called "real live humans" will perform so that customers can compare live music to that played back through Red Rose electronics and loudspeakers.

The new store is near Chicago's Merchandise Mart in the River North district, about eight blocks from Michigan Avenue, and will cater to movie and music lovers whose primary concerns are sound, appearance, and ease of use. The store's design center is a red granite kitchen with in-wall loudspeakers, a Sony plasma television, and a Crestron whole-house automation system, so that customers can get a feel for what might be possible in their homes. "We want to make it easy for the upscale customer by showing them that advanced electronics can be simple to use," said Cavanagh.

The store employs five full-time custom installers, who are already busy fulfilling contracts signed while the store was under construction. "We've had eager customers since we first started work on the place," Cavanagh explained. "One gentleman tracked us down all the way from Washington, DC."

Red Rose investors pumped approximately $350,000 into the high-ceilinged, 1800-square-foot location, which includes a 20' by 20' home-theater room in "Ralph Lauren faux leather" with a high-definition Sharp XV-Z9000 DLP video projector. A two-channel music room features Red Rose Classic and Rose Bud Mk.II loudspeakers; Revelation, Passion, and Affirmation amplifiers; and Rega turntables — because Red Rose founder Mark Levinson insists that "less than 0.01% of the musical repertoire is available on true SACD recordings." Cavanagh believes that the $8000 Red Rose Classic speaker system powered by the $7000 Affirmation amplifier is the "equal of anything in the world at any price."

The River North neighborhood has plenty of home-furnishing stores, including a lighting center next to the Red Rose showroom. The proximity to related businesses bodes well for the new store and its neighbors. "We should all reinforce business for each other," Cavanagh said.

The Chicago store is "a dream come true made possible by a group of committed, passionate people," Levinson said by phone from New York. He described the Red Rose approach as "a return to the importance of what you feel rather than what you see," made possible by a sustained effort by "people grounded in the love of music."

US: YOUR LOCAL MALL

Barry Willis

An expanded alliance of one of the High End's most respected speaker manufacturers and one of its most aggressive upscale retailers should bode well for both partners — and for music lovers nationwide.

On September 18, Lawrence, Kansas-based MartinLogan, maker of electrostatic loudspeakers, announced an expansion of its marketing agreement with the Tweeter Home Entertainment Group, whose continuing merger-and-acquisition program has gathered many successful local retail chains under its corporate umbrella. The deal will put MartinLogan's strikingly designed, transparent, Curvilinear Line Source (CLS) electrostatic speakers in at least 100 new locations within a few months. By the end of 2003, MartinLogan products will be in 178 Tweeter Home Entertainment Group locations, including HiFi Buys, Hillcrest High Fidelity, Showcase Home Entertainment, Sound Advice, and Tweeter stores.

MartinLogan entered its relationship with the Tweeter Group through the "back door," as a brand carried by several retailers acquired by Tweeter over the past four years, including Dallas-Houston-based Home Entertainment, Florida's Sound Advice, and Charlotte, North Carolina's Audio Video Systems. All but Sound Advice have since become Tweeter-badged stores.

"Through the years, we have noticed the high quality of service that Tweeter has maintained, even as the company expanded in size," said Gayle Sanders, MartinLogan's president and founder. "Now is the right time for MartinLogan and Tweeter to come together and bring high-performance audio to the next generation of music lovers. Both
How to improve upon perfection.

Halcro's dm58: The Best Amplifier Ever!

Stereophile Magazine, October 2002

Halcro have now released the dm8 & dm10 preamplifiers.

Halcro is the world's only super-fidelity power amplifier. The only power amplifier able to claim pure, unadulterated sound reproduction. Its sheer musicality redefines what you should expect from any power amplifier.

To maximise its performance, we have introduced the dm8 & dm10 preamplifiers. These units share the same proprietary circuitry as the power amplifier range and provide the best method to ensure your signal is kept as pure as possible. The dm10 includes a phono stage with variable capacitance and resistance adjustment, with infinite increments to extract the perfect signal from your turntable.

Glowing reviews and an ever-increasing list of awards mean you simply have to listen to Halcro. Contact us today.

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companies have a strong desire to grow in a way that supports and enhances the existing quality membership of the MartinLogan distribution group.

Most Tweeter stores will carry MartinLogan’s entry-level products, with the company’s premier loudspeaker systems reserved for “select Tweeter locations in key markets,” according to the announcement. The expanded marketing campaign should offer many music-lovers their first experience of electrostatic speakers. As anyone who has ever worked in an audio store can attest, such first experiences typically involve a customer walking around the speaker in wonder, asking, “How does it make sound?” Presumably, Tweeter salesfolk will be prepared to answer that question.

“We are confident that these products will excite our sales team, and our customers will appreciate the superb product and the unique style that MartinLogan so successfully delivers,” said Tweeter Group’s director of audio merchandising, Dave Malin. “Tweeter is proud to feature the MartinLogan line of loudspeakers in our stores. We believe that the passion that both companies bring to their respective brands will enhance the image of both in the specialty consumer-electronics marketplace.”

The expansion will be carried out in phases, beginning in November 2002 and running through May 2003. The Tweeter Group operates 165 stores nationwide, with plans to open 20 more by the end of next year. MartinLogan’s full line of speakers, priced from $1995/pair up to $90,000/pair, will continue to be carried by its network of independent retailers.

US: WASHINGTON, DC

Jon Iverson

It’s shaping up as one of the big battles of the 21st century: content owners (not necessarily the artists who create content) vs. the consumer-electronics industry. On the one hand are Hollywood, its record companies, and the Recording Industry Association of America (RIAA); on the other, the manufacturers of products and technologies that facilitate the manipulation and use of digital content.

The Consumer Electronics Association (CEA), which represents technology manufacturers, is looking to defuse the conflict, urging the content community to work with, not against, the technology industry in the critical area of copyright. The CEA’s Gary Shapiro explains, “We are at a critical juncture in history, when the inevitable growth of technology conflicts with the rising power and strength of copyright owners. How we resolve this tension between copyright and technology will define our future ability to communicate, create, and share information, education, and entertainment.”

Shapiro says that copyright owners are terrified at the growth of reproduction, storage, and transmission technologies. “The content community has gone on a scorched-earth campaign, attacking and burning several new recording and peer-to-peer technologies. Copyright owners have used the Congress, the media, and courts to challenge the legality of technology and the morality and legality of recording. Despite cooperative efforts, the copyright community has declared war on technology.”

According to Shapiro, the content industry has reshaped the copyright debate by changing the language of the issue, tying it to the success of broadband and calling downloading illegal and immoral. “The content community has labeled downloading as ‘copying,’ and more recently as ‘piracy,’ ‘shoplifting,’ and ‘stealing.’ It has confused [legislators] and convinced [them] that there is a connection between broadband deployment and copyright; yet broadband has little to do with songs and movies and more to do with high-speed Internet access, always-on convenience, exchanging home videos, and other potential uses for education, medicine, business, shopping, and gaming.”

Shapiro rejects the content community’s claims that downloading is illegal or immoral. “One, fair-use rights are guaranteed to consumers by statute, and applied judicially on a case-by-case basis. Two, historically, new technology, such as the VCR and DVD, have shown that technology can be beneficial to copyright owners. Three, the 1997 NET Act’s requirement of a total retail value of $1000 per infringement protects ordinary consumers from threatened lawsuits from copyright owners.”

“To make downloading immoral, you have to accept that copyrighted products are governed by the same moral and legal principles as real property. But the fact is that real and intellectual property are different and are governed by different principles. Downloading a copyrighted product does not diminish the product, as would be the case of taking and using tangible property such as a dress. Real property can be owned forever. A copyright can be owned only for a limited period of time. Copyright law must bow to the First Amendment, which expressly allows people to use a copyrighted product without the permission of the copyright owner. This concern contributes to the statutory and judicial concept of ‘fair use.’”

Shapiro lists six guidelines for policymakers to follow when writing copyright legislation: 1) Do no harm; 2) Advances in technology should not be restricted; 3) Claims of harm from new technologies should be greeted with great skepticism; 4) Copyright owners bear a high burden of proof before any technology should be restricted; 5) Copyright owners should continue developing ways to protect their content at the source; 6) Any restrictions on technology should be narrowly written.

Shapiro concludes, “The collision course between the copyright owners’ desire to preserve existing business models and the inevitable development of newer, better, faster, and cheaper technologies need not be fatal. If the Play button becomes the pay button, our very ability to raise the world’s standard of living and education will be jeopardized.”

And media critics may be right. If record companies had spent as much effort building a digital distribution network as they have fighting digital piracy, they might actually be making money online instead of complaining about it.


According to the study, “companies are wasting too many resources fighting digital piracy while overlooking potential opportunities the technology offers.” KPMG says the report was conducted to gauge the media industry’s progress in managing and delivering digital content.

A survey conducted in July 2002 and used to form KPMG’s conclusions posed questions to 38 high-ranking executives representing 33 of the world’s largest media organizations, including 6 of the 10 largest global media companies in the US, UK, Germany, the Netherlands, Japan, and Australia. While the study found that media executives are “upbeat” about their revenue prospects for digital content, KPMG says that the data reveal that relatively few are putting their energies into actions. Only 14% indicated that their content is available exclusively in digital format.

“The value of the opportunities missed is, in fact, significant,” says KPMG, which estimates a loss of poten-
Notice the resemblance? The CDM-NT series of loudspeakers shares the same innovation and excellence that inspired our original Nautilus design. At $40,000 per pair for the original, we realized that not everyone could own the perfect loudspeaker. Then we embarked on a five year mission to bring this high technology down to earth. The result is a series of loudspeakers that set incomparable standards for performance, style, and value. In case you’re wondering, we’re B&W. We are the world’s leading exporter of premium loudspeakers and the number one imported brand in North America. Available only at select audio / video dealers.
tial revenues of between $8 and $10 billion annually. "Despite the lagging progress, some are moving to innovate. Many artists have set up their own websites offering 'free samples' to promote their work. Others have begun to offer additional perks to those legally purchasing the music." As an example, the report cites several recent CD releases that offer customers who legally buy a disc a unique serial number, which can be used to receive prioritized concert-ticket purchases and unreleased music.

The study also reveals how media companies devote resources to piracy. The most popular approach is encryption, which is relied on by more than 80% of respondents. KPMG says companies also rely heavily on law enforcement and the judicial system, with nearly 75% of survey respondents saying they actually take violators to court. The report adds that "about one in 10 firms seem to have given up in despair."

**US: YOUR LOCAL MEDIA OUTLET**

**Barry Willis**

Worldwide sales of recorded music declined 9.2% on a monetary basis and 11% on a unit basis during the first half of 2002, according to figures released in October by the International Federation of the Phonographic Industry (IFPI). The drop is a continuation of a long slump that began in the mid-1990s, blamed by many music-industry executives on the widespread use of CD burners and the popularity of downloading tunes from the Internet. Others acknowledge that increasing competition for consumers' time and money—especially films on DVD—is eating into music-industry profits.

The London-based trade organization reported that sales of CD albums were down 7% during the first half of the year, with CD singles sales off 17%. Prerecorded cassette tapes are headed for obsolescence, with sales down 31%. Overall music sales were off 6.8% in the US, 75% in Western Europe, and approximately 16% in Asia. "The figures are disappointing but not unexpected," said IFPI chairman Jay Berman. The trade group hopes for an upturn during the winter holiday shopping season. Sales for the first half of the year typically account for only 40% of the industry's annual sales.

During the week in which the IFPI released its figures, a consortium of entertainment-industry advocates launched an appeal to US colleges and universities, seeking their help to contain Internet-based piracy. The Songwriters Guild of America (SGA), the National Music Publishers' Association (NMPA), the Recording Industry Association of America (RIAA), and the Motion Picture Association of America (MPAA) sent a joint letter to more than 2300 educational institutions, asking them to educate students against downloading music and movies over the broadband lines available on most campuses.

Some studies have demonstrated that college servers are hubs for massive file-sharing activity, with up to 75% of a university's bandwidth consumed by frenzied downloaders. "Students need to know that just because everyone is doing it doesn't make it right," said MPAA president Jack Valenti of what he described as "Internet theft." The signers of the letter asked the universities to impose penalties on violators. "Stealing is stealing, whether it's done with sleight of hand by sticking something in a pocket or it's done with the click of a mouse," the letter said.

"Without copyright protections, the future of the arts is threatened," said SGA president Rick Carnes. "Copyright encourages the promotion of new arts in our culture." The letter sent to universities coincided with deliberations by the US Supreme Court over the legality of the 1998 Sonny Bono Copyright Extension Act, which added 20 years to the previous term of copyright protection. At the behest of the entertainment industry, US copyright terms have been extended 11 times in the past 40 years.

The copyright wrangle got nastier in the first week of October, when musicians Bob Dylan, Billy Joel, and James Taylor filed a lawsuit in a Manhattan federal court against Vivendi Universal's MP3.com, claiming that the music site unlawfully distributed copies of their songs on the Internet. The suit charges that MP3.com copied tracks from commercial CDs, then offered the music files to users, and seeks $150,000 for each alleged infringement. MP3.com has so far paid out $133 million to settle copyright-infringement suits. Vivendi Universal declined to comment on the current litigation.

**UNITED KINGDOM**

**Paul Messenger**

The UK's fall 2001 Hi-Fi Show was a gloomy affair. It opened just two days after the September 11 terrorist attacks, when US airspace had already been closed for two days; a decidedly depressed mood settled over the Hammersmith venue, which had never become popular among exhibitors.

This year, things looked a lot brighter. The sun was shining; the show had returned to its spiritual home(s) alongside Heathrow airport; planes were flying, and the foreign trade visitors were back in very good numbers; and attendance on the public days seemed pretty solid too. Despite some dissent, most exhibitors I spoke with were glad to be back, and happy with the way the show had gone. (Note: This year's new gear from Naim, Meridian, Croft, Acoustic Energy, and Musical Fidelity were covered in last month's "Update," so won't be repeated in this report.)

A number of brands (eg Arcam and TAG McLaren) gave Heathrow a miss in favor of the less specialist Sniff Live 2002 show, scheduled for two weeks later. Plenty of other key names (Denon, Linn, Pioneer) were also notably absent. But the Hi-Fi Show was still large and very well supported, with more than 120 rooms and booths, and a rather indigestible "... & AV Expo Audio Vision..." tacked on to its formal "The Hi-Fi Show...2002" title.

There was a certain amount of A/V around, to be sure, and some mainstream hi-fi kits too, but the dominant feature of this year's show was the enormous amount of true high-end equipment being displayed and demonstrated. Fun though this may have been for the window-shopper and reviewer, I can't help feeling uneasy at the way the industry seems to be driving itself so determinedly upmarket, and to ever higher prices. There's no denying the law of diminishing returns, or the simple fact that the further one moves up-market, the narrower the customer base becomes.

And despite the potential to show off seriously expensive gear, in practice there are considerable problems in getting good sound in a hotel room. Meridian's room, for example, had false ceilings with loose tiles. (The TacT guys painstakingly Blu-tacked each tile in place in their room!) So Meridian opted for a silent display, and other firms restricted themselves to small loudspeakers. A pair of tiny Totem Dreamcatchers, for example, driven by Rega sources and electronics and supported by Partridge racks and stands gave a very good account of themselves, and proved you don't have to spend a fortune to get good sound.

Wilson Benesch had a good-sized room, but was actually demonstrating its tiny little Arc speaker to very good effect, even W/B's real news was a dras-
THE IMAGE SERIES

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Sound & Vision

"...exceptional value and rare musicality."
Stereophile Guide to Home Theater
Reduction to the essentials: The Karat series from Canton combines pure design with pure listening pleasure. State-of-the-art technology in simple yet elegant furniture quality cabinets represents the Canton ideal of loudspeakers. Information about the Karat series as well as the complete line of Canton loudspeakers is available in our new “Living HiFi” Magazine. To receive a free copy, please contact Canton, 1723 Adams Street NE, Minneapolis, MN 55413, call 612-706-9250, or visit www.cantonusa.com.
tic revision of the classic A.C.T. One. By abandoning its speaker enclosures of wood and carbon-fiber composite (CFC) for a new combination of metal and CFC, WB now fits their Two's internal volume within the smaller outside dimensions of the One, and ups the total weight to a considerable 150 lbs per speaker. WB's Tactic bass/mid-driver now has a lighter coil and a thicker, stronger cone.

Though coming only three or four months after Stereophile's Home Entertainment 2002 show in New York and the Frankfurt Show in Germany, the Hi-Fi Show managed to come up with several important new components. Among small stand-mounted loudspeakers, Sonus Faber has a new little jewel called the Auditor. Part of SF's mid-price Cremona range, the Auditor seems well capable of delivering genuine high-end quality.

While curved shapes and metal enclosures can improve a speaker's acoustic properties and structural rigidity, they used to be available only in very expensive models. Now such design elements seem to be becoming the trend at more modest prices. KEF's Q-series introduced curved cabinets last year, and this year Wharfedale is curving the sides and narrowing the back of its new Pacific-Evolution range while discarding the external tweeters of earlier lines. Meanwhile, KEF's new XQ speakers, which fit between its Q and Reference lines, also feature curved cabinetwork, but here the curves are applied to the top and base rather than the back and sides, which makes a refreshing change.

Crane Audio is A/V-oriented and optimistically plans to sell direct from the Internet (www.cranecaudio.com). The company is a complete newcomer whose speakers use multiple drivers on a slim, flat baffle, backed by a V-shaped alloy extrusion in a manner reminiscent of Celestion's C-series of a few years back. More conventionally shaped newcomers at down-to-earth prices included B&W's 309, a floorstanding "two-and-a-half-way" variation on the 303 theme, and the new budget Bronze and mid-price Silver series from Monitor Audio, with large drivers used to bring worthwhile gains in sensitivity.

The A/V influence remains pervasive among even the most traditional of British speaker builders. This year Harbeth is joining the ranks, with (almost) its first ever floorstander, the AV 103, backed up by the 102 standmount and the 101 subwoofer. ProAc, too, has an all-new A/V-oriented system, the Response Hexa, which is basically a satellite-subwoofer package built around tiny 4.5" main drivers (www.proac-loudspeakers.com).

Moving toward the more esoteric, Neat now has a whole family of upmarket speakers, the Ultimata: three floorstanders and a stand-mount, all featuring top-mounted planar tweeters, isobaric bass, decoupled baffles, and plywood enclosures (www.neat.co.uk).

If Neat is adding a touch of omnidirectionality, others are going for creative coaxiality. Cabasse has a gorgeous new speaker, the Kara, that positions a triaxial "eyeball" driver just above a woofer set into the slanted top of a delightfully curved plywood bass enclosure. Less ambitious and costly but no less interesting is the Syrinx, built in Switzerland by Precide, which places a Heil AMT pleated-ribbon driver immediately in front of a bass driver located on the slanted top of an attractively curved bass enclosure (www.precide.ch).

A more conventional ribbon is found in the more conventional-looking Perigee FK-1 speaker, a hybrid design from an Australian operation whose name is a tribute to the legendary Apogee full-range ribbons from the US, for which Perigee also supplies a rebuild service (www.perigee.com.au).

Want headroom? Another coaxial that caught my eye was the 1812, from newcomers Omen Ra. Described as "a bit of an overture," the 1812 uses an 18" bass driver and a 12" full-range dual-concentric, both made by Fane and housed in a curved-back pro-audio-look cabinet and controlled via an active filter network. Another interesting Omen...
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Ra design combines an open-baffle midband with transmission-line bass.

Want even more headroom? I counted 54 drivers in each of Neatfield Acoustics’ Model 18 PipeDreams satellites. These genuine line sources extend well above standing head height and still need additional subwoofer. Add a pair of monstrous Gamut T5300 power amps to do the driving, and it’s time to bring in structural engineers to check the strength of the floor.

Don’t want headroom? Maybe you’re a member of the BBC LS3/5A fan club. This classic speaker had its own room at the show, and the good news for fans is that speaker company Richard Allan is putting not only the LS3/5A itself back into production, but also the AB1 subwoofer. There is another LS3/5A, from Stirling Broadcast, as well as Cicable’s outboard crossover upgrade. In short, despite its limitations, the venerable LS3/5A has achieved cult status; it’s good to see the support network growing (www.ls35a.com).

As the stereo hi-fi sector becomes more specialist, traditional budget electronics brands like Rotel and Creek find themselves moving steadily upmarket. The components in Rotel’s new 02 series, for example, start at £250 each. Creek—this year celebrating its 20th birthday and Mike Creek’s 50th—has totally re-vamped its lineup, replacing all 43-series components with new and improved 50-series versions, which sell for an average £600 each; the 53 series begins at twice that price.

Talk Electronics is also moving upmarket. Its new upsampling Thunder 3.1 CD player features balanced output circuitry, a hefty build with a 10mm faceplate and custom extruded sides, and a high-quality remote variable output option (www.talkelectronics.com).

To say that Chord Electronics is moving downmarket is like talking about a cheap Ferrari, but the components in the company’s new and distinctly more affordable Choral range cost between £2000 and £3000. The Prima preamp, Symphonic phono stage, and Mezzo power amp (30W into 8 ohms) are also more compact than earlier Chords, and feature unusual and very cute “soft” styling derived from the company’s successful DAC 64 (www.chordelectronics.co.uk).

Style is as important as any ingredient these days, and is something the Italians have traditionally done very well. I liked the look and sound of the devices in the Mel Audio room, including a brightly colored CD player shaped like a Frisbee (www.melaudiio.com). More conventional but no less stylish was Sugden’s neat little MusicMaster single-ended (pure class-A) 16W power amp, whose polished gunmetal finish matches the firm’s other mini components. It was a nice surprise, too, to find a brand-new 100W tube amp from Audio Research, the VS100, costing a not-too-excessive £3999.

Less physically attractive but technically fascinating was the new DAX Discrete, which Audio Synthesis has brought out of the lab for the first time. Three years of development lie behind this software-based “ultime DAC,” which handles all digital formats (including SACD and DVD-Audio), deliberately operates in multibit mode, and uses bespoke discrete components rather than off-the-shelf IC building blocks to achieve the very best performance. Price will be between £3000 and £5000, depending on options (www.audiosynthesis.co.uk).

The wackiest item I saw among the electronics was Tim de Paravicini’s EAR/Yoshino prototype stereo in-car amplifier. No tubes, but there were a couple of output transformers, and an output power rating of 100Wpc. Then there was Iosote, with the biggest, most massive mains isolator-filters I’ve ever seen—the largest weighed 150 lbs. They helped some attractive equipment.
Dr Alex Moulton
Designer of the Moulton AM7:
Holder of the world unpaced cycling speed record.

Photograph by Jason Bell
Jason Bell © 2002

A different Classe

Outstanding achievement in any field is attained by single-mindedly holding on to a vision.
Just as Dr. Alex Moulton focused his enormous talent on designing a bicycle that made history, for over twenty years, we at Classe have been quietly refining audio components to achieve our vision—audio equipment that can free the spirit and nourish the soul by bringing recorded music to life.

Passion for music is the driving force that underlies every decision we make. Design topologies, component parts, everything—including your Classe Audio specialist—is chosen to achieve the most involving and satisfying audio experience possible.

But words alone do not suffice. Visit us online to locate your nearest Classe Audio specialist and arrange for a demonstration. You hold the records in your house, you should be the judge.

Classe

www.classeaudio.com
from Clearlight Audio and the tubed SQF Pharaoh amplifier achieve some very nice results (www.clearlightaudio.com, www.isoteksystems.com).

Mikey Fremer covers the vinyl stuff with his usual thoroughness in this month’s column, but for completeness’ sake, here are some brief highlights: It was nice to see Garrard doing well again, this time under Loricraft; sales in Germany are particularly strong, and the new Garrard 601 turntable comes with a tonearm from German designer Frank Schroder that uses a filament-and-magnet bearing. Much more affordable is a simple but effective-looking new turntable from Nottingham Analogue, the Horizon, providing a new entry-level price point from this respected brand.

Just in time, on the final day, Max Townshend’s extraordinary Rock Reference Master turntable made it to the show. Priced at £11,000 (!) without tonarm, this monumentally massive affair has a 45mm platter of PVC, built-in air suspension with integral pump, two battery-powered DC motors, remote VTA adjustment with digital readout, and probably anything else the obsessive vinyl spinners might come up with if he gives Max a few weeks’ notice! (www.townshendaudio.com)

More ultimate vinyl replay is promised by Frank Kuzma’s splendid AirLine parallel-tracking air-bearing tonearm, with higher bearing pressure (4-bar) than is usually used. This was making very nice music in the Audiofreaks room, alongside Karan power amplification and ceramic-diaphragm Avalon loudspeakers. However, Audiofreak’s main man Branko Bozic reckoned that his DAAD acoustic traps, from Italian brand Acustica Applicata, were making a major contribution (www.kuzma.net, www.acusticaapplicata.com).

I don’t believe in trying to judge the sound quality of different rooms—the uncontrolled variables are too great. That said, my attention was caught by the Danish Gryphon brand, which has now completed its end-to-end system with the addition of a compact active speaker, and incidentally providing further evidence that such designs are better usually implemented by electronics than by acoustics specialists. A few doors away, a combination of Rogue Audio tubed amplifiers and exceptionally elegant Finnish Amphion speakers were also making fine music together (www.amphion.fi).

The TaCT digital amplification and room-correction system surprised and intrigued me. The surprise came in the way a reproduced rim-shot made me blink with shock—something that’s normally beyond the capabilities of a mere hi-fi system. The intriguing explanation, from TaCT’s persuasive Peter Lyngdorff, was that corner-mounting a subwoofer is the only way to generate truly fast, clean bass, because then the pressure wave won’t be muddied by delayed wall and floor reflections—but that the midband and top will give cleanest results when well clear of reflecting walls. TaCT’s biamped system uses its digital delay capabilities to time-align the corner-mounted subs with the free-space main speakers to obtain the best of both worlds: fine transient coherence and low coloration (www.tactaudio.com).

The last word goes to recording engineer Tony Faulkner, who’d intended to play the SACD of his new recording of Shostakovich’s Symphony 11 (available on LSO Live). Only the CD version was ready in time, however, so he brought along a very capacious hard drive filled with lots of lovely DSD master recordings, including the Shostakovich, instead. Played through Classe power amps and quite modest B&W speakers, this proved a high point of a thoroughly enjoyable show for many people.
“High-end speakers from Polk? You can’t be serious.”

Matt Polk, Speaker Specialist

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"The LS/15 sounds balanced and natural, and it’s more accurate than many ‘exotic’ speakers that cost a whole lot more.” Wes Phillips, OnHiFi.com

"...The new Polk LS series provides exceptional value for the money...” Anthony Cordesman, The Absolute Sound

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"...[They] outperform most speakers costing more than twice as much.” Anthony Cordesman, The Absolute Sound

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For complete product information about the new LS Series and full text reviews, call 800-377-7655 extension 163 or visit www.polkspeakers.com/new2.
God's teeth! Has it been two years?

Antony Michaelson, managing director of Musical Fidelity, comes up with colorful expressions. As he will confess, most of these expressions mean nothing at all. They’re verbal release valves.

Tempus fugit. (Time flies.) It was for the October 2000 issue that I wrote up the A3CR preamp and power amp separates.

“God’s teeth, Antony, you got a Class A ‘Recommended Components’ rating from us for the power amp and a Class B rating for the pre. Why not leave well enough alone for another year or so?”

“I know how to make them even better, and there’s no reason not to,” Antony replied.

The new A3.2CR components are sized the same as the A3CR combo, and the styling is similar, with brushed aluminum—oops, aluminum—faceplates. But the look has been toned down, with platinum trim replacing gold flash. The red LEDs have been changed to blue. The preamp sports three of them. One tells you the unit is powered, another tells you the input selected, and a third is built into the volume knob to indicate the gain setting. As I work the remote from across the room, I can see the volume knob change position.

Prices have scarcely budged. The A3CR components were last sold for $1595 each; the new A3.2CR separates cost $1695 each.

According to Antony, the power amp is more changed than the preamp, incorporating an entirely new output circuit derived from Musical Fidelity’s NuVista M3 integrated amplifier. Yet it was with the A3.2CR preamp that I heard the most dramatic difference, compared to the previous A3CR separates.

I thought that the performance of the original A3CR preamp did not quite match the stunning achievement of the A3CR power, which I felt was very close to as good as it gets with solid state, considering the amp’s modest power rating. I couldn’t name another solid-state preamp for under $2000 I preferred over the original A3CR, yet I felt that it slightly intruded itself into the proceedings somehow.

Another manufacturer recently told me that it’s much more difficult to produce a good preamp than a fine power amp. When you’re dealing with low-level signals, there’s simply much more that can go wrong. Stray currents, RF. I enjoy teasing Antony by playing back his favorite words and expressions.

“Well, I reckon you’ve really done something with the A3.2CR. But two years ago, with the A3CR pre, you told me you couldn’t make a better preamp regardless of price. I reckon that was wrong.”

Antony caught on to my game.

“I reckon that the differences between the A3CR and the A3.2CR are very small,” he replied. “I stand by what I originally said. The fundamental concept of the A3CR preamp can’t be bettered.”

“But the A3.2CR seems quieter somehow, and more transparent.”

“The A3.2CR preamp is the same circuit as the A3CR with small changes in circuit values. That, plus an extra stage of choke regulation so there is no noise on the power supply rails at all.”

Both the A3CR and A3.2CR preamp are dual-mono designs. The original A3CR preamp had one stage of choke regulation per channel, but the new A3.2CR has two—that is, there are two inductor coils per channel, whose purpose is to “choke off” noise from the AC mains before it reaches the power supply. (See my October 2000 column.)

“With two changes of choke regulation, you entirely get rid of any residual ripple, power-supply noise, or RF interference,” said Antony.

“And that accounts for any sonic difference?”

“I suppose, yes. Power supplies are a real black art. You would have thought—I would have thought—that any noise that remained after the first choke would be irrelevant, but that’s apparently not the case.”

I used the A3.2CR preamp both with the matching A3.2CR power amp and the PS Audio HCA-2 digital switching amplifier I reckoned with in October. I no longer had the original A3CR pre on hand for direct comparison, but I well remember the A3.2CR pre’s predecessor. It had, I thought, something “electronic” that came between the music and me. With the A3.2CR preamp, whatever that was didn’t.

Excuse me while I search my reviewer cliché closet. Open window. Clean your glasses. Remove the veil—or, as my late friend Lars liked to say, “the whale.” My beef with preamps—as you’ll know if you’ve been reading this column for a while—is that they do tend to intrude themselves, so much so that it seems that the best thing to do is often to get rid of them and go passive. But “passive” preamplifying has its own often-discussed drawbacks—your CD player lacks the juice to properly goose your power amp and your system loses, ah...stiffness, becoming limp, flaccid—

(Stop that!) says Marina, reading over my shoulder.

The A3.2CR preamp made itself known—expanding dynamics, extending bass, giving the power amp a more
robust signal to work with. And yet it wasn’t there; its circuitry seemed notably absent. The A3.2CR was so quiet, so transparent, that the effect was [gasp] breathtaking. This from a $1695 preamp, mind you, not a $5000 or $10,000 state-of-the-whatever assault on the audiophile wallet.

I heard no layer of electronic haze or grunge. With either amplifier—the Musical Fidelity or the PS Audio— the sound was superbly dynamic, both macro- and microdynamics. The midrange and treble were smoothly and sweetly extended. Detail was delicate to the point of being exquisite. Good thing, perhaps, that Audio Advisor no longer distributes MF; their catalog copy would have me “raving.”

Never mind Antony’s favorite instrument, the clarinet, which he plays. Listen to a solo violin. It doesn’t have to be Joshua Bell. It can be Jascha Heifetz or Yehudi Menuhin, on a recording from the 1940s. Better yet, dig out Joe Venuti in a jazz recording from the late 1920s and dig that.

In addition to the phono stage, the A3.2CR offers four line-level inputs plus a tape monitor loop. There are no tone or balance controls. ( Antony was one of the first manufacturers to banish a balance control.) Only single-ended inputs and a single-ended output are provided.

There’s just one pair of line-level outputs, but wait—the matching A3.2CR power amp has its own line-level outs, so you can “chain” your amps...or send a line-level signal to powered subwoofers.

For the most part, I listened to the A3.2CR pre with the A3.2CR power, and with the new Sonus Faber Cremona speakers. CJ’s source was Musical Fidelity’s discontinued NuVista 3D C1 player.

If the A3.2CR has a weakness, it’s the switchable moving-magnet/coil phono stage, which you get for free, in effect. It’s there and it’s serviceable. The phono stage struck me as quite good, considered as part of a $1695 preamp.

I tried A3.2CR phono two ways: with my moving-magnet Goldring GWGAT cartridge (in a Rega P25 turntable), and with my new reference, the Ortofon Contra punt B cartridge, in an SME 309 arm mounted on my modified AR ES-1 table.

Either way, there was little noise and little to complain about in terms of “getting it up.” But I thought that the A3.2CR PH1P phono stage offered more detail and more ambient information. I thought the sound was more detailed and more dynamic, too. I felt that the phono stage of the A3.2CR preamp, unlike its line stage, was simply not quite first-rate—a feeling that I also got with my reference McIntosh MC2200 preamp. Yet, like the Mac, the A3.2CR preamp offers a great line stage.

What should I expect? At $1500, the AcousTech PH1P costs almost as much as the A3.2CR preamp. And the PH1P itself sounded superb through the A3.2CR line stage—but enhanced dynamics, no loss of information. The sound, I thought, was better than “passive.”

The Musical Fidelity A3.2CR is one of the finest line-stage preamps I have heard to date. I noted an utter pass-through transparency. I heard dynamic enhancement, compared to passive “preamplification.” Line-stage performance doesn’t get much better than this, tubed or solid-state.

Now for the matching A3.2CR power amplifier.

Antony described it as having “the M3 circuit without the nuvistor [tubes] and with 3dB less power.” (The NuVista M3 integrated a limited-edition integrated amp designed to match the NuVista 3D C1 player.)

The power rating remains the same as that of the original A3CR power: 150W into 8 ohms. “You have loads of peak current,” Antony assured me. He also said that the A3.2CR could easily deliver in excess of 250W into 4 ohms.

MOSFET output transistors vs bipolars. Does anyone want to open the debate again? (I love it—more grit for the old reviewer mill!)

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MOSFET output transistors vs bipolars. Does anyone want to open the debate again? (I love it—more grit for the old reviewer mill!)

“Definitely bipolars!” declared the always-declarative Antony. “Bipolars have a higher current yield than MOSFETs. A high current yield is very important—the amplifier is always comfortable. Within its power rating, the A3.2CR delivers loads of current. The amplifier is never stressed. As you start trying to get a peak RMS voltage, the current isn’t limited.”

Not until the A3.2CR runs out of power, anyway. Past that point, the current cramped out and I heard audible clipping. However, there is a way around this, and considering the A3.2CR power amp’s absolutely stunning sound, you might want to try it. On the back of the A3.2CR power amp, as with the original A3CR power, there are line-level outputs. You can run interconnects from these into another A3.2CR power amp (assuming your speakers permit bi-wiring). You can have one A3.2CR power amp on the bass, another on the midrange and treble.

One of the aims of the A3.2CR power amp is to offer low distortion, Antony told me. “Many designers have reduced distortions by using highly complex circuits with high feedback. The results keep the measurement equipment excited, but the sound didn’t prove acceptable to human ears.

“Over two decades, we have researched how circuits interact with power supplies. We have learned to implement subtle and elegant PCB layouts that allow low feedback and maximum sonic purity.”

“So low feedback is a key element?”

“Yes, very much so.”

Antony also pointed to the virtues of choke regulation: “Full choke regulation allows the circuit a completely stable and predictable platform on which to form its function. There are never any electromagnetic pulse [EMP] type discharges from the power-supply capacitors, and thus nothing that could interact with the delicate signal circuitry and PCB tracking. Choke regulation allows this superior rendition of low-level detail, even within loud passages.”

There was something very special going on with the A3.2CR power amp—and, especially, with the A3.2CR pre and power combination, which I listened to in much the same way I’ve listened to great single-ended triode setups. I didn’t get my kicks from quick thrills and grand, Storm-and-Drama climaxes. Rather, I especially enjoyed—mainly with the superb Sonus Faber Cremona speakers—quieter, more serene and intimate passages of music, especially solo piano or
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chamber: a particular sequence of chords, a fleeting moment of exquisite beauty (retrievable with the remote control's "back" button, if you want to ruin things). I luxuriated in the harmonic presentation. For several nights on end, Marina found me in the living room, still listening (and still awake) at one or two in the morning.

If you read my writeup of the original A3CR separates, you'll see that I found the sound somewhat austere. Never shrill. Never harsh. Not harmonically threadbare. But a little lacking in body—or density, perhaps.

This austerity was true of the A3.2CR separates as well, I thought, but less so. I didn't hear the harmonically ripe sound of tubes. But what I did hear caused me to question whether harmonic ripeness in audio gear is always a good thing—whether or not it becomes additive, or editorial. The A3.2CR combination was not only astonishingly clear and transparent, it was breathtakingly quick. It got on with the music, letting go of the notes.

Be patient with run-in. The A3.2CRs needed at least 100 hours of run-in, and really came "on song," as the British like to say, only after 200 hours or more—and that's not just powered on, but playing music.

As I listen to our living-room system—the NuVista 3D into the A3.2CR separates driving two Sonus Faber Cremonas—I marvel at the quality of the sound.

Musical Fidelity X-CanV2 headphone amplifier

Musical Fidelity's A3.2CR preamp lacks a headphone jack, so if you do a lot of headphone listening, you might want to consider their X-CanV2 headphone amp ($295). You run a pair of interconnects from the tape or line output on your preamp to the X-Can, which has its own line output, to replace the one on your preamp.

Like the original X-Can, the X-CanV2 uses two readily available ECC88 vacuum tubes [equivalent to the 6J8—Ed.]. Musical Fidelity's Antony Michaelson recommends leaving the unit on at all times (there is no off switch), and says the tubes should last for at least several years.

The X-CanV2 is part of what was once Musical Fidelity's X series of accessory components, only a few of which remain in production. Antony foresees that the X-CanV2 may go out of production soon, to be replaced, perhaps, with something more elaborate and expensive. Maybe you should buy an X-Can while you can.

There's a double play on words here. "Cans" is slang for headphones, especially in Britain. Meanwhile, the X-CanV2 itself is shaped like a can. The chassis, which Antony describes as "nonmicrophonic," is stabilized by two integral rods that run the length of the chassis. These rods, in turn, are fitted with rubber insets, to protect furniture and to provide additional vibration control. The entire chassis functions as a heatsink. I left my review sample on all the time and, even in summer, it ran only slightly warm. The front panel is brushed aluminum. The X-CanV2 does look strange, but I rather like it.

The X-CanV2 brought me "the ineffable magic of tubes" without the usual penalties.

Friends are almost certain to ask, "What's that?" It measures 4 ¼" high and wide by 7" long. Not something you can easily stuff in a suitcase, though. My only other beef is the size of the volume-control knob, which is tiny and hard to grasp.

And the power supply.

The X-CanV2 comes with a wall wart, which I replaced with a more robust AC/DC adapter made by Ault, Inc. An electronics supply firm, Hosfelt Electronics, offers the Ault for $9.95 plus shipping (12V AC at 4.5 amps, part #15-3821). Order at www.hosfelt.com or call them toll free at (888) 264-6644.

The X-CanV2 brought me what Michaelson calls the "indefatigable magic of tubes" without the usual penalties associated with tubed gear. The ECC88 tubes generate relatively little heat and are inexpensive to replace—you should be able to find them for about $10 a pop. Even so, I leave my X-CanV2 unplugged most of the time.

Come to think of it, you might consider buying an X-CanV2 even if you don't listen much to headphones; because, with the X-CanV2, you probably will listen more. This headphone amp delivered tube magic: a degree of light and life that seems lacking even with the best solid-state designs. The treble was sweetly extended. The midrange was free of glare, grain, or grit. The sound was clear without being clinical.

I used my two reference 'phones—the Sennheiser HD-600 and the Grado RS-1—and achieved superb results with each. For most of my listening, I used my Musical Fidelity NuVista 3D CD player straight into the X-CanV2, bypassing any preamp. I also tried the Musical Fidelity A3.2 CD player, and, with very good results, Marina's five-year-old Panasonic portable CD player.

I won't claim that $295 buys you the best headphone amplifier, bar none. Even with the power supply I bought from Hosfelt, which plugs into a wall outlet and sits on the floor or on a shelf, I heard some reining-in of large-scale dynamics. But I was probably listening too loud. Low-level resolution was excellent.

According to Antony, headphones are not always easy to drive—even though they can be driven by the cheap op-amps used to power the headphone jacks found on many CD players. Some headphones are sensitive but present highly reactive loads, which puts great demands on an amplifier. Others are relatively insensitive, demanding a greater amount of power and dynamic headroom than is available from an ordinary op-amp.

"We designed the X-CanV2 to have truly extraordinary load-driving ability," said Antony with characteristic understatement. (Hh) "They will drive any headphone loading—with more than adequate power, stability margins, and sheer grunt—to give headphone listeners that certain late-night thrill."

"What about my late-night thrill?" asks Marina as I type.

Do upgrade the power supply. It's like giving the X-CanV2 a dose of Viagra. The Ault unit made a significant difference in sound quality, provided a more detailed, dynamic, and effortless sound. The little wall wart tended to diminish things by comparison, especially shrinking the illusion of space. (I'm not sure what a "soundstage" is when it comes to
headphones.) The Ault/Hosfelt unit sounded much more...stiff.

"Whoa! (Bad!) Stop that!" Marina says, reading over my shoulder.

Headphone quality can get crazy good for relatively little money. That's one of the appeals. One danger is that you might not want to go back to listening to your big rig, such is the loss of definition, delicacy, and detail.

By the way, I've heard that the X-Can\textsuperscript{V2} can work its magic with some very inexpensive headphones. You might want to try the X-Can\textsuperscript{V2} with the cans you already own and establish a benchmark. I tried a 25-year-old pair of Yamaha HP-1 'phones. The sound was remarkable. I had no idea these headphones sounded so good until I tubed them with the X-Can\textsuperscript{V2}.

**Sam's Product of the Year**

"Product of the Year" awards are frustrating for me, because some of the best values get passed over, thus pissing me off—like the Triangle Celius loudspeaker last year.

The Unison Research Unico integrated amplifier, which I reviewed in September, is a case in point. At $1295 (add $100 for a phono card), the Unico is too expensive to be nominated for "Budget Component of the Year." But, being a relatively modest integrated amplifier, it won't walk away with the Product of the Year Award, either.

"Product of the Year" awards are frustrating because some of the best values get passed over.

I confess: I rushed the Unison review into print because I wanted to deliver the news fast. (I was so fast I even scooped some Italian hi-fi rags.) Now, after two more months of proper run-in, the Unico sounds even better. It has gained transparency. The sound has become more open. Dynamics have improved. The Unico can deliver startling bass—extended, tight, and fast—with the Sonus Faber Cremona speakers in our living room.

There are limits. At 80Wpc, the Unico's power is modest. The optional phono section is something less than the state of the art. But as a $100 add-on, the phono card is fabulous.

The Unico should be the Budget Component of the Year, but it can't be because it costs more than $1000. It looks and sounds as if it should cost at least $2000, and could probably compete with most $3000 integrateds. It combines the best of tubes (the line stage) with the best of solid-state (the output stage). And remember: where power levels are concerned, less is often more. There is often magic in a single pair of MOSFET output transistors per channel.

Sorry if I'm raving, but the Unico's build and sound qualities are extraordinary for the price, and the Unico has a luxury look and feel.

But it's the sound that I dote on. The Unico has light and life, a harmonic rightness: there is truth of timbre. Many integrated amplifiers sound lifeless and sterile compared to the Unico, especially when the Unico runs in "unprotected" mode.

So, if John Atkinson will permit, I'd like to make the Unison Research Unico "Sam's Product of the Year." Few other products in hi-fi offer so much for so little.
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The day was more unsettling than I’d imagined. Flying the evening of 9/11/02 to attend Hi-Fi News’ Hi-Fi Show and AV Expo produced more relief than anxiety, though I did have a Rod Serling moment when my room at the Heathrow Le Meridien turned out to be 5911.

The Hi-Fi Show seemed smaller than when last held at The Renaissance and Le Meridien hotels a few years ago. The mood seemed muted—more like what I imagined it was like last year. My view may have been obscured by post-9/11 melancholy, because while I didn’t see much that moved me during the three-day show, on returning home and reviewing my notes and photos, I was surprised by just how much important news there was—at least for analog lovers.

Henley Designs Ltd., the UK importer of the Czech Pro-Ject turntables, claims to have sold 17,000 of them last year. That’s a lot of turntables—especially for a country the size of the UK. That statistic was one of many indications that the UK analog revival continues to gather steam. Negativos countered that most Pro-Ject models sold were budget Debut, which sells for £120 (at $185) complete with Ortofon 5E cartridge. Are they kidding? Think of the upgrade possibilities—not to mention the potential vinyl sold to those 17,000 analog fans.

Loricraft, makers and refurbishers of Garrard turntables, showed the Archivist, a new moving-magnet/moving-coil phono section capable of matching any equalization curve ever used. It has up to 60dB of gain. Also new: the Garrard Arc du Son 201 ‘table. Tim de Paravicini must have had the Manley Steelhead on his mind when he came up with his new E.A.R. 324 solid-state MM/MC phono stage ($3000–$3500); among other handy features, it has multiple transformer taps for MC cartridges, front-panel loading and capacitance adjustment, and a Stereo/Mono switch. Probably sounds good too.

I was surprised by just how much important news there was [at the UK’s Hi-Fi Show]—at least for analog lovers.

Speaking of handy features, how about Max Townshend’s new, handsome, long-promised, three-speed Rock Reference Master turntable? It’s got remote-controlled VTA adjustability with LCD digital readout calibration on the plinth front. It also features silicone arm damping at the headshell, where it belongs. An admission: I missed Max and his turntable. He was hiding in the Art Loudspeaker room and wasn’t listed in the show guide. Thanks to Ken Kessler for the post-show heads-up, and to Cable Cooker designer Alan Kafton for forwarding importer Dan Meinwald’s photos (whew!).

Nottingham Analogue (imported by Audiophile Systems) introduced the new and very handsome Horizon turntable. Complete with Rega RB250 tonearm, the Horizon is expected to retail for around $1000. The folks at Origin Live (www.originlive.com) have been very busy: first known for modifying Rega arms, the UK-based company now offers four turntable models, including the extremely intriguing-looking Resolution and Resolution Classic (£799), and the new, top-of-the-line Illustrious tonearm (£1570). This full-featured arm drops into a standard Rega fitting. Also spotted
at the show: the graceful-looking Clearlight Recovery turntable, made in Germany, and, from Italy, the Blue Notes and the elegant MEL Audio Go EL, improved with Zeroha II unipivot tonearm.

Franco Kuzma’s long-awaited linear-tracking tonearm, the Air Line, was launched at the English show. The ca $4500 captured-air-bearng design uses a machine-tool bearing-rail combo made in the US. It features fine adjustment of VTA on the fly, a unique azimuth-adjustment system, and all the accoutrements to suggest that the Air Line is a world-class tonearm. You supply the compres sor and air-dryer—this saves you money, Kuzma says, because he doesn’t have to buy them, import them to Slovenia, and then resell them to you. Makes sense to me. This I gotta try!

Also new: Chord’s striking-looking Symphonic MC phono preamp (at $3000) with up to 80dB of gain and no transformers in the signal path, and Dynavector’s XV1S cartridge ($4000), which US distributor Mike Pranka showed me. I also inspected Art Audio’s chrome-plated Vinyl One tubed phono preamp (at $2000) and the new Clearaudio Matrix vacuum-oper ated record-cleaning machine, which looks superbly built and easy to operate. Finally, Ringmat introduced a special Anniversary model of its acclaimed record mat. Owners of older Ringmats can trade them in toward the purchase of an Anniversary, which includes a number of upgrades and refinements.

Toward the end of the show, Loricraft’s European distributor, Martina Schoener, gave me the latest news on Thorens. There will be two Thorens companies. One, not named Thorens, will be staffed by veteran machinists and service people, and will handle parts and repairs for older Thorens turntables (there’s a warehouse full of parts for models going back to nearly the beginning of the company). The other company, Thorens, will produce three completely new turntable models. Schoener assured me that this will be “good for everyone.” If she says so, I believe her!

A pilgrimage
One of the highlights of my UK trip was a visit to EMI’s newly reconstituted vinyl pressing plant, thanks to an invitation from the plant’s new publicist, Steven Carr (formerly of LP distributor Vivante). The relocated plant—on former EMI property in Hayes, Middlesex, near the now-denilished original factory—is now owned by a real estate developer who became a vinyl fetishist only after learning about the mothballed pressing equipment, which he was able to purchase for a very reasonable price. He moved the presses to the current location in September 2001 and hired Roy Matthews to run it. Matthews is a veteran of the original plant, having joined EMI in 1952. After apprenticing as an engineer, he joined the record division in 1957 and later retired. When he was asked to return to work, he couldn’t believe vinyl was actually coming back.

With nine presses operating 16 hours a day and a 10th press being refurbished (11 more are still mothball ed), Matthews has become a believer. Most of the plant’s business comes from 12” dance singles and some rock, but with 180g pressings possible, the company is looking to establish an audiophile label. The presses, EMI 1400s, are a hybrid design using the best aspects of American Capitol, EMI UK, and German technology, built in the UK by EMI.

When I visited, the presses were busy with Naim’s first LP release, a reissue of Antonio Forcioni and Sabina Sciuabba’s Meet Me in London, originally issued on CD. Too bad there’s no room to publish the entire fascinating interview with Matthews, or one I conducted later with Bob Jones, one of the last vinyl mastering engineers trained by Decca/London, which later scrapped its own pressing facility. One of Jones’ tidbits was that George Bettes, whose cuts ended with an “L” after the matrix numbers, so hated pressing Decca/Lon don Phase 4 LPs that he eventually quit the company to become a milkman.

Three Phono Stages
In an ideal world, I’d have every phono section I’ve reviewed in the past 16 years on hand to compare with these three and with all that arrive in the future. But because I
The Groove's internal construction is impressive — like a less complex version of the Connoisseur I reviewed in October — with copper shielding on both sides of the sandwiched mainboards, and a dual-mono power supply featuring a separate transformer for each channel. The shielding makes the Groove essentially RF-proof, so if that's your problem, here's a solution. Gold-plated loading sockets are accessible, but only for the nimble-fingered. The rear panel features discrete input/output jacks, a ground, and a fused IEC mains jack.

Give the Groove about a week to settle in before doing any serious listening. When I did, I heard a phono section that competed, without apology, with most anything out there at any price, the Boulder 2008 and Connoisseur 4.0 excepted. I'm not saying the Groove wins the contest, but it belongs on the playing field.

The Groove's keen sense of rhythm and pacing was, as its name implies, the first thing I noticed — as will you, probably, especially if you've never heard this level of performance. Everything arrived close to on time, with perhaps a bit of a punchy emphasis in the lower midbass, though that served to reinforce the Groove's rhythmic drive. I say "close" to on time because of what the Boulder and Connoisseur can do in that regard.

Next I noticed the non-tubey, non-solid-state harmonic development — neither leading-edge crystalline nor lushly overripe, but plenty rich. There was an abundance of clean air on top, but no ice particles, no grain, no glare or mechanical etch. But the Groove did have the Connoisseur's immediacy. I didn't sense that the signal was traveling down a long, lonely electronic pathway on its journey to my preamp. Dynamics at both ends of the scale were rendered without hesitation, and the overall resolution was first-rate, thanks to the ultra-low noise floor. This was a very quiet phono section.

As with every great phono section I've heard, when I switched from a lesser design to the Groove, instruments on familiar recordings that had been stuck
in the mixing muck suddenly emerged with startling, obvious clarity—not because of spotlighting or other spectral tricks, but because the Groove deftly untangled musical elements in time and space while leaving them harmonically undisturbed. The Groove presented a picture that was solid, nonmechanical, harmonically complex, and ultradynamic. While such performance would be impressive at any price, it was more so considering the $3200 asking price!

Negatives: The Groove sounded slightly congested compared to the very best, and tended toward the dark side (go for 47k ohms if you like it more open), but without softening transients. Some might prefer a bit more air; and, as with the Connoisseur, I didn't get the last word in decay. Bass extension was impressive, but clarity and subtlety on acoustic bass were merely adequate, with a bit of thickening. Still, tonally and harmonically, the Groove was remarkably neutral. "With the Groove, the price of admission to the top tier of phono preamplification drops precipitously."

### The Lamm LP2

**The Lamm LP2 competed texturally with the Boulder 2008, and bested the Manley Steelhead in that regard.**

**Lamm LP2 Deluxe:** The dual-mono vacuum-tube Lamm LP2 (www.lammindustries.com), a single black box featuring switchable moving-magnet (MM) and moving-coil (MC) inputs, is also meant to be heard more than to be seen. The Deluxe edition ($6690), with added damping and high-capacity capacitor bank, weighs more than 40 lbs (22 lbs for the $6290 standard version). Vladimir Lamm's high-current, pure-class-A, zero-feedback design uses two pairs of small, high-transconductance, low-noise, post-WWII Western Electric 417A/5842 tubes originally intended for RF preamplification. The RIAA EQ is passive. The Deluxe power supply uses a 6X4 full-wave rectifier tube, a choke-regulated filter, and 150 Joules of energy storage (125 Joules in the standard edition). Selectable MC step-up is via a 10k Jensen transformer with a 40 ohm input impedance. The MM input is 47k ohms in parallel with 200pF. High-quality components are used throughout, with the Deluxe edition bypassing some caps with polystyrene, and the build quality is superb.

Though the On/Off switch is located inconveniently in the rear, the LP2 is designed to be left on all the time, should you so desire. I turned it off when not in use, giving it a half hour to warm up each time I listened. Each unit is burned-in at the factory for 72 hours.

The documentation is the most complete and detailed I've seen for a high-end audio product, with unusually complete instructions and full sets of useful specs and graphs. Every expensive high-end product should include such thorough advice.

The LP2 Deluxe was superquiet in both MM (38dB gain) and MC (58dB) modes. Backgrounds were pitch-black, out of which emerged the subtlest of low-level details and graceful musical textures. In fact, the LP2 competed texturally with the Boulder 2008, and bested the Manley Steelhead in that regard. The Manley—still my reference, and I'm still in love with it—can sometimes sound a bit mechanical on top.

The Rega Exact positively sang through the LP2, as did a high-output Adcom Gsc15 (rebuilt by the Garrett Bros.) into the MM input. But the MM input is more of a utility; few buyers at this price point will be running MM. The 40 ohm input impedance proved a good compromise for most MC cartridges, even for the 3 ohm Lyras (the multi-tap Manley transformer stops at 25 ohms). There was nary a trace of transformer signature to be heard through the MC input; the overall sound was warm, relaxed, and expansive, though free of such clichéd tube signatures as bloom, overly ripe bass, or softened transients.

A/B comparisons with the Groove, which is not exactly bright on top itself, indicated that the Lamm's top end was ever so slightly diminished, but not at the expense of transient speed and definition. It reminded me of some of the recent Dynavector cartridges, which many readers rave about to me, but which I find slightly reticent. The Lamm's output impedance was a somewhat high 3.5k ohms, so I went back to John Atkinson's measurements of the Hovland HP-100's input impedance (see Stereophile, November 2000). This was 100k ohms across most of the band and down to a still-high 86k ohms at 20kHz, so I don't think the slight lack of top-end presence was an impedance mismatch.

Bass extension, control, and definition were startlingly good. Not since the Boulder 2008 have I heard the standup bass on the LP of Alison Krauss's New Favorite sound so well-defined. (The Allen Heil MasterLink was so helpful in
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Built in Hawaii, the Hagerman Technology Trumpet uses hand-matched quartets of 12AX7 and 12AU7 tubes.

making these instantaneous comparisons! Subtle dynamic scaling was on a par with the Boulder and notably superior to the Connoisseur, which, while maintaining a superb musical grip, seemed to jump more than it flowed, dynamically and rhythmically. The Lamm had great control of the proceedings, but also knew when to let go.

Subtle string textures, reeds, and female voices were positively thrilling, and the size and weight of the entire picture—especially stage depth extending well behind and in front of the speakers—was particularly impressive. Add that to snap-you-back-in-your-seat dynamics and authoritative decay, and the Lamm became one of a handful of the finest phono sections I've ever heard. Classic Records' 45rpm reissue of the Reiner/CSO edition of Mussorgsky's Pictures at an Exhibition (RCA Living Stereo LSC-2201) never sounded better.

Hagerman Technology Trumpet: Built in Hawaii, the Hagerman Technology Trumpet is a well-built if quirky, all-tube phono preamp available in single-ended and balanced-output editions. Check out the website, www.hagtech.com; Jim Hagerman’s résumé and accomplishments will assure you that you are not buying some garage tinkerer’s design. You’ll also find some impressive design and build details, espe-

cially given the Trumpet's reasonable price of $1895.

I opted for single-ended (the design itself is balanced), which has 44dB of gain (vs 50dB balanced). This meant I was unable to use low-output MCs with the Trumpet, though it had almost enough gain for the Lyra Titan’s 0.45mV output into the Holland HP-100’s relatively low-gain line stage.

The Trumpet uses hand-matched quartets of 12AX7 and 12AU7 tubes, but Hagerman encourages NOS or other exact substitutions, as long as you use carefully matched sets (because of the balanced configuration). To operate, you first turn on the heaters, wait a minute, then turn on the high-voltage section. Then you go from Mute to positive or inverted polarity. (Yes—an $1895 all-tube phono stage with a polarity switch.) You can solder in loading resistors of your choice.

I used the Rega Exact and Adcom Crosscoil cartridges. The HT Trumpet proved competitive in direct comparisons with the Lamm Deluxe, with an open, airy, detailed, and thoroughly intoxicating sound. Still, specs-wise, the Trumpet's 66dB signal/noise ratio couldn’t match the Lamm's 86dB in MM mode, and its 750 ohm output impedance means you'd better keep your interconnects very short and low in capacitance.

The Trumpet's bass was very well-controlled, texturally coherent, and exceptionally nimble, given the Exact's less-than-controlled bass, and the pacing and rhythmic flow were stellar. In short, the HT Trumpet sounded stunning, and was a total pleasure to listen to—which is what I did for many hours. Dynamic slam was somewhat diminished compared to the Lamm LP2's, but not to any great degree. The results with the rebuilt Crosscoil were ear-opening, the HT’s rich sound complementing the somewhat dry but well-controlled Adcom.

The Lamm LP2 is a tubed MM design with a transformer in front for MC, so you could add a $5000 Audio Note transformer to the Hagerman Trumpet and still spend less than $7000. Or you could buy some far less expensive transformers and do it yourself, and the results could be incredible for under $3000. I’m out of space now, but I'll have more to say about the Trumpet with transformer as soon as possible.
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The custom of giving presents at Christmastime recalls the Magi, or wise men, of the Nativity story (Matthew 2:1–16), who were most likely not “kings” but astrologers. Paintings usually depict three wise men presenting gifts to a newborn in a stable. However, a persnickety reading of Matthew’s text reveals that the precise number of Magi, although it must have been at least two, is not stated. The text specifically mentions a house rather than a stable, and implies that Jesus was a toddler. So much for the great Renaissance painters doing their research, or even reading carefully. The text, however, does specify three gifts, and it is that inventory — of gold, frankincense, and myrrh — which has given rise to the common (but not necessarily commonsense) inference that the number of wise men was three.

Many years ago I saw a droll Christmas card. On the front, in a cartoonish sketch, a short, fat, turbaned, bearded chap was frantically pulling along the chains a typical Boris Karloff-style Dr. Frankenstein’s monster. On the inside of the card, two other cartoon Magi are seen yelling “No, no! Frankenstein!” In case you were wondering, frankincense is the dried resin of the Boswellia tree. It was and is used in perfumes and incense.

The liturgical celebration of the visit of the Magi is called the Epiphany, from the Greek word for “showing,” “illumination,” or “discovery.” In modern speech, epiphany is often used to describe an unusually sudden manifestation or perception of the essential nature or meaning of something, or an unexpected sense of pure reality occasioned by the perception of something ordinary yet arresting. The modern notion of the secular epiphany is most closely associated with the fiction of James Joyce, although advertisements for expensive audio equipment run a close second.

Epiphany is celebrated January 6, 12 days after Christmas. This does not necessarily imply any judgment that the wise men arrived precisely 12 days after the Nativity, merely that their arrival — even two years later — is properly celebrated in the same season. The span of time between Christmas and Epiphany is what gives us both the Twelve Days of Christmas and Twelfth Night. Twelfth Night is richly imbued with lingering traces of pre-Christian European midwinter festivals. (Early Christianity was quite flexible in adapting to existing cultures and holidays.) In the Middle Ages, Twelfth Night was often an occasion for symbolic social inversions, and that tradition gave Shakespeare’s comedy its name.

In modern speech, epiphany is often used to describe an unusually sudden manifestation or perception of the essential nature or meaning of something.

By the way, for those of you in or near southern New England, the Chorus of Westerly, Rhode Island, will perform its dramatic and musical A Celebration of Twelfth Night January 10–12, 2003 (www.chorusofwesterly.org). A cast of 300—including Morris dancers and juggling jesters—raises the roof of the performance hall, an acoustical gem of a converted 1880s-vintage church that retains most of its original horsehair plaster. Catch it if you can.

I’ll get around to music and gift suggestions in a moment. First, I have a favor to ask.

Scurrying from one place to another at the Home Entertainment 2002 Show in New York City, I ran into my old chum John Bevier. I first knew John when he was at Sennheiser. Now he’s with Audio Plus Services, US importers of, among others, JMLab loudspeakers (www.audioplusservices.com). I told John that he was looking very well turned-out (as usual), and enviably fit and tanned. He chuckled and told me that he’d spent the previous two weeks in Kenya, working in a refugee camp for Sudanese Christians fleeing repression (or worse) in their home country. John’s church had raised money for a water system for the refugee camp. He and others had gone over to see it completed.

That kind of thing can put our obsessions with this power cord and that speaker cable in a different perspective, can it not? So here’s the favor I ask: Please visit www.waterandhope.org, which is a website John has put up, and use the Paypal button to donate $5 or $10 to John’s refugee project. I have a sneaking suspicion that that will give you more satisfaction and peace of mind than any other money you spend this season.

Okay, public service announcement over. Let’s get to the serious business of maxing out those credit cards, small bites first. Here are five Christmas-themed recordings of unusual artistic quality:

**Kathleen Battle: A Christmas Celebration** (Angel Classics 47587): I can put up with the occasionally sugary arrangements, because when Battle just lets go and sings, it’s really something special.

**Celestial Christmas** (Celestial Harmonies 45040 ¡ et sale!): This series of compilations from Teldec’s classical catalog provides top-drawer performances of musical selections that are refreshingly unhackneyed.

**Rejoice! A String Quartet Christmas, Vol.2** (John Marks Records JMR 18): No false modesty here, because the credit goes to the musicians anyway. In the first track (Bach-Gounod, Ave Maria), violinists Arturo Delmoni and Nina Bodnar play like twins separated at birth. The Renaissance motets arranged for string quartet are particularly evocative.


**Angels on High: A Robert Shaw Christmas** (Telarc C13-80461): This collection is praiseworthy for its inclusion of more substantial works, such as Britten’s A Ceremony of Carols and Morten Lauridsen’s O Magnum Mysterium.

And here are six CDs of unusual artistic quality that are not Christmas-themed.

**Vaughan Williams: Fantasia on a
rounds the total up to the symbolic number of 12 items, this DVD features Milla Jovovich’s remarkable flesh tones and soundtrack music that holds up to repeated hearings.

As an object lesson, watch the early scenes (in which Leeloo escapes from the lab and flees the police) first with the sound turned off, then with the sound back on, to realize the extent to which the vaguely North African music heightens the sense of action. The opera sequence with the alien Diva is, of course, near-universal demo material. The Superbit version is one increment crisper in picture quality than the normal one. Some PG-13 violence and gore, but the film does not take itself very seriously.

A small but powerful stocking-stuffer is a container of Caig Pro Gold wipes, for cleaning electrical connections.

A small but powerful stocking-stuffer is a container of Caig Pro Gold wipes, for cleaning electrical connections. The wipes are available from www.markertek.com, as are all variety of brushes and other products to make connection maintenance, if not a snap, then less of a frustration. You’ll feel like a pro!

To go beyond contact cleaning to contact enhancement, one’s high-octane options are a bit limited compared to those of yesteryear. Into the breach strides that Titan among Mahlerians, Jerry Bruck, triumphantly bearing aloft a 5ml bottle of Stabilant 22. Stabilant 22 is an initially nonconductive complex block polymer liquid that, under the influence of electricity in a contact (but not otherwise), becomes conductive. Furthermore, it does not cross-link to form sludge. Pretty nifty!

Jerry has established to his satisfaction that thin-film oxidation in contacts such as microphone connectors (and, one can assume, RCA plugs and jacks) changes the waveform near its zero crossing point. His website, www.posthorn.com, explains it thusly:

“As an alternating current signal voltage passes through the zero voltage state, current ceases to flow (we’re assuming a purely resistive load here); if a thin film contamination is present, current may not start to flow again until sufficient voltage has built up across the contaminant so as to break it down. The result is a small notch in the signal, which in sound is not dissimilar to the notch distortion of a class-B power amplifier. The characteristic sound ranges from a ‘grainy’ quality up to harsh ‘glassy brilliant’ coloration.”

Hueadthenquett Remarkable thing, Jerry is a bit of a “megabuck cableagnostic,” in that he believes that a well-made professional cable (such as Canare) is sufficient, but he’s a demon on contact maintenance and hygiene (as well as on power-line conditioning). Quite the reverse from most audiophiles. Hmmm...

There is a school of thought that some of the “improvement” people hear when replacing their three-year-old cables with the latest and greatest is more properly attributable to the cleaning action of undoing and redoing the connections, and little else. (Another theory is that the performance of the older cable has steadily deteriorated, owing to the gas-permeability of its insulation and consequent oxidation of its conductors, but we don’t have time to carve up that figgy pudding right now.)

In any event, wire goods are often the longtime love-despair relationship in an audiophile’s life. My first word of advice is always this, though few seem to take it: Concern yourself with room acoustics before all else. But improving room acoustics requires some degree of study and diligence, and might involve changing aspects of the room’s décor. Far easier to spend a pile on stuff that plugs in back there. Oh well, I tried.

In my last column, I mentioned Stereovox interconnect as a new contendor (www.stereovox.com). More time with it confirms that judgment. Stereovox is a partnership between digital cable guru Chris Sommivigo, whose illuminati digital cables have long been Stereophile favorites, and recording producer and former opera singer Antonio de Almeida Santos. (Tony’s father conducted the atmospheric von Stade Canteloube Songs I recommend above; Tony was at the sessions. Brat.)

Stereovox just doesn’t fool around — no surprise, given Sommivigo’s track record in the digital domain. They make one interconnect and one speaker cable. Buy it or don’t buy it, they seem to be saying, but we aren’t going to put you
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on a merry-go-round of incrementally priced products with catchy family-resemblance names. Stereovox's interconnect carries the gushingly effusive, romantic designation SEI-600.

The SEI-600 is terminated with the elegantly chunky, serially engraved Xshadow RCA connectors, the speaker cables with proprietary angled silver spades. Every technical aspect of this cable is distinctive, from the elliptical solid-core multi-strand geometry (500 solid-core conductors in a helical array are claimed) through insulators, shields, terminations, and the outer covering, a nostalgic braid of black fabric.

I don't want to go into all the specifics, in part because I'm more interested in results than in recipes, and in part because I'm urging John Atkinson to assign someone else to write a full review. But as far as I can tell, Stereovox cables avoid the sense of sterility or coolness that often comes with extraordinary focus and detail. Indeed, there seem to be no tradeoffs in midrange liquidity and richness — Ella is still Ella, she's just more of a presence. If you're considering cables in the top price tier (Stereovox's 1m interconnects are $2500/pair, their 2.5m speaker cables $6950/pair), Stereovox should be on your audition list.

If you're not considering cables in the top tier but do want new cables, there's a worthy contender in a lighter bullion-weight class. **DH Labs** recently released its Revelation interconnect. Cables with names like that usually cost $750–$1000 per meter pair, but DH Labs gives you a big word (and nostalgic fabric braid, too) for only $350. The cables sound very good, too.

Once again, I'm not surprised. **DH Labs' CS-75 digital interconnect is something I've kept around here for years as a reasonably priced reference.** (I used it for making the recordings with the Denecke A/D converter I profiled in the August issue.) DH Labs also pays particular attention to terminations. Perhaps that makes Darren Hvoskopian (the "DH" in DH Labs) the workingman's Chris Sommovigo. Regardless, the Revelation interconnects and Q10 speaker cables excel at delineation and dynamics. Three dollar signs for value; put them on your audition list.

One of the more amusing mental disconnects I experienced at HE2002 was the **FPS** planar-magnetic speaker system (www.fpshiifi.com). I sat down to listen to their floorstanding hybrid speakers, and noticed on the table beside me what appeared to be a dollhouse-size miniature model of a handsome wood-cased flat-panel loudspeaker.

A veritable Abbott and Costello exchange ensued, as the representative kept telling me that what I was holding was the speaker, and I continued to ask, "Yes, but where is it?" meaning where was the full-size one. They finally got it through my head that what I had in my hand was a production sample of a planar-magnetic speaker designed to be used with computers, or as a countertop stereo. Shazam. The FPS-200 speakers look a bit like little penguins, at least in outline (they've acquired the nickname too, though not officially). They come complete with a powered subwoofer and all the cables you need to hook them up to a computer or portable CD player. The only exotic-technology computer speaker system on the planet, all for $249.

Within the inevitable practical limitations of placement and volume, the FPS-200s do a jolly good job. (My daughter quickly appropriated them for her room.) They won't immerse you in the full sound of an orchestra, but as long as you're careful about dialing in the powered subwoofer so it won't overwhelm the planar panels, the setup gives a pleasantly full sound with an attractive tonal spectrum, and even some soundstaging. The most impressive results, however, are found by using them at arm's length (close nearfield) on a desktop, and by resisting the temptation to put the woofer on the floor.

An even more remarkable value for money is **Onkyo's CS-210 mini system**, which for $200 combines a one-box single-CD player-receiver-clock with two separate shoebox-sized speakers (no subwoofer, but subwoofer pre-outs). With a headphone jack and remote control (how do they manage that at the price?), this is a well-thought-out and conscientiously executed product (www.onkyousa.com).

Despite having less bass, the Onkyo has a small advantage over the FPS in overall sound quality: its woofers handle the midrange better. The FPS system has to split the midrange between the bottom of what are essentially tweeters and the top of a powered subwoofer. But these products are intended for different purposes, and the Onkyo's conservative design lacks the FPS's "Wow" or "Hey, cute" factor. Cheers for both.

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or more than a decade now, Stereophile has recognized components that have proved capable of giving musical pleasure beyond the formal review period by naming its "Products of the Year."

There are five individual categories: Loudspeakers (including subwoofers), Amplification Components (preamplifiers, power amplifiers, etc.), Digital Sources (CD players, transports, processors), Analog Sources (phono cartridges, turntables, tonearms, FM tuners, etc.), and Accessories (everything else).

The two most important categories, however, are the "Product of the Year" itself—the best of the best—and the "Budget Component of the Year"—the best sound for the buck. There's also an "Editor's Choice" award, for which John Atkinson usually singles out the product that has most impressed him in the past 12 months.

The formal voting procedure consists of two steps: First, each of Stereophile's hardware reviewers is asked to nominate up to six components in each of the seven categories. To be a contender, a product had to have been reviewed in Stereophile between the November 2001 and October 2002 issues, in a full Equipment Report, a "Follow-Up" review, or in Sam Tellig's or Michael Fremer's regular columns. That way, only those components could be nominated for which a writer had put his opinion in print for public scrutiny. We then put together a
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ballot form that lists all components nominated by three or more writers and/or editors. This process ensures that most of the nominees in most of the categories will have been auditioned by most of the reviewers.

The prices listed were current as of the end of August 2002. To order back issues mentioned in this article, call (888) 237-0955, or visit www.stereophile.com (MasterCard and Visa only). "WWW" indicates that the review is available online free of charge in the Archives of www.stereophile.com.

Each of the magazine’s editors and reviewers gave three votes for his first choice in each category, two votes for his second choice, and one vote for his third choice (if any). JA tallied the votes, address your compliments and complaints to him.

And the winners are...

**2002 JOINT LOUDSPEAKERS**

Rockport Technologies Antares ($41,500/pair; reviewed by Michael Fremer, Vol.25 No.8, August 2002 WWW)


Runners-Up (in alphabetical order):

B&W Signature 800 ($20,000/pair; reviewed by Kalman Rubinson, Vol.25 No.6, June 2002 WWW)

Dynaudio Evidence Temptation ($30,000/pair; reviewed by Larry Greenhill, Vol.24 No.12, December 2001 WWW)

mbL 11B ($17000/pair; reviewed by John Atkinson, Vol.25 No.8, August 2002 WWW)

Meadowlark HotRod Shearwater ($3195/pair; reviewed by Chip Stern, Vol.25 No.9, September 2002 WWW)

Meridian DSP8000 ($49,000/pair; reviewed by John Atkinson, Vol.24 No.11, November 2001 WWW)


Triangle Zerius ($1095/pair; reviewed by Sam Tellig, Vol.25 No.3, March 2002)

Wilson Audio Specialties Sophia ($11700/pair; reviewed by John Atkinson, Vol.25 No.7, July 2002 WWW)

It seems that more than just one vote should separate speakers that differ by nearly 40 grand and 400 lbs., but the massive Rockport Technologies Antares barely edged out the diminutive Joseph Audio RM7si Signature Mk.2 in the face of astonishing competition from some pricey and superb-sounding competitors.

The Antares demands a painstaking 90 hours to build and 40 hours to finish in order to achieve its unique shape, marked by a tapered base and optimized for correct driver placement, reduction of internal standing waves, and diffraction and reflection attenuation. Rockport claims the complex, fiber-glass-shelled enclosure is "essentially...an inertial reference," and the not-easily-impressed Michael Fremer readily agreed. In fact, what struck Mikey most was the Antares' lack of faults: "I have no troubling news to report, no nits to pick...I can confidently say that, with every kind of music imaginable, the Antares produced sound that was as good as I've ever heard, and probably as good as I ever will hear in my listening room." More than just another incremental step, the Antares is "an enormous leap" toward the ultimate goal for a loudspeaker: believability.

And, believe it or not, we move from a 4'-tall, 400-lb floorstander to a 15'-high, 27-lb stand-mounted unit to name our second winner. The Joseph Audio RM7si Signature Mk.2 is hard proof not only that good things come in small packages, but also that trickle-down technology makes the audiophile heart go thump-thump. Indeed, though small in stature, the RM7si MK.2 is big-hearted, using the "Asymmetrical" recasting of Richard Modaferris’s classic Infinite Slope crossover topology, which was first explored in Joseph's top-of-the-line Pearl and RM33si models. While the original Signature RM7 was definitively balanced on the sweet side, this updated version, with revised drive-units, packs more muscle. Our man Chip Stern noted a "bigger, fuller, cleaner, and more open" sound, with "more tangible weight and impact, greater transient speed and dynamics, with enhanced midrange presence, detail, and focus."

Here is a tale of two speakers that could not be much more different—one based on fanatical execution and the might of size, the other on trickle-down technology and heart—yet both succeed at communicating information and emotion with aplomb.
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2002

AMPLIFICATION COMPONENT

Halcro dm58 monoblock power amplifier
($25,000/pair; reviewed by Paul Bolin, Vol.25 No.10, October 2002 WWW)

Runners-Up (in alphabetical order):
Boulder 2008 phono preamplifier
($29,000; reviewed by Michael Fremer, Vol.25 No.7, July 2002 WWW)
Boulder 2010 line preamplifier
($36,000; reviewed by Michael Fremer, Vol.25 No.7, July 2002 WWW)
Connoisseur Definitions 4.0 line preamplifier
($16,000; reviewed by Michael Fremer, Vol.25 No.10, October 2002)
Manley 250 Neo-Classic monoblock power amplifier
($9000/pair; reviewed by Paul Bolin, Vol.25 No.9, September 2002 WWW)
Manley Steelhead phono preamplifier
($7300; reviewed by Michael Fremer, Vol.24 No.12, December 2001)
 McIntosh C2200 preamplifier
($4500; reviewed by Sam Tellig, Vol.25 No.5, May 2002 WWW)

Unison Research Unico integrated amplifier
($1295; reviewed by Sam Tellig, Vol.25 No.9, September 2002)

In this year's contest, the voting was extremely close in every category but one. With its Stygian noisefloor, vanishingly low levels of distortion spurious, and "intelligent" power supply, the Australian Halcro dm58 shifted the race into warp drive to give us a look at the future.

Paul Bolin had the pleasure of reviewing this revolutionary solid-state design, and could describe its merit only in terms of science-fiction and magic. To quote from his findings: "The dynamics, purity, and tonal transparency were beyond anything in my prior experience. Detail retrieval bordered on the supernatural. Soundscape was superb... Depth was little short of incredible... The Halcro offered dynamic performance that mere mortal amps cannot manage...."

PB went on to declare that "the revolution has arrived," and called for decisive action on our part: "The Halcro dm58 is a paradigm-destroying component that could well justify the creation of a 'Class A+' amplifier category in 'Recommended Components.'"

2002 DIGITAL SOURCE COMPONENT

Sony SCD-XA777ES multichannel SACD player
($3000, reviewed by Kalman Rubinson, Vol.25 No.1, January 2002)

Runners-Up (in alphabetical order):
Accuphase DP-85 SACD player
($16,500; reviewed by Michael Fremer, Vol.25 No.9, September 2002 WWW)
Alesis MasterLink ML-9600 hard-disk/CD-R recorder
($1699; reviewed by Michael Fremer, Vol.25 No.6, June 2002 WWW)
Boulder 1012 D/A processor
($16,000; reviewed by Jonathan Scull, Vol.24 No.12, December 2001 WWW)
Chord DAC64 D/A processor
($3040; reviewed by John Atkinson, Vol.25 No.7, July 2002 WWW)
Classe Omega SACD player
($12,000; reviewed by Jonathan Scull, Vol.24 No.11, November 2001 WWW)
Musical Fidelity A324 D/A processor
($1195; reviewed by Sam Tellig & John Atkinson, Vol.25 Nos.4 & 7, April & July 2002 WWW)
Wadia 861 CD player
($7950; reviewed by Brian Danksroger, Vol.25 No.3, March 2002 WWW)

Following in the footsteps of the first SACD player to come from Sony, 1999's SCD-1, the multichannel SCD-XA777ES takes this year's prize. As one of the criteria for reaching Stereophile "Product of the Year" status is establishing a new standard of performance, it's no wonder the XA777ES garnered top marks among digital sources in 2002. Sony boasts an impressive tradition of excellence, and with this newest member of the family they've surpassed the illustrious SCD-1 and its single-ended successor, the SCD-777ES.

Euphony will have to equal fidelity if you're to embrace the XA777ES as did Kal Rubinson, who noted that its ruthless and uncompromising nature could sometimes work to the player's disadvantage, Communication of the musical illusion, however, is heightened, with "staggering dynamic range," "thrilling inner detail," and no apparent distortion or obscuring of the experience.

Superb all around and rated Class A+ in this magazine's "Recommended Components" pages, the SCD-XA777ES not only enables its owner to get the best sound from the new SACD format, but is also "a top-class CD player that offers no performance concessions."
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2002 PRODUCTS OF THE YEAR

2002 JOINT ANALOG SOURCE COMPONENTS

Graham 2.2 tonearm
($3200; reviewed by Michael Freiner, Vol.25 No.7, July 2002 WWW)

VPI TNT V-HR turntable
($6000; reviewed by Brian Damkroger, Vol.24 No.12, December 2001 WWW)

Runners-Up (in alphabetical order):
Dynavector XX-2 phono cartridge ($1650; reviewed by Michael Freiner, Vol.25 No.7, July 2002)
Lyra Helikon SL phono cartridge ($2195; reviewed by Michael Freiner, Vol.24 No.12, December 2001)
Music Hall MMF-7 turntable ($999 with tonearm and cartridge; reviewed by Michael Freiner, Vol.24 No.11, November 2001)
Ortofon Kontrapunkt B phono cartridge ($950; reviewed by Sam Tellig, Vol.25 No.8, August 2002)
Tivoli Audio Model Two stereo table radio ($160; reviewed by Sam Tellig, Vol.25 No.4, April 2002)
VPI Memorial JMW-12.5 tonearm ($2800; reviewed by Brian Damkroger & Michael Freiner, Vol.24 No.12 & Vol.25 No.3, December 2001 & March 2002 WWW)


Though normally we wouldn't see "Product of the Year" alumni back at the top of the class, we make an exception for the new incarnations of the Graham tonearm and VPI TNT turntable, whose improvements so radically change their performance that they demanded second turns in office.

The revised 2.2 tonearm sports one-piece base-plate construction, new internal armwand wiring, and Graham's blue silicone damping oil. Improvements include greater solidity and weight on bottom, and enhanced richness and harmonic development in the midrange. How much better can it get? Mikey put it succinctly: "I think Bob Graham has refined his design about as far as he can, and has kicked the fit'n'finish, already high, up another notch. To surpass what he's already accomplished with the 2.2, he'll have to start with a blank piece of paper."

Like Bob Graham, VPI's Harry Weisfeld is a gifted tinkerer, and his TNT V-HR is the latest step in the turntable's evolution. The new Rulon bearing makes the original's subchassis obsolete while subtracting noise created by the old three-pulley design. Detail and resolution are heightened, making it easier to "imagine the sounds originating within the soundstage rather than at the stylus/record interface." Brian Damkroger was delighted with the changes: "It's thoughtfully designed, beautifully built, simple and intuitive to use — and, quite likely, one of the premier record-playing systems on the market today."
Not Just Another Pretty Face!

The Deco System is a perfect example of Velodyne's innovative engineering. Even the curves of the speaker cabinets have a designed purpose. The lack of parallel sides means less distortion. Lift one up! Feel the heft of the quality. There's almost a pound of magnet structure in each speaker. Yes, that is a full 1" silk fabric (95 Piston diameter) neodymium dome tweeter. If you look at the back, you'll see attention has been spent on how you might use the product. You can attach it easily on a wall, suspend it from a pivoting mount, or put it on a shelf or stand. The subwoofer is absolutely state of the art, and unbelievably small. Expect wall-rattling bass from its patented 1200 watt "ERS" digital amplifier. The 8" driver (6.5" Piston diameter) has a unique voice coil design, a Kevlar reinforced cone, a massive magnet and is totally controlled by Velodyne's exclusive Dynamic Driver Control System. The result is the incredibly full, rich dynamic sound, bass your body will actually feel and lowest overall distortion of any system in its price range. The Deco System delivers performance you would expect from products twice the price and three times the size.

The DECO System

Velodyne, where great sound comes in small packages.
2002 JOINT
ACCESSORIES

Grado SR125 headphones
($150; reviewed by Robert J. Reina, Vol.25 No.6, June 2002)

PS Audio Ultimate Outlet
($299; reviewed by Robert Deutsch, Vol.24 No.12, December 2001 WW/

Wally Phono Tools
(Various prices; reviewed by Michael Fremer, Vol.20 No.11, November 1997; Vol.21 No.5, May 1998; & Vol.25 No.5, May 2002)

Runners-Up (in alphabetical order):
Nordost Valhalla Interconnects & Speaker Cables
($3300/m pair and $4200/m pair, respectively; reviewed by Brian Damkroger, Vol.24 No.11, November 2001)
Synergistic Research Designers' Reference X-Series interconnects
($2000/m pair, reviewed by Chip Stern & John Atkinson, Vol.24 No.11, November 2001)

Of all the categories this one saw the closest race, and the grand prize is shared by three very different components.

First are Grado's open-air SR125 headphones. Bob Reina discovered how truly special they are when he used them to monitor his own recordings. Besides the Grados being a "neutral, detailed, and warm-sounding headphone overall, with extended frequency extremes, wide dynamic range, and the ability to sound natural at a wide range of volume levels," BJR found the SR125s "simultaneously musical and revealing of every nuance recorded," but never aurally or physically fatiguing. Undeniably, a very valuable tool at a great price.

With its balun transformer, PS Audio's Ultimate Outlet (UO) was designed to provide some of the benefits of power-line conditioning at a lower price than the company's AC-regenerating Power Plants (the P300 was voted "2000 Accessory of the Year"), and to further reduce noise and electromagnetic interference when used in conjunction with a Power Plant. With the UO in place, "there was a noticeable increase in transient crispness and dynamics, an improvement in the focus of images within the soundstage," noted Robert Deutsch, adding that "in general, music became more involving." Those with audio systems that are still powered by AC as it comes out of the wall minus the interface offered by the UO are, indeed, "unfortunate souls."

Finally, with his comprehensive Phono Tools, Wally Malewicz's goals are optimization of horizontal tracking geometry, tracking force, antiskating, vertical tracking angle (VTA), stylus rake angle (SRA), and azimuth. In addition to his WallyTractor, the toolbox now includes the WallyVTAGauge, WallySkater, WallyScales, and the WallyAzimuthShop. Our analog guru, Michael Fremer, finds Wally's help indispensable: "My job has been 100 times easier since Wally came on the scene." And that's what this accessory thing is all about: making life easier. Isn't it?
Cool. Way cool. Insanely cool. Outrageous, gotta-have-it cool. 100,000 arbiters of cool wouldn't miss the 2003 International Consumer Electronics Show. Ideas and products from 2,000 leading companies. Industry players from 100 countries. The launch pad for countless new products. More media coverage than any other single event. What could be cooler?
2002 JOINT BUDGET COMPONENTS OF THE YEAR

Grado SR125 headphones
Music Hall MMF-7 turntable
Revel Performa M20 loudspeaker

Runners-Up (in alphabetical order):
JMlab Chorus 706 loudspeaker ($450/pair; reviewed by Robert J. Reina, Vol.25 No.1, January 2002 WWW)
Mission m71 loudspeaker ($250/pair; reviewed by Robert J. Reina, Vol.25 No.2, February 2002 WWW)
PSB Alpha B loudspeaker ($249/pair; reviewed by Robert J. Reina, Vol.25 No.5, May 2002 WWW)
Tivoli Audio Model Two Stereo table radio

One again, in another tight race, the Grado SR125 headphones find themselves in a three-way tie for the prize, this time with the Music Hall MMF-7 turntable and Revel Performa M20 loudspeaker.

Of the SR125s, in comparison with all the budget and top-of-the-line models, BJR remains convinced that they "represent the greatest sound quality per dollar": accuracy, comfort, and value.

MF declared the MMF-7 to be "easily the best of the Music Hall turntables" he's auditioned. It uses a split plinth, freestanding motor, Pro-Ject 9 tonearm, and Gold Ring Eroica H cartridge to give a slightly warm and rich sound with an "impressively solid, well-tuned bass foundation." Distributor Roy Hall, who visits the design factory and has the turntables built to his wishes, has apparently "painted his masterpiece," wrote MF, who went on to say that "It's the kind of reasonably priced, well-balanced product that will deceive you into thinking you're getting it all—until you compare it to something far more expensive." And something far more expensive is not what we're looking for in this category.

About $1000 more expensive is the Revel M20 speaker, which had JA scaramoucheing and doing the fandango right here in the Stereophile office. (You should have seen it.) On the page, however, he kept the thunderbolts and lightning in check: "The overall impression is of a well-engineered, well-crafted speaker that—especially considering its weight—you'd expect would sell for quite a bit more than $2000/pair." Though its ultimate loudness was a bit limited, the M20's treble octaves and midrange were "uncolored" and "exceptionally revealing," while it offered "enough bass extension to sound bigger than it really is." In the end, JA shouted, "Magnificent!" and deemed the M20 a Class A performer at an affordable price.
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Stereophile, December 2002
2002 JOINT EDITOR’S CHOICES

Linn Kivor Tumboks hard-disk music server
($20,000/system; reviewed by John Atkinson, Vol.24 No.12, December 2001 WWW)

Wilson Audio Specialties Sophia loudspeaker

As seems to be the case with computers, the Linn Kivor system I reviewed was still “in beta,” both the controlling software and the hardware lacking some of the specified functionality. But I decided to make this Linux-based server—its massive hard disks can store hundreds of hours of uncompressed audio data—one of my “Editor’s Choices” for 2002 because of what the Linn Kivor Tumboks represents for the future of domestic sound reproduction: the concept of getting away from the idea of music as being something carried on a physical carrier such as a CD or LP or SACD or DVD, and toward something that exists in less tangible form but is therefore infinitely flexible in its relationship to its owner.

This move, as MIT’s IT guru, Nicholas Negroponte, put it in his 1995 book Being Digital, from “bits rather than atoms” enables the iMerge-based relational-database software provided with the Tumboks to redefine the user’s relationship with his or her music in a completely open-ended manner. It is a shame, therefore, that the record industry is actively trying to destroy the open nature of the CD standard, which makes products like the Kivor possible.

I have auditioned almost all the speakers reviewed in Stereophile in the past 12 months, but the one I remember most fondly is the relatively demure-looking Wilson Sophia. I have written before that the secret to designing a truly great loudspeaker is to balance all aspects of performance. So many speakers achieve great performance in one area while failing in others that my colleague Tom Norton, editor of Stereophile Guide to Home Theater, came up with the phrase “designer tunnel vision” to describe the syndrome. While it is easy to think of loudspeakers that surpass the Sophia’s performance in individual areas, there are very few that do so across the board. The Sophia may be the least expensive model in the Utah company’s two-channel line, but it features a superb balance of overall performance and has no areas where it offers anything less than excellence. I need no more reason than that to make it one of my 2002 “Editor’s Choices.”

—John Atkinson

2002 PRODUCT OF THE YEAR

Halcro dm58 monoblock power amplifier

Runners-Up (in alphabetical order):
Accuphase DP-85 SACD player
B&W Signature 800 loudspeaker
Boulder 2008 phono preamplifier
Classe Omega SACD player
Manley Steelhead phono preamplifier
mbl 111B loudspeaker
Rockport Technologies Antares loudspeaker
Wilson Audio Specialties Sophia loudspeaker

The cover of our October 2002 issue calls it “the best amplifier ever!” What more can we say? The dm58 ran away from the rest of the pack—no component received anywhere near as many votes within its category or this overall winner category—to deem itself this year’s clear winner. Paul Bolin and John Marks have been trying to persuade John Atkinson to create a new “A+” rating that would recognize the Halcro’s achievements. JA himself was wonderfully impressed with the sound of the dm58s driving the Wilson Sophia speakers, adding that the amp “offers astonishing measured performance.”

Is a “Class A+” in the works? The future, in the form of the April 2003 issue, will tell. In the world of amplification, however, it seems the future is here. Congratulations, Halcro, on a job well done.
Power Matters

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300W p/c 8 ohms, 600W p/c 4 ohms

Absolute Sound's Editor's Choice
2000 and 2001
- Harry Pearson, Paul Seydor

Stereo Times Awarded 4½/5
- Frank Alles, Martin Appel

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Part 1: Wes Phillips on the CD’s Genesis

To find the true genesis of ...Against the Dying of the Light, the new recording from Minnesota-based male-voice choir Cantus, you’d have to journey back to the beginning of 2001. In January or February, the group had begun to grapple with the development of a new program.

Cantus' discs are distillations of the programs they perform on tour, and for several years now, one of the ways the ensemble had distinguished itself from other men's choirs was in the way their concerts expanded on a theme or themes — “almost taking the audience on a journey with us,” as bass Erick Lichte puts it.

Coming on the heels of their last program, an exploration of folksong from around the world that resulted in their last recording, Let Your Voice Be Heard (see article in the January 2002 Stereophile), the group felt the need to perform more ambitious material, lest they be dismissed as an upscale 'N Sync. Musically and conceptually, it was time to get serious.

It occurred to Erick Lichte that, when sequenced correctly, some of the new material the group had recently mastered actually told a story. The stoicism of Sibelius' “Hymnus” (“Lazy heirs benefit from his effort / at last expended; remembering they praise / his hands, now destroyed by cold death, / and his heart, now broken”) fed directly into the despair of “O Vos Omnes” (“O ye people who pass by / behold and see / if there is any sorrow like unto mine”) by Pablo Casals, a composer better known as a virtuoso cellist. Lamentations like Josquin's “Absalon, fili mi” (“Absalon, my son, that I could have died for you, my son. / Life holds no pleasure, let me descend to hell, weeping”) were milestones on the path to the acceptance of “De Profundis” (“If thou, Lord, should
mark iniquities / O Lord, who shall stand? / My soul hopes in the Lord. / For with the Lord there is mercy, / And with Him is plenteous redemption.

Armed now with the awareness that their concert could illustrate a musical and poetic progression from grief and sorrow to consolation and joy, the group began assembling the new program. They regularly received standing ovations when they performed Kenneth Jennings' settings of two Dylan Thomas poems, "Do Not Go Gentle Into That Good Night" ("Old age should burn and rave at close of day. / Rage, rage against the dying of the light.") and "And Death Shall Have No Dominion" ("Though they go mad they shall be sane, / Though they sink through the sea they shall rise again; / Though lovers be lost love shall not, / And death shall have no dominion."). Taking their cue from the defiance of "And Death Shall Have No Dominion," the group sought emotional release in the rapture of Randall Thompson's "Alleluia" and the triumphant beatitude of Debussy's "Invocation." ("Rise up, voice of my soul, with the dawn, with the night / Throw yourself forth like the flame / Spread yourself like the noise / Float on the wing of clouds.")

The final stage of the journey fell into place with Samuel Barber's soaringly transcendent setting of Gerard Manley Hopkins' "Heaven-Haven (A Nun Takes the Veil)".

I have desired to go
Where springs not fail,
To fields where flies no sharp and sided hail
And a few lilies blow.

And I have asked to be
Where no storms come,
Where the green swell is in the havens dim,
And out of the swing of the sea.

Cantus had found its final piece about the final peace.

"God Protect Us from War" — Kanteletar II

Then, on September 11 2001, everything changed. "We were rehearsing at Westminster Presbyterian Church in downtown Minneapolis," tenor Michael Hanawalt recalled. "The events in New York, Northern Virginia, and Pennsylvania had unfolded during the morning and we had serious reservations about whether or not we should have our scheduled rehearsal. Erick and I discussed canceling, but, in the end, we decided that, at the very least, we should all meet. We all walked into the rehearsal room and we just sat there. Nobody spoke. Then, after about 15 minutes, we began to talk about what was happening and what we could do. Finally we decided that this is what we do — what we do is sing, so we decided to go on with the rehearsal.

"Westminster staged an interfaith service that evening and they asked us to participate, so we sang Pablo Casals' 'O Vos Omnes.' Performing that night helped us get through that day — we felt that, by singing, we were doing what we were best at. We weren't firemen or construction workers or rescue workers and we weren't there, but we were contributing.

The group had scheduled its next tour for October, but the program concerned them. They had wanted to challenge themselves and their audiences, but to confront concertgoers with such difficult questions and such dark reflections at such a time was not, to Cantus' way of thinking, to be undertaken without soul-searching.

"We weren't certain what this was people wanted to hear," said Lichte. "But we immediately felt the audiences connecting with those pieces — under different circumstances, I don't know if people would have had the same tolerance or understanding of the material. These works rank among the most serious classical music in our repertory, and we were concerned it might prove too intense and too personal. But that's not what audiences seemed to take from it.

"It's not as though we discussed September 11, but at the beginning of October last year, there wasn't much else on people's minds. We'd perform a piece and the audience would just be silent; it was a different rhythm than there had been before the attacks — they'd sit there for a short spell, thinking about things, and then they would applaud.

"After our shows we stay and talk to anyone who would like to speak to us, and people were coming up to us and telling us how much our performances meant to them — particularly the Jennings settings of the Dylan Thomas poems. Obviously, many people already knew and had thought about those poems — or the 'De Profundis' or some of the other texts — so they brought all of that to our concerts and gave that back to us in their responses to the music."
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“Rise up in the silence”
— Alphonse de Lamartine

I can attest to the power of the experience. I was, after all, present in the Chapel of the Good Shepherd at Shattuck-St. Mary’s School in Faribault, Minnesota, during most of the recording sessions. I carried the program texts around in my reporter’s notebook for six months and I had heard individual songs numerous times, both at the mixdown meetings Michael Hanawa and Erick Lichte flew to Brooklyn for, and when John Atkinson asked me to listen to different CD-Rs of potential final mixes.

Still, nothing prepared me for the experience of receiving a finished copy of Against the Dying of the Light; one day in late summer. The package, with its die-cut slipcase showing a black-and-white photograph of the group standing far off in a field of grain under the lowering horizon, proclaiming that this is something special. Inside, the texts are arranged in a format notable for its spare economy. The words are set in large, clear, readable type surrounded by acres of white space, and no graphic clutter pulls the eye away from them. It is serious and quite moving. It is significant that in this project the artists themselves made every decision—even the layout was the work of bass Tim Takach. The result is a beautifully integrated piece of art that shames most major-label classical endeavors at every level.

Then there was the program itself, which I had not heard in its intended sequence—the works were recorded in segments and out of order.

So I sat down and simply experienced the disc for the first time.

This experience was mirrored by Cantus’ own, of their first performance of the complete program at a homecoming concert in Minneapolis. “On tour, we incorporate several of the pieces into a larger program,” said Hanawa. “Of course, the experience of recording the disc took things out of order and even broke it down into sections. We were all concentrating on just performing our parts to the best of our abilities, so we never really had the experience of singing all of these works back to back and dealing with this progression of emotions as we sang them ourselves.

“Typically, we try to have an encore ready...but what could you do? What could you do? Finally, we just decided we couldn’t follow this with anything—we’d just stand there. The audience totally understood it—when we finally reach the final resting place of the Barber at the end, the experience is complete. And the audience was willing to just ponder that, to savor it.”

The journey begins with “Hymnus,” in which Sibelius paints a bleak picture of life, all right—nor do Casals or Orff make death sound particularly peaceful (“Death, pain, grief, and terror fall upon all.”). In “Sydämen laulu,” Sibelius trudges to the fabled grove of the dead, where “a sandy cradle is waiting” for his dead child. There, he reflects, “...my child is free from sorrow. / Lulled to sleep by a birdsong mellow, / Rocked in a cradle of gold. /.../ far from passion, / Far away from man’s oppression, / Far from the treacherous world.”

Schubert peers into the grave and pleads with the moon. “Friend of slumber, dear moon. / be not silent, / whether darkness or light / lives in the grave. /.../ Now, still grave, speak. / You drew many a beam down into rest. /.../ Give only one beam back!”

WHO ARE CANTUS?

Cantus (www.cantusonline.org) was founded in fall 1995 when a few college friends gathered on the campus of St. Olaf College in Northfield, Minnesota, a place known as a virtual wellspring of activity in choral music. Their objective was to spend time away from the rigors of college life doing something they enjoyed: singing. During the next two years the ensemble grew to 12 members and began performing at venues on campus.

Cantus has performed more than 250 concerts in the nation during the past seven years, including appearances at AmericaFest, the American Choral Directors’ Association’s (ACDA) National Convention, the Newport Music Festival, the ACDA Central Division Convention, and numerous choral festivals and regional ACDA gatherings. In September 2000, Cantus established itself as a nonprofit arts organization based in Minnesota. In addition to its work as a performing ensemble, it is active as a proponent of music education, encouraging people of all ages, especially young men, to sing. Its members are frequent clinicians at festivals, elementary and middle schools, and at high schools, colleges, and universities across the country.

In summer 2002 Cantus sang to great acclaim at the Oregon Bach Festival and at the Sixth World Symposium on Choral Music in Minneapolis. They embarked on their first European tour in October, representing the US at the prestigious Tolosa Vocal Competition in Spain. Cantus appears in concert with the Saint Paul Chamber Orchestra this month, in a holiday program titled Cantus and Carols.

In addition to the new Against the Dying of the Light, four other Cantus CDs are available on the Cantus Recordings label: Introit (1997), Tidings (1998), Yuletide (1998), and Let Your Voice Be Heard (2001), the last also engineered, edited, and mastered by John Atkinson.

By the time the baritones were repeating “Rage, rage against the dying of the light,” I was a wreck—staring eternity directly in the face is hard work. But the beauty of the program is that it does not conclude simply with man’s rage against the inevitable.

Madetoja’s “De Profundis” marks the beginning of a remarkable sequence of texts and tunes. “Out of the depths,” indeed. Thompson’s “Alleluia” breaks like a dawn, and Debussy’s weightless “Invocation” actually sends one’s spirits aloft. Then, after what seems an interminable silence of nearly 30 seconds, the open major chords of Barber’s “Heaven-Haven” are as welcome as the first gasp of air that fills your lungs after an icy plunge. It is a relief—and it is a release.

The only possible response is to sit there for a few moments, pondering things.

And then, to applaud.

— Wes Phillips
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PART 2: JOHN ATKINSON ON CAPTURING THE SOUND OF CANTUS

The Chapel of the Good Shepherd on the campus of Shattuck-St. Mary’s School in Faribault, Minnesota — Marlon Brando and Sylvester Stallone are alumni — was built in the English Gothic style in 1871. The interior features collegiate seating and a high wooden “A” ceiling, and the floor is of stone flags laid over a suspended wooden platform. The acoustic is quite reverberant for a fairly small space, but on the bright side overall, and Cantus in full song verged on overloading the acoustic.

Placing the chorus on the altar behind the stub walls wasn’t a good idea, so they stood in an arc in front of those stub walls, about a third of the way down the nave from the altar. I would have liked the singers to stand on risers, to minimize early reflections of their sound, but we had none, and so unscrewed and removed several rows of pews. Nevertheless, as you can see from the Sonic Solutions screen-shot, which shows the waveform of the sound of a slapstick as picked up by the four mikes, there were still plenty of early reflections.

As in my 2001 Cantus recording, I used two pairs of microphones for the main pickup: a spaced pair of B&K (now DPA) 4006 omnis, and an almost coincident pair of B&K (now DPA) 4011 cardioids. I used the ORTF technique for the cardioids: mic capsules 7” apart and angled at 115°. The cardioids were mounted on an Audio Engineering Associates stereo bar fitted to a 12’ high Manley Starbird stand. For one evening session, I also used a pair of DPA 4060 miniature omnis, one mounted 4” out from either side of a Jecklin disc for a parallel quasi-binaural recording. (My thanks to Len Moskowitz of Core Sound in Teaneck, New Jersey, for the loan of the tiny DPA.)

For the Monday-night session I used a pair of almost-coincident crossed Neumann TLM103 1” cardioids to close-mic a Steinway piano for the Debussy Invocation. Before you inhale a gap of shocked breath at the words “close” and “mic” in such intimate embrace, we had rented the piano for only this session, and had very little time for setup. I wanted to leave the main pairs of mikes optimally set up to capture the voices; only later, in post-production, would I mix in some of the close piano signal to counteract the rather distant piano balance that would otherwise have resulted.

Having set up the mikes in approximately the right positions — I try to match the same direct/reverb ratio for each pair of mikes, which mandates moving the directional cardioids farther back than the omnis — I set up my gear in the vestry, a side room off the main entrance, which necessitated running 100’ cables from the six mikes. (You can never have too many cables!) All the sessions were done at 24-bit resolution and 88.2kHz sample rate. (The downconversion from 88.2kHz to the CD’s 44.1kHz is demonstrably transparent, and the 88.2kHz masters can also be used for eventual SACD or DVD-Audio release.) Apart from the separate binaural recording, for which I used my Panasonic DAT recorder’s A/D converters, all three ADGs’ wordclocks were linked. This way the heterogeneous storage media would not be an
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issue once I'd uploaded all six tracks of data onto my Sonic Solutions Digital Audio Workstation's hard drives and aligned each pair in time with the others. (Each take lasted exactly the same number of samples in each medium.)

The photograph on the previous page shows my usual location-recording rig, in three stacks of gear. From top to bottom of the left stack: the computer monitor; an AKG D190E mic for talkback and slatting takes; my bass guitar preamp gear in a small SKB flight case, which I used to feed an AR Powered Partner active speaker for talkback; and my PC (a Dell 866MHz Pentium 3 with 47GB hard-drive space), fitted with CardDeluxe and RME soundcards. I used the CardDeluxe ADCs for the close-miked piano feel; storing the 24-bit/88.2kHz data on the computer with the inexpensive CoolEdit 2000 program and slaving the standalone dCS converters to the CardDeluxe's digital output. For the other sessions, I used the RME soundcard's AES/EBU data input to back up the omni channels to hard disk, again using CoolEdit 2000.

The middle stack, from top to bottom: a Nagra-D open reel digital recorder (four channels of 24/44.1 data, used to store two channels of 24/38.2 data from the omni pickup); a PrismSound MR-1024T "bit splitter," used to divide two channels of 24/88.2 data from the cardiod pickup into eight channels of 16/44.1 data; a Tascam DA-38 MDM recorder, used to store those eight channels of cardiod data; a pair of two-channel Millennia Media HV-3B low-noise solid-state mic preamplifiers, used for the omni and cardiods; a Forssell M2A 2-channel low-noise tube preamp, used for the Neumanns and for the binaural DPAs; two two-channel dCS 904 A/1 converters, one slaved to the other at 24/88.2; and an Audio Power Industries Power Wedge AC conditioner.

On the right, again from top to bottom: Stax Lambila Pro and Semheiser H5-780 headphones; the Stax tube headphone amplifier; a Perpetual P-3A 12/A converter for monitoring the 88.2kHz data; a dCS 972 format converter to convert the 24/88.2 double-speed AES/EBU link from the dCS 904 ADC to a single-speed 16/44.1 AES/EBU datastream to feed the Panasonic SV-3700 DAT recorder below it. This was used both for the binaural recording and to store 16/44.1 backups of some of the sessions, which I burned to CD-R when I got back to my hotel room.

Just out of shot, on the far right and next to the stack of BASF tapes for the Nagra, is a HeadRoom Block-Head balanced headphone amplifier, used to drive balanced Semheiser HD-600 headphones.

Each take was slat-ed with a slapstick at the dead center of the stage, this used in post-production as the timing reference to align the pairs of channels. I tried moving the cardiods backward and forward in time in the mixdown, but the

![JA gets the angle between the cardiods right.](image)

**ERICK LICHTE AND MICHAEL HANAWALT ON RECORDING ... AGAINST THE DYING OF THE LIGHT**

According to Erick Lichte, "...Against the Dying of the Light was not merely the most ambitious project Cantus had ever attempted, it was also the most difficult to accomplish. The recording was definitely born in pain. For one thing, noise from the Chapel of the Good Shepherd's heating system was incompatible with the recording process, so the group turned off the forced-air system during the sessions. But Good Shepherd is a stone building, and this was late winter in Minnesota. The interior temperature dropped alarmingly quickly, and Cantus frequently decided to gut out severe cold rather than delay recording.

Most of the time, members of the chorus could see their breath. Typical session gab included scarves, gloves, and hats (and long Johns) — and this is physically difficult material to perform even under ideal conditions.

Then there was post-production. "Because this was a progression, we spent a lot of time editing and arranging the transition from one piece to another," said Lichte. "And we really got into it in microscopic detail. I got really nit-picky about it, but I felt it was so important that there be no technical distractions from the message and the experience of undertaking this emotional journey.

"John Atkinson did a brilliant job of helping us realize that goal — he showed an extraordinary level of understanding and artistry in the way he employed his skills and knowledge. His commitment and dedication to this project equaled our own."

Michael Hanawalt agreed. "Every time we work with John, he just astonishes us with his professionalism. No, that's not right — you expect that, of course. He amazes us with the depth of his musical knowledge and his empathy with our artistic goals. He brings a level of integrity to the project that makes it possible for us to produce a document that fully expresses who we are and what we want to say."

Lichte was adamant. "If ...Against the Dying of the Light succeeds at what we attempted to do with it, it's because John cared enough about what we wanted to do that he spent far too much of his time and talents to make it so. Perhaps there are a lot of engineers who can do what he does, but he's a real musician and he knows how to communicate with musicians — and he cares about the musical integrity of everything he does."

The result is impressive. Cantus and Atkinson have achieved marvelous sound that is both intimate and evocative, on a disc whose beauty matches its ambition. In the final analysis, one of the strongest arguments for life must be that it can hold such pleasures.

— Wes Phillips
The Magneplanar MGMCI is a wall mounted quasi-ribbon speaker that critics all agree is an incredible value. In September, 2002, Sound and Vision reviewer Rich Warren said, "...I felt as if I was back in my music critic's seat, with fellow audience members rustling around me and live music filling the hall." And on movies he said, "They transformed the 10x12-foot room into a great commercial movie palace." "They could easily settle domestic disputes over good sound vs. good decor."

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theoretically correct alignment was the best-sounding, with a deliciously open, vivid sound. I ended up using the omnis as the main pickup in the mix, with the cardioids added in at -6dB to stabilize the soundstage. The omnis' high end was also shelved down by 3dB to allow the more precise imaging of the cardioid pair to become dominant above 3kHz or so.

With this mix, the lower mids were rather lightweight compared to how they'd sounded in real life, so I used a Z-System's rdp-1 digital parametric equalizer to provide a slight boost: 3.4dB at 80Hz, with a Q of 2. More than this and the basses began to sound too plummy when the cardioids were added to the omnis. Mixing in the close sound of the Steinway at -12dB in the Debussy proved to be just the right amount with respect to the level of the vocals.

One problem I hadn't anticipated concerned slight differences in the noise floor for different tracks. The program varied enormously in its dynamics, from the quiet, reflective Barber piece that closes the sequence to the work by Finnish composer Veljo Tormis, which climaxes with the voices being drowned by someone beating the hell out of a large gong. (From the score: "The sound must be so loud that the chorus entrance is not heard.") I thus adjusted the microphone preamp gain for each work during the sessions, to maximize the resolution of each. This meant that I had to adjust the level accordingly for each track during editing and mastering.

However, the ambient background noise had not been consistent, due to wind, noise, and distant traffic. I hadn't thought this would be a problem at the time, because the peak level of this noise was between -57dBFS and -63dBFS, and any changes in the spectra, almost always LF in nature, should not have been audible. Nevertheless, they were audible, resulting in small "gear-changes" at some of the between-track transitions. I eliminated these by creating long crossfades between the songs and, in some cases, some slow changes in low-frequency equalization, applied to just the noise floor and again using the Z-System's rdp-1.

As all the mixing and equalization was performed in the digital domain, the 24-bit resolution of the original data was preserved.

I downsampling the sampling frequency from 88.2kHz to CD's 44.1kHz with my dCS 972. Once the master had been assembled, I reduced the word length from 24 bits to CD's 16 using the rdp-1's POW-R algorithm, as I'd done for last year's Let Your Voice Be Heard album. This is not noise shaping per se, but very-narrow-band dither applied just below the Nyquist frequency (half the sampling frequency), conceptually similar to the UV-22 algorithm that used to be available from Apogee.

I am confident that the sound of the CD is true to the sound of Cantus, on four of the coldest days Minnesota was to experience in March 2002. It was a privilege to have been associated with this moving music. —John Atkinson
Charged with creating a new high-powered amplifier that would continue our tradition of offering near state-of-the-art performance at a fraction of the cost, it seems that Steve McCormack has instead simply gone ahead and established a new benchmark of performance for solid state amplifiers. Read what Peter Moncrieff has to say in International Audio Review (IAR 80): "For music lovers, this brand new power amp has now captured the top honor as the best solid-state amp on the planet. ... The sound of the DNA-500 combines relaxed authority, effortless transparency, grace and subtlety, and a musically natural liquidity. ... the new McCormack DNA-500 brings true musical naturalness to solid-state ... Its reach, and its grasp, are both broad and deep, extending far beyond the musical capabilities of other solid-state amps in many different ways, and in each and every way to a startling degree."

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A PORTRAIT OF THE ARTIST AS A . . . ?

Unlike most best-of series, ECM's new :RARUM collections allow artists to paint their own aural portraits.

What can be said of Manfred Eicher, more truly than it can be said of any producer in the history of jazz, that he has created a body of work. The thread that connects Eicher's 700 ECM albums is spiritual rather than musicological. The artists from many cultures who have recorded for Eicher have brought their diverse, distinctive voices to the label's projects. But the arc of Eicher's muse imparts a particularly rapt aesthetic atmosphere, and imprints an existential solemnity on the quest and commitment of ECM music. The ECM sound never fully relinquishes Eicher's own darkness and silence, from which it emerges.

ECM's :rarum series may reflect an impulse on Eicher's part, in his 60th year, to begin a process of summation. Eight albums of these Selected Recordings have been released to date, and there are plans for many more to follow in 2003 including collections by Pat Metheny and Dave Holland. ECM's resident superstars, Keith Jarrett and Jan Garbarek, are represented, but so are less famous figures of European jazz like Bobo Stenson, and prominent names no longer with the label, like Chick Corea and Bill Frisell.

What is unique about the :rarum project is the artists' direct involvement. Each musician chose and sequenced the material for his collection, and provided new liner notes. Each, that is, decided on an artistic self-portrait. The series is executed with classic ECM panache. Each volume has its own individual rich autumn color and immaculate graphics. The liner booklets document each artist's ECM career and include photos from private collections. ECM's famous sonic...
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quality, mostly the work of the legendary
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mized with 24-bit/96kHz remastering.

Two of the compilations, those of Jan
Garbarek and Keith Jarrett, are two-CD sets.
On the phone from their homes in Norway
and New Jersey, respectively, both reported
similar initial reactions to the prospect of
choosing tracks from their enormous ECM
catalogs. "It was an ordeal," said Garbarek.
"I never listen to my own albums, and I had to
listen to everything."

Jarrett said, "At first, I didn't want to be
involved. My 'old work' is never a thing that's
in my life. My first reaction was to have some-
one else choose, or better, somehow create a
totally random selection."

But both artists not only overcame their
reluctance, they both, in their own fashions,
because deeply engaged in the selection process,
learned from it, and filled up two CDs each.

For Garbarek, the first revelation was in
finding himself transported back to each
recording studio, reliving moments from as long ago as
1975. "I could feel myself in
those rooms again, and I could
feel the presence of all the mu-
sicans who had been there with
me. I could remember what we
ate. I could remember days when
it was raining. I could not listen
from a strictly musical point of
view. There were so many extra-
musical factors." Garbarek also
said, "One of the things I dis-
covered was how my sound changed
over the years. I could hear it
develop into what it is now."

But while the experience of
choosing contained intense per-
sonal "extramusical" considera-
tions for Garbarek, he was still
able to perform his editorial assign-
ment with admirable disci-
pline, objectivity, and humility. It
is difficult to imagine a more
comprehensive, more balanced
overview of Garbarek's life work
drawn from more than 50 ECM
albums, 21 as a leader) than the
one he himself has put together
for *ranum II*. He said, "I was given
no criteria for what kind of com-
pilation it should be. So I chose
pieces that represented major
stepping stones—a certain collabora-
tion or technique that
saw the light of day at a certain moment. Of course,
there were compromises: 30 years, and only two CDs. I had to find
the shorter pieces."

The great Polish trumpet player Tomasz Stanko (also an
ECM artist) has said that he has been playing one song his
whole life. The same can be said of Jan Garbarek. His single
soprano saxophone song is a transfixing, piercing prayer, a
drawn-out cry in the wilderness echoing over the Norwegian
fjords. Garbarek's *ranum* collection follows this song through
myriad variations, in a succession of diverse settings with
some of the finest players in jazz and world music. There are
duos with people like Ralph Towner and Keith Jarrett. There
are small jazz ensembles with people like Bill Frisell and
Eberhard Weber. There are collaborations with players from
Pakistan and India and Tomista and from European classical
music. There are also solo projects on which Garbarek accom-
panies himself on synthesizers and overdubbed percussion.
There are some lighter, uptempo pieces, like the jubilant
"Lillekort," with John Abercrombie. But most of these perform-
ances are deep, serious searches for absolutes, and cumula-
tively they make one long, radiant smear of music, culminating
in the celestial "Parce Mihi Domine," with the voices of the
Hilliard Ensemble. This collection, more definitively than any of
his individual recordings, establishes Jan Garbarek's lasting
importance, and his ownership of a specific treble language of
soul-baring expressiveness that is unique in modern music.

Keith Jarrett's approach to the selection process could not
have been more different. Whereas Garbarek provided a
sweeping summary of his own work (and therefore an ideal
introduction for those new to his music), Jarrett decided to
"tweak the listener's ears." He said, "It is what I do in concerts,
so why not do it here?"

While Jarrett's ECM portfolio is vast (46 jazz albums,
many of them multi-disc sets, and 11 classical albums in
ECM's New Series), his reputation is primarily founded on
two epic series of recordings: his totally improvised "Solo
Concerts" and the huge swath of the American popular
songbook recorded by his "Standards Trio," with Gary
Peacock and Jack DeJohnette. Yet the double album of *ranum
I* contains only four little-noticed tracks from Solo Concert

*Stereophile, December 2002*
STEREOPHILE RECOMMENDED COMPONENT
Oct. '02, Vol. 25, No. 10

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Stereophile, December 2002
discs, and only three atypical tracks by the trio, which are not standards but Jarrett originals. By contrast, there are five tracks by a quartet with Jan Garbarek that appears on only four of Jarrett’s four ECM jazz albums.

Instead of his major piano works, Jarrett gives us his clavichord oddities, his patently-texting pipe-organ indulgences, and his one-man-band overdubs featuring his experiments on flutes and recorders and soprano saxophone. On the phone, Jarrett described his logic: “I thought it would be immensely hard to choose. But once I got started it went very fast. I think I did it all in one evening. My wife helped. I knew the clavichord and the organ had to be included because they are the least known. So I got started with the clavichord things. They made sense to me in a certain order and I said, ‘That’s it.’ I would listen to tracks and say yes or say no. It was as if I had all these parts before me and I would assemble them in a linear way as though I were improvising.”

His insistence on the act of choosing as a creative process, as spontaneous and intuitive and even unconscious as improvisation, suggests a way to hear and understand this compilation. It begins with four of those aforementioned clavichord pieces (from Book of Ways, 1986), hermetic and strident and hypnotic, and segues to a small, exquisite solo-piano jewel called “Heartland” (from Concerts By John, 1981). Then there are five short pieces from Spirits (1985), as poorly recorded as anything in the ECM catalog, in which Jarrett overdubs himself on two cassette decks playing six instruments. Then there is a piece that many listeners will skip, an exercise on baroque pipe organ with held notes like 60Hz hum (from Hymns/Spheres, 1976). Then there are four tracks, all different, all powerfull, by the quartet with Garbarek: two ecstatic (from Belonging, 1974) and two quieter but still passionate (from My Song, 1977). Jarrett said, “Whatever came into my head next I didn’t mistrust. I was following my instincts the way I do when I’m playing. It ends up being a concert.”

But it is also undeniable that Jarrett pursued a not-so-hidden agenda. In his liner notes he states, “I would like to direct the listener’s attention to recordings that either have been...heard less than I feel is their due, or have escaped recent....awareness.” He elaborated on the phone: “It’s about the young listener and what they might not be aware of.”

When asked what kind of artistic self-portrait he was trying to create, he said, “I was trying to fill in the cracks....If I’m going to release my old work, it should be provocative.” The collection does indeed contain Jarrett’s “old work,” spanning the years 1974–1994, but with only three tracks from the 1990s. All major artists, of course, believe that their minor works have received less attention than is their due. Artists tend to love all their progeny, including (perhaps especially including) those least loved by the rest of the world. Because of his enormous commercial success, Keith Jarrett is in the enviable position of not needing a vehicle like the Zann series to secure a wider audience for his music. His decisions for Zann I can be seen as selfish and arrogant, as one further manifestation of the egomania for which he has been criticized throughout his career.

But Keith Jarrett always gets away with it, because when he plays he spils his guts. The passion of his creativity, in the end, overwhelms his vanity — and it happens again on Zann I. Jarrett’s choices are indeed “provocative.” Precisely because he dares to follow his instincts, he makes this “concert” work — just as his wildest improvisations in his actual concerts work — when he lurches between jarringly incompatible moods and ideas just because he can, just because he is free, and
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"Chad, I simply can’t BELIEVE how good ‘I Heard It Through the Grapevine’ sounds!!! It is impossible to sit still through it. Hell, it’s impossible to sit period. I am SO impressed. All the others are great too (especially ‘I Put A Spell On You’), but ‘…Grapevine’ just blows my mind. (And I had NEVER heard those congas before…!)
Thank you sincerely for sharing this with me."
— Art Dudley, editor of Listener Magazine

"I’ve just listened to the first two CCR test pressings mastered by Kevin Gray and Steve Hoffman at AcousTech Mastering (at R2) and let me tell you: when the bass kicked in on ‘I Put a Spell on You’ I thought I was playing a 45 at 33 1/3 it was so deep and THICK but it was 33 1/3 and when the guitars kicked in, it was WOWIE!!!! The transparency, transient SNAP and overall clarity without brightness or edge is phenomenal! This is as close to listening to a master tape as I’ve heard from vinyl — not hyperbole. Based on this, I think Kevin has put together the best-sounding lathe/cutting set-up I’ve heard yet — better than what they were using at Future Disc for the DCC cuts and without the hum — and those were good, of course….the top end is just right — dynamics, depth, detail, the whole ball of wax, XXX, I was cautiously optimistic having heard how great the Ella/Gershwin box cut there came out, but I was not prepared for THIS….congrats to all."
— Michael Fremer, senior contributing editor of Stereophile, music editor of Listener Magazine

"I didn’t have the chance to compare these to the master tapes. It’s gotta be damn close! Shit man, it don’t get any better than this.
This is a Rock and Roll album. And a good one too! Not some ‘audiophile’ recording of an unknown ‘n’ er-do-well performing a ‘nose-flute recital’ (borrowed slang) in a drafty VFW Hall. This is actual music. Ya know…popular music. And it sounds great!"
— Rich Brown, aka Speaker Boy, Klipsch Audio Technologies and Acoustic Sounds customer

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compels his listeners to discover along with him the subliminal congruence.

CD 2 begins with two pieces from a Solo Concert album called *Dark Intervals*, from 1987. "Recitative" and "Americana" are slow, riveting meditations that crest and recede, so flawlessly that they exemplify Arnold Schoenberg's dictum that the best written music sounds improvised, and the best improvised music sounds written. Then there are two strange, somber "Invocations" (from the album of the same name, 1980), in which Jarrett conducts private rituals on soprano saxophone and pipe organ.

Then comes the most radical 11 minutes of solo piano that Jarrett ever recorded. "Munich, Part IV" (from the out-of-print *Concerts: Bregenz/München, 1981*) begins like so many Solo Concerts, with Jarrett trying little figures, searching for currents, waiting for a tide to sweep him somewhere. But then he suddenly gets stuck at the far right of the keyboard and can't get out and circles in a panic, trapped, and begins to slap the top of the piano with his left hand and stomp his foot and groan in agony. He furiously searches the high treble keys for an answer, grunting spasmodically with the effort, and then suddenly his right hand becomes his liberation after all and he finds his way back to the rest of the keyboard and rediscovers music. "Munich, Part IV" is the act of a performer willing to risk everything in public, and at the end the audience erupts. When asked to comment on why he included this piece, Jarrett said, "Because I disappeared. I was gone. I did not know what my body was doing. I did not know where my hands were. I was in a place that I very rarely reach while playing, although I've been trying for it my entire life. And also because I think trauma is good for a listener."

It requires several passages through this 150 minutes of music to hear that incantation is an essential motif that recurs again and again, in "Book of Ways 14" and "Heartland" and "Recitative," where both Jarrett and his listeners gather themselves before continuing with the other pieces and their various extremes. Recurrences even emerge between sections as different in texture as the pipe-organ sustains of "Spheres (7th Movement)" and the ferocious piano-trio groove of "The Cure," because they share a similar simplicity of harmonic structure. Even on the pieces that are Jarrett's most defiantly "provocative" choices, even on soprano saxophone and pipe organ, he eventually, for those who stay with him, breaks through. By the time the end arrives with "Hymn of Remembrance," an organ softly keen in a gigantic acoustic space and a dignified processional out of the music, it becomes apparent that *manon* I is indeed a "concert," one that took Jarrett 20 years to play.

The other volumes in the first wave of the *manon* series vary in quality from very good to sublime. Bill Frisell is atypical of ECM artists in that he has done his best work for other labels. Yet between 1982 and 1987, the cryptic chimings of his guitar notes, hovering in wide open sky, helped define the atmosphere of the ECM sound. Frisell's *manon V* draws from the three ECM albums he made under his own name, and also contains tracks from five recordings on which he appears as a sideman. There are stark contrasts here, from overdubbed solo acoustic guitar choirs to taut crossovers with world-class horns like Joe Lovano and Kenny Wheeler. This collection is a highly listenable miscellany, but does not aspire to be more than a sampler.

Chick Corea, Gary Burton, and Terje Rypdal all chose to make statements in their *manon* collections by focusing on themes. From the wide variety of music that he made for ECM, Corea went with three ensembles: his proto-fusion electric band Return to Forever, his duo with Gary Burton, and his acoustic trio with Miroslav Vitous and Roy Haynes. The three groups could not be more dissimilar, nor more preeminent examples of their respective categories. Even fusion-haters will smile to hear again RTF's "Sometime Ago," with its irresistibly infectious joie d'vivre.

Gary Burton limits his collection to his working quartet and quintets of the 1970s and '80s. In his liner notes, Burton calls Manfred Eicher "the best producer I ever worked with." Yet Burton left ECM in the mid-'80s. There is a certain regret in revisiting these intricate, meticulous sound paintings, built of glistening details from Burton's vibraphone and from the instrumental voices of superb sidemen (Pat Metheny, Eberhard Weber, Makoto Ozone) who are deeply embedded in the group pointillism. Burton's recorded work never again reached such consistent excellence.

Terje Rypdal mostly avoids the larger production pieces in his ECM catalog (which includes works for symphony orchestra) and concentrates on his primary persona of guitar god. Rypdal showed the world that power guitarists do not have to choose between knocking people down and making poetry. His *manon* collection is an uninterrupted strong suite of performances from 27 years, with a wide spectrum of dark colors, authentic emotional collisions, and, often, genuine majesty.

Between 1971 and 1999, Bobo Stenson recorded four piano-trio albums for ECM. They are among the permanent jazz-piano recordings of those three decades, and demonstrate
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how Steenson's sense of dramatic gesture, liberated structure, 
and stark lyricism evolved over time, culminating in his two 
masterworks, War Orphans (1997) and Sensory (1999). Steenson 
also shaped the rhythm sections of some of the finest ensembles 
of that same era, and they are here: the quartets of 
Charles Lloyd, Tomasz Stanko, and Jan Garbarek. Steenson is 
an absurdly underrated player, an injustice that his extraordi-
nary ranum collection should help to correct.

ranum VI may be the most important volume of the series 
to date. The Art Ensemble of Chicago was a group beyond 
category, beyond era, and one of the greatest small bands
in the history of jazz: fearless, outrageously creative, erudite, 
heart-stirring, mind-expanding. Because they were visual per-
formance artists whose public appearances were as much 
vaudeville tent shows and tribal rituals as jazz concerts, 
their full impact could never be captured on record. But 
Manfred Eicher, between 1978 and 1984 and over the course 
of four monumental albums, came closest.

Trumpeter Lester Bowie died in 1999. While the Art 
Ensemble is continuing as a trio (and recorded a new album 
for ECM, a tribute to Bowie, in 2001), the closest we can 
now come to the full Ensemble in all its wildly impulsive, cal-
culated glory are 20-minute epics like "Magg Zehna" (from 
Full Force, 1980). In concert it would have been 90 minutes, 
but even in this studio version it contains whole lifetimes of 
human experience: hope as drummer Don Moye's rustlings 
stir into life; search and struggle in the frenzied (yet contra-
puntally coordinated) saxophone cries of Joseph Jarman and 
Roscoe Mitchell; and fulfillment when Bowie's proud trum-
peror swings suddenly into time and rides on Moye's rolling 
rumbling thunder. The Art Ensemble lives.

The ranum series provides special opportunities to hear how 
the ECM sound has evolved through cross-pollination as the 
label's small roster of players collaborated on one another's pro-
jects. The series also creates touch points, coincidental or deeply 
significant or both. For example, Keith Jarrett's liner notes ex-
press regret that he did not have room to include "Sunshine Song" 
(from Nude Aus, recorded live at the Village Vanguard in 1979).
He writes, "This track is a lesson in group dynamics and one of
my ultimate memories of [the quartet with Jan Garbarek]."

But "Sunshine Song" appears in Garbarek's collection, and 
Jarrett was startled and delighted to find it there. On the phone 
he related the story; "That night at the Vanguard, when we fin-
ished playing "Sunshine Song," I knew that group would never 
do better in terms of dynamics. I didn't even care if the sound 
was any good, I just hoped we got some of it on tape. We all 
rushed into the kitchen, where the equipment was set up, to 
hear the playback. I noticed that Jan was sitting in a corner, 
sulking. I didn't understand, but Jan later told me that he was 
afraid he was losing his identity in the power of the music.
Maybe he did not like this piece for 20 years, but going back 
to it now, he must have heard what I heard at the Vanguard. 
That must have been why he included it. When a player is best 
is when he has lost his identity."

Because the phone conversation with Garbarek preceded the 
one with Jarrett, there was no opportunity to confirm 
Jarrett's theory about Garbarek's related realization. But even 
if Jarrett's theory is correct, it contains a fundamental irony.
Jarrett insists that artists relinquish petty matters like individual 
identity, yet the ranum series is all about the artist defining an 
identity through a musical self-portrait. Upon such paradoxes 
does the ranum series thrive.

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enthraling elegance... Hahn thrills."
—Newsday

Hilary Hahn tackles the contrasting styles 
of concertos by Mendelssohn and 
Shostakovich, demonstrating why Time 
Magazine recently called her "America's 
best young classical musician."

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Stereophile, December 2002
It is Stereophile's policy not to rush to publish the first review of a product, but to take the time to be thorough, reflective, and responsible. But in the case of the PS Audio HCA-2 amplifier, so many comments have already been published, even in Stereophile, that by the time this review sees print it might seem like old news.

First, PS Audio released a good number of beta samples of the HCA-2 to their website subscribers, and posted many of those subscribers' comments. That created a good deal of consumer interest — a welcome byproduct of beta testing. Second, with all that word-of-mouth there has been a buzz on all the audiophile websites, including the perennial question about why there seem to be so many HCA-2s offered for resale. (I don't know the answer to that question, which is often asked about some of the best equipment made.) All of this made my head spin — after all, Paul McGowan of PS Audio kept assuring me that I'd be getting one of the very first HCA-2s. When, early in May, McGowan dropped by with a regular production sample, I had the feeling that I was perhaps the last audiophile in North America to hear one.

Finally, by the time I got around to living with the amp, formulating my ideas about it, and transferring those ideas to (virtual) paper, Sam Tellig had already had his unique way with the HCA-2, and John Atkinson had already placed it in Class A of “Recommended Components” (both in the October 2002 Stereophile). Fortunately, those recommendations saw print so late in my deliberations that they had no influence on my considerations, and only a bit on my comments.

Despite all the ballyhoo, I was surprised to see how compact and clean the HCA-2's design really is. Although it's no bantamweight — its weight is the same as the Bel Canto eVo 200.2's but feels like less — the HCA-2 can be easily hefted into whatever space you have for an amp. I mean any space: The HCA-2 is not only trim in size, it seems to generate almost no heat. The front panel has a sculpted On/Off switch on the left side and an illuminated blue “PS” logo on the right of a broad, black rectangular panel. Turn the HCA-2 on and the word “STANDBY” appears in yellow, replaced after about 15 seconds by “OPERATE,” in blue. There's a red “FAULT” indicator, too, but I never saw it illuminated.

The rear panel is nearly as simple. On the right are paired unbalanced (RCA) and balanced (XLR) inputs. In the middle are four sturdy WBT binding posts for the speaker cables. On the left is the IEC power input, a power-line fuse, and a switch for selecting between AC voltages of 100-120V and 220-240V. Above the power utilities are modular connectors for an automation controller bus, DIP switches to identify the HCA-2 on the controller bus, and a 12V DC trigger input for simpler control systems. There are no external heatsinks, and the only ventilation opening is on the chassis' left side.

Inside, the simplicity continues. The contents (and the weight) are dominated by the power supply, which includes a hefty toroidal transformer and the basic components of a High Current Ultimate Outlet. PS Audio's widely appreciated line conditioner. The actual amplifier pcb with power output stage is almost minuscule, and would proba-
bly fit in the chassis of the little Nagra PL-L preamp that I paired with the HCA-2 for a part of its workout.

The October 2002 “Sam’s Space” includes Sam’s lighthearted but informative exchange with Paul McGowan detailing the unusual engineering ideas incorporated in the HCA-2, so I’ll be brief: The input stage, a fully balanced analog class-A design using J-FETs, feeds a high-speed-switching output stage called an SDAT, for Super Digital Amplification Technology. This class-D power stage is fully balanced, load-insensitive, and extremely efficient. Moreover, after leaping off the PS Audio drawing board and into the measuring lab, it was modified based on the results of extended listening sessions.

**Break-in, Anyone?**
Okay. Paul McGowan, the P in PS Audio, did drop off the HCA-2 himself. On the one hand, this is not something that the average purchaser can expect. On the other, I didn’t let him install the amp. I’m an audiophile — nobody gets at my connections but me.

I plugged in the HCA-2 between the Sonic Frontiers Line-3 preamplifi-
er (via AudioQuest balanced Pythons) and the Revel Ultima Studio loudspeakers (via Harmonic Tech Pro-9 Plus, internal biwire), played a few selections, then let McGowan play a few of his. The HCA-2 sounded okay (I maintained a stone face), but McGowan asked me when I was going to get subwoofers, and said that the amp would need a few hundred hours of break-in before it would truly show its mettle. Little did he expect what it would get.

The next day, we Rubinsions began major renovations to our apartment, and placed all audio components out of the reach of anything but the Sonic Frontiers’ remote control. For three months (!), the HCA-2 was fed an almost continuous diet of WQXR-FM. Any premature assessment of the break-in process was impeded by the several layers of plastic sheeting we’d hung to shield the listening room from the demolition. I also left the system running over the weekends, when we lit out for places less dusty.

So if anyone thinks that the HCA-2 needs more break-in than this, he might also inquire about extending PS Audio’s three-year warranty.

Music, At Last

Finally, the renovations were complete, the plastic sheets came down, everything was vacuum-cleaned (even the equipment rack), and I settled in to listen to the HCA-2.

The HCA-2 didn’t sound any different from what I remembered of the brief initial audition, when it was cold and right out of the box. It did sound strikingly clear, pure, and open. Sure, there was the joy of getting close to my music again after months at more than arm’s length—but the HCA-2 was magnetic. It made me want to listen to every recording that I was familiar with, to see if maybe there was something I hadn’t heard before.

In many cases, there was. The amount of detail and information conveyed continually amazed me, nor was it due to brightness or highlighting—

**Measurements**

The PS Audio HCA-2 inverted absolute polarity, and its balanced and unbalanced inputs featured almost identical voltage gains: 30.2dB and 30.4dB, respectively, into 8 ohms, both of these on the high side. As a result, it took only 1V or so to drive the amplifier to clipping. The input impedance at 1kHz measured a high 98k ohms via the unbalanced RCA jack, just under half that figure via the balanced XLR jack.

The amplifier’s output impedance was moderate, at 0.2 ohm over most of the audioband, rising slightly to 0.3 ohms at 20kHz. As a result, the modification of its frequency response due to the Ohm’s Law interaction between this impedance and the variation with frequency of the loudspeaker impedance will be mild. However, the low-pass filter, in series with the amplifier’s output to minimize the presence of radio-frequency switching noise, also interacts with the load impedance; the top trace in fig.1 reveals that it peaks a little at 40kHz when the load is 8 ohms. As the load impedance drops, the peak disappears and the response starts its ultrasonic rolloff closer to the audioband. Into 4 ohms, the PS Audio’s output is 0.5dB down at 20kHz; into 2 ohms, the 20kHz level is more than 1dB down.

The HCA-2’s reproduction of a 10kHz squarewave reflected this behavior. Into 8 ohms (fig.2), a slight overshoot and one cycle of 40kHz ringing can be seen; into 4 ohms (fig.3), both the overshoot and ringing are lower in level.

Fig.4 reveals that the amplifier’s channel separation is quite good, at better than 70dB below 12kHz, though some capacitive coupling between channels increasingly introduces crosstalk with rising frequency. (I first thought this measurement was being affected by the presence of ultrasonic switching noise; but looking at the crosstalk waveform on an oscilloscope revealed that true crosstalk is being shown.) However, the presence of switching noise meant that the wideband, unweighted signal/noise ratio (ref. 1W into 8 ohms) was just 45.7dB. Lowering the measurement bandwidth to the audioband improved the ratio to 72.3dB, with an A-weighting filter increasing this to 76.5dB. This is still not as good as I would have hoped, but the measurement is adversely affected by the amplifier’s high gain and, therefore, sensitivity.

The HCA-2’s measured percentage of distortion+noise was not affected by...
“Why I Cried When the Music Ended”

I couldn't help it. The song was so sad. I looked over at my wife. Sure enough, there were tears streaming down Pam's face as well. In my 30 years as an audiophile, I couldn’t remember this ever happening to me.

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turning up the levels only made everything bigger and clearer, but not overbearing or glaring. In fact, I always felt compelled to listen at significantly higher levels with the HCA-2 than with my other amps. Had mid- to high-frequency emphasis or peakiness been responsible for the revelation of detail, they would have been obvious and intolerable at those levels.

If cranking it up was the order of the day, did the HCA-2 have the muscle? Yes, indeed. I was influenced by the amp’s small size and the more conservative (compared with the manual) power ratings listed on the website, so it took me a while to get the courage to really push it. But when I did, the HCA-2 pumped out power like a nuclear plant. From top to very deep bottom, the PSA was capable of more than my poor little ears could take.

"Mars Extension," from Dean Peer’s I think...It’s All Good (Turtle 599008), was spacious, with bowling-alley depth, and punctuated with bass that was chest-pounding or earth-moving, as appropriate. Not only was there no evidence of compression even at very high levels, but the HCA-2 seemed to expand the dynamic range compared to other amps. Moreover, no matter how loud or for how long I ran the HCA-2, I never detected anything more than a barely warm draft from the small vent on the left side of the chassis. The power supply of the Nagra PL-L preamp gets a lot hotter than the HCA-2 power amp did at full tilt.

So the HCA-2 was transparent and powerful. Good. But that’s not sufficient description for potential purchasers. The important attributes are its renditions of tonality and space, which were distinctive but, perhaps, not incorrect. The HCA-2 did not sound like any of the other amps I had on hand. With the rest of my system components unchanged, the insertion of the HCA-2 greatly expanded the soundstage depth, bringing near voices forward while farther ones remained well back. Scale was maintained, in that the expansion is small for small groups and venues, huge for the opera house. Indeed, if I were mastering a recording, I’d need this sort of resolving power along the longitudinal axis.

The HCA-2 also seemed to minimize room- and placement-dependent irregularities in mid bass response. The result was that, with the HCA-2, the Revel Studios sounded more like the B&W Signature 800s did than they do

![Stereophile, December 2002](https://example.com/sound.jpg)
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PPS—This “amazingness” never wears off. It just keeps getting better and better. And now it’s available in the Big Apple...
PS Audio HCA-2

with the other amps. That was a good thing, mostly. It was good, when the rest of the system had the dynamic power to keep up with the amplifier, to re-create musical moments of tremendous weight and power without the midbass blotching of room modes. The juggernaut of an opening scene from Puccini’s Turandot, in the spectacular Zubin Mehta recording (Philharmonia of London, Sutherland, Pavarotti, Caballé, Ghiaurov, London/Decca 414 274-2), is enveloping and overwhelming from beginning to end. The HCA-2 created a genuinely theatrical presence at what were, undoubtedly, greater-than-real-life SPLs, but such were the thrills that I couldn’t hold back.

It can be a problem, though, if room contributions in the midbass are a needed aid for tonal balance. For example, I tried the HCA-2 in my weekend system, and in that room it was a poor match for the Paradigm Reference Studio/60 loudspeakers. The soundstage, clarity, and power were there in abundance, but the HCA-2 exposed the ’60s subtle brightness and the room’s thin support in the 100-150Hz range. (Low bass was just fine, though.)

I sampled a dozen or so recordings and got a few kicks (mainly with solo performances), but quickly found the combination of the HCA-2, the Paradigms, and this room fatiguing. Ultimately, it was impossible to determine how much of these mix’n’match results were due to the room itself and how much to the equipment, but it was a relief to return the amplification responsibilities for the ’60s to the Bryston 9B-ST.

Things were more than a bit better with the smaller Paradigm Studio/20s. As with many minis, Paradigm has given the ’20s a little richness and warmth to balance out the lack of true low bass. Since that’s in the very region where the HCA-2 seemed a little reticent, the Studio/20s and the HCA-2 complemented each other. While k.d. lang sounded less than velvety through the Studio/60s on “My Last Cigarette” (from Drag, Warner Bros. 46623-2), she seemed appropriately smoky through the Studio/20s. And with the Paradigm Servo-15 subwoofer below 80Hz, the combo of Studio/20 and HCA-2 was truly superb, with more linear bass from 200Hz down to the depths than I had heard before in this room.

Measurements

lies at almost -100dB, implying good grounding in my test setup. However, when I examined the amplifier’s reproduction of the admittedly demanding 1:1 mix of 19kHz and 20kHz tones (fig.10), not only were there many 1kHz-spaced intermodulation products present, but the two fundamental tones were surrounded by sidebands spaced at multiples of 120Hz, which suggests that at high powers the HCA-2’s power supply is not up to the task demanded of it.

This graph was taken at an indicated 25W into 8 ohms (due to the nature of the twin-tone waveform, the actual power will be twice this), which is well below both the amplifier’s specified power into 8 ohms and the level at which clipping of the waveform could be seen on the oscilloscope screen. Yet the amplifier’s poor high-frequency linearity results in 18kHz and 21kHz intermodulation products present at -54dB (0.2%). The 1kHz difference product lies at a more respectable -74dB (0.02%), however.

There was some good news: With a continuous 1kHz tone, the HCA-2 managed to exceed its specified output power, with 170W available into 8 ohms (22.3dBW) at the usual 1% THD clipping point, and 260W into 4 ohms (21.1dBW). As shown by the top trace in fig.11, however, the amplifier turned off at 375W into 2 ohms, its red Fault indicator lighting up. Because the PS Audio’s output stage is balanced, I wasn’t able to test its dynamic output power capabilities because the PC card used as the platform for the Miller test software needs to reference the signal to ground.

I was disappointed with the PS Audio HCA-2’s measured performance, particularly regarding its lack of high-frequency linearity. This behavior suggests that the amplifier circuit has limited open-loop bandwidth, which conventional engineering practice suggests could be coped with by applying more loop negative feedback. The resultant improvement in high-frequency linearity would be achieved at the expense of overall voltage gain; as the HCA-2 has around 6dB more gain than is strictly necessary, it might be thought that applying the same 6dB of loop feedback would radically improve the amplifier’s measured performance.

However, it is not my job to second-guess designers. As PS Audio’s Paul McGowan is one of the more careful listeners around, he presumably decided that increasing the amount of negative feedback to improve the measurements did not make the sound better, and perhaps made it worse. But I’d certainly expect the HCA-2’s measured problems to have audible consequences. Perhaps it was the presence of added high-frequency harmonic content that gave Kal Rubinson the impression that the HCA-2 pushed the soundstage forward, though he didn’t find its presentation “glaring.” Certainly more auditioning is called for if we are to confirm the HCA-2’s Class A rating in “Recommended Components.”

—John Atkinson

Stereophile, December 2002
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Swapping Partners
I tossed the HCA-2 back in the car for a return to Manhattan for a face-off with the resident power plants, to play with cables, and to see if another preamp might change my views. I’d been using PS Audio’s Lab Cable 2 instead of the standard IEC cord supplied with the HCA-2. Using the regular cord flattened that generous depth of image without affecting the amp’s other performance aspects. I also tried a new JPS Aluminata power cord, whose price exceeded that of the amp. With the HCA-2, I could not distinguish the Aluminata from the PS Audio Lab Cable, even though the JPS had been an ear-opener with some other amps, like the Sonic Frontiers, Classé CAM-350, and the eVos.
I’d like to think that the HCA-2’s built-in Ultimate Outlet makes power-cord improvements unnecessary beyond a certain level, and that the amp performed optimally with either fancy cable. But I couldn’t easily bypass the built-in conditioner, and so could not test this hypothesis. At various times, the balanced interconnects were swapped for others or for Cardas unbalanced, but the personality of the HCA-2 remained as delightful as ever.
When I swapped the Nagra PL-L for the Sonic Frontiers Line-3, it made little difference other than what I’ve already described in my November 2002

Head to Head in Class D...or Class A?
I had reviewed the original Bel Canto eVo2002 quite favorably in the March 2001 Stereophile (Vol.24 No.3), but was somewhat surprised by John Atkinson’s decision to put it in Class A of “Recommended Components.” It was a breakthrough for high-end amps in terms of technology and efficiency, but it was less than the state of the art in transparency and lack of grain. Moreover, JA and I had problems getting it to put out full rated power because of its built-in protective current limiters. Snipping out the limiting resistors solved some of the power problem, but the HF dinness remained. The amp did sound better as a monoblock pair, especially at high levels.
The eVo2 offers Bel Canto’s resolution of those issues. In addition to a welcome and successful facelift, the new amp has a transformer and power supply twice the capacity of the original and similar to what was in the older, four-channel 200.4 (now replaced by a new eVo4, I understand). With the full deletion of restricting power-supply limitations, one eVo2 now has the practical amphi of a pair of 200.2s. Although the upgrade is primarily that, the eVo2 lacks the eVo 200.2’s slight HF veil, which had made me question including it in Class A. The eVo2 is clearly better; the only reason to use a monoblock pair is to satisfy truly monstrous power demands or megalomania.
The demonstrated sensitivity of the eVo2’s performance to the influence of power-supply modifications made it unsurprising that the eVo2 benefited from use of a high-end AC cable in place of the standard IEC cord. Both the PS Audio Lab Cable 2 and the JPS Aluminata worked well. However, the Aluminata seemed a particularly good match for the eVo (and for the Sonic Frontiers Power-3), subjectively reducing and softening background noise: it seems a bit crazy to consider such an expensive accessory for such a moderately priced amp, but the combination sounded quite lovely.
So with the PS Audio HCA-2, I now had two really superb class-D (switching) amps side by side. Both had no problem driving the Revel Studios at any listening level. At low levels, they were quiet but still dynamic enough to be musical and uncompressed. At higher levels, each created an imposing and spacious sound that I found utterly convincing.
They were not, however, at all identical. Specifically, they differed in proximity of soundstage (HCA-2: nearer), midbass weight (eVo: richer, firmer) and macodynamic range (HCA-2: wider). Of these, the last is most problematic, since, with small ensembles and recording venues, the amps were comparable. As recorded objects grew larger, they grew more with the HCA-2 than the eVo2, but I can’t decide if the HCA-2 tended to magnify or the eVo2 tended to minimize.
Listening via the HCA-2 to Dominic Argento’s wonderful Te Deum (Salmunovich, Los Angeles Master Chorale and Sinfonia Orchestra, RCM 12002), I had the chorale in my living room, and the orchestra was almost squeezed in as well. Sure, there were yards of depth, too, but the proximity of the voices was most imposing. The rendition via the eVo2 was a bit richer and less intense. There was also a more natural distance from the voices to the listener. Make no mistake — the eVo2 offered a front-row seat. But the HCA-2 was more like a seat on the stage itself.
With Colin Davis’ latest recording of Berlioz’s Symphonie Fantastique (LSO Live LS0007), the tables were turned. The eVo2 offered a decent mid-hall seat, placing the players well out front. The HCA-2 was closer and more exciting, creating a multichannel ambience that transported me. Both amps made thunderbolts of the bass drum in the “March to the Scaffold.”
Solo voices and small ensembles were well within the ambit of either amp. Alison Krauss’s delightful “Forget About It,” from the SACD of the same title (Rounder SACD 11661-0456-6), got lots of comparative play, so revealing was it. I couldn’t fault the reproduction of her voice with either amp, but Krauss was just in front of the Revel Studios with the HCA-2, and just at the speaker plane with the eVo2. The supporting ensemble, however, was lighter and more ethereal with the HCA-2. Nonetheless, I liked the eVo2’s rendition more as I readily traded the delicacy for a bit more heft.
Choose between them? I don’t have to, lucky me — I generally keep several amps on hand for comparison purposes. But I don’t think that purchasers should have that difficult a time. The Bel Canto eVo2 is clearly more mellow and intimate, even though there’s no compromise in power or soundstage size when required. The HCA-2 is cooler and assertive, even though there’s no glare, and it’s capable of excellent low-level performance. The choice hinges on the associated equipment and room. If one of these amps matches your setup and preferences, the other probably won’t.
—Kalman Rubinson

Stereophile, December 2002
Aesthetix Callisto Line Stage—
Preamplifiers, Class 1
"...stunning dynamics, remarkable transparency...
soundstage is jaw-droppingly three-dimensional...
as low distortion and grain-free as they come..."

Benz Lukaschek PP1—Phono Stages, Class 3
"Best Buy" "...short signal path yields very wide dynamics, space retrieval...and airy bloom"

Clearaudio Master Reference—Turntables, Class 1
"Best Buy." "...a wonderfully rich and defined mid-bass, outstanding tonal neutrality, and a presence and weight to die for..."

Clearaudio Reference with Souther TQ-I
turntable/tonearm—Turntables, Class 2
"classic combo...simple, foolproof "table with a straight-line arm...straight-line rules"

Clearaudio Souther TQ-1—Arms, Class 2
"...a joy to listen to: tremendous dynamics, rich tone color, and glorious bass."

Clearaudio Harmony Mg—Cartridges, Class 1
"smoother, sweeter...incredible life and detail..."

Koetsu Onyx Platinum—Cartridges, Class 1
"...the most sensuous, purely voluptuous cartridge on the market...simply gorgeous sounding..."

Benz Ruby 2—Cartridges, Class 2
"Best Buy" "lovable...easy tonal character...fine harmonic, ambient and spatial resolution...excellent tracking, sweet and mellow textures..."

Aesthetix Io—Phono Stages, Class 1
"About as good as it gets...exquisite dynamic contrast...glorious midrange, excellent bottom octave, and full rendition of instrumental body..."

Phonomena—Phono Stages, Class 4
"...grace, poise and neutrality characterize this excellent unit...options for fine tuning the loading and gain...very low noise...add the BPS (Battery Power Supply) for even lower noise and distortion, and even greater transparency."

Basis Gold Debut Vacuum Mk V—
Turntables, Class 2
"...very detailed but never analytical...warm, sweet and full-bodied...

Basis 1400/RB300—Turntables,
Class 4
"perfect choice for anyone with a good record collection...without breaking the bank...clean, agile, lively, nimble."

Graham 2.2 tonearm—Arms, Class 1
"the best unipivot ever made...a masterpiece...extremely detailed...full in color...powerfully dynamic, with terrific bass."

Clearaudio Insider Gold and Insider Reference Wood—
Cartridges, Class 1
"famous for its soundstaging, imaging, transparency, and incredible articulation...a paragon of detail and finesse..."

Clearaudio Accurate—Cartridges, Class 2
"...offers about 75% of the Insider Gold...very detailed, very dynamic, very neutral..."
review of the PL-L: The PL-L is just a bit quicker and lighter than the Line-3, and supported and intensified those characteristics in the HCA-2. They may seem an oddly matched couple, but the semiprofessional Nagra and the definitely domestic HCA-2 provided much the same musical balance, one that emphasized transparency without eschewing power. Each, but the HCA-2 more so, was less than emphatic in the midbass and should not be mated with speakers that lack strong midbass output or with rooms with hard acoustics.

I also played a round robin of amp comparisons that pitted the HCA-2 against the Bel Canto eVo 2002 and eVo2, Sonic Frontiers Power 3, McCormack DNA-1 Rev.A, and the Classé CAM-350 monoblocks. Of these, the HCA-2 was most similar to the Classés, particularly in their open, grain-free, and spacious upper midrange and treble, although the HCA-2 offered a more close-up soundstage. The Classés had more generous bass at all levels, and seemingly unlimited power. At comparably high levels, the Classés inspired confidence—but while I always waited for the HCA-2 to pop out, it never did. That’s important—the HCA-2 can’t be bridged for more power, and, in general, biamping is not a particularly effective solution anyway.

Perhaps if I had a larger, more isolated room, less efficient speakers, or greater tolerance, I might have found the PSA’s limit. The four other amps were noticeably warmer and slightly more distant in their presentations. That made them more relaxing for casual listening, even though, with slight adaptation, they were quite excellent in critical listening as well. In particular, the eVo 2002 and McCormack seemed a little grainy and withdrawn compared to the HCA-2, but then, every amp seemed somewhat withdrawn next to the very dynamic HCA-2. The newer Bel Canto eVo2, however, offered an alternative, equally valid and convincing view of reality (see sidebar, “Head to Head in Class D...or Class A?”).

Is It Just Me?
The issue of subjective evaluation is never free of the problem of adaptation. Until I see evidence better than the anecdotal reports of perceptions, many of which I have experienced, I can’t but think that a large part of a component’s “break-in” happens, literally, in the mind of the listener. In the course of my experience with the HCA-2, there was no real difference between my subjective descriptions of the amp before and after its long break-in, but I could perceive differences between my subjective assessments of the amp at the beginning and end of long, uninterrupted listening sessions.

At the beginning of a review period, I am attuned to the glories of the amp under test, but also to the contrast with the amp it has replaced. As the audition proceeds, the latter awareness fades and the new amp becomes completely convincing in its presentation. Switch to another good amp and the cycle repeats. So it is at those points where one amp is replaced by another that one has the best chance of determining how they might differ.

As a result, when I put the HCA-2 into my main system in place of any one of the other amps mentioned above, its tight, lean midbass seemed a huge change, but my awareness of that change quickly waned. The system became exceedingly quick and powerful with the HCA-2, capable of startling transients and an enveloping ambience that stopped short of true multichannel sound. In addition—and, perhaps, as a consequence of these characteristics—the sound was engrossing and magnetic: it was difficult not to pay attention. On the other hand, a switch back to the eVo2 seemed a more subtle change, with a slightly more distant soundstage and a bit more midbass. Resolution was just as good—on careful assessment, nothing was lacking. Continued listening, in fact, made me question even those differences that I could experience only on switch-over.

Second Guesses and Conclusions
I was scooped by ST in “San’s Space,” so I can’t resist this unique opportunity to be a Monday-morning quarterback and comment on the PS Audio HCA-2’s ranking, based on his comments, in Class A of “Recommended Components.” There’s nothing I’d like more than to point out that he missed something, got it all wrong, or that the HCA-2 is undeserving of the accolades.

But I can’t. The HCA-2 will consistently impress with its speed, resolution, lack of edge or harshness, dynamic range, and—despite its size—power. Although I paired it with only a few speakers, I think it will be best when used with large, floorstanding loudspeakers of the highest resolution and low-frequency extension. It can also be used very effectively with small, stand-mounted monitors, especially if assisted by a subwoofer. Indeed, the HCA-2 even made the Celestion MP-1 minis that I use with my TV sound bigger and better than ever.

Would I question the awarding of a Class A rating to the HCA-2? My only caveat is that, like a really good single-ended triode amplifier, it might not be an ideal partner for just any speaker or room, and therefore might be less universal in its application than some other Class A amps. You might argue that if the HCA-2’s transparency reveals shortcomings elsewhere in the system and room, it is not open to criticism. However, those revelations were consistent from system to system. With the Revel Studios, I noted—and appreciated—a slight leaness in the midbass. In other setups, the same effect might not work as well.

That said, it’s hard to think of another amp anywhere near the HCA-2’s price that can compete with it for clarity and power. It is, like the psychiatrist’s elephant in the middle of the room, impossible to ignore. If you’re shopping for an amp for any system at any price, you simply must audition the HCA-2.

Associated Equipment

**Analog source:** Heybrook TT2 turntable, SME III tonearm, Ortofon SME30H cartridge.

**Digital sources:** California Audio Labs CL-20 DVD/CD player, Meridian 508-24 CD player, Sony XA-777ES SACD/CD player, Mark Levinson No.360 DAC, Weiss Mereda DAC.

**Preamplification:** Sonic Frontiers Line-3, Nagra PL-L preamp; Audiolab 8000PPA phono stage; TaC RCS 2.0 Digital EQ/Room Correction.

**Power amplifiers:** Bel Canto eVo2 and eVo 2002, Sonic Frontiers Power 3, Classé CAM-350 monoblocks, McCormack DNA-1 Rev.A.

**Loudspeakers:** Revel Ultima Studio, Paradigm Reference Studio/20 and Studio/60, the latter occasionally used with a Paradigm Servo-15 subwoofer.

**Cables:** Interconnect: AudioQuest Anaconda & Python (both balanced), Cardas Cross (unbalanced). Speaker: Harmonic Technology Pro-9 Plus. AC: PS Audio Lab, JPS Alumina.
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Conrad-Johnson Premier 18LS line-stage preamplifier

Recording artists can reinvent themselves by crossing over into another style of music. Gloria Estefan, who started with Latin music, crossed over into mainstream pop with great success. Doug Sax, who reinvented the direct-to-vinyl disc and produced outstanding LPs for Sheffield Lab, eventually transferred all of his music to compact discs. Ivor Tiefenbruun, designer of the Linn Sondek turntable, now makes CD players.

Similar changes have occurred in electronics. Audio Research, a leading American manufacturer of tube power amplifiers and preamplifiers, introduced a line of solid-state amps. Bill Conrad and Lewis Johnson, who make the C-J triode tube amplifiers and preamplifiers, have also begun to design solid-state equipment. In the May 1998 Stereophile (Vol.21 No.5), Wes Phillips praised C-J's flagship Anniversary Triode (ART) Reference line preamp for its simplicity. Johnson and Conrad kept the ART's output impedance at a low 500 ohms by linking five dual-triode 6922 tubes in parallel, "fabricating the equivalent of a single high-conductance triode" and avoiding the need of an output buffer stage. But in crossing over into transistor products, would Conrad-Johnson be able to retain the simplicity, low distortion, and musicality of their tube designs?

Design
As noted above, the basic circuit ideas for the C-J preamplifier line were embodied in the all-tube, dual-chassis ART, which initially cost $14,995 and of which only 250 were made in both the original and Series 2 forms. The all-tube Premier 16LS Series 2 ($8295; see review in August 2001, Vol.24 No.8) was next, and was hailed by Jonathan Scull as a single-chassis version of the ART. Then came the all-tube Premier 17LS ($4495; see review in May 2001, Vol.24 No.5), which Brian Damkroger described as the most affordable incarnation of the ART. All three preamplifiers ended up in Class A of Stereophile's latest edition of "Recommended Components" (October 2002). Now Conrad and Johnson have introduced the solid-state, $3495 Premier 18LS.

In his solid-state circuits, Lew Johnson uses the same principle of simple, single-ended, single-stage preamplifier design that he'd used in his tube designs. To do this, the Premier 18LS uses field effect transistors (FETs) because they minimize odd-order distortion products. Because these distortions are musically unrelated to the fundamental tone, they sound particularly strident and irritating. On the other hand, a FET's even-order distortion products are part of the natural musical overtones. Simplicity meant limiting the 18LS to only one gain stage. For that reason, the preamp had to be a single-ended device. It has no balanced inputs or outputs, which would require another circuit stage. The single gain stage also means that the 18LS inverts phase.

The symmetry of FET drivers made possible a total harmonic distortion (THD) level of just 0.005% THD, which meant no feedback loop was needed. Why is this important? Negative feedback is used to reduce measured

Description: Solid-state (FET) preamplifier with remote control, 4 pairs inputs (RCA, unbalanced), 2 pairs outputs (RCA, single-ended), 1 tape loop. Maximum voltage gain: 22dB. Maximum output: 9V unbalanced. Distortion: <0.1% at 1V output, IMD or THD. Polarity: inverted at all outputs. Output impedance: 200 ohms.

Bandpass: 2Hz–100kHz (no amplitude limits specified). Noise: ref. 500mV input (20Hz–20kHz): -96dB.

Dimensions: 19" (487mm) W by 3.3" (85mm) H by 15.25" (391mm) D. Weight: 16 lbs (7.3kg).

Serial number of unit reviewed: 3401003.

Price: $3495. Approximate number of dealers: 65. Warranty: 3 years, not transferable.

In stock selection of 100 models of preamps, poweramps, and digital. Both tube and solid state. Huge stock of premium vintage tubes. Uses terms like "Cool" and "Bitchin" to describe gear.
distortion. Lew Johnson noted that transistors have much more gain and require much more feedback to manage dynamic passages. Yet circuits with lots of feedback can sound edgy due to transient intermodulation distortion (TIM). "Feedback distorts the time information, so that you lose microdynamics," says Johnson. "These are the fine musical gradations that the best preamplifiers can reveal." Feedback also affects microdynamics. "The Conrad 18LS handles larger signals without requiring feedback because it can create symmetrical currents using the two types of FETs [N-channel and P-channel — Ed]."

There are two kinds of negative feedback: loop feedback (aka global feedback) and local feedback, the latter found in circuits that use cathode "follower" circuits, whether they be cathode (tube), FET, or bipolar transistor. Johnson's Premier 16LS and 17LS tube preamplifiers do not employ cathode-follower circuits. Similarly, the solid-state Premier 18LS uses C-J's auto-linear gain block, which achieves low distortion with zero loop feedback by exploiting the symmetrical distortion properties of N- and P-channel FETs.

Johnson believes that the design of the power supply is just as important as the quality of the audio signal as that of the signal-bearing circuits. The 18LS's power supplies contain discrete DC regulators carefully designed for minimum impedance even at the highest audio frequencies, to prevent the supplies from distorting the audio signal.

Controls
The Premier 18LS's thick faceplate of extruded aluminum is styled like that of Conrad-Johnson's ART preamplifier. Reviewing the 16LS line-stage preamp, Jonathan Scull described the C-J look as "somewhat deco in overall styling, while still retaining a sense of the modern" (Vol.24 No.8).

The 18LS has no On/Off switch. Plugging it into the AC mains puts the unit into standby mode: the standby LED lights up, but the front-panel display is blank and the output is muted. You have to read the manual to discover that pressing the Mute button on the front panel or the remote places the 18LS in operating mode, with previous settings retained. Out of the box, the 18LS springs to life with its level set at "20" and the CD input selected. To put it back into standby, press Mute for two seconds.

**Measurements**

With its single amplification stage, the Conrad-Johnson Premier 18LS inverts absolute signal polarity. The input impedance at 1kHz was a usefully high 10k ohms and the maximum voltage gain was 21.9dB. The volume-control steps ranged from 1.3dB at the very top of the range to 0.25 and 0.55dB nearer the center of the range. The maximum indicated volume was "99," but between "99" and "89" only alternate numbers resulted in a reduction of level; i.e., "98" and "97" were both equivalent to an attenuation of 1.35dB, "96" and "95" were both equivalent to a further attenuation of 1.3dB, and so on.

The output impedance was quite low across most of the audio band, at 72 ohms at 20kHz, and a little higher at 183 ohms, at 1kHz. The source impedance rose to a high 1.5k ohms at 20Hz, however, which will result in prematurely rolled-off low frequencies with a power amp having an input impedance much below 20k ohms. This can be seen in Fig.1, where the bottom pair of traces on the left (-3dB at 50Hz) was taken with the Premier 18LS driving the very low load of 600 ohms. Into 100k ohms, however, the bass is flat down to the 10Hz limit of this graph.

At the other end of the spectrum, the 600 ohm load results in a slight rise in the top octave, this due to the lower source impedance in this region. More significant, there appeared to be some correlation between ultrasonic bandwidth and the volume-control setting. With the control set to unity gain ("63"), the response extends out to -1dB at 150kHz. But with the volume control set to its maximum position ("99"), the -1dB point drops to 12kHz. This would be audible, but situations necessitating the use of the Premier 18's full 21.9dB of gain are, fortunately, extremely unlikely.

Channel separation (Fig.2) was good below 1kHz, with any crosstalk buried beneath the noise floor. However, capacitive coupling resulted in a reduction in separation to 60dB at the top of the audioband. The unweighted, wideband signal/noise ratio (ref. 1V output) was disappointing, at 73.4dB. This improved by 10dB when the measurement bandwidth was reduced to 22Hz-22kHz, and by a further 5dB when an A-weighting filter was used.

Fig.3 shows how the percentage of distortion and noise in the Conrad-Johnson Premier 18LS.

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*Stereophile, December 2002*
The front panel is divided into two main sections. Moving from left to right, the product's name occupies a small section, separated from the rest by a curved indentation that sweeps from top to bottom. The controls sit on the other side of this curve. Two portholes include numeric displays of the left- and right-channel output levels; the dark circle below is the infrared receiver for the remote. Farther left are two rows of five LEDs each: above are indicators for the selection of Phono/Aux 2, Tuner, CI, Video, and Aux 2; below are Source, EPL (external processor loop), Theater, Snby, and Mute. Farther to the right are two rows of three buttons each: above are Mute, Level Down, and Level Up; below are Source, EPL, and Theater.

The 18LS lets you select one of two external processors, as the remote clearly shows. Pressing EPL 1 toggles between the source and the output of a processor, though the 18LS controls the volume level in either position. EPL 2/Theater, however, sets the 18LS to unity gain, so the level of the front speakers can be set by the processor. This makes it simple to incorporate the 18LS into a high-quality home-theater system without compromising its two-channel performance.

Looking at the rear panel, there are inputs for Phono/Aux 1, Tuner, CI, Video, and Aux 2. These are electrically equivalent: the load they present to the source varies with the volume-control setting, but in no case does it drop below 12k ohms. Farther to the left are inputs and outputs for EPL 1, for connecting a surround-sound processor to a high-quality two-channel system. Next are inputs and outputs for Thtr/EPL, which allow for matrix processing of selected two-channel sources. Then come Main Out 1 and 2, to be connected to the inputs of a power amplifier or an electronic crossover. There are no balanced XLR connectors.

Conrad-Johnson supplies the buyer of an 18LS with a 10-page manual that...
describes the model's basic operation. There is no table of contents or index, but I particularly missed any control or connector diagrams. An owner might not miss such diagrams—the rear-panel arrangements are among the "set and forget" operations that need to be done only once—but they can be of great help to a reviewer in the repeated pluggings and unpluggings of connectors during reviews.

The 18LS's quality of internal components is superb, with polypropylene and polystyrene capacitors used in the audio circuitry. The power supply's polypropylene capacitors are bypassed with small polystyrene caps. The audio circuits and their related power supplies use precision low-inductance, laser-trimmed metal-foil resistors from Vishay. The same resistors are used in the level control; the level is set by selecting combinations among an array of these resistors. Loudness and balance can be adjusted precisely in 99 steps of approximately 0.7dB each.

**Setup**

My moderately damped, 5400-cubic-foot, rectangular living room has a 12' semi-cathedral ceiling. I did most of my listening in the nearfield of my Quad ESL-989 loudspeakers, which were 63" from the rear wall and 36" from the side walls, sitting on a circular area rug. Imaging and soundstaging were best when the speakers and my chair described an 8' equilateral triangle, measured from the centers of the Quad's panels.

The Premier 18LS's lack of balanced outputs ruled out the use of my Krell FPB 600c power amplifier, so I mainly used a Mark Levinson No.334. Later, I tried the Bryston 14B-SST and Conrad-Johnson MV2500 amps.

In my system, the amplifier and preamplifier are 10' apart, so I had to use long runs of single-ended interconnects: Mark Levinson HFC (with Canacc connectors), Coincident CST Interface, and Ultralink Performance Audio. To reduce hum and interference, I crimped the ground shields of the cables' RCA plugs to make a snug fit on the power amplifier's single-ended jacks, and kept the cables as far as possible from power supplies and AC transformers. All in all, because of the long runs required, I would have preferred using balanced interconnects.

The 18LS's lack of a phono stage also required a workaround. I used my trustworthy John Dunlavy MX-10 moving-coil head amplifier to boost the signal from my Spectral moving-coil cartridge, and fed the MX-10's output to either a Magogues Magenta FZ47 phono stage or to the phono section of my Mark Levinson ML-7 preamp. I found it more convenient to use the Magogues, but the ML-7's phono section was more transparent and provided a broader, more three-dimensional soundstage.

Finally, I had to correct for the 18LS's inversion of phase. As stated on p.8 of the owner's manual, optimal listening requires that the owner reverse the speaker wires to the front-channel speakers, which I did before doing any listening.

**Listening**

A good preamplifier must be musical, dynamic, and neutral. And because it acts as an audio system's control center,
I believe a preamplifier also must be easy and convenient to use. This means it must have a remote and be controllable from the listening chair.

The Conrad-Johnson Premier 18LS excelled in both areas. Its remote tontunces any other I've used — it's intuitive in use, responsive, uncluttered, and, best of all, was able to trigger the 18LS's IR receiver from any spot in the room. I could sit 10' away from the 18LS in my listening chair and get an instant response. This remote was highly addictive; I'll find it hard to return it to C-J.

The sonic report is just as positive. The good news began with the 18LS's strong bass response. It delivered solid, subjectively smooth bass down to 30Hz through the Quad ESL-989 electrostat-ics, with excellent extension, control, pitch definition, and speed. I heard this time and again, whether it was the synthesizer on Massive Attack's Unfinished Symphony (CD, Circa WBRX2), the taut, driving electric bass on the soundtrack of My Cousin Vinny (CD, Varese Sarabande VSD 5364), or the distant but massively forceful drum and bass synthesizer in "Silk Road," on I Ching's Of the Marsh and the Moon (CD, C-J Circa WO144). I was surprised at the solidity and depth of the bass drum reproduced by the Quads with Owen Reed's La Fiesta Mexicana, from Fiesta (CD, Reference RR-38CD).

The 18LS also rendered solid and tuneful bass from my vinyl LP's. Firm, solid bass seemed to rise from my room's foundations when I played "After Anthem," from the Glory soundtrack (LP, Virgin 91329-1). The C-J produced bass of wide dynamic range, set against powerful orchestral rhythms, from my LP of Shostakovich's Symphony 6 (Leopold Stokowski, Chicago Symphony, RCA LSC-3133). Similarly, the 18LS equaled the ML-7A in reproducing the rhythmic drive of the double basses in Bartóck's Concerto for Orchestra (LP, RCA/Classic LSC-1924).

The 18LS's midrange reproduction excelled in its clarity, openness, and ability to convincingly render instrumental and vocal timbres. Take the ease and precision with which the tenors, baritones, and basses of the male vocal ensemble Cantus are rendered on ...Against the Dying of the Light (Cantus CTS-1202). Described as a "musical and poetic progression from grief and sorrow to consolation and joy," the selection of these works was inspired by the emotions churned up by the World Trade Center disaster. The subtle timbral differences, microdynamics, and colors of the voices contrasted with the massive dynamics of a huge gong that invokes the attack in Veljo Tormis' Varije, Jumala, Soasta.

Other recordings excelled in dynamic contrasts when played over the 18LS. The sudden rim shot that ends Harry Connick, Jr.'s, "I Don't Get Around Much Anymore" was stunning (CD, When Harry Met Sally... Columbia CRK 45319). Macrodynamics were clearest listening to the title song from Steely Dan's Aja (LP, VIM 4039). The sad, involving, self-destructive sentiment that powers "Aja" through a slow build-up in the song's level came through with all the pressure I've come to expect. Dynamics and good transient response were also heard in the opening movement of Prokofiev's Romeo and Juliet, from the original direct-to-disc LP (Sheffield Labs 8). In "Romeo Resolves to Avenge Mercutio's Death," the 18LS conveyed the music's stunning dynamics, totally involving me.

The Conrad-Johnson 18LS captured the timbres of the string tone during the third movement of Haydn's String Quartet in d, Op.76 No.2, "The Quintet" (CD, ASV CD DCA 622). This movement includes a canon with two violins playing together in octaves, followed three beats later by the viola and cello. Its distinct rhythms have won it the nickname "Witches Minuet." The 18LS conveyed its rhythmic pace, as well as the resonances of the viola and the tonalities of wood and bow. The C-J placed the cello far to the left, while setting the other instruments in their own spaces. The violin string tone was unusually sweet-sounding.

Although its sound was effortless, nonmechanical, and with a strong ability to resolve low-level detail, the 18LS was less transparent with some recordings than my Mark Levinson ML-7. This was most apparent with recordings of small jazz groups. The vibraphone on "Linlouse Blues," from Jazz at the Pawnshop (LP, Proprius 7778-79), sounded more lucid and transparent through the ML-7. This may have been a result of comparing the ML-7's internal phono stage to the external hook-up required to run an outboard phono stage through the 18LS.

The 18LS and Quad ESL-989s created an enormous, enveloping soundstage. This was evident listening to the wide circle of male voices so brilliantly depicted on the Cantus disc. When I listened to John Atkinson's voice move around the church during the "Microphone Techniques and Soundstage Maps" track on Stereophile's Test CD 3 (STPH006-2), his voice and the sound of the struck cowbell illuminated the church acoustic, moving smoothly and easily from behind the left loudspeaker, across stage center, and out behind the right speaker.

Gustav Holst's Chaconne (CD, Reference RR-39CD) displayed a deep, wide image, with air around the instruments. Playing the opening Kyrie of Misa Criolla (CD, Philips 420 955-2), the C-J/Quad system portrayed a seamless choral fabric behind tenor José Carreras. And at the end of pianist Anna Maria Stanczuk's performance of Chopin's Scherzo in b-flat, Op.31, from Stereophile's first Test CD (STPH002-2), I heard Staniczuk's manager's "Well done!" correctly through both preamplifiers: at the extreme left stage.

The Premier 18LS and ESL-989s produced an acoustic illusion of a waterfall spilling into a pool at the beginning of I Ching's "Running Water," from Of the Marsh and the Moon.
Soundstage depth and width excelled on “Naris,” from Patricia Barber’s Blue Café (C1, Premonition/Blue Note 521810 2). Percussion was open, airy, and fast.

The 18LS’s treble register was extended, neutral, and effortless. This allowed me to hear both the shimmer of the cymbal in the opening of “The Mooche,” from Readezvous Jerone Harris Quintet Plays Jazz (C1, Stereophile STPI 1013-2), and the rich harmonies of the guitar’s metallic strings on “I Get the Blues When It Rains,” from Etta Baker’s Railroad Bill (C1, Cello Music Maker 91006-2).

Conrad-Johnson’s gamble in crossing over from tubes to solid-state has paid off.

Conclusions
The Conrad-Johnson Premier 18LS performed admirably in my system, revealing dynamic contrasts both subtle and bold, holographic soundstaging, and solid, deep, tuneful bass. The remote has the widest angle of effectiveness I’ve encountered in a consumer-electronics product, and the preamp’s front-panel display is readable from 10’ away. The 18LS’s ergonomics are the best I’ve encountered.

But keep these caveats in mind: Because Conrad-Johnson preamps are single-ended designs, you can’t use them to drive amplifiers with balanced inputs, or use balanced interconnects to minimize hum and noise pickup with long cable runs. And if you play LPs, you’ll need to add a phono stage and head amp. Although the 18LS was transparent on most recordings, more expensive line stages, like the long-discontinued Mark Levinson ML-7, sounded even clearer.

That said, I recommend the Conrad-Johnson Premier 18LS. For $3495, it offers outstanding clarity and sound. Add the three-year warranty and the compact size and you’ve got a very desirable product.

Conrad-Johnson’s gamble in crossing over from tubes to solid-state has paid off. Be sure to get in on this sea change and audition the Premier 18LS preamplifier.
Listening to music with the Garrott Optim FGS was deeply moving and emotionally intense, among the best that I have ever experienced. The building of tension in classical music had me unconsciously holding my breath, the way I respond at live performances. The feeling of exaltation when the tension was released was equally stirring. I found it impossible to listen to music casually and had to choose music of lighter emotional demands when doing the more mechanical reviewing listening chores.

-Paul Szadzey, www.stereotimes.com

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Rogue Audio Magnum M-120
tube monoblock power amplifier

I'm a big believer in the notion that if you can't hear a difference, why pay for it? I also believe that the ultimate goal of any high-end system should be to simply disappear and leave the listener immersed in the presence of the music. System synergy is paramount, and how you spread your compromises around and make your tradeoffs work for you is generally more significant than how expensive the final tab is. Thank God there are still plenty of companies out there dedicated to the proposition that ultimate resolution and build quality are anything but antithetical to real-world value.

Handsome is as Handsome Does
With its steel chassis and 3/4"-thick aluminum faceplate, the Magnum M-120 tubed monoblock amplifier bears witness to the unadorned functionality and high-value performance that have become Rogue Audio trademarks. Set off against a black circular recess in the center of the machined faceplate, a heavy aluminum button triggers the amp's slow start/turn-on mechanism. The simple, elegant retro look echoes the straightforward, refined topology within — because handsome is as handsome does, and Rogue Audio is committed to channeling its resources into performance features you can actually hear.

That's because, when chief designer Mark O'Brien and his partners, Phil Koch and Mark Walker, came to the High End from the Lucent division of Bell Labs back in 1994, they did so with the enthusiasm of dedicated audio fans — three top engineers determined to have some fun. O'Brien is Rogue's chief designer, while Walker and Koch are responsible for producing and manufacturing those concepts. O'Brien has some very definite ideas about audio design, reflected in his use of an output stage configurable for either triode or ultralinear operation, and, in the Magnum line, with his insistence on using premium parts throughout. The standard M-120 costs $2995/pair. The Magnum models include larger, higher-performance output transformers; better, specially tweaked power supplies; high-quality interstage coupling capacitors; Dale-Vishay resistors; better binding posts; gold tube sockets and silver wiring; and premium input and output tubes — all of which bump the price to $3495/pair.

A defining aspect of all Rogue circuit designs is their use of mu-followers. O'Brien explains: "It's a way of taking two tubes — or two halves of a dual-triode, in our case — and using one half as a constant current source. Because the current can't change, the voltage is amplified. We employ two 12AU7s as driver tubes in the Magnum M-120, whereas most driver circuits employ only one. This allows the tube to function in a very linear portion of its operating range, which means that in bumping up a fairly small signal to 10V, 20V, or more, you're driving the output stage without adding any significant distortions. The other benefit is that mu-followers really excel at rejecting any power-supply noises."

Another distinctive aspect of the Magnum M-120's tube circuits is the use

**Description:** Push-pull vacuum-tube monoblock power amplifier. Tube complement: four 6550 (or KT88 or EL34), two 12AU7, one 12AX7. Output transformer taps: 8 ohms, 4 ohms. Output power at <1% distortion: 120W in ultralinear mode (20.8dBW), 60W in triode mode (17.8dBW). Single RCA input. Input impedance: not specified. Input sensitivity: 700mV for full output. Signal/noise ratio: not specified. Frequency response: 10Hz–50kHz, ±1dB.

**Dimensions:** 14.5" W by 7" H by 19" D. Weight: 55 lbs each.

**Serial numbers of units reviewed:** M120-0532 and '0533.

**Price:** $3495/pair. Approximate number of dealers: 60. Warranty: 3 years parts & labor; tubes, 6 months.

**Manufacturer:** Rogue Audio Inc., 2827 Avery Road, Slatington, PA 18080. Tel: (570) 992-9901. Fax: (570) 992-1978. Web: www.rogueaudio.com.
of cathode biasing. "There've been cathode-biased amps since the '50s," says O'Brien. "Because it's such a reliable design, with our amps it's just plug and play: you can replace tubes without having to do any tweaking or rebiasing. Which means that you can employ different output tubes—such as 6550s, EL34s, or KT88s—in the same sockets.

And that's a really popular feature. It's also a very musical tube sound, with excellent transparency. The tradeoff is that cathode biasing typically produces around 70% the output power of a fixed-bias amp, so the amps run a little hotter."

**System**

The reference system I used with the Magnum M-120 (see sidebar, "Associated Equipment") was the same as that used for last month's review of the VTL 5.5 line stage, with one exception: Toward the end of my time with the M-120, the Sony SC1-777ES SACD/CD player began skipping, to the point where I had to put it on ice until I could get it fixed. I returned to my California audioband, with slight top- and bottom-octave rolloffs of around 0.5dB. The ultrasonic -3dB point was a respectable 70kHz, which correlates with the relatively short rise time seen in the amplifier's reproduction of a 10kHz squarewave (fig.2). There is also no overshoot or ringing to be seen in this graph.

Harmonic distortion levels were satisfactorily low in the midrange, provided the load impedance was not too much below the nominal transformer tap. This can be seen in figs. 3 and 4, which plot the small-signal THD+N percentage against frequency from the 8 and 4 ohm outputs, respectively. However, these graphs also reveal that the distortion rises at low and high frequencies. The former is possibly due to the onset of saturation of the output transformer core, and is moderate in level; the latter is potentially more bothersome. Figs. 5 and 6 reveal that the distortion

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**Measurements**

Due to a miscommunication, I didn't measure the Rogue Audio Magnum M-120's performance with its output stage set to ultralinear mode. However, my experience with other tube amplifiers that can be switched between ultralinear and triode operation is that the higher power available from ultralinear is associated with a higher source impedance and higher levels of distortion. So please note that all of the following measurements relate to the M-120 run in triode mode.

The Rogue's input impedance was commendably high, approaching 1 megohm over most of the audioband. While it did drop at 20kHz, this was only to 500k ohms—still very high. (Note, however, that there is a high margin of error in these measurements of very high input impedances.) The M-120 didn't invert signal polarity, and the voltage gain was a high 33.2dB from the 8 ohm output transformer tap, a still-high 30.3dB from the 4 ohm tap. Probably as a result of the high gain, the M-120's signal/noise ratio was good rather than excellent at 70dB wideband, unweighted (ref. 1W into 8 ohms). It did improve to 83dB when A-weighted.

The M-120's output impedance in the midrange was on the low side for a tube design, at 0.3 ohm (8 ohm tap) and 0.2 ohm (4 ohm tap). It rose at the edges of the audioband, however, to 0.5 ohm (8 ohm) and 0.33 ohm (4 ohm). As a result of the generally low value, any modification of the amplifier's frequency response due to impedance interactions was mild. The top trace in fig.1, for example, shows that variations with our simulated speaker load are no greater than ±0.2dB from the 4 ohm tap. The response into a resistive load was fundamentally flat over the main
Audio Labs Delta transport and the 24-bit/96kHz version of CAL’s Alpha tubed D/A converter, and was impressed anew by the amount of bass energy the Delta conveyed, as well as its firm grip on dynamics. While its depth of resolution and transparency weren’t on a par with those of the Sony, the way the Delta accentuated the Alpha’s hypnotic liquidity and holographic qualities was very satisfying.

Then Kevin Deal, of Upscale Audio, sent me a pair of early-1980s Mullard CV4004 tubes (in their own little Royal Air Force box) to replace the Alpha’s two stock 12AX7s. Talk about a dramatic, cost-effective tweak. Not only did the Mullards enhance the focus, accuracy, and nuance of the Alpha’s bass, but the harmonic detailing, layering, dimensionality, and clarity they elicited from the upper-midrange/lower-treble region was so magical that the CALs’ resolution now approached the Sony’s. The Delta-Alpha’s performance is now so musical and involving that I remain mystified why this classic combo is not a mainstay content in the midrange is heavily third harmonic, with some second harmonic also present. This will be subjectively less problematic than high-order harmonics. At low frequencies and high levels, the second harmonic becomes more dominant (fig.7). This is not what I expect from transformer limitations; perhaps there is some other non-linear mechanism present at low frequencies. (Unloading the amplifier, by the way, produced a slight instability in gain at very low frequencies.)

Its poor high-frequency linearity meant that the M-120 didn’t do well on the demanding HF intermodulation test (fig.8). Just below visible clipping on the oscilloscope screen from the 4 ohm tap into 4 ohms (fig.8), the 1kHz difference component lay at an audible –43dB (0.65%). The “fizz” around each of the spectral lines in this graph is due to the presence of AC supply noise, implying that the amplifier works very hard under these conditions.

Finally, I looked at the M-120’s maximum output power using the Miller Audio Research Amplifier Profiler, which provides a low-duty-cycle 1kHz toneburst to simulate the behavior of transient-rich music program. Fig.9 reveals that the maximum power is available when the load is half the nominal transformer tap, though this is obtained at higher THD levels than when the load is exactly matched to the transformer. At our usual 1% THD clipping point, the M-120 delivered 99.75W into 8 ohms (20dBW) from the 8 ohm tap, 98.6W into 4 ohms (16.9dBW) from the 4 ohm tap. The 8 ohm tap would deliver 114W into 4 ohms, the 4 ohm tap 112W into 2 ohms, which suggests a good transformer design. The maximum peak current I could get from the amplifier on this toneburst signal was a high 10.3A into 1 ohm from the 4 ohm transformer, implying that the M-120 would be a good choice for use with difficult speaker loads. (Remember that these powers were with the M-120 set to triode operation.)

Poor high-frequency linearity aside, the Rogue Audio Magnum M-120’s measured performance is very respectable for a tube design.

—John Atkinson

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Rogue Audio Magnum M-120

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

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Stereophile, December 2002
of Stereophile's "Recommended Components." [Because California Audio Labs informs us that neither product is still in production.—Ed]

Setup

Much as there was to love about the build quality and sound of the Magnum M-120s, they did run hot. During their initial break-in period, I found myself wishing for a vial of eau de transformer—I could plainly smell all the electronic components burning in. However, after about a week the smells disappeared and the amps settled into a more than acceptable level of long-term performance.

A curious aspect of the M-120's design is Mark O'Brien's tendency to sequester all manner of features, switches, and fuses deep inside the chassis. Not that it was so bloody difficult, when I was trouble-shooting the source of some audible distortions late in my auditioning, to loosen 10 screws and remove the cover to inspect the four slow-blow fuses. (I replaced three fuses and three tubes during my time with the two M-120s.) Nor was it terribly complicated to disconnect the ground wire that screwed down to the chassis when I encountered groundloop hum during initial setup. Still, I had to don oven mitts to remove the hot 6550s so that I could access the triode/ultralinear switches. As we go to press, Rogue informs us that all new M-120s leaving the factory will be equipped with external switches for the ground lift and the triode/ultralinear selector.

Sound

I was captivated straightaway by the sheer drive of the Magnum M-120. Fast, muscular, and accurate, with fantastic rhythm and pacing, the Rogue had all the intimacy, refinement, and dimensionality I expect of triode, but with a dynamic thrust and transient snap I could feel in the small of my back.

The Rogue had all the intimacy, refinement, and dimensionality I expect of triode, but with a dynamic thrust and transient snap I could feel in the small of my back. comparably more forward in the upper bass and lower midrange — rather than sitting toward the back of the room, I found myself right up on the lip of the virtual stage.

No one wanting to really boogie should pass up an opportunity to audition a pair of Magnum M-120s in ultralinear mode with some classic rock recordings. The transient snap, crackle, and pop of Stewart Copeland's bassdrum beater against a Mylar drumhead was portrayed with thrilling immediacy on the Police's "Voices Inside My Head" and "Bombs Away" (from Zonjatta Moundatta, A&M 75021 3720-2), without neglecting the ambient shimmer and stereo spread of Andy Summers' Telecaster or the subtle layering and dimensionality of the mix.

In listening to the cathartic performance of Johnny "Rotten" Lydon, Keith Levine, Jah Wobble, and Martin Levine on their eponymous single, "Public Image Limited" (from PIL's The Greatest Hits So Far, Virgin 91581-2), the M-120 delivered all the tubby depth and gargantuan weight of Wobble's Anpeg SVT-assisted bass tone, while successfully reproducing the wealth of dub-like details that pepper the mix. Better yet, I could actually make out the lyrics in Lydon's guttural vocals.

Which mode sounded better: ultralinear or triode? Each represented a very different style of sound, and a lot will depend on what styles of music you favor and the size of your room, but mostly I'd say it will be a function of the interaction between the Magnum's output transformer and your speaker's crossover. Even so bally an amp as the Rogue sounded a touch underpowered in triode mode when trying to drive the older version of the Joseph RM33si Signature speakers (though these problems ended with the implementation of the Joseph's newest crossover design).

Tradeoffs When I listened to bassist Christian McBride and the late, great Billy Higgins set the growl on John Scofield's "Feel to Toe" (from Scofield's Works for Me, Verve 314 549 281-2), the sheer physical presence that ultralinear mode imparted to McBride's bass was intoxicating, as was the brilliance of Higgins' cymbals. All was conveyed in natural scale, never larger than life—a believable acoustic. However, while there were plenty of soundstaging cues and small details in ultralinear, listening to the same track in triode mode gave me a more palpable sense of air and transparency—with a softer, more textured depiction of Higgins’ ride cymbal—

Associated Equipment

Analog sources: Rega Planar 25 turntable, Rega RB600 tonearm, Grado Statement Master cartridge, Marantz PMD430 portable cassette recorder.


Preamplification: Musical Fidelity Nu-Vista, VTL TL5.5, Rogue Audio Magnum Ninety-Nine line preamplifiers; Rogue Audio Stealth phono preamplifier.

Power amplifiers: Musical Fidelity Nu-Vista 300, Mesa Baron, VTL MB-640.

Loudspeakers: Joseph Audio RM33si Signature, Meadowlark Hot Rod Shearwater.


— Chip Stern

Rogue Audio Magnum M-120

Stereophile, December 2002
while conveying more than ample rhythm and pacing.

Listening in triode mode to Patricia Barber’s “Pieces” (from her newest album, Verve, Premonition/Blue Note 5 39856 2), the singer’s dark, hypnotic alto was perfectly centered, suffused in a deep amber glow. Meanwhile, in another frequency domain of engineer Jim Anderson’s brilliant mix, the Magnums maintained this critical vocal balance while fleshing out the complex room cues conveyed by Neal Alger’s holographic electric guitar. And I’ve never heard another triode circuit convey quite the depth of tone and physical impact that Anderson and drummer Joey Barron elicit from his tiny titan of a bass drum — right and tuneful, yet ringing like a gong.

However, it was in listening to the varied timbres, aquatic textures, and supple touch of pianist Jean-Yves Thibaudet, on his hypnotic recital The Magic of Satie (Decca 289 470 290 2), that the true grace, grandeur, and transient impact of the Rogue’s triode circuit shone like a beacon. Sans the ingratiating midrange plumpness and happy gas of ultra-linear mode, the piano just sounded more like a piano in triode, with greater clarity and transparency, and a profusion of harmonic details illustrating the inner workings of the concert grand. Triode also offered a more accurate take on this recording’s distant, romantic perspective and the piano’s interaction with this gorgeous acoustic space.

Comparisons

In a series of head-to-head comparisons with my long-term references, a tubed Mesa Baron ($4500) and a hybrid tube/solid-state Musical Fidelity Nu-Vista 300 ($5400) when last available, I used as my reference operatic diva Renée Fleming’s remarkable Bel Canto (Decca 289 467 101-2). In “Era dezzo il figlio mio,” from Donizetti’s Lucrezia Borgia, Fleming hits and holds a conclusive, convulsive high E-flat with all the pedal-to-the-metal, transducer-frying bravura of Louis Armstrong on “West End Blues.” I’ve never before heard singing like this. Since getting Mesa’s “tri-tube” mode, the Baron’s mids are smoother, sweeter, and more alluring with a set of EL34s than they were with 5881s, yet the amp still retains incredible speed and slam. A brighter top end and brassier upper mids give the Baron a sparkling, lively, bristling character.

But in adding harmonic artifacts to Fleming’s upper register, the Baron was nowhere near as smooth, refined, and forgiving as the Magnum. The Magnum’s mids sounded more effortless and subjectively neutral than the Baron’s, a little drier and more laid-back on the top end, with snappy, tuneful, weighty bass — the Magnum M-120 conveyed all the nuances and heady dynamics of Fleming’s phrasing with admirable character and accuracy.

I then put the M-120 head to head with my Nu-Vista 300. My notes: “The Magnum excels in the mids, which it portrays with a warm, smooth, layer

The Magnum M-120 managed to convey the best aspects of solid-state and tubes.

character, while the Nu-Vista excels in the frequency extremes, with a cool, reserved style of midrange depth; a clean, true-blue low end and gobs of natural harmonic detail on top.” The Nu-Vista excelled at delineating Fleming’s voice amid a welter of orchestral details, but seemed a tad laid-back compared to the juicier, more vivid Magnum.

Conclusions

The Rogue Audio Magnum M-120 tube monoblock was so remarkably smooth, clean, warm, detailed, and dynamic that it rarely drew attention to itself with anything that sounded blatantly “tubey.” Over time, I learned to more clearly apprehend its dry, laid-back tube sound, but I’m still surprised how much this monoblock put me in mind of classic 1980s solid-state designs from the likes of McIntosh, Luxman, Kyocera, and Hafler.

The Magnum M-120 managed to convey the best aspects of solid-state and tubes; while the instrument placement, transparency, and frequency extension might suggest solid-state, the depth of soundstaging, the wealth of harmonic detail, and the midrange layering were dead giveaways that tubes were in the circuit. At only $2395 for the Magnum Ninety-Nine preamplifier (review next month) and $3495 for the Magnum M-120, for less than six grand, you, too, could be indulging in the audiophile lifestyle — with enough left over for hundreds of CD’s and many a good bottle of wine with which to toast the prosccumarch and the enduring glory of two-channel tubed audio. Glow on with your bad self.

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Mission Pilastro loudspeaker

"Is that it?" I asked. Mission's director of acoustic design, Peter Comeau, had finished screwing in four chrome, four-part cones into the base of each of the Pilastro speakers that now graced my listening room. Comeau had been a leading audio reviewer in the UK in the 1970s, before he jumped the tracks to found speaker and LP turntable manufacturer Heybrook. Now with Mission, he'd just set up the English company's new flagship in my room, and it seemed that we'd done very little maneuvering of the 340-lb speakers before he'd declared himself happy with the sound they were making.

"That's it. Pilastro is sounding as it should. Enjoy." And so I did.

Pillars

In ancient Roman architecture, the word *pilastrum*—"pilaster" in English, according to my dictionary—refers to a building's fundamental supports, or pillars. It is therefore a fitting name for a $35,000/pair loudspeaker that embodies and supports everything the Mission company has learned about loudspeaker design since its genesis in 1977. (Mission's founder, Farad Azima, became focused on NXT flat-speaker technology in the 1990s. Mission was the subject of a management buyout a couple of years back, and now has D.C. Barkataki as CEO, who has been associated with the company for two decades.)

Despite its mass and bulk, the almost 5'-tall Pilastro doesn't visually overpower a room. The fact that its four 8" woofers and six 8" passive radiators are mounted on the sides of its deep enclosure allows for a narrow frontal profile, and although the Pilastro's side panels bulge outward, the black finish of the grilles covering the low-frequency drivers makes the speaker look narrower than it is.

Mounted on a gloss-black plinth, the Pilastro's cabinet is constructed from Granitech, said by Mission to be a "composite material that resembles granite, yet can be molded into a gently tapered shape that is acoustically inert, and eliminates internal standing waves and cabinet colorations." Sure enough, rapping the Granitech—polished and lacquered silver to resemble marble—resulted in nothing but sore knuckles. The side and rear panels are damped with bituminous pads and constructed as a sandwich of two different woods with different veners. The upper-frequency drivers are mounted in a midrange/tweeter/midrange array in an acoustically isolated Granitech subenclosure at the top of the tower, which gently slopes up and back above them. This subenclosure is vented to the rear, though the port is closed with foam.

The 125" tweeter is a variant on the ring-radiator type used by Krell and Audio Physic, among others. The soft diaphragm is terminated with rubber roll surrounds not only at its circumference, as usual, but also at a central, stationary phase plug. A neodymium magnet is used to get the desired high sensitivity, and the Pilastro's tweeter is said to offer useful output to 56kHz.

The 6.5" midrange units feature cones made of hemp, the fibers of a

**Description:** Three-way, ABR-loaded floorstanding loudspeaker. Drive-units: 1.25" (28mm) ferrofluid-cooled, viscous-laminated ring-dome tweeter, two 6.5" (165mm) natural-hemp-cone midrange units, four 8" (200mm) air-dried Nomex-cone woofers, six 8" (200mm) air-dried Nomex-cone ABR (Auxiliary Bass Radiator) units. Crossover: acoustic second-order filter slopes at 110Hz and 2.2kHz. Frequency response: 25Hz–48kHz, ±3dB, –6dB at 22Hz. Sensitivity: 95dB/2.83V/m. Nominal impedance: 6 ohms (3.2 ohms minimum). Recommended power: 15–500W.

**Dimensions:** 57.5" (1460mm) H by 12.2" (309mm) W by 20.1" (510mm) D. Effective enclosure volume: 82 liters. Weight: 341 lbs (155kg) each. **Finishes:** Review samples finished in "mirror-gloss" silver lacquer and cherrywood veneer, with black-gloss woofer grilles and plinth. Special finishes available. **Serial number of units reviewed:** 229P00087 (both). **Price:** $35,000/pair. Approximate number of dealers: not disclosed. **Manufacturer:** Mission Symphonix Ltd., Huntingdon, Cambridgeshire PE 29 6EY, UK. Tel: (44) (0)1480-423700. Fax: (44) (0)1480-423701. Web: www.mission.co.uk. US distributor: Denon Canada Inc., 505 Apple Creek Blvd., Unit 5, Markham, Ontario L3R 5B1, Canada. Tel: (905) 475-4085. Fax: (905) 475-4159.

**Review samples finished in "mirror-gloss" silver lacquer and cherrywood veneer, with black-gloss woofer grilles and plinth. Special finishes available.**
The big Mission was very much more sensitive than the average loudspeaker, at an estimated 93.7dBB(2,832V/m. However, its plot of impedance magnitude and electrical phase (fig.1) indicate that it is really a 4 ohm design over much of the audioband. The Pilastro's minimum impedance of 2.9 ohms at 70Hz and a phase angle that varies between ±40° mean that a good high-current amplifier is advised. The impedance traces are free from the wrinkles and discontinuities that would otherwise reveal the presence of panel resonances, and examining the cabinet's vibrational behavior with an accelerometer revealed nothing worth showing in a graph. The saddle at 30Hz in the magnitude trace indicates the tuning frequency of the six passive radiators, which in turn implies good bass extension.

The individual responses of the drive-units are shown in fig.2. The output of the passive radiators is the trace on the left that peaks at 32Hz, the frequency of the notch in the woofer's response. However, the ABRs also peak a little between 65Hz and 80Hz, which is where the woofers also have their maximum output. This might be real, but it might also be due to leakage from the woofers into the measured ABR response. Both woofers and ABRs show a slight peak around 130Hz, but this is above the units' passbands. The woofers appear to roll out with a second-order 12dB/octave acoustic lowpass slope, but the twin midrange units roll in with what, initially at least, is a third-order, 18dB/octave slope.

The upper crossover lies at around 2.2kHz, as specified, with the midrange units rolling off sharply above this frequency. However, the tweeter's output features a strong notch just above the crossover, and the tweeter appears to be balanced a couple of dB too high in level. Usually, it is the tweeter that limits a speaker's ultimate sensitivity; in this case, the tweeter is actually held back by the lower-frequency drivers. On its axis, the HF unit's output is maintained to above 20kHz and shows signs of returning to its full level at 30kHz, the current upper limit of my response measurements.

Fig.3 shows both the complex sum of the lower-frequency nearfield measurements and the Mission's farfield response above 300Hz, averaged across a 30° horizontal window centered on the tweeter axis. The peak between 65Hz and 75Hz will partly be due to the nearfield measurement technique, and it might also be a measurement artifact due to the leakage from the woofers into the measured ABR response mentioned earlier. Without the peak, the Pilastro's low frequencies usefully extend down to 30Hz, though there is then a fairly sharp rolloff.

The midrange in fig.3 is impressive—
allow bi- and triwiring.

**System**

Vinyl was played on my Linn Sondek/Cirkus/Trampolin/Lingo/Ekos/Arkiv LP player sitting on a Sound Organisation table and amplified by a Linn Linto, while CDs were played on a Musical Fidelity Nu-Vista 3D CD player and a Mark Levinson No.31.5 CD transport driving a Mark Levinson No.30.6 D/A processor via a Kimber Illuminations Orchid AES/EBU data-link. I also used an Accuphase DP-85 SACD player, a Technics DVD-A10 DVD-Audio player, and a Z-Systems rdp-1 digital equalizer.

A Mark Levinson No.3805 preamp drove Mark Levinson No.33H monoblocks. Interconnects were Madrigal CZ Gel-1 (balanced) and DiMarzio (unbalanced), speaker cables were AudioQuest Gibraltar, and AC cables were Synergistic Research Designers’ Reference3 and PS Audio Lab Cable. A PS Audio Power Plant 300 running at 90Hz supplied power to the preamp and digital players.

**Sound**

My review samples already had plenty of hours on them—they were the same speakers Mission and Denon had exhibited at Home Entertainment 2002 in June. Nevertheless, before I did any serious listening, I ran the burn-in signal from Stereophile’s Test CD 3 through the Pilastros overnight for several days. (This track has some serious low frequencies

...
on it to work hard the suspensions of woofers and ABRs) As set up by Peter Comeau, the Pilastros were toed-in slightly, not quite enough to cross at the 10'-distant listening position. They were a little farther out in the room than the Wilson Sophias I had reviewed for the July 2002 issue. The woofers mounted on each side of the speakers were 56" from the wall behind them and 35"/45" (left), 65"/75" (right) from the sidewalls. (The asymmetry in the left/right room positioning is mandated by two steps to a raised platform leading to my room’s vestibule on the right of the room.) The Pilastro’s perforated metal grilles complement the speaker’s appearance, but Comeau recommended I remove them for serious listening.

Paradoxically, given how good I’d thought the Pilastros sounded at HE2002, they were initially unimpressive in my room. It was only after several prolonged listening sessions that I realized that what I wasn’t hearing was coloration. Perhaps more significant, I wasn’t hearing the usual high-level congestion, and other limitations in dynamic range that I was accustomed to hearing from box speakers. After the relatively small Thiel and RBH speakers I’ve reviewed in recent issues, the Missions seemed to have unlimited dynamic range. Given the combination of the Pilastro’s high sensitivity and the beefy Levinson monoblocks, drum recordings simply exploded from the speakers. Jerry Marotta’s punctuating tom-toms on “Wallflower,” from Peter

### Measurements

with ear heights ranging from 36" to 48". For standing listeners, however, a severe notch develops at the upper crossover frequency.

The spatially averaged response taken at the listening position in my dedicated listening room (fig.7) reveals a remarkably even delivery of energy into the room from the lowest bass through the upper midrange. Below 400Hz or so, the small peaks and dips will be due to residual room modes, which have not been completely eliminated by the speaker positions and the spatial averaging. However, as indicated in the quasi-anechoic response measurements, the region covered by the tweeter is indeed a couple of dB too hot in-room, which correlates with the lively, forward high-frequency balance I noted in my auditioning.

Again because of the Pilastro’s bulk, I could not lift it off the ground for the acoustic measurements. As a result, a strong reflection from the ground can be seen at the 7.5ms mark in the speaker’s step response (fig.8). But this graph still shows that the outputs of the tweeter and midrange units are all in positive acoustic polarity, the former leading the latter by 400µs or so and its overshoot neatly splicing into the midranges’ slower rise away from the time axis. The individual step responses of the woofers and midrange units (not shown) reveal that the woofers are connected in inverted polarity. This combines with the acoustic phase shift associated with the crossover filter to give good integration between the lower-frequency drivers.

I windowed out the ground reflection seen in fig.8 to calculate the Pilastro’s cumulative spectral-decay plot on the tweeter axis (fig.9), which results in the dotted area, indicating invalid data, in the graph. Nevertheless, enough valid time data are available to show that the Mission tweeter has a very clean decay. While the black ridge around 16kHz is due to the computer monitor, the ridge of delayed energy at 8kHz is real enough, and is probably associated with the peak at the same frequency in the midrange units’ output. However, this is low enough in level that it shouldn’t have audible consequences. Lower in frequency, the on-axis notch at 2.7kHz is associated with some delayed energy, which suggests that it is some sort of diffraction or interference effect.

Too often for my taste, very expensive loudspeakers have puzzlingly poor measured performance. That this is not the case with Mission’s Pilastro is reassuring, given the enthusiasm I felt about its sound quality.

—John Atkinson

---

![Fig.7 Mission Pilastro, spatially averaged, 1/3-octave, freefield response in JA’s listening room.](image1)

![Fig.8 Mission Pilastro, on-axis step response at 50" (5ms time window, 30kHz bandwidth).](image2)

![Fig.9 Mission Pilastro, cumulative spectral-decay plot at 50" (0.15ms risetime).](image3)

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Stereophile, December 2002
Gabriel's eponymous 1982 CD (Charisma 800 091-2), for example, seemed to peak much higher than usual with respect to the level of the vocals and the synth continuo. I have consistently noticed with components that have high dynamic range that not all the elements of a recording appear to increase equally in volume as you turn up the wick. I assume this is because, with such speakers, the grunge that would otherwise fill in the spaces between those elements is considerably lower in level.

Mission's Pilastro gives away nothing in sound quality to the megabucks designs, and it looks gorgeous.

This clarity is partly due to a slightly elevated treble region. This didn't make the Pilastro sound bright, but the soundstage did project somewhat forward of the speaker plane, and the analog tape hiss on my 1994 Concert CD (Stereophile STPH005-2) was more audible than it should be. But my, could the Pilastro reproduce cymbals with a delicious differentiation between all the sounds wooden sticks can make on a brass dish. Whether it was Shelly Manne's kit on the SACD re-release of Sonny Rollins' classic Way Out West (Analogue Productions CAP 7530 SA) or Jimmy Cobb's on the Kind of Blue SACD (Columbia CS 64935), it was almost as if the Pilastro was increasing the differences between the sonic characters. In this regard, the Mission's ring-radiator tweeter is up there with the mbl 111B's omnidirectional Radialstrahler (reviewed in August 2002).

The Pilastro's midrange matched its treble in clarity and lack of coloration. The speakers opened a superbly clear window into Eva Cassidy's handling of Sting's "Fields of Gold" (Songbird, Didgeridoo G2-10045, UK) that was intensely communicative — it made me regret I had not come across this naturally gifted singer's work before she died. Even the Pilastro's midrange clarity, however, couldn't do anything to rescue Bruce Springsteen and the E Street Band's Live in New York City SACD (Columbia C2S 85490); great music-making and great songwriting perverted by an anti-hi-fi mix that fills up every space in both the spectrum and the dynamic window. To release a recording that has the quality of a low-bit-rate MP3 on a $32 double-SACD is perverse on Sony's part, to say the least.

The Pilastro's midbass definition was similarly superb. Ray Brown's double bass on the Sonny Rollins SACD was reproduced with just the right balance between the leading edges of its sound and the weight of the instrument's body, and there was no unnatural emphasis of any one note compared with another. The only dynamic speaker I have used in my system with the same bass quality was the Sony ES SS-M9ED, which I reviewed in August 2001. Even otherwise great full-range speakers, such as the Revel Ultima Studio (December 2000, January 2001) and the mbl 111B, sound more "plummy" in this register, while the big Krell LAT-1, which achieves similar low-frequency definition, does so at the expense of the instrument's bloom and weight.

On first listen, the Pilastro's bass sounded a little lean. Again, however, this is due to the lack of exaggerated bloom, the speaker actually offering excellent extension. The 1/3-octave warble tones on Stereophile's Test CD 3 extended down to the 32Hz band with full weight in-room through the Pilastro, and the 25Hz band was almost as powerful. When a recording had energy in this region—guitarist Steve Tibbetts' techno-ambient A Man About a Horse (ECM 1814), for example, has some ponderous pedal notes, as does the Peter Gabriel CD mentioned earlier—it was reproduced in full measure.

Conclusion

Yes, Mission's Pilastro may be pricey at $35,000/pair, but it's not nearly as expensive as many other contenders for the state of the loudspeaker art that Stereophile has reviewed in the past few years. It gives away nothing in sound quality to the megabucks designs, and it looks gorgeous. The Pilastro offers enormous dynamic range, well-extended and well-defined low frequencies, effortlessly clean highs, and deep, wide, stable stereo imaging. Its forward treble balance and lack of bass boom will work better with some rooms and systems than others, but as a demonstration of what a veteran speaker designer can do when given apparently unlimited resources, the Pilastro is a tour de force.
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**Also available on Gold CD-R!**
Computers and vacuum tubes go together like Trent Lott and fly-away hair, right? The last time filaments glowed in computers was during the 1960s, when a computer was a building. I remember laughing at the ponytailed computer-science dweebs back then, who spent their college days playing nursemaid to a football field’s worth of electronics capable of little more than adding two plus two. Chained to a computer half the day, as most of us now are, guess who had the last laugh?

So if you’re going to be plopped in front of a screen all day, the least you can do for yourself is squeeze some decent sound out of your computer — especially if you work at home, or in an office where you can pump up the volume. Adding a high-quality satellite-subwoofer system like Acoustic Energy’s Aego2, Eminent Technology’s LFT-11, or Cambridge SoundWorks’ Megaworks 2101D would be a good place to start.

But there’s much more you can do, and if your computer is equipped with a universal serial bus (USB 1.0) port, you can do it without messing with internal soundcards, which, while offering upgradeable audio, still must operate in a difficult environment. The high-frequency noise produced by digital processing does bad things to both the power supply feeding the audio circuitry and to the post-conversion analog signal on its way out of the computer.

USB 1.0 offers single-jack multi-function connectivity with reasonably high-speed data transfer, so even without a dedicated digital audio output jack on your computer, you could still take the D/A conversion and the rest of the audio circuitry out of its foul environs — if, that is, you could get an outboard DAC with a USB interface.

Now, thanks to Sutherland Engineering’s 12dAX7, you can, and because it uses smooth-sounding 12AX7 tubes in its analog preamplifier circuit, you can also round off the audio jagglies inherent in MP3 recordings and make them not exactly listenable, but less noxious to the ear.

Even if your computer doesn’t have a USB port, you can add one. Keyspan (www.keyspan.com), for example, makes a Mac/PC-compatible USB 2.0/FireWire card that fits into PCI expansion slots for $99, complete with installation software. [USB 2.0 is backward-compatible with USB 1.0 devices.—Ed] Yes, some computer dweebs will be satisfied with nothing less than the higher data-transfer rate of IEEE-1394 (FireWire) connectivity, but for CD playback, USB 1.0 will do fine.

The 12dAX7
About the size of a standard rack-mountable audio component, the PC/Mac-compatible 12dAX7 will not be welcome on an overcrowded desk. But assuming you have the space, its transparent Plexiglas face — displaying the circuit boards, LEDs, and glowing tubes — will make a neat addition to any workstation, and a real conversation piece.

A chassis of cold-rolled steel provides a rigid platform for the dual-mono modular design, which uses printed-circuit boards of high-quality FR-4 fibreglass. There are modules for the power supply and digital circuitry and two for the tubed gain stages. Name-brand parts are used throughout, including 1% Dale metal-film resistors and Wima polypropylene film capacitors. There’s also a toroidal power transformer, and Russian-made 12AX7 tubes with a claimed life expectancy of “at least” 10,000 hours. The digital circuit is based on Burr-Brown’s surface-mount PCM 2702 chip, a 16-bit-two-channel DAC with an integral 8x-oversampling filter and a USB 1.0 data input port.

Hookup is simple: you run the supplied USB cable from your computer or USB hub output to the 12dAX7’s USB port, run analog cables (or an RCA/RCA-to-stereo-miniplug cable) from the 12dAX7’s RCA jacks to your amplifier or powered subwoofer-satellite system, and plug the 12dAX7 into the wall via the IEC AC jack. (Yes, you can even play with power cords. Knock yourself out.) Computer operating systems include bit-trimming digital volume controls that should be cranked full on or you’ll be diminishing the digital resolution reaching the 12dAX7’s DAC. The idea is to control volume in the post-conversion analog domain using the 12dAX7’s analog volume potentiometer.

Description: USB-based vacuum-tube D/A converter and preamplifier with USB 1.0 data input. Sample rates supported: 32, 44.1, 48kHz. Digital word length supported: 16 bits. No specifications given. Supplied with USB cable and setup CD-ROM.
Dimensions: 14.75" W by 3" H by 8"

D. Weight: 10 lbs.
Serial number of unit reviewed: None visible (pcb is marked ’0001’).
Price: $1600. Approximate number of dealers: 5.
Manufacturer: Sutherland Engineering, P.O. Box 1633, Lawrence, KS 66044. Tel: (913) 841-3355. Web: www.12dAX7.com
Our new, highly anticipated and long awaited on-line catalogue is finally live! Come purse our entire inventory listing, complete with pictures, in all three departments, right from the comfort of your own home. When you find something you like, you may either come on in and take a look at it, or arrange to have it delivered directly to your door!!! Also, remember to take advantage of our in-home consultation service for either your 2 or 5 channel needs.
When I switched on my computer, the 12dAX7 came to life: during the short warmup period, the turn-on relay clicked, the filament glowed, and the yellow Mute LED fired up. The LED fired up and music poured from the speakers. When I shut the computer down, the relay clicked again, shutting down the Sutherland.

**Okay Computer Sound**

I’ve been using a pretty-good-sounding and very inexpensive (at $200) Onkyo SE-U55 outboard USB-based converter with my Mac G4. It has optical and coaxial digital as well as analog line inputs and outputs, and built-in A/D and D/A converters so that, with the appropriate recording software (I use Peak LE 2.58 for Mac), I can feed it a cassette deck’s analog output and store it digitally on the G4’s hard drive. The Onkyo also has a headphone jack with volume control, which the Sutherland 12dAX7 doesn’t, so for sheer versatility, the SE-U55 can’t be beat. But while the Onkyo sounds pretty good, and much better than the G4’s internal converter, it didn’t come close to matching the 12dAX7’s sound: rich, warm, sweet, airy, a bit fat on bottom, and, overall, JJG.

**Measurements**

To test the Sutherland 12dAX7, I used a Dell 866MHz Pentium 3 desktop PC fitted with both USB 1.0 and USB 2.0 ports, with the test signals in WAV format and output using CoolEdit 2000 from www.syntrillium.com. Installing the device was simple. When the special symmetrical USB cable — with a flat connector at each end — was hooked up, the PC’s new hardware wizard recognized the 12dAX7’s Burr-Brown PCM2702 chip and installed the necessary driver files from the CD-R supplied by Sutherland. I could then choose the 12dAX7 as the output device from within CoolEdit 2000. I later used my Apple iBook to drive the Sutherland. An amber LED visible through the unit’s transparent front panel glows green when USB data are present at the unit’s input.

The maximum output level was 2.86V RMS, although this was available only into high impedances (see later). The 12dAX7 inverted polarity, and its output impedance was a moderate 872 ohms at 1kHz and 20kHz. However, at low frequencies the impedance rose significantly, reaching 73k ohms at 20Hz. The amplifier or powered speakers used with the Sutherland need to have an input impedance of at least 50k ohms if dynamics and bass extension are not to be compromised.

The 12dAX7’s frequency response is shown in fig.1. It’s basically flat across most of the audioband, though a rise in output can be seen above 4kHz, reaching a maximum boost of 1dB at 20kHz. This will be audible in side-by-side comparisons with other processors. I couldn’t get the unit to recognize pre-emphasized data, so the response in this case showed the usual rise at high frequencies (not shown). However, it is extremely unlikely that a user will ever feed the Sutherland a pre-emphasized music file. Because the Burr-Brown chip used by the 12dAX7 conforms to the USB 1.0 specification, which has a maximum data rate of 12Mbps, it cannot handle audio data with a sample rate greater than 48kHz. What was odd, however, was that when I fed it 96kHz-sampled data, I did get an audio signal out, at the correct frequency. Perhaps the CoolEdit program downsamples on the fly when outputting USB data.

Fig.2 shows the channel separation plotted against frequency. Though very respectable in the midband, it decreases steadily with increasing frequency due to capacitive coupling — probably at the analog volume control, given the physical separation of the tube output stages. (Although the PCM2702 has an on-chip digital volume control, it looks as if Ron Sutherland has used an analog-domain control.) However, the apparent increase at low frequencies is not due to crosstalk per se, but to some

60Hz and 180Hz hum that I could not get rid of, no matter how I arranged the grounding of the computer, the Sutherland, or the Audio Precision System One test gear. I could get rid of it if I drove the Sutherland from my iBook on battery power, and I note that Mikey Fremer suffered from similar hum only when he first set up the unit, and not on subsequent occasions. It’s possible, therefore, that the 12dAX7’s hum pickup is very dependent on the computer with which it is used.

The hum components can be seen in fig.3, which shows a spectral analysis of the Sutherland’s analog output while it decodes 16-bit data represent-
In a computer-based sound system of small satellites and a sub listened to in the nearfield, "accuracy" in the usual audiophile sense isn't the issue. It's more about compensating for the limitations of the associated equipment and, especially when listening to MP3s, the software. Although I have a DSL line, I have no interest in downloading MP3s—but for this review I went to www.geffen.com to listen to a track from Peter Gabriel's new album, Up. Gabriel's albums have always been well-recorded, even the digital ones, so I'm sure what I heard at 95.8kbs via RealPlayer was a shadow of what Classic Records' two-LP vinyl edition will sound like. The MP3 didn't sound bad, mind you, especially the bass, which was robust and well-controlled, but from the midrange and up it sounded gauzy, kind of flat, and cartoony. But compared to Evatone "sheets"—which is how I got to hear promo music as a kid — this was da bomb!

The 12dAX7 greatly improved the sound of all three satellite subwoofer systems I used it with, providing a cushion of air where otherwise there would have been a parched sonic landscape. It smoothed over jagged edges and softened the impact of barbed-wire transients. Most impressive were the improvements in imaging, soundstaging, and harmonic development. Images became more solid and three-dimensional; the soundstage widened and deepened, with far more coherent center-fill; and the shaggy harmonic envelope positively bloomed. The added midbass warmth meant that I needed to adjust the various subwoofers' levels and/or placements, but once I'd achieved that balance, the sound had a rich, addictive, honeved glow that was particularly effective for classical music and acoustic rock.

**Fig.7**

Sutherland 12dAX7, spectrum of 50Hz sine wave, DC-1kHz, at 1V into 100k ohms (linear frequency scale).

**Fig.8**

Sutherland 12dAX7, HF intermodulation spectrum, DC-24kHz, 19±20kHz at 1V into 100k ohms (linear frequency scale).

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**Measurements**

Note that the noise floor almost obscures the 1kHz peak, with the right channel being worse than the left, and that the left channel shows a tad of second-harmonic distortion. As the Burr-Brown PCM1702 is a 16-bit device, it will truncate digital audio data with bit depths greater than 16. Increasing the word length to 24 bits and repeating the fig.3 measurement gave no change in behavior, therefore (not shown).

Because of the relatively high levels of analog noise and hum, the linearity error became increasingly positive at levels below -70dBFS (fig.4); the waveform of an undithered 1kHz tone at -90.31dBFS was almost unrecognizable (fig.5).

As I wrote above, the 12dAX7 needs to see a high input impedance if its dynamic range is not to be compromised. This is confirmed by fig.6, which shows how the unit's THD+noise percentage changes with increased level into three loads: 100k, 10k, and 1k ohms. Into the highest impedance, the actual distortion is beneath the noise level up to 2V output, at which point it starts to emerge. Into 10k ohms, the 12dAX7 clips at 2V output, with the bottom peaks of the waveform squaring off. The Sutherland is obviously in distress driving the admittedly demanding 1k load, with only a few tens of millivolts available.

However, even into a kind 100k ohms and with the volume control used to reduce the analog level to 1V, there was more distortion present than I would have liked to have seen (fig.7). Yes, the second harmonic is just below -60dB (0.1%), with the third at -64dB (0.06%), but there are also many higher-order components visible. The 12dAX7 was also disappointing when it came to high-frequency intermodulation. Again with the analog level reduced to 1V, fig.8 shows that the 1kHz difference component lies at a fairly high -54dB (0.2%). This rose to -40dB (1%) when the volume control was rotated to its maximum position.

Note the high noise floor in fig.8, as well as the rise in noise around each of the high-frequency components. This rise is generally an indicator of word-clock jitter problems. When I looked at the 12dAX7's jitter...
Beck's new *Sea Change* is a string-drenched, minor-key acoustic set magnificently recorded at Ocean Way Studios. The CD sounded dramatically full-bodied and detailed without giving up transient clarity or the resolution of inner details. As good as the Aego2 system sounded connected directly to the Mac's analog audio output, it sounded cleaner, clearer, and more detailed using the USB-based Onkyo SE-U55. The 12dAX7 took the Aego2's performance to a higher level, and did likewise for the two other computer speaker systems I tried.

**Another Configuration**

I tried the 12dAX7 in my main stereo system, driving it with my Mac iBook. I got the same rich, full-bodied sound as with my G4 system, but something about the overall presentation bothered me. I didn't take the time to analyze precisely what was going on, because I suspect that most purchasers will be using the 12dAX7 on their computer desktops, and not as a component of their main systems. But if you are thinking of using the Sutherland with a laptop in your big rig, don't let my experience deter you — especially as Sutherland Engineering offers a money-back guarantee.

**Conclusion**

Sutherland Engineering has come up with a unique, fine-sounding, computer-friendly DAC/vacuum-tube preamplifier. It should enrich and improve the sound of any computer-based sound system. However, the $1600 asking

Sutherland Engineering

has come up with a unique, fine-sounding, computer-friendly DAC/vacuum-tube preamplifier.

price seems steep. I'm not sure what justifies this price, given that the 12dAX7 is sold factory-direct and is basically a full-function USB receiver, digital filter, and DAC, all on an over-the-counter chip to which has been added a case, a decent power supply, and a pair of one-tube gain stages with volume control.

With a 12dAX7 in the system, there's no reason not to invest in a good powered satellite-subwoofer system, or even a pair of high-quality conventional speakers driven by an external amplifier. The Acoustic Energy Aego2 now sells for $399; add a 12dAX7, and the total of $2000 spent offers a level of sonic performance I hadn't thought any desktop rig could provide. If you spend a lot of time at your computer, can crank it up, and have $1600 to drop, the innovative 12dAX7 is definitely worth considering.

**Associated Equipment**

**Computers:** Apple Macintosh G4, Apple iBook.

**Power amplifier:** Hafler DH-200.

**Loudspeakers:** Eminent Technology LT1-11, Acoustic Energy Aego2, and Cambridge SoundWorks MegaWorks 210D powered satellite-subwoofer systems.

**Cables:** Discovery Cable Essence interconnect. — Michael Fremer
**BAT-a-licious**

**VK-300X Integrated Amp**

...an integrated amplifier that rivals the finest separates, in a beautiful, flexible, and user-friendly package that, to top it off, is also an exquisite value (and if you’re interested, don’t expect the introductory price to hold forever).

— Wayne Garcia,
The Absolute Sound Issue 138

**VK-75SE Stereo and VK-150SE Monobloc Amps**

The cushions of air around each performer, the utter truth of timbre, the glow from within, the swing and timing that tubes do so well—all were perfectly rendered.

— Jonathan Scull,
Stereophile Vol 25 No 3

**VK-515SE PRE AMP**

BAT’s Super-Pak power supply for dynamics, off and paper caps for liquid mids, a laundry list of premium parts.

**VK-300X INTEGRATED AMP**

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Busy? Who isn’t. These amps auto bias so you can turn on, tune in, and jell out.

www.upscaleaudio.com
Clearaudio Virtuoso Wood moving-magnet phono cartridge

There is no better time than now to invest in audiophile-quality vinyl playback gear. I'll bet even Mikey Fremer would be surprised at the amount of new vinyl releases and reissues and used vinyl available to music-lovers today. And the choices available to audiophiles seeking turntables, tonearms, phono cartridges, and phono preamps is greater than it's been in a decade.

As far as cartridges are concerned, I doubt you can beat the high resolution, delicacy, and transparency of today's best low-output moving-coil designs, despite their high prices (as well as those of suitably hi-rez, high-gain phono stages). My choice for some time has been the Koetsu Urushi ($4000), which combines Koetsu's musically rich and seductive midrange with extended, tight, and fast articulation at the frequency extremes.

At the opposite end of the price scale, I've been a big fan of the Grado Reference MM cartridges, which have the natural, evenly balanced timbral presentation of my Koetsu Urushi but with much lower levels of detail resolution, transparency, and transient articulation. The Grado Reference Platinum ($300) and Sonata ($500) remain bargains in today's analog marketplace. (See my reviews of both in the June 1998 Stereophile, Vol.21 No.6.)

I was quite smitten by my current reference in affordable moving-magnet cartridges, the Clearaudio Aurum Beta S ($450), which combines levels of detail resolution, articulation, and transparency that approached those of the more expensive moving-coils, as well as the most neutral tonal balance of any cartridge I've heard. (See my reviews in Vol.23 No.4 and Vol.24 No.6.) Furthermore, the Aurum Beta S, with its metal coupling plate (lead in the original, stainless steel in the current model), far exceeded the performance of the original Aurum Beta with plastic coupling plate ($350) in the areas of bass extension, definition, and high-level dynamics.

So when Clearaudio offered their latest moving-magnet cartridge, the $750 Virtuoso Wood, which they claim provides "enhanced performance with added musicality" compared with the Aurum Beta S, I couldn't wait to give it a spin.

**Design**

Like the Aurum Beta S, the Virtuoso Wood is a moving-magnet cartridge with a fairly long aluminum cantilever and an elliptical stylus. Clearaudio claims that the design highlight of both models is the matching of very strong magnets with the cantilever-stylus assembly. This is intended to reduce the moving mass of the generator in order to optimize phase coherence and transient characteristics. The primary differences between the cartridges are that the Virtuoso uses a coupling plate of Fenambuk wood instead of stainless steel, which significantly reduces the cartridge's mass (from 10 to 6gm); and stricter tolerances for linearity, frequency response, magnet strength, and trackability.

The Virtuoso Wood also offers slightly higher output, at 3.6mV. Although the Virtuoso Wood's stylus can't be replaced by the user, distributor Musical Surroundings offers complete cartridge replacement when the cartridge is worn or damaged, as well as a trade-up program. The Virtuoso Wood was quite easy to mount and fine-tune on my trusty, affordable analog cartridge review rig: a Rega Planar 3 turntable, Syringa PU-3 tonearm, and Ringmat Developments Ringmat. I fine tuned the VTA carefully and found the Virtuoso Wood to be less sensitive to these adjustments than more exotic stylus shapes—it was similar to Grados in this regard.

**Sound**

I was curious to hear how much Clearaudio might have improved on the Aurum Beta S. Sure, the Aurum didn't have the last layer of resolution, articulation, and transparency of the best low-output MCs, but its flat, extended frequency response was beyond reproach: a dead-neutral midrange, pristine and extended highs, and thunderingly clean and tuneful bass. The Beta S's articulation of transients was...
flawless, as was its ability to portray the subtle dynamic inflections you hear in live music. For this review, I spent a long time revisiting the Aurum Beta S, then switched to the Virtuoso Wood and played the same recordings.

I immediately noticed the Virtuoso Wood’s superiority in the midrange, particularly on vocals, both male (Mighty Sam McClain, Give It Up to Love, AudioQuest AQLO1015) and female (Janis Ian, Breaking Silence, Analogue Productions AP9027). Voices were reproduced with more detail and delicacy, and had a much richer presentation, with more dimensional body but with no trace of euphonic coloration. I noted superior detail resolution and transient articulation on piano and guitar passages, with improved ambience and air as well as longer decay times. This improvement extended into the high frequencies.

But it was in the highs that a paradox seemed to emerge. The Virtuoso shared the Aurum Beta S’s pristine, extended, uncolored high frequencies, but seemed a bit sweeter and airier, with more detail. However, there was no touch of softening or rolloff—in fact, it seemed as if the transient attacks on percussive instruments were faster still, but without a trace of hardeness or edge. The Virtuoso Wood’s sonic signature seemed a bit more liquid than that of the slightly drier Aurum Beta S, but without a trace of softening, coloration, or loss of detail.

The Virtuoso Wood’s performance was consistent at the opposite frequency extreme. Like the Aurum Beta’s, the Wood’s lower to upper bass was clean, fast, and uncolored, with plenty of bottom-end slam, but with the Virtuoso I could hear more of the textural wood of both electric and acoustic basses in all types of music. My notes from listening to Dean Peer’s Uros (Jazz Planet JP 5002-I): “extended low bass, fast but rich and woody, powerful without being sharp, but delicate, with extended upper harmonics and natural decay.”

A quick spin of Classic Records’ reissue of Miles Davis’ Kind of Blue (Columbia/Classic CS 8163) indicated that the Virtuoso Wood may be the affordable cartridge for jazz lovers. Both Davis’ trumpet and John Coltrane’s tenor sax had bite and tension while sounding silky and sweet. My notes: “more detail, but more relaxed and less analytical, without a trace of coloration.” With this recording, I also found myself analyzing the dynamics of Jimmy Cobb’s technique of positioning his drumstick on the ride cymbal.

I had a similar experience listening to the bite of Davis’ trumpet on “Yesterday’s,” from the 10” reissue of his Young Man with a Horn (Blue Note/Classic LP 5013). The room disappeared, and the ensemble interplay was dynamic and organic. Finally, I put on Louis Armstrong and Duke Ellington (Roulette/Classic SR52074) and studied in detail the interplay of Barney Bigard’s clarinet and Trummy Young’s trombone in “The Beautiful American.”

The Virtuoso Wood was a bit more liquid than the slightly drier Aurum Beta S, but without a trace of softening.

When I focused on the pitches of the drum skins and the ambient body and decay of each percussion instrument in John Cage’s Third Construction, from Pulse (New World/Classic NW319), I was able to follow, without strain, the subtle contrapuntal motifs between pairs of instruments in this revealing and natural recording. The Virtuoso Wood’s superb ambience retrieval and soundstaging capabilities made it very easy to hear hall ambience and instrument positions on such well-recorded orchestral blockbusters as Stravinsky’s The Firebird (Mercury Living Presence/Classic SR90226) and Mahler’s Symphony 2 (Vanguard/Classic VCS 10003). With the Mahler, I can’t recall having heard a more natural reproduction of massed strings from a phono cartridge. When I listened to Messiaen’s Turangalila Symphonie (EMI SLS 5117), I found myself studying the piano’s hammers. They sure sounded to me like the hard-polished hammers of the German Renner action found on Steinways made in Hamburg. These recordings convinced me that the Virtuoso Wood may be the affordable cartridge of choice for the lover of classical music.

Rock? The acid test for bombastic bass reproduction is “Behind the Veil,” from Jeff Beck’s Guitar Shop (Epic OE 44313). In one passage, Tony Hymas plays the melody on a bass synthesizer that descends lower in frequency than Terry Bizzio’s thundering bass drum. The Virtuoso Wood reproduced the melody with perfect clarity—fast, tuneful, with no sense of overhang—and left the bass-drum line intact with no trace of muddiness.

Want to break the lease? Try Grandmaster Flash’s The Message (Sugar Hill SH-584) at about 100dB. “Hey you youngsters, stop listening to that crap music! You wanna hear some real rap?” The bass-synth-and-drums machine bombast did not induce my neighbors to call the police, but only by a dB or two. Despite the perfectly articulated dynamics, the subtle, low-level articulations on the snare-drum machine were perfectly intact at the rear of the soundstage. So oh, yes, the Virtuoso Wood might be the affordable cartridge of choice for rock headbangers as well. In fact, I think its overall dynamic performance might have exceeded the already outstanding performance of the Aurum Beta S.

I used the magnifying glass of the Virtuoso Wood to compare three pressings of a single album: Gary Wilson’s You Think You Really Know Me. With the Virtuoso, it was very easy to hear that the 1991 reissue (Cry Baby HH03) flawlessly replicated the natural, extended tonal balance of the vocals and instruments on the original 1977 release (Gary Wilson GW001). Furthermore, it was clear that the mastering of the 2002 reissue (Motel MRLP007) had boosted the bass a few dB, and that the midrange was now richer and more holographic, along with some compression in highly modulated high-frequency passages compared to the earlier pressings. In general, the Virtuoso Wood tracked difficult, highly modulated HF passages better than any cartridge I’ve tried, regardless of price.

Associated Equipment

**Analog source:** Rega Planar 3 turntable, Syringa PU-3 tonearm.

**Integrated amplifier:** Creek 5350SE.

**Loudspeakers:** Acarian Systems Alon Petite, NHT SB3.

**Cables:** Speaker: Acarian Systems Black Orpheus.

**Accessories:** Various by ASC, Bright Star, Ringmat Developments, Salamander Designs, Simply Physics, Sound Anchor, VPI.

— Robert J. Reina

126

Stereophile, December 2002
were noticeably less detail and subtle
dynamic and transient articulations.
Although the Beta S had a neutral tonal
balance overall, the slightly more liquid
quality of the Virtuoso Wood was slight-
ly more rich. Finally, there was just a bit
of a mechanical quality to the presenta-
tion of the Aurora Beta S as compared
with the Virtuoso Wood.

Did the performance
of the Clearaudio
Virtuoso Wood exceed
my expectations?
Yes...

I compared the Virtuoso Wood with
another of my affordable favorites, the
Grado Reference Sonata ($500). It had
been a while since I’d listened to the
Sonata, and once again I was struck by its
deliciously warm but natural and inv-
iting tonal balance. It had the rich,
holographic midrange of the Virtuoso
Wood, but resolved somewhat more de-
tail and ambience through that region.

However, the high frequencies were far
less detailed, extended, and articulate
when compared to the Wood’s. Bass
definition, extension, and dynamic per-
formance at both extremes were excel-
 lent through the Grado, but slightly
better still through the Virtuoso Wood.

But remember—the Aurora Beta S
and the Grado Reference Sonata are both
significantly less expensive than the
Virtuoso Wood.

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-$1000 car-
tridge 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 Clear-
audio Virtuoso Wood was so ear-open-
ning that I recommend that anyone
thinking of spending up to $2500 on a
moving-coil cartridge consider buying
the $750 Wood instead, and investing
the money saved in better components
elsewhere in the system.
Hello fellow audiophile, this month I would like to share some of the things that we’re doing to meet the needs of our clients in the area of high-resolution, multi-channel playback. With the increasing level of excitement about the DVD-Audio format, it seems like the right time to explore some of the hardware pieces that you’ll need for 5.1 channel surround playback. If you’ve heard real high-res recordings then you already know that getting into high-resolution, multi-channel audio is the next advancement in the world of music reproduction. What you may not know is just where to start.

Let me first start by saying that it is our great pleasure to announce, in conjunction with Sanibel Sound, that we will be outfitting the AIX Records studio with state-of-the-art amplification, cabling and speakers. The marriage of AIX Record’s high-resolution digital Euphonix based studio with high-end components specifically designed for multi-channel playback at home, means that you will experience exactly the same sound as Dr. Waldrep does when he’s mixing and mastering his award-winning DVD-Audio products. The $140K system that will be installed at the AIX Records studio in West Hollywood will include 5 Piega P-8 LTD, Aloia 1501 amps and Cardas cabling.

When you decide to upgrade your system to include 5.1 channel surround sound playback, there are two different approaches that you can take. Take a large leap and acquire all of the necessary hardware in one fell swoop or move incrementally into a high-resolution, multi-channel DVD-Audio system. Either way, you’re going to need access to knowledgeable professionals and a line of products that will meet your system needs and your budget. Too many “audiophile” dealers are ill equipped to demonstrate, discuss, and deliver the high-end equipment required as the audio world moves towards surround sound. Be sure that the salespeople understand the formats and can actually play compelling examples that clearly show the incredible improvement that DVD-Audio offers.

That’s why we’ve independently done lecture/demonstrations of the format in Raleigh and of course, New York at the HE 2002 show. It’s also why Dr. Mark Waldrep has chosen to put Piega P-8 LTD speakers in his mixing/mastering room...to provide his record company clients and the consumers that listen to his amazing records, the opportunity to maximize their listening experience and continue to strive for the best in audio! Call me or come by for a visit...it’s time.

AIX Records Gets New Gear...

The studio/record label responsible for producing the Discus Award winning “Best DVD-Audio” disc of 2002 (Nitty Gritty Surround) is getting an upgrade thanks to HiFi Farm and Sanibel Sound. The new 5.1 monitoring system will consist of 5 Piega P-8 LTD speakers, 3 Aloia 1501 amplifiers, and Cardas cables. “I’ve loved my B&W speakers for many years but the sound of the Piegas convinced me that our high-resolution, 5.1 recordings needed something more,” said AIX company founder and president, Mark Waldrep, Ph.D.

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Setting Up A 5.1 System

Now that all of the AIX Records DVD-Audio Christmas releases have been completed and sent to retailers, I managed to squeeze a weekend of "rest and relaxation" into an otherwise hellish schedule. Time for a leisurely drive to the Bay area. I delivered and setup a complete 5.1 channel DVD-Audio system to Romanian friend and colleague, met and discussed DVD-Audio with Neil Young, attended a meeting of the DMDA (Digital Media Device Association), toured the new studio at Cisco Systems and had time to visit my daughter at UC Santa Cruz.

On Friday afternoon, an engineer friend and I visited a local "high-end" audio retailer so that I could play him the new classical DVD-Audio disc that I had just picked up from the replicator. We were escorted into the room with the best playback equipment they had available. The first thing that I noticed was that the 5.1 speaker arrangement was not correct. They had place the "surround" speakers almost directly behind the listening position, which caused the mix to be "stretched" well beyond what I heard in the studio during the mixdown. This wasn't the first time that I've run in to this problem and I'm sure it won't be the last. I visited a post house in SF that had never tuned their room, didn't arrange the speakers correctly, and just turned their subwoofer up and down as needed.

To help studios, retailers and consumers, I have provided a diagram of the ITU standard for the correct placement of speakers in a 5.1 channel surround system. You will notice that the left and right surround speakers are much more to the "sides" than to the "rear", although some engineers prefer to cheat a little and move them to about 120 degrees.

The placement of the speakers in a 5.1 channel system is a critical to the realization of the mixes so painstakingly created in the studio. If the arrangement shown in the accompanying diagram is not followed, instrument localization and ambiance balances could be compromised.

More Reviews About AIX Records!

"Not only is this true 48/24 disc [Zephyr: Voices Unbound] one of the most incredibly realistic-sounding recordings of human singing voices ever achieved, it is good value for dollar, too!"

— Rad Bennett - Ultra Audio

"...nobody has taken innovation to the level of a new series of DVD-Audio/Video discs from AIX Records...All of their albums are pristine new 24-bit, 96 kHz sampled digital recordings, not past classics remixed for 5.1. These recordings have been made specifically with surround in mind, performed essentially live, and the result is extremely satisfying."

— Richard Elen

www.audioevolution.com

AIX Records Catalog Listing:
80005 Brahms Piano Quintet, Op. 34
80006 Beethoven Four Razgaiti Pianos
80014 Frederic Chopin, Four Ballads
80009 Piano, Bass & Drums, Jazz
80011 The Latin Jazz Trio, Jazz
80010 The Paul Smith Trio, Jazz
80008 Nitty Gritty Surround, Bluegrass
80013 Peppino D'Agostino, guitar, perc.
80012 Zephyr: Voices Unbound, voices

Stravinsky/Ravel - Firebird/Bolero
Mozart - Symphonies 26 & 41
Bach - Brandenburgs 3 & 5
Haydn - Piano Trios
Marcello, Handel & Vivaldi
Scarratti/Beethoven - WW Quintet
Schumann/Mozart - Fantasies/Varitions
Dehuss/Glinka & Others - Solo Harp
Mixtures I - Various Classical
Romanian Folk Music

All of the recordings in the AIX catalog were recorded, mixed and mastered at 96 kHz/24 bits. Each disc contains at least four distinct mixes: Stereo PCM, 5.1 MLP, 5.1 "Audience" Dolby Digital & 5.1 DTS "Stage". Multiple pairs of stereo mics were used (up to 24 tracks) during the recordings but no compression/limiting, EQ, or artificial reverberation was employed. The REAL thing.

www.aixrecords.com

Obviously, the particular circumstances in your living room might require you to modify the ideal placement, but do the best that you can...you'll be amazed at the benefits over simple stereo.

— Mark Waldrep

Mark Waldrep, Ph.D. is the founder and chief engineer at AIX Records, a company dedicated to recording and producing multi-channel music using state-of-the-art, high-resolution equipment. He is also on the DMA faculty at CSUMB in SoCal. Email him or visit the website:

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Grand Prix Audio Monaco Modular Component Isolation System

It's no longer news that uncontrolled spurious vibration is one of the greatest threats to high-quality sound and video reproduction. Source components are, by themselves, a nightmare to isolate from the omnipresent vibrations in the environment. The intrusion of uncontrolled spurious into the playback of LPs, CDs, SACDs, and DVDs has a deleterious and occasionally disastrous effect on the ability of the stylus or laser to precisely do its almost-molecular-scale job. Electronics are nearly as susceptible to such vibration-induced headaches as microphones.

The easiest way to maximize the performance of an audio or video system is to isolate its components from the shaking world around them, and the last decade has seen an explosion in products designed to calm the world's gear. Devices ranging from air bladders to suspended racks to feet made of everything from exotic metals to exotic woods, as well as couplers, decouplers, floaters, shimmiers, and rollers, have been used to minimize the effects of vibration. Almost all of them help to one degree or another, especially when used in carefully selected combinations.

Into this cacophony of competing claims and products stepped Alvin Lloyd and his company, Grand Prix Audio. Lloyd's background includes 20 years of involvement in professional motor sports, including a stint as vice president of operations for Swift Engineering, the only American manufacturer of CART racing-car chassis. From founding GPA, Lloyd drafted more motor-sports engineering talent in the form of Henry Wolf and Tom Huschilt. Wolf worked as an engineering consultant for a CART series team and was responsible for shaker dyno research, which involves determining the natural resonant frequencies and stiffnesses of all aspects of a car and its tires. Prior to joining Swift, Huschilt, a suspension engineer, worked at Newman Haas Racing, overseeing suspension design and research for such drivers as Nigel Mansell and Mario and Michael Andretti. There, Huschilt was responsible for co-designing the first American-built car to win the Indianapolis 500 in more than 20 years. It would appear that these gents understand the physics of vibration.

The path to the GPA shelves began with nothing more than Lloyd's curiosity about what, if any, of his racing experience could be applied to his other great interest: audio. Having mastered management of the massive stresses that act on the suspension system of a CART car traveling at up to 220mph, with multiple G-forces acting on its chassis and suspension in all three dimensions, designing audio stands should be a piece of cake.

So Lloyd and company brought their wealth of experience in testing, research, and exotic materials to bear in designing the Grand Prix Audio series of stands, the apex of which are the Monaco modular stands. After considerable preliminary design work, Lloyd determined that a combination of rigid, lightweight carbon-fiber frames supporting acrylic (or the optional F1 Kevlar/carbon-fiber composite) shelves would be just the ticket. But because Lloyd believes that no single approach can successfully provide the degree of isolation necessary for optimal vibration control, GPA developed an eight-stage approach.

The Monaco is available as a three-, four-, or five-shelf system, or as individual modules. From the ground up, a GPA system consists of: 1) a 304 stainless-steel spike; 2) a large-diameter 304 stainless-steel support column, to which an aerospace-derived damping com-

**Description:** Modular metal/carbon-fiber/Kevlar equipment rack system.

**Dimensions:** 34" W by 28.5" D; each shelf unit is 5.875" H.

**Prices:** 3-shelf system, $2495; 4-shelf system, $3495; 5-shelf system, $4495; base module, $1500; short or tall module, $999; amplifier stand, $999; F1 carbon-fiber/Kevlar composite shelf, $850. Approximate number of dealers: 24.
Skyline v2.0 Interconnect Cables

Sonic Horizon

$179.95 1 meter pair

interconnect in the line, with sonics and features normally found in far more expensive cables. It features HSO-EGC silver/copper conductors, Teflon/Air dielectric, MSC conductor technology, the proprietary STAT-CORE technology, and genuine WBT precision machined locking RCA plugs. Call or e-mail for the trade-in value of your current interconnect. All brands accepted.

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- WattGate 8215 Hospital Grade AC Plug
- WattGate 320 IEC Connector

Sonic Horizon $199.95 2 Meter

Daybreak AC Power Cord

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- Dual Isolated Independent Shields
- Special Noise Canceling Geometry
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pound is applied; 3) O-ring dampers in the caps of each support column; 4) “true vector” stainless-steel ball couplers that couple multiple modules together; 5) the viscoelastic damping material that secures 6) the carbon-fiber supports, which provide the foundation for 7) specially sized dampers between supports and shelves; 8) acrylic shelves (F1 shelves can be substituted at additional cost). The hollow stainless-steel columns can also be filled with lead shot to further improve performance. The approach is based on high-tech engineering and finesse rather than brute mass-loading.

Lloyd backs up his approach by providing comparative test results of GPA stands, conventional metal stands, and air-bladder shelves, measured on a shaker table. GPA claims that while air-suspension devices provide an 80% reduction in vibration over conventional shot-filled metal shelving, the Monaco reduces vibration even further.

Lloyd and I chatted extensively about what gear I was going to be setting on his shelves and the philosophy behind the Monacos. A few weeks later, several large boxes showed up. While unpacking the stands, I was somewhat dubious about GPA’s theories. I’ve used the heavy-duty, high-mass approach for my electronics and digital gear for a long while, including stone slabs, dampers, and various combinations of isolation footers. How, I thought, could these very stylish, lightweight stands do the job of a couple of hundred pounds of sheer mass? Despite its light weight, a four-shelf Monaco can carry up to 150 lbs per shelf, for a maximum total loading of 500 lbs. Fortunately, my basement listening room allows me to spike everything to the concrete-slab foundation.

I set up the unloaded amplifier stands and plunked down first the Lamm ML1 power amplifier, and later the Manley Labs Neo-Classic 250. (Lloyd recommended that I first listen to the stands unloaded, and then load the lead shot. I auditioned them in that sequence.) Per Lloyd’s instructions, I used no footers between amps and stands. I hadn’t expected that there would be much of a change, and, in a sense, there wasn’t. Neither amp changed in its basic character, but the subtle improvements were unmistakable. More than anything else, the Monaco brought a sense of focus and a difficult-to-explain sense of calm to the sound of both of these excellent amplifiers.

Intrigued, I set up the main shelf and transferred my digital gear to the Monaco from my aged but trusty Target TT5 stand (with granite slab and a small forest of footers). While assembling the main Monaco rack, I was taken slightly aback—when nudged, it swayed a bit. My doubts were quickly eliminated. As with the amplifiers, there was a notable reduction in the already low amounts of smear and blur. A fine curtain of mist was lifted from in front of the soundstage of my digital sources, allowing music to emerge with a greater sense of clarity. Again, the sound of the components didn’t change their sonic stripes, but there was an increased sense of ease and centeredness that was clearly audible.

The effect of setting electronic components on the unloaded Monacos was clear and worthwhile. Loading them gave me a substantially larger increment of improvement. Backgrounds became quieter, low-level detail retrieval improved markedly, and dynamic contrasts took on greater subtlety and sharper contrasts. Adding the F1 shelves under the Ayre D-1x and Classe Omega digital players brought a further level of stability, image definition, and overall refinement to their presentations, even greater than the effect of loading the stands.

After enjoying the GPA effect on digital gear for a good while, I moved the Clearaudio Champion Level 2 turntable (review to come) onto the Monaco, and again was pleasantly surprised. For years, I’d consistently obtained the best turntable isolation from heavy, bulky stands. Perched atop the Monaco, the Champion’s depth of field and downstage resolution improved to a truly surprising degree, and the Zen-like calm I’d already come to expect from the GPA stands was immediately apparent. It was as if another $1000 or so worth of performance had been grafted into the already good-sounding Champion.

Perhaps the most telling aspect of the Monacos was that they were the first stands I’ve used that were not further improved by the use of separate isolation footers under components. Neither amps nor CD players sounded better when isolation footers of any type were inserted between a component and an acrylic or F1 shelf. In fact, using footers only muddled things to varying degrees, and seemed to cancel out the beneficial effects of the unadorned stands. This is perhaps the best evidence of the fundamental soundness of the GPA approach to vibration control.

**Conclusions**

The Monacos are expensive, but their splendid appearance and their across-the-board improvements in resolution, imaging, and dynamics make them a “must audition” for anyone looking to maximize the performance of a high-resolution system. Easy to set up, lovely to look at, extremely effective, and highly recommended.

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**Associated Equipment**

**Analog source:** Clearaudio Champion 2 turntable, Clearaudio Unify tonearm, Benz L2 cartridge.

**Digital sources:** Classé Omega SACD/CD player, Ayre K-1x CD/DVD player.

**Preamplification:** Manley Labs Steelhead, Jeff Rowland Design Group Cadence phono stage; Jeff Rowland Design Group Synergy II line stage; Ayre K-1x, Atma-Sphere MP-3 preamplifiers.

**Power amplifiers:** Lamm ML1, M2.1, Manley Labs 250 Neo-Classic.

**Loudspeakers:** EgglestonWorks Andra II, Calix Phoenix Grand Signature, Apogee Duetta Signature, Silverline Sonata.

**Cables:** Phono: Clearaudio Sixstream. Interconnect: Nordost Valhalla; Acoustic Zen Silver Reference 2, Matrix Reference 2; Wireworld Gold Eclipse 3+; Cardas Golden Reference. Speaker: Nordost Valhalla, SPM; Acoustic Zen Satori Shotgun biwire, Hologram biwire; Wireworld Gold Eclipse 3+ biwire. AC: Nordost El Dorado; Acoustic Zen Gargantua, Gargantua 2; Wireworld Silver Electra 3; Custom Power Cord Company Top Gun, Top Gun HCFi, Top Gun Super Power Block conditioner (front-end electronics, digital components).

**Accessories:** Ganeulme isolation footers, Nordost Ti Pulsar points, PolyCrystal footers, WallyTools analog setup equipment, Argent Room Lenses, Caig Pro Gold contact cleaner, Ayre IBE system break-in CD.

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Paul Bolin

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Stereophile, December 2002
The most-classic music also ought to sound the best.

Now it does. Analogue Productions is reissuing the TOP 25 titles from Fantasy, Inc., keepers of the world’s mightiest jazz catalog. Never has such a set been available on 180-gram vinyl cut at 45 RPM and limited to 1,000 numbered copies of each title. The first 250 people to purchase this 25-album series will be assigned the corresponding numbered edition of each title. Please remember, the earlier you sign up, the lower your number will be. We will send you your limited-edition copy of each record as it becomes available, free of shipping charge. In addition, the first 100 people to purchase the series will have their copies personally autographed by mastering engineers Steve Hoffman and Kevin Gray.

So why are we calling these the best?

Because they are. We’re talking the revered jazz classics by artists like Miles Davis, John Coltrane, Sonny Rollins, Oscar Peterson, Ben Webster, Bill Evans, Cannonball Adderley, Thelonious Monk, Count Basie, Gene Ammons, Coleman Hawkins and Duke Ellington and a couple blues gems by heavy-hitters like Lightnin’ Hopkins and Willie Dixon. Each album will be spread onto two pristine slabs of 180-gram virgin vinyl cut at 45 RPM and packaged in exact replicas of the original jackets with no bar codes.

Using only the original analog master tapes, the renowned team of Steve Hoffman and Kevin Gray will remaster and cut all of the titles at AcousTech Mastering, which features a pure Class-A disc-cutting system. AcousTech is located at Record Technology, Inc., the plant where the vinyl will be pressed. It is a tremendous sonic advantage to have the pressing plant, plating department and mastering room in the same facility as now Steve and Kevin can cut a lacquer and have it plated immediately. This prevents the degradation of the grooves in the lacquer, which is very fragile and prone to quick deterioration.

And of course cutting at 45 RPM is the audiophile choice for highest quality. A 45-RPM record is sonically superior to a 33 1/3 variety because of a 35 percent reduction of groove curvature compared to a 33 1/3 cut. It means that while you can’t fit as much music onto a 45, the undulations of the groove that your cartridge has to track are stretched over a longer distance. For these reissues, the music will be displaced onto four record sides, meaning that each side will contain about ten minutes of music.

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You’re an audiophile. You’ve got a whole list of goops and wraps and widgets you’d like to get your paws on. But do you know what the other people in your life really want? If the answer is no, we’re here to lend a hand.

Of course, it’s difficult to muster the will to get something nice for a son or daughter away at school—do they even appreciate the opportunity they’re getting? Maybe if you buy them an AirHead amp and Sennheiser 280 Pro headphones to go along with their portable player they’ll (finally) think you’re so cool that they’ll start taking your advice and study more seriously. (Ptschyeah, right!)

Your 16-year-old niece loves listening to those obnoxious, blonde, bouncing Betty, bare midriff, teen chick singers, doesn’t she? Even though the sickly sweet sound might make you gag, she’ll dig the balanced, sweet punchiness of the oh-so-cool looking (and oh-so-cheap costing) Koss KSC-55 “behind the neck” headphones.

How about that wonderful significant other of yours, sweating over chores and picking up after you? Don’t you think (s)he’d appreciate the ability to roam around the house listening to a favorite soap or Mozart opera? You bet, and the excellent Sennheiser RS 65 wireless headphones let your mate do just that! (Plus, you can always borrow them to listen to the game while you’re out on the porch flippin’ steaks on the barbeque ain’t bad, either.)

The AirHead amp, AirBag, and Sennheiser 280 Pro combine with a portable player to form a music system they’ll love for a long time.

(AirHead & 280 Pro System, $229)

Don’t let good looks and a cheap price fool you—the KSC-55 actually sound great.

(The Koss KSC55’s, $19.95)

Even the compost heap out back is within reach of the excellent reception of the RS 65.

(The Sennheiser RS65’s, $169)

Lastly, think of the down-homiest guy you know. The guy who pays the bills; the guy who always pulls off the family vacation; the guy who knows the true cost of a dentist visit. (Yeah, that guy.) Make sure to get him something nice, too. So give us a call... I mean, tell him to give us a call, and we’ll help you... er, him find just the right stuff to put in a box from Santa under the tree (right next to the boxes filled with undies and ties from loved ones).

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"You did not need my urgency," sang Bruce Springsteen in "For You." In the past few years, more than a few alt-rock fans have had the same feeling about the moody, groomed moore rock coming out of the UK. We didn’t need their earnestness. We needed their angst even less.

But in 2002, English bands like the Doves and, now, Coldplay have released new albums of candied pop that contain more than a few moments when music and lyrics speak more of, if not exactly joy, then some form of elation.

After the Grammy-winning success of their first album, Parachutes, and its simple but appealing single, “Yellow,” it seemed a stretch to think that Coldplay could make a second album that was lyrically and, more to the point, musically leagues above their first. Yet A Rush of Blood to the Head is the sound of a band maturing, using the confidence that naturally flows from a well-received debut to add a hesitant grace to their otherwise smoky, baleful worldview.

Musically, vocalist and frontman Chris Martin, bassist Guy Berryman, guitarist Jon Buckland, and drummer Will Champion work in primary colors. Simple, engaging, often repetitious melodic lines, led by acoustic guitars and piano and backed by an at times almost funky rhythm track mixed far forward, make Coldplay’s musical confections nearly irresistible. While this description might make it sound as if the music lends itself only to slow numbers and mind-numbing ballads, Blood to the Head is mostly midtempo, and occasionally edges into jauntness. The first track, “Politik,” is a basher; its loud/soft, verse/chorus dynamic and repetitive, descending chorus of “Open up your eyes” is rudimentary but catchy.

While Blood to the Head is a meticulous studio construction, Coldplay can do these songs live, as I saw and heard at a recent New York concert. While U2 is the band’s constant and obvious influence, also evident are the spaciousness of Pink Floyd’s Dark Side of the Moon and — I mean this in the best way — the atmosphere of ELO’s Face the Music.

At the center is Chris Martin’s voice. Unlike Radiohead’s Thom Yorke, who can be too acidic, Martin is fuller-toned and can break into a convincing falsetto. Nick Drake is a frequent echo. But Martin has outgrown the steady diet of drone-like drone he served up on Parachutes. He’s now unafraid to dig in and sing, as in the very Bono-esque “The Scientist” — or soar, as in the album’s first single, “In My Place.”

Soaring is what makes the music and the lyrics of this album—still moody, still dark-edged, and at times still too precious — such a welcome surprise.

While continuing to make what one UK label owner calls “music for bed-wetters,” Coldplay has decided that there’s a place in their music for the occasional flash of optimism. “In My Place” is bright pop in the best sense of the word. And when Martin sings “If you go, if you go, and leave me down here on my own, then I’ll wait for you,” it’s only a windup for his full-blown declaration of love in the folky “Green Eyes.”

Other sunny moments are the chorus of “Daylight,” which chants “Slowly breaking through the daylight,” and the psychedelically tinged, next-octave-up chorus of “God Put a Smile Upon Your Face.” The moment when Martin sings “God give me style and give me grace / God put a smile upon my face” defines an album that has actual moments of lyrical hope. These sunny stretches are even more surprising considering the fact that the album was extensively revised and re-recorded after September 11, 2001.

In the end, A Rush of Blood to the Head is a new kind of white soul music. Still world-weary and still too fey for some, on their second album Coldplay proves that they have intellect, ego, and, yes, a bit of heart. What makes this disc superior to its predecessor is the realization by this once sullen quartet that what their musical ambitions need to succeed is not misery, but a little hope.

— Robert Baird
BALANCED AUDIO TECHNOLOGY

It doesn't take a rocket scientist to figure out how to create a complete line of fully balanced solid state and tube pre-amplifiers and amplifiers which yield a level of unsurpassed musicality. A rocket scientist alone could only design the circuits. It takes a rocket scientist with an abiding love and understanding of music. It takes Victor Khomenko, MSEE, physics, Leningrad Polytechnic Institute and the senior designer at Balanced Audio Technology to create consistently, components which are universally hailed as, dollar for dollar and on an absolute scale, some of the best money can buy. How does he do it? Is it the proprietary tubes and solid state devices which he designs? Is it the true balanced circuitry from input to output which is present in every BAT component? Is it the absence of global feedback? Is it the minimal number of gain stages? Yes, all that and much more. It is Victor's dedication to the proposition "the union of the mathematician with the poet, fervor with measure, passion with correctness, this surely is the ideal" William James. Pursuing this ideal as far as it can go yielded many extraordinary products: for the no compromise listener the VK-515SE (8,500 ) fully balanced tube preamplifier and VK-150SE (17,000PR) mono block amplifiers. The discriminating audiophile can appreciate 90% of that performance at half of the cost with the exceptional new VK-315SE (4,995) tube preamplifier and VK-6200 (4,995) solid state power amplifier. For the music lover on a moderate budget the VK-300XSE (4,995) integrated amplifier is competitive with reference level separates at up to 3 times the price. Invest in audio and buy BAT. Get back the balance in your life.

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classical

RENEE FLEMING

Bel Canto

Bellini, Donizetti, Rossini: Arias from La Sonnambula, Maria Padilla, Semiramide, Il Pirata, Armida, Lucrezia Borgia

Renée Fleming, soprano; Patrick Summers, Orchestra of St. Luke's


Performance ****

Sonic ****

Renée Fleming’s voice is so “perfect” that occasionally it seems almost impossible: each tone is so flawlessly produced, so round, so absolutely on pitch, that it makes your jaw drop. Her technique seems to have no holes in it: the voice sits comfortably on the breath; the legato is superb; she has a real trill; her ability to execute difficult florid passages, staccati, gruppetti, and ascending and descending scales is spectacular, each note in her two-octaves-plus range has the same quality, but its color can be altered according to what she perceives as characteristic (chest tones, for instance, can be brutal or not, depending on their dramatic purpose); every dynamic range, from ppp to ff, is capable of being produced with ease. And on top of all this, and even despite the fact that beauty is subjective, no one would deny that her voice is, indeed, beautiful. She has proven herself in the operas of Richard Strauss, Mozart, and, occasionally, Verdi, but she veritably defines “bel canto”—the traditions, the styles, and the literal definition.

Fleming portraits six heroines here, and only one strikes me as a miscalculation. Best is Imogene’s final scene from Il Pirata, said to be the prototype of the operatic “mad scene.” Here Fleming sounds unhinged from the start and takes us through the character’s lunacy step by step. She exhibits great exclamatory abilities, fantastic dramatic use of chest voice, and, of course, absolute control over the difficult vocal hurdles—including some very apt embellishments. A remarkable performance. The Armida scene, in an entirely different vein, is a song of seduction and enchantment. But it is so difficult to sing, with so many notes, such huge leaps, such intricate coloratura, that any soprano who attempts it (and there are few enough) normally just wants to get the right notes out in the right order.

Fleming is so self-assured that she can actually work off the text—and convince—while she’s negotiating the nearly impossible turns Rossini has put in her way. Her portrayal of the hapless Lucrezia Borgia, too, is both dramatically and vocally right on—the grief is palpable (and the bonus high E-flat near the end is a dazzler). The beautifully—and rarely—performed scene from Maria Padilla is dramatic and musically worthy (there’s a superb recording of the complete opera on Opera Rara), with a high-lyng vocal line; and as Semiramide, Fleming negotiates the tricky music well.

But it’s the Sonnambula scene that’s troublesome. One emotion that seems to elude Fleming is what might be called “shrinking violet.” To portray innocence, she tends to croon, enter notes breathily, sigh, caress, and coo enough to make the listener want to run. It’s annoying and reeks of insincerity. Her old habit of sliding into notes, much the way jazz singers do, has been taken care of—there are almost no inappropriate “blue” notes here.

But the breathy approach is just as infuriating—in Semiramide’s first statement of “Verra,” in the bridge leading to the cabaletta of “Bel raggio,” she sounds as if she’s about to pass out. Furthermore, the flourishes Fleming opts for in Amina’s “Ah, non giunge” are too mellow and cool. (The eminent specialist Dr. Philip Gossett is credited with some of the embellishments on the CD.) When Amina awakens, she awakens in all ways, including to her sexuality (just listen to Callas in this cabaletta—it’s ecstatic and rapturous); here Fleming is still playing coy and girly, and it starts to clay.

The recorded sound is natural and big, and Patrick Summers and the Orchestra of St. Luke’s are first-rate—although the cabaletta to the Pirata scene could have used more loony energy. Gripes aside, should you own this? You bet!

—Robert Levine

Record Reviews

MOZART

TWO REQUIEM

MOZART: Requiem, K.626

Marie-Noëlle de Callatay, soprano; Annette Markert, mezzo; Robert Getchell, tenor; Peter Harvey, baritone; Netherlands Bach Society, Jos van Veldhoven Channel Classics CCS 18198 (CD). 2002. Jos van Veldhoven, prod.; C. Jared Sacks, prod., eng. DDD. TT: 54:21

Performance ***

Sonic **

MOZART: Requiem, K.626

Irish Martinez, soprano; Monica Groop, mezzo; Steve Davidlimit, tenor; Kwangchul Youn, baritone; Chorus Musicus Köln, Das Neue Orchester, Christoph Sperrin


Performance ***

Sonic **

Perhaps it’s time to perform a requiem for Mozart’s Requiem. In its various reconstructions, reimaginings, orchestrations, and reorganizations, Mozart’s would-be masterpiece remains a perennial favorite of record labels, conductors, orchestras, choirs, and a cadre of editors ever willing to take a stab at yet another “more reasonably authentic” completion of this unfinished work. Exactly five years ago, in the December 1991 Stereophile, I examined a dozen recordings of the Requiem, and although each year since has produced more recordings of the work, none of those—nor the two under review here—supplants the all-around excellence of the Herreweghe (Harmonia Mundi) or Christie (Erato) recordings, both of which use Süssmayer’s completion; or the Pearlman (Telarc) or Rilling (Hänssler) discs, which use Robert Levin’s edition. That said, both of these new recordings offer interesting, even worthy views of the work that, while not essential, will give Requiem completists a bit more to ponder.

Conductor Jos van Veldhoven chose to adopt Süssmayer’s score in an edition by Marius Flothuis, who not only was a Mozart scholar but served as artistic director of the Concertgebouw Orchestra from 1955 to 1974. Flothuis’ changes primarily amount to cleaning up and correcting the orchestration to make it more Mozartian. But, like many others, he “fixes” Süssmayer’s notoriously awkward transition from Benedicteus to Auspice, in this case by changing key and adding two measures. None of Flothuis’ editorial alterations will jar listeners used to the traditional Süssmayer completion, but for those
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interested in the theoretical and musicological challenges involved in producing a performing edition of this work, it’s worth sitting with a score and taking notes on this performance. Flothuis himself provides some helpful guidance in his liner note.

My reservations concern the performance itself, which, in energy, pacing, and presentation of the text, just doesn’t meet the standard set by the recordings mentioned above. Veldhoven’s interpretation is too caring and perhaps too careful, as if he’s handling a precious and delicate porcelain heirloom. In general, the enunciation of the text is not clear, and often the orchestra takes the lead, its sound weightier and more prominent in such key sections as the Kyrie fugue. The Rex tremendae is too gentle, the Confutatis needs more pointed articulation. The soloists are excellent if a little laid-back, and the orchestra is acceptably responsive as far as Veldhoven’s modest expressions demand. This concert recording gives too much prominence to the orchestra and tends to homogenize the choral sound, blurring the texts and lessening the dynamic impact, whether in louder or softer passages.

Although Christoph Spering also offers the Süssmayr score, his interpretation is markedly different from most others—not in terms of orchestration or interpolations of newly composed music, but in tempo and mood. You’ll notice this immediately in the “strikingly slow tempo” (Spering’s words) of the Introit and Kyrie; the latter of which is more than a full minute longer than most other versions. Spering firmly believes that a requiem, being “a memorial in honor of the deceased and as an accompaniment for his soul’s departure,” calls for “the serious expression of dignified remembrance and an underlying spiritual attitude.” If this means “slow,” then Spering’s rendition is as spiritual and reverent as we can imagine—but it’s also tedious, and musically doesn’t seem a very defensible concept.

Then, like a shot, the Dies irae takes off and nearly leaves the slumbering listener in the dust. Such extreme variations of tempo from movement to movement happen throughout the performance. Aside from these unusual if consistent and sincerely intended interpretative choices, the performances by chorus, orchestra, and soloists are outstanding. Crisp, clear articulation from singers and players, and exacting attention to Spering’s direction, lead to a memorable Requiem that may not be a first choice, but one to have as a reference.

Of course, the curiosity that may attract some to the Spering disc is the inclusion (on separate tracks at the end of the CD) of Mozart’s autograph Requiem fragments. No other recording contains performances of these thinly scored but very familiar-sounding “original” settings, which contain only the notes that Mozart himself wrote out with his own pen. Spering’s objective is to allow us to hear “the essence of the music...the nucleus of the composition.” These tracks will be of interest primarily to the musicologically inclined and to those who just can’t get enough of this work. I found it fascinating to hear these sparse but fertile scraps, imagining what the dying genius must have had in mind for the great work to follow. And, of course, it’s strange and sad to hear the Lacrimosa end abruptly after only eight bars.

Ultimately, however, neither this unique feature nor the individual views of Spering or Veldhoven leads to a strong recommendation for either recording. Perhaps that says something about the point we’ve reached regarding recordings of this work. Is “something new to say” really something all that new and different? Does it provide any new insight about or illumination of the score, or of Mozart’s intentions? Until that happens, I’ll stick with Herreweghe or Christie (or Marriner, Bermus, Rilling, Pearlman...). —David Vernier

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**Jesus and Mary Chain**

21 Singles


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outrageous the Jesus and Mary Chain was at first. Their hair for headline-grabbing gig violence, and records equally notorious for their feedback-laden, Port-O-San ambiance are still very much part of public memory. But even on the JAMC's early singles, a sonic aesthetic was already in place that was equal parts Velvet Underground psychedelic drone-skree, Stooges ur-punk, T. Rex glampop boogie, Phil Spector wall-of-sound, and Beach Boys smiles (frowns, actually . . .), vibes, and harmony.

Sequenced chronologically, this anthology kicks off with the distortion-drenched 1984 debut, “Upside Down,” plus four songs from the band’s first long-player, 1985’s Psychobilly. Pick to click: “Just Like Honey,” a puppy-losesick ballad that, incredibly, married the anarchy urges of the first Velvets album to the traditionalism of 1960s girl-group pop. The following 16 tracks display the JAMC growing up in public — only to implode outrageously in 1998 courtesy a dust-up between founding brothers William and Jim Reid — with key tracks including the melodic, Duane Eddy-style twang of 1987’s “Happy When It Rains,” the psych-gothic rockabilly of 1989’s “Head On,” the sweet psych-pop of Nancy Sinatra and Lee Hazlewood (actually, Reid and Mazzy Star’s Hope Sandoval) in “Sometimes Always” (1994), and the Bo-Diddley-meets-Marc-Bolan crunch of the Reids’ fittingly titled swanson, “I Love Rock ’n’ Roll.”

The influence of the JAMC can be heard today in such outfits as the Black Rebel Motorcycle Club, The Strokes, and The Hives. While much of the group’s oeuvre can make for uneasy listening among audiophiles, it is a genuine musical mini-revolution that one hears unfolding on 21 Singles. — Fred Mills

**LITTLE FEAT**

**Live and (Mostly) Unreleased**

**Waiting for Columbus**


Performance ****

Sonic ****½


Performance ****½

Sonic ** to ****


Performance ****½

Sonic ** to ****

Little Feat has always taken tradition seriously. Founder, lead singer, lead guitarist, and chief songwriter Lowell George’s vision for the band embraced rock’n’roll, funk, New Orleans jazz and complex second-line rhythms, compressed song lyrics that made little linear sense but whose resonances were deep in the American grain, and a behind-the-beat vocal style that has yet to be matched. The sheer density and craftsmanship of the songs on the Feat’s original recordings from the early and mid-1970s sound more and more impressive as the years go on. George tried always to maximize the richness of what he called a song’s “cracked mosaic”; rhythms meeting at right angles, beats dropped and added at will, sudden key-changes, chorus-like fragments scattered throughout a verse — all of it still sounding basically like that simplest of American musical forms, the blues.

But you needed musicians of monumental chops to make all of this sound natural and easy. With the exception of whatever band Frank Zappa was fronting at the time — and with whom Lowell George and Feat bassist Roy Estrada had recorded and toured — Little Feat was, simply, the best American band of that or, if you count, any decade. And no other American band — including the Grateful Dead, the Allman Brothers, and the Band itself — has had so consistently good a time on stage, or been able to so dependably deliver that good time in a solid kick across the footlights. And unlike the Dead, the Feat never noodled.

Little Feat disbanded after George’s death in 1979, but regrouped almost a decade later with all the surviving original members and two new ones. Longtime Featists and purists swear that, minus Lowell George’s songwriting, guitar, and vocals, the new band can’t be as good as the original. The fact is, the new band has grown to fill George’s legendarily tiny (hence the band’s name) but conceptually capacious shoes, and they play at least as well as they did way back when. Now that pianist Bill Payne and guitarist Paul Barrère lead the band, it leans a bit more toward Steely Dan and away from the Meters, and though the various lead singers get very close indeed, no one has ever sung like George. But to say the current version of Little Feat isn’t as good as the original is like saying the Beatles are better than the Stones: true but meaningless.

Now the Feat are taking their own tradition seriously and have gone the route of the Grateful Dead in founding a record label, Hot Tomato Records, through which they’ve already released the two historical overviews reviewed here, as well as a complete concert, Live at the Rams Head: An Acoustic Evening with Little Feat (2 CDs, recorded June 2001; see www.littlefeat.com), which should be out by the time you read this. The two Tomato (yes, that’s how they spell it) sets and the greatly expanded reissue of their classic live album, Waiting for Columbus, together comprise more than seven hours of music, only 90 minutes
of which has been previously released.

The first CD edition of Waiting for Columbus was a single disc short two tracks from the original LP (1978). This new version, a two-CD collaborative release by the Warner Bros., Rhino, and Hot Tomato labels, restores the missing tracks, adds three live ones later issued on Hoy-Hoy!, and seven previously unissued tracks—all from the same 1977 concert tour. As the liner note points out, "Waiting for Columbus now contains all the songs that were performed at the series of shows recorded for this album." Only one song, "Skin It Back," appears twice.

It's an impressive document. The tracks already released are known classics and need no comment from me. Of the new, which total 42 minutes, "Cold, Cold, Cold" has a terrific guitar solo by George, "Rock and Roll Doctor" is much rougher-edged than the studio version on Feats Don't Fail Me Now, and "Day at the Dog Races" is far closer to convincingly real music than its fusion-lite original on Time Loves a Hero.

But all of the new tracks are better than their respective studio versions, benefiting not only from in-concert electricity but also because, on this 1977 tour, the original Feat were at the absolute height of their considerable powers. The LP twofer of Columbus was always renowned for being one of the most vivid and live-sounding rock recordings ever made—one that virtually leapt out of the speakers with all the chunky rawness of a real rock band tearing loose. The new mix sounds even better. I kept hearing things in these thickly textured arrangements—particularly little vocal fillips from George, keyboard fills from Payne—that I'd never heard before. Greater than any of this is the sense, however artificial, of the spaces, both physical and musical, that these musicians shared at these concerts—the rarest thing in a rock recording.

The first thing Feat fanatics will want to know about the two new Hot Tomatos releases is how much Lowell George they contain. Each has 11 tracks of original Feat material, for a total (if you buy both) of an hour and 23 minutes' worth of Lowell. But there's much more here.

On Raw Tomatos Volume One, it's remarkable how much the original Feat could sound, alternately, like a straight-ahead blues band ("A Political Blues") and Zappa's original Mothers ("The Fan"). Here are early demos of decidedly "historical" quality, acoustic and electric. The original quartet version of the Feat could sound like a rough'n'raunchy blues band of little rhythmic distinction—Lowell George's vision before he began channeling New Orleans funeral marches—and the version here of "Fat Man in the Bathub" owes more to the Stones' "Honky Tonk Women." Donnie Raitt belts backup on a live "Sailin' Shoes" from 1973, with a terrific vocal and slide guitar solo from George. There's a breakneck "Teenage Nervous Breakdown" and a way too short "Ass for Days," a crunching "Rocket in My Pocket" from 1978, and a beautifully elegant "Long Distance Love."

The shift into the reformed band is considerable. The songwriting isn't quite as good, and new singer Craig Fuller, though a consummate stylist, still can't match George's lurching, unpredictable grace. But the new band is so magisterial and overwhelming in sheer chops that it's pleasantly easy to forget that they don't swing quite as loosely as before... except when they play acoustic, as they do here on "Strawberry Flats" and "Six Feet of Snow," Fuller sounding so much like George it's uncanny.

Disc 2 of Raw Tomatos has exciting live versions in very raw sound of "R&R Doctor" and "Time Loves a Hero." TheFeat do Miles Davis à la Bitches Brew in "Voodoo Jam," and cover George's "Honest Man," from his sole solo album, sung by Shawn Murphy, who sounds here like a female Bill Withers. Barré tackles "Rocket in My Pocket" and can't hope to match George's vocal, but the thick stew of the band's new arrangement rivals the original's. An acoustic "Old Folks Boogie" is worthy of Ry Cooder at his rootiest, the piano-vocal duet of Payne and Murphy on "Rio Esperanza" is better than anything else Murphy has done with the Feat, and guitarist Sonny Landreth sits in on a remake of "Let It Roll" that's even faster and looser than the one on the album of the same name.

Ripe Tomatos Volume One opens with excerpts from the second concert ever by George's second, expanded band. This mini-set includes a night, uptempo medley of "Cold, Cold, Cold" and "Dixie Chicken," and George's vocal on "Texas Rose Cafe" has the belting energy of Van Morrison at his most classically ecstatic. From the Feat's last tour with George, in 1978, comes his wonderfully bluesy singing on "A Political Blues," which also boasts some of his best guitar work of all time, in the Clapton mode, as does "Tripe Face Boogie." There's also a sinewy, whipcrack "Down Below the Borderline," from 1975.

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Jazz

PATRICIA BARBER

Verse

Patricia Barber, vocals; piano; Dave Douglas, trumpet; Neal Algar, acoustic & electric guitar; Michael Anopol, bass; Joey Baron, Eric Montzka, drums; Premonition/Blue Note 39856 (CD). 2002. Patricia Barber, prod.; Jim Anderson, eng. AAD11 TT: 51:48 Performance ★★★★★

SONIC ★★★★★

Patricia Barber is more than a poet, more than a singer, more than a songwriter. None of these categories alone can do justice to the fullness of her artistic presentation. Her strikingly thoughtful and clever lyrics seem naked on the page. She twists each syllable rhythmically, attaching subtle shades of melodic variation in a voice that often whispers but never shouts. Her audacious approach to melody and song structure should place her in rare company as a jazz singer, yet this work begs to be seen more in the context of crossover masters from Tony Bennett to Joni Mitchell. The songs themselves are so personal, so evanescently caught up in her performances, that it’s hard to imagine other people singing them. But you could say the same thing of another artist Barber occasionally resembles, Mose Allison, whose quirky compositions have traveled well.

On First, Barber relives less on her own piano playing than on the atmospheric settings created by bassist Michael Anopol and drummer Joey Baron (Eric Montzka takes over the drums on the album’s centerpiece, “I Eat Your Words”) and outstanding lead performances from trumpeter Dave Douglas (check the

Turned the amp’s not but off) reconception of “Ingenue” that sounds like nothing so much as Zappa’s band of the early 70s, as documented on Roxy & Elsewhere. Fred Tacket sounds like Kenny Wheeler on trumpet, as the band suddenly segues into Miles Davis’ “So What” behind him, with a scat solo by conga player Sam Clayton. And there are semi-acoustic rereckings, live and in the studio, of such late-era Feat songs as “Vale of Tears” and, in a terrific new arrangement, “Eden’s Wall.”

There’s much more music but no more space to write about it. The sound on the Ripe and Raw sets varies from very grungy mono from decades-old cassettes and oven-baked reel-to-reels, to state-of-the-art digital multitrack, but what matters is the music. Any fan of the old or new Little Feat will find any (read: all) of these well-packed sets well worth buying, with more music per minute than any dozen releases by most other better-known bands. These guys and gal so clearly love what they’re working so hard at that it’s impossible not to feel better for having listened. Little Feat’s music is, in a word, wholesome.

But if you’re a dachshund Lowell George chauvinist who still finds it hard to believe that the reformed Little Feat could possibly be worth hearing while Lowell’s memory yet lives, don’t take my word for any of this. Do take the Rock’n’Roll Doctor’s advice, open your ears, and listen to the sound of your own shufflin’ feet. You’ll find your condition, whatever it may be, much improved by the music of one of the best American bands of all time.

— Richard Hennert

Stereophile, December 2002
muted solo on “Regular Pleasures”) and guitarist Neal Alger, whose playing ranges from contemplative acoustic solos to searing, pointillist electric accents.

But all this inspired music is very much in service to Barber’s intricately crafted word structures. The frozen-smile horrors of “The Fire,” the brutal self-mutilation of “Pieces,” the somnambulist democracy of “Regular Pleasures” — each is an incisive observation about the soul-destroying nature of contemporary life.

The album ends on a masterpiece, “If I Were Blue.” Floating along on a deep, resonant melodic line, Barber likens her mood to striking images associated with different artists. “Bring on the pelting rain,” she softly cries, “palpable sensual pain / like Goya in his studio / in the thick of night / absence is / dull and silent.”

—John Swenson

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Performance *****/5

SONICS *****/5

The major-league but often overlooked bebop-based alto saxophonist Lou Donaldson, now 75, has always been an artist who can deliver a wealth of quality material with panache, poise, and heart. This six-CD boxed set, full of winsome standards, gutbucket blues, beguiling ballads, and more, is proof.

Significant as well as enjoyable to listen to, the collection comprises the 10 first-rate LPs, ranging from hop to hard bop, that Donaldson made for Blue Note after his early-’50s heyday and before he returned to a quartet with organ, guitar, and drums in 1961. There are albums with guest hornmen, discussed first, as well as sessions with piano, bass, and drums, many of these with a conga drummer as well.

Wailing with Lou features trumpeter Donald Byrd and a favorite Donaldson pianist, Herman Foster. The boisterous, uptempo “Move It” exhibits the altoist’s juicy tone and capacity for rich melodic thought, while the ballad “Old Folks” demonstrates his tenderness.

Byrd returned for Lou Takes Off, which also sports trombonist Curtis Fuller and an ace rhythm team. On the very fast “Sputnik,” based on “What Is This Thing Called Love,” Donaldson is kicked deftly by pianist Sonny Clark and drummer Art Taylor. Byrd displays his sizzling top notes on “Grownin’ High.”

The charismatic trumpeter Blue Mitchell is on The Time Is Right, offering choice ideas on “Lou’s Blues,” which reveals the leader’s hop blues acumen. The speedy “Idaho” is a grabber, ditto “Mack the Knife,” where Ray Barretto’s congas add a bubbling beat.

Trumpeter Bill Hardman teams with Donaldson on Sunny Side Up. Hardman ambles along on his own “Poletecy,” which showcases the composer’s shimmering tone and engaging ideas. Softly, as in a Morning Sunrise” is also moderately paced; pianist Horace Parlan’s block chords stand out, as does Sam Jones’ measured bass solo.

LD+3 finds Donaldson working with the then-popular trio The Three Sounds. Pianist Gene Harris is booshing on “Three Little Words” and “Con-

Stereophile, December 2002
firmation," the latter boasting a horn-like Andy Simpkins bass solo. Drummer Bill Dowdy accompanies with taste. There's also the blues "Smooth Groove," with meaningful alto statements. These tracks typify the set's sound, which is well-balanced, detailed, and lifelike, as if from a close-in seat.

On 'Swing and Soul,' Donaldson hits it with pianist Foster, drummer Dave Bailey, bassist Peck Morrison, and Barretto. One charm is the obscure pop tune "I Won't Cry Anymore," on which Donaldson offers impassioned gushes alongside calmer statements. There's also a meaty slow blues, "Grits and Gravy," and the gently percolating "Herman's Manbo."

The same lineup is on 'Blues Walk,' the title track of which was Donaldson's first hit. On this catchy minor blues, the leader delivers crying notes along with more tempered remarks. Another plus is "The Masquerade Is Over," done at a medium bounce. The altoist all but sings his lines. Foster adds empathetic accompaniment.

'Light-Foot,' with essentially the 'Blues Walk' crew, sports an uptempo title track in which Donaldson is intense while maintaining superb control. On the soulful, crawling blues of "Hog Maw," master storyteller Donaldson delivers phrases packed with emotion. The Latin "Green Eyes" spotlights Foster's zesty, dancing piano, and there's the evergreen "Stella By Starlight."

Pianist Parlan, bassist George Tucker, and drummer Al Harrewood join Donaldson on 'Midnight Sun.' The moving title track is notable for the leader's glowing sound and alluring ideas. There are also two upbeat blues, "The Squirrel" and "Dog Walk," as well as "Exactly Like You," all done with swagger.

'Gravy Train' has Foster back, along with bassist Ben Tucker, drummer Bailey, and conga drummer Alec Dorsey. In the title track, a funky blues, Donaldson scores with growths, repeatedly tagged single notes, and lines that unfurl surprisingly. The brisk "Avalon" and "South of the Border" are replete with appealing improvisations, while "Polka Dots and Moonbeams" is done with simplicity and grace.

Together, these 10 outstanding LPs document the peak creative period of a masterful jazzman who never overlooked his audience's myriad tastes. As only one of these albums is in print in the US, the $96 list price for 'The Complete 1957-60 Blue Note Lou Donaldson Sessions' is extremely reasonable.

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**Record Reviews**

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**CHARLES LLOYD**

*Lift Every Voice*

Charles Lloyd, tenor sax, flute, taragato; John Abercrombie, guitar; Geri Allen, piano; Larry Grenadier, Marc Johnson, bass; Billy Hart, drums

**Stereophile, December 2002**

Not everything works. The title track is played too straight and never takes off. Marvin Gaye's "What's Going On" was chosen because its lyrics are relevant, but its musical content does not support an instrumental treatment. But "Amazing Grace" is perhaps the most poignant jazz version of that great hymn ever recorded. John Abercrombie's guitar marks out its bare outlines before Lloyd enters in a whisper purified by pain. No jazz musician has ever expressed spiritual yearning with more intensity than Charles Lloyd. Performances like "Go Down Moses" and "Wayfaring Stranger" are powerful because they respect the spirit of the originals even as emotion overwheels them, and barely hold together to contain their individual, universal cries.

Geri Allen is the latest in a long string of strong pianists to thrive in Lloyd's company (Keith Jarrett, Michel Petrucciani, Bobo Stenson, and Brad Mehldau are among the others). She brings a bold consciousness and new tumult to Lloyd's music. John Abercrombie, who joined Lloyd three albums ago, has never sounded better. Lloyd's rhythm atmosphere bathes Abercrombie's stark lines in new meaning, and the guitarist's raspy textures contrast beautifully with Lloyd's fluidity.

Consultant Joe Harley and engineer Michael C. Ross did the exceptionally precise, balanced sound for this album. The Harley-Ross team has executed several superb DSD recordings for SACD release (like Bennie Wallace's "Moodsville," on Groove Note). ECM should have them record Lloyd's next album in DSD, which would be the only obvious way to appreciably improve on the sonic quality of *Lift Every Voice*.

~ Thomas Conrad

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Stereovox cables

Editor:
I just wanted to take a moment to extend my appreciation to John Marks and to Stereophile for taking the time to evaluate Stereovox cables for his “5th Element” column. John Marks is a gem, gifted and unique, and we are grateful that he has lent his eminently talented ears and talented pen to shine a light on our efforts.

We look forward to seeing you at CES 2003 at the Alexis Park, Room 1713.

Chris Sommerville
cris@stereovox.com

Hagerman Technology Trumpet

Editor:
Thank you, Mr. Fremer; your writing is clear and concise, accurately articulating the sonic qualities of my Trumpet phono stage — no easy task when space and time are limited. I totally agree with your comments of “open, airy, detailed, and thoroughly intoxicating sound” and “pacing and rhythmic flow were stellar.” To me, it is this toe-tapping, head-nodding, get-up-and-dance quality that really makes the Trumpet swing.

Quirky? Indeed, the Trumpet is an odd-looking, perhaps even strangely beautiful machine. Its tall chassis is built to minimize microphonics, interconnections (only one internal cable), and ground loops. The no-frills design emphasizes components of exceptional quality, implementing an expensive balanced circuit topology (double the number of tubes) and choke-regulated supplies.

Regarding signal-to-noise, there are various methods to specify and measure this parameter, so it is easy to compare apples and oranges. For example, the extraordinary 86dB quoted for the Lamm LP2 is valid only with a 13mV cartridge. Is that relevant? Similarly, John Atkinson recently clocked a $29,000 phono stage at 58dB. But was it objectionable? It is easy to get caught up in a numbers race, and I fully understand why some manufacturers leave out details and just say “low noise, high gain.” The most important consideration is sound. Is the noise inaudible or intrusive under listening conditions?

For the record, I believe the best way to specify SNR is using A-weighted dBU. This is input-referred noise voltage relative to 1mW output (0.775V RMS into 600 ohms), and takes into account both gain and human audibility. The Trumpet achieves a respectable −110dBU, an equivalent input noise voltage of 2.5µV.

I do not consider a 750 ohm output impedance to be worrisome. It is remarkably low for an all-tube amplifier, and almost five times better than the LP2. It is, in fact, low enough to drive 10m of typical interconnect past 200kHz, which the Trumpet’s wide-bandwidth design is perfectly capable of accommodating.

Yes, the Trumpet is not well suited to cartridges under 1mV, and an external step-up transformer is recommended. Not only does the transformer supply virtually noise-free gain, it also provides matched impedance loading for the cartridge.

Thanks again to Mr. Fremer and Stereophile for an informative article and for continuing to carry the torch for analog and vinyl!

Jim Hagerman
Hagerman Technology LLC

Tom Evans Groove

Editor:
The team at Tom Evans Audio Design would like to thank you for publishing the well-crafted review of the Groove Phono Stage.

Michael Fremer has succinctly described the finer points of the product and is to be congratulated. We would like to take this opportunity to formally request that perhaps on a future occasion the Groove, along with our preamp, the Vibe, be measured by your technical team, as we firmly believe that our unique Lithos technology has realized the true dynamic range of vinyl to be in excess of 100dB.

Bill Felder
Technical Director
EX-CELL Power Solutions Ltd.

Lamm Industries LP2

Editor:
We are pleased with Michael Fremer’s review of our new LP2 phono preamplifier. Incidentally, this is our first phonostage model, and Mr. Fremer’s is the first review in print of this product. We
believe he has captured the essence of the LP2 quite well; the review concludes with "the Lammii became one of a handful of the finest phono sections I've ever heard." We hope that this acknowledgment will be a door-opener to those who have not yet had an opportunity to audition the LP2.

In the review, Mr. Fremer mentions that the "Lamm's output impedance was a somewhat high 3.5k ohms." We'd like to briefly comment on this. The phono preamplifier is the most delicate part of the audio chain, as it deals with very small signals. Consequently, the minimization of a number of amplification stages is of paramount importance for improving the signal/noise ratio as well as for assuring the most natural sound reproduction. Finding the proper solution to it is relatively tricky and ambiguous. Employing high-transconductance triodes has enabled us to create a single amplification stage with sufficiently low output impedance. In addition, because of the high-current design, such a stage ensures tremendous loading capability, which, in turn, made it possible to omit the output buffer.

In the case of the LP2, the single-triode output stage has the output impedance of about 3.5k ohms, and that is more than enough for proper matching with any line stage that has an input impedance of at least 30–35k ohms.

Our thanks to everyone who made this review possible.

Vladimir Lamm
President, Director of Engineering
Lamm Industries, Inc.

EgglestonWorks Andra II

Editor:
In the five years since we have had a product reviewed by Stereophile (October 1997, original Andra, later named "Loudspeaker of the Year"), many positive changes have occurred at EW. Under my direction, we have made the transition from a primarily domestic, two-channel, single-product company to an international, multi-channel, full-product-line corporation with an expanding presence in the home theater and professional markets. Even with all of these changes, we have been able to maintain our focus on our credo: "The essence of music is emotion."

Mr. Bolin's comments on his listening experiences with our Next Generation Andra II confirm that we have created a design that strikes an emotional chord with the listener. Our design philosophy is that speakers should not be viewed as "gear" through which music is processed, but rather as musical instruments through which music is to be enjoyed. The comprehensive listening tests performed by Mr. Bolin confirm that our Next Generation Andra II is capable of allowing the emotional essence of a variety of music to be experienced by the listener.

Mr. Bolin's comments include high praise for the bass performance of the Andra II: "dead-bang on a precisely defined pitch," and "profound, compelling, and, above all, musically correct."

Mr. Atkinson shows a nearfield measurement that could indicate a slightly different bass characteristic.

The EW design team uses both nearfield and farfield measurements when testing all of our products. Accordingly, measurements are conducted both in an anechoic chamber and in an IEC-designed living room. Since listeners sit in the farfield (i.e., more than 2m from the speakers), we consider farfield measurements to most accurately tell the story for actual listening conditions.

In capsule form, the reason we believe you won't hear what JA measured in the bass is because the bass-amplitude differences between nearfield and farfield measurements can vary by 10dB due to the proximity effect of the microphones themselves. Robert B. Schulmein, of Shure Brothers, Inc., the world's largest manufacturer of microphones, has shown this to be true.

Albert Von Schweikert, who played a key role in the Andra II project, indicates that boundary-reinforcement equations come into play. When the microphone is placed for nearfield measurements, the bass pressure/microphone relation is considered to be in "half space" (2πx radius), which can boost the response by 6dB due to the boundary effect. Conversely, the mathematics of sound-pressure radiation predicts a 6dB los of bass power when the microphone is placed farfield and the environment is now changed to a 4π boundary (wherein the bass pressure is radiated into the entire room).

Since the woofer's response is essentially a bandpass response, the compression of the frequency scale shows the bass response as a "hump" when using the nearfield technique. When you subtract 6dB from the bass peak to compensate for the nearfield microphone placement, you will find that JA's measurements will coincide rather nicely with our measurements, which show nominally flat response.

In conclusion, let me again thank everyone at Stereophile for the opportunity of having our Next Generation Andra II reviewed. We hope everyone who has the opportunity to listen to an Andra II has an experience similar to Mr. Bolin's.

Michael Sahn
Owner-President, EW Loudspeakers

Sutherland Engineering 12dAX7

Editor:
Thanks to Michael Fremer and John Atkinson for getting out the news on the 12dAX7. The review effectively and accurately conveys an image of its performance. There are only two items I would like to comment on.

Measurements: The specifications of the 12dAX7 are nothing to write home about, nor were they intended to be. To accomplish the design goal of making computergenerated music listenable, I resorted to classic tube circuitry. The line driver is essentially the same as found in a McIntosh C-22 or Marantz 7. They also show rising output impedance at low frequencies and higher distortion figures.

Value: In the context of an $800 computer and $400 amplified speakers, $1600 for a 12dAX7 is not a good value. The 12dAX7 is designed and built as a high-end audio component. It is not a computer gadget, it is not built cheaply, and it is not priced cheaply. I encourage users of the 12dAX7 to match it with appropriate components. Be prepared to spend another $1600 for a power amplifier and another $1600 for speakers—or more. Only then can you more fully realize the performance capability of the 12dAX7. In that context, the 12dAX7 is an incredible value. For "only" $1600 (along with the computer you already own) you get: a CD player, an MP3 jukebox, a webcasting tuner, an outboard DAC, and a vacuum-tube line stage.

To quote MF, "rich, addictive, honeyed glow…rich, warm, sweet, airy, a bit fat on the bottom, and, overall, BIG…midbass warmth…full-bodied"—all derived from a computer-sourced datastream! What more could you want?

Ron Sutherland
Sutherland Engineering

Rogue Audio M-120 Magnum

Editor:
Thank you for your excellent review of the Rogue Audio M-120 Magnum monoblock amplifier; the praise given to the amps by Chip Stern is indeed music to our ears. It was also gratifying to see that John Atkinson's test measurements support (or even exceed) our own performance claims.

One note, the amps that we submitted for the review are about two years old. I should point out that the triode/ultralinear switch is now more conveniently located on the rear panel.

At Rogue Audio our goal is to design and manufacture cutting-edge tube products for the audiophile community. To that end, Stereophile readers can look forward to a number of new products in the near future. Thanks again for the great review.

Mark O'Brien
Rogue Audio, Inc.
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Stereophile, December 2002
It was about five o'clock on a rare Scottish afternoon — clear and gorgeous — when I arrived at the Fopp record store on Union Street in Glasgow. It was only an hour before closing, so I decided to ignore the listening stations, cut to the chase, and do something I'd almost forgotten about in the States: ask the clerk about several records by artists I'd never heard of.

In a reversal of the elitist stereotype made famous in Nick Hornby's novel *High Fidelity* and the subsequent film, the clerks at the Virgin Megastore near the Stereophile offices in New York's Union Square can hardly find their way home, let alone a record by Orange Juice, Webb Pierce, or Fugazi. Asking for a personal opinion on a record is likely to be met with a blank stare and an admonishment for "the next in line" to step up. There are exceptions, one being the glorious new Amoeba Records behemoth in Hollywood, where clerks and customers alike are like wolves under a full moon. But in what I suspect is a growing number of cases, American kids no longer work in chain record stores because they dig music. They do it as a job.

At Fopp in Glasgow, my inquiry about a band called The Music had the counter help falling over each other, eager to add breathless descriptions of this rave-rock guitar band, who've since signed Stateside with Capitol Records. Ditto another group, the more straight-ahead alt-rock Miss Black America. Everyone who worked at Fopp had seen both acts at least once.

I had the same experience a few streets over, at the smaller but more indie and hip Avalanche Records. There, clerks were eager to ask me questions about such American acts as Ryan Adams and The Flaming Lips. Intrigued by all this enthusiasm, I rode an evening train up to Edinburgh to catch The Music live. There, on a Tuesday night, were nearly a thousand music fans of all ages — more than a few with gray hair — packed into a club and/or milling about outside, smoking, drinking, but mostly listening to the music. Judging from the amount of singing along going on inside the club, it was obvious that most there knew the songs by heart. For a minute, my over-idealizing imagination thought it had caught a hint of what it must have been like during those nights at The Cavern in Liverpool.

Judging from those experiences, not to mention the serious older faces I saw in used-record stores, and the lines — yes, lines — I saw and stood in just to use the listening stations at the impossibly busy HMV store on London's Oxford Street (talk about goozy headphones!), it became starkly apparent that music is more important to British kids and adults than it is to Americans. While I'm sure that the British passion for music has, like ours, lessened in the past 20 years, it seems more ingrained in their culture than it is in ours. In the UK, people still rush out to buy a record the day it's released. Singles, a format that once ruled the earth but is now a distant memory in the US, still sell in Britain. I'm betting that what this translates to is more kids who put down the playstations, listen to music, and in some cases eventually pick up guitars or drums, or even sit down at a piano.

After a short stay back home in New York, I found myself in Los Angeles, visiting old friends and new recruits in the record business. When I began writing about music more than 15 years ago, the record biz in LA was booming. Still in charge were such legendary figures as Mo Ostin — guys who were into "artist development," who knew about music and listened to records. There was an energy around places like the Warner Bros. headquarters in Burbank that was electric to be around. I may be romanticizing a bit, but despite its many faults, the record business back then was about something more than just money. It wasn't dominated by the clueless, passionless lawyers and accountants who now run the business for the corporations and their stockholders.

Today, if you don't have a hit on the first single or album, there is no second chance. The term "baby bands" is obsolete, and the matching orders are simple: hit now, grow up yesterday. Back then, rock labels also still made records for adults. Today, panic has set in, particularly at the major labels, where teenage girls seem to be the primary target audience.

Nor has it helped that record labels spent a decade in denial, blindly ignoring the fact that the day would come when the CD reissue boom would run out of LP content to convert and their cash cow would run dry. When I mentioned to a record-biz friend in LA that the industry now seemed shrunken to me, he observed that the CD reissue boom had artificially inflated major labels, which have only now returned to their real size.

Another pervasive theory about music's illso called by some in LA is that radio stations, which are now owned mostly by conglomerates, instinctively shy away from any kind of risk that might offend advertisers, and so have become stale. Real music can't get played on the radio anymore. The theory continues that if, say, Los Lobos had been given as much airplay and promotional dollars as Britney Spears, they, too, would have a billboard in Times Square that exposed their backsides. Preferring to credit listeners with some modicum of taste, free will, and intelligence, I don't know how much credence I'd give that one.

I and others feel that the problem runs deeper. I'm not so sure that there's much "real" music out there. Sure, if you know what you're looking for and have the time and motivation, you can prow around a good record store, such as Fopp or Avalanche, and come up with an armload of choices of decent music. But where are the "White Album's" or *Blonde on Blonde* or even *Nevermind* of today? They don't exist. Talent levels are down. Record labels can't sign talent that isn't there.

The most encouraging theory I heard in California is that this is just a lull; that the current dearth of talent in rock 'n' roll, jazz, and classical music is simply the down leg of a cycle that in the past has always swung back up to better times. Here's to hoping that the cycle's upside starts soon.
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