PC Sound Goes 24/96: Digital Audio Labs' CardDeluxe

SACD Player #3 from Marantz!

Plus:

Equipment Reviews:
Audio Research, MSB, Bryston, Avantgarde, Cambridge, Rotel

Audiophile CDs, LPs, SACDs
"CAST achieves my goal of unifying separate components to work as a functional whole."

Dan D'Agostino
CEO and Chief Designer

If each of your components is state-of-the-art, do you then have a state-of-the-art system? The answer is not any more. Krell CAST—Current Audio Signal Transmission—changes everything. By keeping the signal entirely in the current domain from source to speakers, a system of Krell CAST components performs as one—as though there were no interconnects. For the first time, cable interaction is eliminated as a system variable, clearing the way for Krell CAST components to do what separates are supposed to: reproduce music without compromise.

KPS 28c CD Player
KCT Stereo Preamplifier
FPB 600c Power Amplifier
I left you last month 104 miles from Santa Fe, New Mexico, heading east on I-40 accompanied by a dog and two cats, with 1946 miles to go to reach Stereophile's new editorial home, New York City. To cut a long story short, I arrived in New York (covered in dog and cat hair). After a nerve-wracking delay, so did our furniture. We will be living out of boxes for a while dude Atkinson, but that's a mere inconvenience compared with the Great Adventure of setting up a new listening room.

I had been in the Santa Fe room 12 years. It had settled around me like a comforting old shoe. I knew every acoustic cranny, every acoustic nuance. No, it was not a perfect room, but drop a new pair of speakers or a new amplifier into it, and I could quickly zoom in on what was different about the sound and describe it to you.

But now I have a new room.

How bad can that be? As I write these words, I flash on the angst Michael Fremer and Shannon Dickson recently went through in dealing with new acoustic environments, even when they were definite improvements over their old rooms.

While the house we bought in Brooklyn didn't have a suitable space ready and waiting, we had two basement rooms knocked together before we arrived to create a quite nicely proportioned space. I started modeling its acoustics on my PC, but then people started telling me that, with perhaps the exception of the RPG software, the various programs are not all they're cracked up to be. So, after getting this issue off to the printer, I'm going to put some carpet down, get all the books, LPs, and CDs out of their boxes and into waiting bookshelves, and set up my system. I'll keep you posted on how the process of settling into the new listening space develops.

Elsewhere in this issue you can read reviews of products that I think signal the different directions in which high-end audio can go. Long a two-channel kind of guy, Larry Greenhill explores surround-sound for music in his report on a five-channel Bryston amplifier. I report on my experiences with a "convergence" product, the CardDeluxe PC soundcard from Digital Audio Labs, which appears to sonically sacrifice nothing compared with high-end digital audio components. And Jonathan Scull listens to the third Super Audio CD player to hit these shores, the Marantz SA-1.

Both SACD and DVD-Audio—the latter finally reached the US in July—are exciting formats. CD was intended from the outset to be the replacement for the cassette, not the LP, and was specified, at least in my opinion, with a "good enough" mindset. With these new media, consumers at last will have access to a sound source that has not been compromised, that holds the promise of being transparent to all listeners with all kinds of music under all conditions. This has been a dream of mine since the 1960s.

But even as this dream is within reach, record-industry bean counters seem determined to Nº it away. As I retrieved my e-mail and browsed the news stories on www.stereophile.com at the end of each day of my transcontinental drive, I read about how, with DVD-Audio in particular, the music signal will be "watermarked" so that someone can extract the copyright information from the sound. An analogy would be those translucent logos that TV channels put in the corner of the screen—so you can be reminded, for example, that it is A&E that is bringing you Point.

As I explained in this space several months ago, because the watermarking code needs to be retrievable after the music has been converted to analog, and perhaps transmitted over an AM radio link, or even compressed with MP3, the code has to be robust; ie, high in level. And if it is robust, it might be audible. Now, as David Leibowitz of Verance, the developers of the watermarking scheme adopted by the recording industry for DVD-Audio, pointed out in the August Stereophile's "Manufacturer's Comments," watermarking is not as obvious as mixing Morse code with music. The low-bit-rate (20bps) code is disguised to resemble the analog noise already present; in addition, it is spectrally shaped to get the maximum benefit from psychoacoustic masking. (In very simplistic terms, the code is loudest when the music is loudest in both the amplitude and frequency domains.) In addition, watermarking doesn't have to be present all the time, nor is it mandatory for content producers to use it on DVD-As. (SACD uses a different scheme that apparently doesn't affect the music data.)

In his letter last month, Mr. Leibowitz reminded us that in 1999 the Verance code was subjected to listening tests in which pro-audio professionals, including Stereophile's Barry Willis, took part. These experienced listeners found it very hard to detect the watermarking under blind conditions (see "Industry Update," October 1999, pp.29–33), though at last fall's AES Convention in New York, at least one engineer who had taken part in the tests said that once the audible effect of the watermarking code had been pointed out, it was possible to hear it every time.

Earlier this year, the renowned English classical engineer, Tony Faulkner, called into question the results of the 1999 blind test ("Industry Update," August 2000, pp.20–22), pointing out that the test methodology was not strictly applicable to hi-rez classical recordings. As a result of Tony's industry-wide lobbying, further tests took place at London's Whittlefield Street Studios at the beginning of July, under the auspices of the UK's equivalent of the RIAA, the IFPI.

Tony was one of the listeners. In an e-mail he subsequently circulated to interested parties, he wrote, "I have no doubts in my own mind now that the Verance watermarking is clever enough and effective enough to be unobtrusive enough for noncritical low-to mid-fi...ie, up to but excluding DVD-A, SACD, and high-quality CD. The bad news is that it was audible on poor-quality, bandwidth-limited, archive analog material to a 49-year-old engineer with a cold.... For audiophiles paying extra money for a new player and for new discs, judging by what I heard yesterday, the watermark could reduce the perceived quality of DVD-A to somewhere between a good MiniDisc and a below-average CD."

As watermarking is optional, I thought that this would represent a market opportunity for small record companies concerned about quality. If a multinational conglomerate decided that all its DVD-As would be watermarked whether or not the mark was audible, a small company could use the fact that it never watermarked its releases to gain market share.

But on my long drive east, I decided that this passive approach is not enough. As Barry Willis said to me in an e-mail, perhaps find the notion of watermarking far more offensive than the watermarking itself.

Yes, I do object to the idea of watermarking. If the record industry wants to treat their recordings as commodities, well then, by the shades of Adam Smith and Alan Blumlein, let consumers react accordingly. I call on Stereophile readers to boycott each and every company that releases watermarked DVD-As and CDs. That'll larn 'em to mess with our music.

Stereophile, September 2000

John Atkinson
IMPRESSION:

A TELLING IMAGE STAMPED UPON THE SENSES AND THE MIND.

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Features

Tubes Do Something Special
What makes tube amps more powerful than solid-state? Peter van Willenswaard investigates and finds that the proof's in the measuring.

Am I a Music-Lover or an Equipment-Lover?
Gigi Krop returns, exchanging e-mails with her brother on the latest audio and video components and wondering if it's the music or the equipment that reels her in.

Neil Finn: A Little Crowded House-Cleaning
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that is—Joe Ely plays live, Christy McWilson goes solo, and John Lurie is Martin Pounia.
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Stereophile, September 2000
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Since its introduction in 1996 Paradigm® Reference's rise to prominence has been nothing short of astonishing! Never before have a range of high-end speakers been so quickly embraced by listeners and critics alike.

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Letters

They packed up their tents?
Editor:
Love the magazine. Keep up the good work, especially now that all the other players have taken their tents and disappeared into the night.
Steve Naftilan
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A case of mistaken identity
Editor:
I would like a written apology for your blatant oversuse of the “F” word in the Warren Zevon article in July. This is Stereophile, not FHM. If you cannot oblige me with an apology, please cancel my subscription.
Kelly Johnson
johnskellyd@home.com

Yes, Mr. Johnson, some use of obscenity appeared in Dan Durchholz’s appreciation of Warren Zevon, but you should note that it was Mr. Zevon’s own, as quoted in interviews and in the lyrics to his songs. My goal as editor is to present the people we write about as they are, not in bowdlerized versions. I assume Stereophile’s readers are adults who will not be offended by the sight of words they have doubtless heard many times before.
—JA

Amen!
Editor:
Amen to Jonathan Scull’s response to his peanut gallery of detractors (“Letters,” August ’00, pp.12-15). I read slack-jawed those tedious complaints whimpering about his candor. I am profoundly dubious of nearly any published review. Often I wonder why such a vast majority of reviews speak so gentry of products. It’s as if something gracious must be said even when a product fails to satisfy a reviewer’s expectations.

Simply put, my stock in Stereophile doubled upon reading J-10’s review. I have nothing against Richard Gray’s Power Company; but I felt that an honest and forthright opinion was being presented in its purest form; not the watered-down mumbling of a gunshy review panel, who must endlessly place the ire of their advertisers.

J-10 disliked the 400S. Some may like it. A review is an opinion: an educated and informed opinion, we hope, but still nothing more or less. I would guess that, if polled, Stereophile’s readers would demand integrity on the part of the writers. Must we then reward that integrity by demanding censorship when we dislike the opinion offered, and by barraging a reviewer with scornful letters for presenting his objective evaluation with conviction and confidence?

It distresses me that readers would request that Stereophile whitewash its reviews. I look to this magazine to broaden my perspective on consumer audio equipment and technologies that interest me. Without honest opinions, even when those opinions are at odds with my own, I gain nothing. And while bad news—a bad review—is not necessarily fun, if it’s an honest evaluation, then I want it—intact and as is. Please continue your excellent work. J-10 and others. And do please disregard the childish banter of certain insecure readers who become distraught when your honesty prevents you from simply being a mirror of their own opinions, and when, on occasion, you must be the bearers of bad news. A. Pyne
plasmalab@earthlink.net

Spoiled yuppie losers?
Editor:
Just received the August issue of Stereophile and what do I read? A couple of crybabies taking one of your boys to task for a negative review. “Wah! I spent my money on this stuff, which means it has to be good. So you’re wrong, Mr. Stereophile Editor Man. Wah!”

Typical spoiled yuppie losers. Correct me if I’m wrong, but the license of critique extends to the negative as well as the positive. It doesn’t have to be pretty. It doesn’t have to be diplomatic. And, because you drape yourselves in the flag of subjective review, ibler alles, it doesn’t have to be empirically correct, either. That’s your privilege.

Frankly, Stereophile would benefit from printing more negative reviews. Balanced journalism demands it. There’s a lot of crappy gear out there and your mature subscribers would like to know about it, too. (Besides, you wouldn’t want to be accused of pandering to the almighty advertising dollar like those mainstream mags, would you?)

Whiners, pay attention: Stereophile is a source of information. It is of the source, nor is it the last word. Take what you read with a grain of salt, and trust your ears.

“IM. Outhem”
St. Louis, MO
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Theory agreeing with practice
Editor:
Jonathan Scull’s review of the Richard Gray’s Power Company power-line conditioner (June 2000), in which he detected little or no sonic benefit, provides a rare instance of theory (in audio) agreeing with practice. I don’t mean to take a swipe at Mr. Gray, but as there are so many similar devices competing for the audiophile’s buck, I think that some further discussion of power-line theory is warranted.

Mr. Gray is quite correct in maintaining that series resistance is the cause of power-line problems. In fact, resistance is the only way that energy can be lost! This resistance can be apparent (e.g. wire and contact resistance) or hidden (transformer coupling efficiency). It is important to note that this resistance, all the way to the power pole, adds up.

Ideal inductors and capacitors, having no internal resistance, cannot burn up energy, but instead store it as magnetism and electric charge, respectively. Since energy is stored differently in each component, the way in which energy is accumulated and the way it is released differ. They are, in fact, complementary devices.

The purpose of a power supply is to provide constant electric force — voltage — regardless of the fluctuations in current flowing in the load. One source of current for the load is the inductance of the power transformer. Paul McGowan of PS Audio related, in his May 2000 Stereophile interview, that a small transformer does not sound as good as a large one with proportionally greater inductance. The difference probably arises
Letters

because of the greater magnetic field, as well as the somewhat lower winding resistance.

Short of replacing transformers, can we improve the situation? Sure. Just add inductance in series with the transformer. Whenever the line voltage decreases, current in the transformer and in the inductor also drops. The inductor fights the change in current by collapsing some of its magnetic field. This momentarily boosts the voltage provided by the power line to a value just high enough to restore the old current flow.

Mr. Gray does not do that, and for a very practical reason. In addition to the extra inductance, a coil also inserts resistance. It takes a monster of a coil to provide both high inductance and low resistance. Instead, Mr. Gray inserts his inductance in parallel with the blades of the power plug. The problem with this solution is that it simply doesn't work! The coil does not see any of the current drawn by the transformer because it has its own independent connection to the power line. Furthermore, the lower the resistance, the slower an inductor discharges. Since in this position, the inductor looks directly into the power station, it will discharge slowly, indeed!

So are we out of luck? Theoretically, no. The power utility puts a particular type of capacitor across the power line in order to reduce noise and distortion, improve regulation, and compensate for excessive line inductance. Such a capacitor senses a drop of voltage and instantly provides current to compensate. This is exactly backward from the action of the inductor, as is the proper hook-up.

Unfortunately, applying capacitance to an AC power line is a very tricky thing that can easily cause death and destruction of property. I do not know of any manufacturer who would dare to put such a device on the market.

That leaves us with a few safe options. First, you can simply buy a well-designed power filter; second, as a result of some experiments done several years ago, I can personally recommend power regeneration, especially for the more sensitive, less power-hungry devices; third, experiment with plugging these components into their own power strips and placing additional loads (lamps, etc.) across the same circuit. For some reason, my turntable always sounded more enticing with the CD player idling.

Finally, don't forget to orient your power plugs for the best sound. It really does work.

Best of luck!

Bob McIntyre
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An AC cable hypothesis

Editor:
I find myself amused by the often-heard statement that cables could not possibly be directional. The argument is based on the fact that audio signals are AC signals, meaning that the voltage and current reverse direction in the wire every cycle, and therefore they could not possibly be directional. However, in an AC circuit, the signal is not passed by voltage and current direction but by power direction.

In an AC circuit, power flows in one direction only! Power flows from a load (preamp to amp, generator to light bulb, etc.). Since power is directional and the cables in our systems are power conduits, they certainly could be sensitive to the direction in which power flows through them.

Anyone doubting this need look no further than the power meter mounted on the outside of their house. If AC power is non-directional, then why pay the electric bill?

John Hoover
Johnhoover@aol.com

Blithely unaware of the simple truth?

Editor:
Even though I am a confirmed objectivist when it comes to high-fidelity systems, I continue to enjoy Stereophile. Your coverage of music and transducers (mostly speakers) is valuable enough for me to continue my subscription. It would be nice if you took a more balanced view and tested more modest components, but I'm sure that I'm in the minority of your readers in this request.

Having said all that, George Reisch's "Undercurrents" in the May issue really shows a complete lack of understanding of testing methods as used in modern science. Reisch is, as usual, trying to demonstrate that subjective testing is something other than nonsense. In the subjectivist tradition, he seems blithely unaware of the simple truth that any proposition can be proven by analogy. Let me discuss and refute each of his major points in turn.

GR begins by trying to draw an analogy between alternative medical techniques vs conventional medicine and subjective vs objective testing of audio components. He totally ignores the absolutely critical point, which is that the testing of these techniques will be done using standard double- or single-blind methods. This is not an endorsement of subjective testing at all, but exactly the reverse. I agree that keeping an open mind about what might be true is important before testing has been carried out. That's completely different from saying that subjective observations constitute scientific demonstration of a fact. Incidentally, that's true even if a US Senator disagrees.

Second, George sets up the straw man that audio objectivists demand not only that the audible differences between cables be proved, but also that they be explained using the laws of physics. There may be those out there who say this, but generally, he's wrong. What we actually say is that subjective testing techniques demonstrate nothing scientifically. We also say that there is no explanation in known physics of why, for example, using silver or OFC in a cable would have any audible effect on music. In effect, we are just warning people that not only hasn't the case been demonstrated, but that it doesn't even make sense. We also sometimes point out that the profit margins on very-high-end equipment provide a mighty incentive for salespeople and owners to claim they are "hearing something."

Then GR gets into the whole muddled area of quantum mechanics. Frankly, I understand (as well as most intelligent people) that there are paradoxes in the standard physics model. However, there is no such paradox known to exist in the double-blind testing model. In fact, the EPR paradox is theoretically reproducible, over and over again—it's testable. This, incidentally, is one of the important standards of testing scientifically. We know something is true when it is reproducible. I am suspicious of anyone who doesn't report a result that can be repeated. Yet that's exactly what the subjectivist audiometer tests strive to do: no standard room, no single change in system, no measurement of distances, no use of sound-level meters, etc. At the risk of being redundant, the whole point of the EPR paradox is that it is repeatable; that's how we know it exists.

Fourth, GR states that individual differences in the ability to perceive what music "really" should sound like are what separate him from me. I can't hear any differences between well-made cables; he can. Okay. If that's the case, it's easy to prove it. Just have someone substitute cables or any other component without his knowledge in 50 trials over a two-month period. If he can identify in a daily diary exactly what's been done, publish it. I can be convinced. I even bought a Japanese car last year after eight BMWs. But he doesn't do this, and the manufacturers of cables somehow never do this, etc., etc.

Fifth, GR carries on about how controlled tests destroy his ability to discriminate. Well, again, it's easy to do the experiment I outlined above and learn that he has no idea at all of what's been changed in his system. At this point, I would have to ask how not knowing in advance makes him unable to hear what has been described as audible differences. I don't see why you cannot do single-blind, single-substitution testing with a number of listeners and a number of trials to determine whether subject listening tests. Why does this work perfectly in all other fields?

Finally, Reisch talks about the idea that there may be some small fraction of the population who "somehow" benefit from an alternative treatment while the majority do not. Of course this is possible. However,
Among the extensive list of superlatives commonly showered upon high-end music systems, the word “integrity” is seldom used. But we have noted the comments from audio enthusiasts around the world who are comfortable paying the price for Mark Levinson® because of its integrity.

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When the Madrigal® designers set out to create the first integrated amplifier worthy of the Mark Levinson badge, there were no shades of gray — it would either live up to our standards, or it would not exist. Audition the Nº383 at your Mark Levinson dealer soon and hear for yourself the integrity of our integration.
Letters

when scientific testing is done, this possibility can be ruled out by using placebos, multiple trials, and a large sample. Using probability and statistical techniques, we can determine "how" true something is. As anyone can read, it's very common for medical conditions like back pain to simply disappear over time. In a recent Consumer Reports article, several of the "complaints" had 50% "cure" rates regardless of the therapy. You could look it up.

It's funny, because I suspect that all of this subjectivist nonsense really causes everyone who is interested in accurate sound to waste time worrying about what are, at best, nuances issues. The frequency response of my listening room is ±0dB and that of my speakers is ±3dB. They also have a non-uniform polar response. So do yours! If we want sound to be close to what's been encoded on the CD, then we need to figure out how to tailor the frequency response and dispersion in our listening rooms to get the best possible sound. - Ros Salinger

George Reich discusses Mr. Salinger's letter in this issue's "Undercurrents" (p.47).

You're not all e-diots

Editor:

My previous letter in the May 2000 issue, seems to have sparked some kind of controversy. While the respondents' points against my views are somewhat valid, it seems that many miss the point of my initial argument and are taking one word out of context and blowing it out of proportion. I am writing in response to their complaints as well as to clearly define the target of the word that has gotten me into so much trouble with your readers.

The adapt-or-die philosophy is one that every business has to follow. This should go without saying. The "bricks-and-mortar" specialty audio store I manage does, indeed, have an Internet business (www.audio-by-design.com). However, it is separate from our retail floor. Now, before accusations of "h ypocrisy" start flying in my direction, this Internet store sells only used and discontinued electronics and speakers, products we are distributors for and new and reconditioned raw speakers for professional applications. Along with sales, this site has pictures of our showrooms, proving that we are an established business and not simply an office with a phone system and a warehouse by the turnpike.

As factory-authorized dealers of the products in that showroom, we are bound by our dealer agreements not to sell their products via the Internet or mail-order. If these products were sold by us through either of these means, we would be terminated as dealers. Sure, there are many unauthorized dealers getting these pieces one way or another and selling them, but they are frequently unable to provide the original factory warranties or defective-product exchange policies that exist through authorized dealers. We, as a business that has been around for 27 years, stand behind every product and every customer we deal with.

On to my detractors — and I am sure that there were many more than what was printed in your pages. Even though I was hit pretty good by "a happy e-diotor" in your July 2000 issue's "Letters" (p.8), I will have to commend him for saying, "I have never and will never go into any store and steal someone's time knowing that I have no intention of giving them my business." In the years I have been selling high-end audio equipment, I have never heard anyone say those words. I have frequently had time stolen, and equipment taken out for in-home auditions, only to lead to the customer coming back through the door a month later for a digital cable to link up his Mark Levinson transport and DAC that he bought from a shop in Texas because he didn't have to pay tax.

The immense misconception about "bricks-and-mortar" specialty stores is that we don't budge on price. This is true of certain stores, but it is not the case with all. I have no problem working with a customer to give him/her the right price, even if that means matching a price on the Internet from an unauthorized dealer. After all, this is business.

One element that I touched on in my last letter was human interaction and service. When someone purchases a system or piece from me, and they have a problem with it that a telephone walk-through can't solve, they have someone who will come out to their house (on my own time) and help them with it. Not everyone is adept at running audio systems, especially home-theater components. I have yet to hear about an Internet store providing in-home service. Isn't that worth sales tax?

On the subject of human interaction came my other attacks in the June 2000 issue's "Letters." I understand Mr. Soriano and Mr. Aragujo completely. Both of them talked about being mistreated by specialty stores based on jeans and a 'T-shirt, or flannel, attire. I have heard this complaint from many high-end consumers, and I am sorry that this has been their experience with salesmen.

Personally, I am a victim of reverse discrimination. Both specialty stores I have managed over the past six years have a very liberal dress code, and I wear jeans and flannel almost every day. As a result, high-end shoppers look down on me. I suppose they are expecting the jacket and tie they are familiar with at the BMW dealer.

As for that controversial word, "e-diotor" was never meant to insult a broad range of customers. It was pointed at a certain group of time-wasters and equipment-borrowers who never give dealers the chance to be competitive (see above Levinson example). In short, they are users, and we are the Internet Showroom at their disposal. As a salesman who has been on the receiving end of this treatment all too often, I feel that I have the right to insult this kind of person. I understand why this word made people mad, but the people who responded to it in your pages are not the ones it was intended for. Those guys have a legitimate gripe against the dealers in their area, and these are the dealers who need to adjust their practices. 

Jason Donato
The Speaker Shop
jmeduboblongata@aol.com

Simple Dynaco tweaks

Editor:

In his July 2000 "Fine Tunes" column, Jonathan Soltz repeated his warning: "If you don't know what you're doing, consult a professional electrician." This excellent advice can be made even more universal: If you don't know what you're doing, consult a professional, period.

This letter is in response to Keith Lockwood's letter in the same issue ("Dynacos on fire?!", p.11), regarding my Dynaco tweak, previously discussed in Michael Fremer's March "Analog Corner." I had corresponded with Mr. Fremer several times about my suggestion, and urged him to listen to it before putting it in his column. Since Michael's amp was in storage and in need of repair, this took some time. Michael asked for a quick rehash of the particulars just before his deadline. My abbreviated answer resulted in the conflicting instructions that were printed. Murphy's Law strikes again!

However, anyone knowledgeable enough to do the tweak would realize that a short circuit (jumping out a resistor) is the opposite of an open circuit (cutting out the same resistor), and would ask before cutting. Those not sufficiently knowledgeable should reread the first paragraph, above. As Dirty Harry said, "A man's got to know his limitations."

The 10 ohm resistors I cited on the PC-3 board do nothing but degrade the ground to the input jacks. Were one to cut them out, the result would be the same as partially plugging in the interconnects: a loud hum. Fire extinguishers? Only for those who don't know or forget that they should turn off or unplug their amp when it makes loud noises for unknown reasons. And, no, these resistors don't have anything at all to do with the ST-705's negative feedback loops, which consist of the 1000 ohm/1W and 47 ohm/0.5W resistors and the 390pF capacitors, all of which are on the PCB.

The 10 ohm resistors Mr. Lockwood wants removed go only from chassis ground

Stereophile, September 2000
The profile of a high-performance loudspeaker is bold and deliberate, yet subtle and refined. Like the music, it is organic — flowing naturally with purpose and structure.

Like composers and musicians, our design and manufacturing teams are inspired by a passion for music and its capacity to touch the human soul. We love our work.

Like the creators of other fine instruments, we use technology and experience to achieve superior results. Our personal satisfaction with our loudspeakers and the applause from other music lovers are our best measures of success.

Sheep’s wool, aluminum, Dacron®, titanium, Medite®, copper and Kaption®, are among the materials we use to optimize Revel loudspeaker systems. Cabinets, transducers and crossover networks are developed using the world’s most advanced measurement tools. Each loudspeaker is calibrated to ensure that the Revels you read about and the Revels your dealer demonstrates sound the same as the Revels you have at home.

To find the location of your nearest authorized Revel dealer and learn more, visit us at www.revelspeakers.com or call 860-346-0896.

*Ravel loudspeakers have received critical acclaim throughout the world. For two of the last three years, in the highly competitive loudspeaker category, Revel models have been named “loudspeaker of the year” by Stereophile Magazine.
When we send a sample to a reviewer we expect one of three things to happen:
1. He hates it, writes a review that dumps on the product and just can’t wait to return it to us.
2. He sorta likes it, writes a “this product is worth considering” review, and keeps it until something better arrives on his doorstep.
3. He loves it, writes a rave review, and then tries to hang on to the sample forever (or until we arrive on his doorstep to pry it out of his hands).

The one thing we NEVER expect is to have a writer actually buy the review sample. It just doesn’t happen. It doesn’t work that way. It never has, and it never will. Or so we thought until we read Lonnie Brownell’s review of the Arcam FMJ CD player in the July issue of Stereophile.

We knew he liked it. By half way through the review he was saying things like:

“Sometimes, when I think of the “D” word – detail – I think of too much of a good thing. I mean false detail. In the video realm, a similar situation occurs when a TV’s Sharpness control is turned up too high. What you’re seeing is actually distortion, but, still, things look edgier – sharper, but not accurate. A similar effect can be had in audio by jacking up the Treble control, in the mistaken belief that more tizz means more “detail”. But, if you get the low-level details truly right – that is, not by exaggerating them, but by extracting them from the signal without distortion or obfuscation – then magic occurs. Instead of a fatiguing “hi-fi” effect, you actually achieve a sound of greater organic wholeness. That’s what I heard with the FMJ CD23.”

But, no matter how rave the review, we were just not prepared for the last paragraph in which Lonnie suggests either the Arcam Alpha 9 or FMJ CD 23 as your last CD player:

“Your last CD player? You betcha. Some day, the new high-resolution formats will reach such a state of maturity that you’ll be able to buy a single player that plays them all, along with your library of CDs, with stunning sonic clarity. And someday after that, there’ll be enough compelling software in these new formats – and at popular prices – to make owning such a player a reasonable investment. But until that day, you’re still going to be playing your old CDs and buying new ones. Me too – which is why I’m buying the review sample. I need a killer CD player now.”

We had to reread that several times. “…I’m buying the review sample.” Did he really say that? We were stunned. Lonnie, thanks for the check; it arrived today. For the rest of you, we suggest a trip to your local Arcam dealer where you can check out the CD player that’s so good that even a guy who can listen to anything he wants for free had to buy one. Maybe you too will find it to be the last CD player you will ever need.
to an otherwise unused lug on the front-panel power takeoffs. They are not likely to affect the amp's sonics, but their removal does make the amp's internal wiring neater.

This tweak does work, as Mr. Frener pointed out in his response, or I would not have submitted it for publication and he would not have put it in his column. Anybody who does this tweak to their own ST-70 will be rewarded with improved low-level resolution, dynamics, and bass quality in return for an investment of just a little time, solder, and hookup wire.

Another freebie for owners of factory-assembled or used Dynakit units: If you are decent with a soldering iron, re-solder all the solder joints, especially those on the circuit board. If you built your Dynakit yourself, re-solder the circuit board. The factory assembly, especially on the circuit boards, left a lot to be desired!

Simple little tweaks like these two are a great introduction to discovering that, as Mr. Lockwood so aptly put it, "It is well worth it when you hear what a well-tuned ST-70 can do!"

Alan Reschuppe
South Hackensack, NJ
alrns1@juno.com

Some fine tunes
Editor:
After reading Jonathan Scull's February 2000 "Fine Tunes," I decided to do something about the annoyingly springy suspended floor in my listening room.

I purchased two screw-type floor jacks from my local home center — total cost $30 — and placed them under the floor in the crawl space. I put them at approximately one-third points along the length of the room and at the center of the joists. I tightened the jacks until they were snug, then added approximately one more turn.

Results: 1) Tighter bass. 2) The room no longer swallows up deep bass at low to moderate levels. 3) No more foot massage.

Brian Remington
bbr@dmz.com

Some springy tunes
Editor:
Les Berkley and Jonathan Scull had a heated discussion in the June issue's "Letters" regarding the advisability of reinforcing springy floors via floor-jacking. I'd like to relate my own experiences, which resulted in an easy, cost-effective improvement in the sound of my system.

The springy wooden floors of the listening room in my vacation house were causing resonance excitations in the low- to upper-bass region. This created a foggy-sounding overhang that robbed the system of dynamic realism, speed, and clarity.

The listening room is not over a basement, but a crawl space (imagine a basement with a 3'/4" ceiling and a sand floor). With the guidance and assistance of my friend David Nemzer, of New York's Audophile Society, we hit the lumberyard and purchased several 8'-10' 2x6s. We crawled under the house and found the floorboards centered under each speaker. We nailed several horizontal pieces of wood across three or four of the horizontal beams down the length of the floorboard. We then braced these beams by nailing additional pieces of wood vertically, effectively braceing the new horizontal braces to the sand floor.

The resulting improvement to the system was quite noticeable: improved detail, sharper dynamics and transients, and significantly less bass overhang. Total cost: 40 bucks' worth of lumber and a couple of man-hours of labor. (Actually, David sawed, measured, and nailed; I held the flashlight and poured the wine.)

For those audiophiles with such crawl spaces under their listening rooms, this is an easy and cost-effective tweak that shouldn't upset the 'The Old House crowd.'

Robert Reina
robert.reina@citicorp.com

The pure joy of abstract musical knowledge
Editor:
In "Quarter Notes" in the June 2000 Stereophile (p.12), Chip Stern reviewed Jonathan Farall's Pernusion XX (47558-6) and Schubert's Piano Trios, Vol.II (47553-6), both on 24/96 DVD-Audio in the ARTS Audiophile Series.

Where can these releases be found? I have tried numerous US sources with no success. What is the point of reviewing music on disc without telling the reader where the release can be found when it is difficult to locate?

Ah, of course — the pure joy of abstract musical knowledge, which is what Stereophile is all about. I should understand: The music on the discs themselves is but an imperfect copy of the corresponding etereal musical form. The perfectly attuned imagination can attain union with the perfect musical form through the Stereophile review; actually hearing the music is for those lost souls who are trapped in the imperfect materialistic transient world of particulars. The discs are therefore not important.

Silly me!!

Ted Moffett
Moscow, ID
tmoffett@sidaho.edu

Envis Störzer of ARTS Music Ltd. in Germany informs us that their discs were distributed in the US and Canada through Allegro, but that that relationship has ended. ARTS is actively looking for a new distributor. In the meantime, their 24/96 DVD recordings remain available through Amazon.com. -JA
"They produce a sound that combines refinement and excitement in equal doses - a difficult balance indeed. Build quality is great and their appearance is elegant, which makes the Crestas worthy winners indeed".

October 1999. Group Test Winner
US: LOS ANGELES
Jon Iverson
Back when DVD players were first released in the US, Classic Records was among the first companies to exploit the fact that early machines, though intended for the video enthusiast, could play a two-channel 24-bit/96kHz audio recording as well as movies. These early high-resolution discs, which Classic called DADs and are also available from Chesky, were intended to hold us over until DVD-Audio (then thought to be just around the corner) finally hit the market. More than two years later, we're still waiting for DVD-A software, but Classic intends to be one of the first companies with titles available.

Working with recordings of the Moscow State Symphony Orchestra, Classic's Michael Hobson and session engineer Eric Bickel report that they have remixed two major pieces for release later this year on DVD-A. According to Hobson, the project began in October '99 at two Austrian concert venues, in Graz and Salzburg. "We recorded a series of performances with the world-famous Moscow State Symphony Orchestra, conducted by Pavel Kogan, including Shostakovich's Fifth Symphony and Rinskey-Korsakov's Scheherazade."

Hobson says he secured high-quality recordings using a six-microphone array. "We had a main pair of left and right microphones on the stage, rear of the conductor, plus spot microphones located to the left and right. Plus a rear stereo pair to pick up reverberation and ambience in the concert halls." Hobson says that these six microphones were connected via high-precision microphone preamplifiers to 24-bit A/D converters that fed a PC-based hard-disk recording system. This comprised three two-channel cards controlled by Samplitude software from SEIKI.

At Emerald Sound Studios in Nashville, the edited 24/96 data tracks were transferred directly within the digital domain to six open tracks on the facility's Euphonix R-1 digital multitrack recorder. Outputs from the R-1 were routed directly to the facility's digital console for remix to the final 5.1-channel DVD-A format. Hobson says that "in addition to the 5.1-channel DVD-A mix, we also recorded a 24/96 stereo two-channel mix for compatibility with DVD-Video decks."

Hobson explains that "we routed the main left and right microphones from the stage to the DVD-Audio left and right channels and added the output from the far-right spot microphone, favoring the celli and bass, to the right channel only. The left-side spot microphone, which was aimed at the concertmaster and first violin, was routed and level-balanced to both the left and right buses for the DVD-Audio mix. We blended the various onstage sources to produce a center-channel output."

Hobson adds that the pair of ambience mikes were routed directly to the surround-left and surround-right outputs, while a bandwidth-limited mix of all six channels fed the "0.1," or low-frequency extension (LFE), DVD-A output.

According to Eric Bickel, who engineered the remix, "the sound quality at 24/96 blew my mind. I've never heard anything like it. We worked for over 50 hours on the remix session; working 24-bit at 96kHz makes a major difference to the sound of a mix—it has a clarity and an openness that is superior to lower sampling rates. When I mix, I liken the process to painting on canvas—the more 'sonic colors' I have, the more creative I can be. At 96kHz, you can hear a new level of hues and textures that just isn't there at 48kHz. You can place sounds in exactly the position you want within the 5.1-channel soundfield, and they are highly realistic; you have more control over frequency range, dynamics, and sonic detailing."

US: SAN FRANCISCO
Barry Willis
DVD-Audio may be bringing high-resolution multichannel sound to music lovers, but they might be dismayed by the format's several varieties and the semi-compatible hardware that will be needed to play them. That was the impression left by a lecture I attended the last week of June at Dolby Laboratories' Presentation Studio in San Francisco.

Calendar

Those promoting audio-related seminars, shows, and meetings should fax (do not call) the when, where, and who to (212) 886-2810 at least eight weeks before the month of the event. The deadline for the November 2000 issue is September 1. Mark the fax "Attention Jonathan Scull, Dealer Bulletin Board." We will fax back a confirmation. If you do not receive confirmation within 24 hours, please fax us again.

ARIZONA
- Tuesday, September 26, 7:pm: Esoteric Audio (4120 N. Marshall Way, Suite 1, Scottsdale) celebrates the release of Theta Digital's Casablanca II. Theta's Mary Cardas will be on hand to speak about the product. For information, call (480) 946-8128.
- The Arizona Audiophile Society sponsors monthly audio and home-theater meetings and events. For information, call (623) 516-4960, or e-mail AzAudioS@aol.com.

CALIFORNIA
- Saturday, September 9, 2pm: The Bay Area Audio Society (BAAS) will host a joint presentation by Alan Yun of Silverline Audio Technology (www.silverlineaudio.com) and Joe Fratus of Art Audio (www.artaudio.com) at the Randall Museum (99 Museum Way, San Francisco). Featured products will be the revised Silverline Sonata speaker and Art Audio Jota 20W single-ended tube amp. For further information, contact Jason Serinus at (510) 444-4169 or...
Gene Radzik, a Dolly audio application engineer for music and broadcast applications, brought a group of journalists and Audio Engineering Society members up-to-date on both the history and state of the DVD-Audio art. The easygoing and well-spoken Radzik demonstrated an encyclopedic knowledge of the history of audio in a guided tour of the subject that took us from Edison's tin cylinders to high-bit-rate multichannel recording in a few minutes, and devoted the bulk of his more-than-two-hour discourse to the technical aspects of DVD-A.

After several fits and starts, most of them the result of copyright concerns, DVD-Audio players are finally going on the market worldwide. Among the benefits the format will offer artists and music-lovers are: an unprecedented number of ultra-high channels; specifications for single-sided, single-layered DVD-A discs with total data storage of 4.7 Gigabytes of information, including six discrete channels with a frequency response of 1–96 kHz; a data rate of 9.6 Mbps (megabits/second); resolution levels of 16, 20, or 24 bits; and sample rates of 44.1, 48, 88.2, 96, 176.4, and 192 kHz. (44.1 kHz is the consumer audio sampling-rate standard; 48 kHz is the pro-audio equivalent. The higher rates are even multiples of the basic rates.)

Those amazing specifications are only for the single-sided, single-layered disc, also known as DVD-5. The format's guiding principles also make room for an 8.5 GB single-sided, dual-layered disc called DVD-9. Two-sided, single-layered discs, designated DVD-10, will offer 9.4 GB of storage, and DVD-18, the two-sided, two-layered variety, will present a whopping 17 GB of storage, using Meridian Lossless Packing (MLP) technology.

Playing time for 24-bit/96 kHz six-channel discs will be approximately 89 minutes; 5.1-channel will play for 106 minutes; a 24/96 two-channel disc will play for 230 minutes, and a 24/192 two-channel recording will go 125 minutes. Ordinary CDs, by comparison, offer only 650 MB of storage, and only two channels of audio at 16-bit resolution, for an approximate maximum of 80 minutes of music. Engineers are free to use as many as or as few channels of DVD-A potential as they wish. Some recordings may need only the front three channels of a multichannel system, for example; others may use only the front and rear pairs.

"Real estate" allocations on a DVD-A disc include a "video zone" and a "graphics menu," in addition to the "audio zone." The size of these zones can be varied according to artists' and producers' intentions, Radzik stated. The audio zone will support six channels of 24/96 digital audio, or two channels at 192 kH. The video zone can be used for browsable still pictures to accompany the music tracks—a feature some call a "slide show." Text information such as lyrics, credits, and links to websites will go in the graphics menu. Video specifications for the format are the same as for DVD-Video discs, except that there is no provision for multi-story options, region controls, or parental management. The audio tracks can exist without video, Radzik mentioned, as may be preferable for DVD music discs intended for portable players.

The DVD-A "audio image" will output compatible signals for 5.1 and Dolly Pro Logic decoders, Radzik said, as well as a stereo "downmix" for two-channel systems or headphone listening. Some engineers have raised issues about the methodology by which natively multichannel recordings can be reduced to two-channel. They have specifically questioned the downmix coefficients, Radzik said. One exceptionally useful feature of DVD-A is a provision for a user-adjustable dynamic-range control that would enable late-night listening without the danger of angering neighbors or family members.

Alongside DVD-V and DVD-A will be a "gray area" format called DVD-Audio V, which will offer DVD-V video quality but not the ultra-high res audio of DVD-A. DVD-Audio V discs will be playable in so-called "combination" players or in DVD-V machines, but not in DVD-A machines. Most DVD players now on the market will not accommodate the new audio formats, and we may see a proliferation of players capable of playing two of the three formats, but not all. They will, however, all play "legacy" CDs (as will SACD players), so the libraries of music lovers are not in danger of immediate obsolescence.

Radzik agreed with a comment from the audience that the budding format offers enormous potential for confusion on the part of consumers. "A $200 universal player would go a long way toward ensuring full market penetration for DVD-A," remarked another attendee. When asked about Dolly's position on

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**Calendar**

e-mail healrm@planetelia.net. For BAAS membership information, call Dennis David at (415) 381-4228 or e-mail bludee@value.net.

**Connecticut**

- For information about the Connecticut Audio Society, visit www.the-atom.com/cas, or call Carl Richard at (860) 745-5937.

**Illinois**

- Tuesday, September 12, 7–9pm (Libertyville) and Wednesday, September 13, 7–9pm (Chicago): Audio Consultants (1014 David St., Evanston) will host a seminar on HDTV and other new technologies by Scott Soloway, Resident Scientist. For further information, call (847) 362-5594 (Libertyville), (312) 642-5050 (Chicago), or e-mail audconev@audioconsultants.com.
- Sunday, September 17, 11am–4pm, the Chicago Audio Society will hold an Audio Fair at the Dance Building in Des Plaines. Buy recent and vintage equipment, records, and CDs. For details, including table rentals, call (847) 382-8433 or visit www.chicagoaudio.org.

**Louisiana**

- New Orleans' first and only high-end audio club holds monthly meetings to discuss topics of interest and listen to music. Join the fun by e-mailing stokjoc@hotmail.com.

**Massachusetts**

- For details of upcoming meetings of
Sony's Super Audio CD format, Radzik said simply, "DVD-A is about future growth, not legacy support," a reference to Sony Music's huge catalog, most of which might be remastered in the SACD format if Sony's format gathers sufficient market momentum.

In a followup e-mail, Radzik mentioned that the specifications for DVD-A watermarking and copy protection have been updated. The complete spec can be seen at www/4centity/4centity/index.html.

**UNITED KINGDOM**

**Paul Messenger**

One of my first "Industry Update" reports for Stereophile (December 1996, Vol.19 No.12) covered the Mission/Verity Group's original public announcement of the radical new flat-panel speaker technology it was working on under the NXT brand name, based on research originally carried out by the UK Ministry of Defence operation DERA.

Since then, NXT has expanded so rapidly that it recently moved into a third building three times the size of its predecessor. This was formally opened June 9 by former British prime minister John Major, now a member of Parliament for the Huntingdon constituency. Recalling that he and Mission/NXT main man Farad Azima had both arrived in Huntingdon at around the same time, 20-odd years ago, Major wryly speculated on the parallels between Farad's "bending waves" and the politician's "twisting words."

NXT plc's growth has been spectacular. At the time of writing, it has a market capitalization of £783.5 million, and now employs 50 highly qualified engineers, scientists, and mathematicians. Mind you, NXT doesn't actually manufacture anything. That doesn't seem to be the modern way.

Following a management buyout at the beginning of the year, the Mission operation is now a completely independent entity. Although NXT retains ownership of the Cyrus high-end hi-fi brand, that operation, too, is now essentially autonomous. NXT's attention is now firmly focused on its core business of establishing, protecting, and licensing the intellectual property rights to its flat-panel speaker and related technologies. The links with DERA have been reinforced, and now include a separate facility working on speech-recognition software.

Although NXT isn't a manufacturer, it does make prototypes. While many of the staff are engaged on the theory of how the panels work, how to foresee how any given panel type will work, and writing software so that licensees can make their own predictions, many others are working on engineering samples with which to explore future applications.

The low cost and weight of NXT panel speakers will be very attractive to makers of cars and airplanes. Add to that the ability to mold the panels into complex curved shapes and you've got a very potent recipe for "line fit" in-car speaker systems. Journalists at the June 9 opening were also shown a conventional TV in which the complex ducting used to bring the sound forward from drivers inside the set's body was replaced by a much simpler NXT panel on each side.

SoundVu, a relatively new spin on the NXT theme, uses edge-driven transparent panels rather than the normal distributed-drive opaque materials. A prototype mobile phone, fitted with a transparent SoundVu panel in place of the top half of the phone's front cover, was very impressive. With the volume high, speech was clearly audible '6 away, while at low volume there was no need to line up the usual small area of sound holes with your ear canal to hear what was being said. Such a phone should also be ideal for handheld Internet/video use. We also saw and heard a PC-monitor sound system using a transparent SoundVu panel across the display screen to reproduce mid and high frequencies, backed by a conventional bass driver (separate for this demo, but expected to be built into the rear of the monitor).

Obviously, the "dispersed source" nature of NXT-panel sound reproduction is better suited to such applications than to high-end audio, but there's progress on the hi-fi side too. Due to hit the market this September at £1900, the Cyrus Icon loudspeaker is a distinctly ambitious and very elegant hybrid floor-stander using a low-set, box-loaded conventional bass driver up to 400Hz, and a tall, slim monopole NXT panel for the mids and treble. A demonstration revealed several interesting differences from conventional speakers: The coherent voice reproduction might owe something to the crossover being set nearly three octaves lower than usual; and while there was no obvious stereo sweet spot, nor was there any sign of a treble hot spot.

**C A L E N D A R**

**NEW JERSEY**

• The New Jersey Audio Society welcomes anyone interested in high-performance LP and CD playback systems to become members and participate in their monthly meetings. Annual dues are $20, and include a subscription to the society's newsletter, The Source.

**N E V A D A**

• Premier Home Entertainment (2300 N. Rainbow Blvd.), Las Vegas' newest high-end audio/home-theater store, recently opened its doors with a grand opening celebration, giveaways, and seminars. Authorized dealers for B&W, Arcam, Rotel, Vandersteen, and Bryston. Call (702) 877-0222 for information on monthly events.

**M I C H I G A N**

• Ensemble (3160 Haggerty Rd., West Bloomfield) is pleased to announce that it's been appointed the Michigan dealer for the new Integra Research line of home-theater products. In addition, Ensemble has been appointed the exclusive dealer for PS Audio, Birdland Audio, and JA Michell turntables. For information or to arrange an audition, call (248) 668-1400, or visit www.ensemblehome theater.com.
Less hi-fi-oriented but even more ambitious is a new product I found down at CEDIA's UK show, from German manufacturer Elac, an NXT licensee. This is a very large, freestanding video projection screen made up of three NXT panels alongside six 180mm metal-cone bass drivers. Each panel uses no fewer than six actuators to cover the mid and treble, alongside a pair of bass drivers; the whole thing handles all three front channels of an A/V system, while the panels have a special Novalux projection-screen surface.

Time alone will tell what impact NXT will have on the hi-fi scene. What is undeniable is that NXT has made dramatic strides with its "chaos-based" flat-panel speaker technologies in a remarkably short time.

JAPAN
Barry Willis

For technophiles, DVD is the current hot ticket. CD is far from dead, however. The 20-year-old format has been given a new lease on life by Sony Corporation, which announced in early July the development of a technique that will double the data-storage capacity of recordable CDs.

Intended for the computer market, Sony's new system employs a shorter track pitch and a minimal pit length to increase the capacity of the discs from 650MB (MegaBytes) to 1.3GB (GigaBytes). Although both varieties of disc use a standard 780nm (nanometer) wavelength laser, the numerical aperture for the high-density version will be raised, necessitating a change in the optical pickup lens.

Manufacturers will be able to upgrade their CD drives by changing laser assemblies, according to Yoshihiko Hara of Electronic Engineering Times. Because higher data density means a greater likelihood of errors, an upgrade of the cross-interleave Reed-Solomon error-correction code (CIRC) is also part of the change, and requires a new control chip.

Sony is reportedly developing a 3GB rewritable DVD, but also has a huge interest in supporting the CD format, which originated in the laboratories of the company's longtime partner, Philips Electronics. In 1999, the market for recordable CDs almost tripled over its 1998 level, to 16 million units worldwide. Market research organization Trend Concept, Inc. predicts that such growth will continue this year, to as many as 27 million units. Projections for DVD-RAM are approximately 360,000 for this year, according to Trend.

CD-ROM drives have been standard equipment in personal computers for the past three years. CD recorder drives, or "CD burners," are now widely available at around $200, and come prepackaged with software that enables users to back up their computer files—and to copy music discs without the copy-inhibit restrictions of some standalone CD recorders. Some music-industry executives have blamed the CD-R phenomenon for a slowdown in sales of prerecorded CDs. 650MB and 750MB recordable discs are available in bulk for less than $1 apiece, a fact that has led a few observers to question the market potential of high-density CDs.

UNITED KINGDOM
Paul Messenger
The UK branch of the Custom Electronic Design and Installation Association (CEDIA) is tiny compared to its US parent, and certainly peripheral to purist hi-fi ideals, but my annual visit to its exhibition/conference has a habit of throwing up some interesting stories and developments, and Y2K's CEDIA Expo was no exception.

The British installation business is small but growing. This year, exhibitors were up 25% and visitors by a bit more. I asked Beverley Reynolds, who runs The Audio File, a respected specialist hi-fi dealer based in Bishop Stortford, north-east of London, how business was going. Pretty well, she said, though two-

Rather more radical is the idea of transferring all one's favorite CDs onto hard disk.

Calendar

information, please e-mail your mailing address and telephone number to annalog@g.snet.com or to markjmills@earthlink.net.

NEW YORK
• For information on the monthly meetings of the Musical Audiophile Society, the Audiophile Society, and the Gotham Audio Society, call David Nemzer at (718) 237-1094.
• For information on Audio Syndrome (East Meadow), a monthly club catering to obsessive-compulsive audio neurotics from September through June, call Roy Harris at (516) 489-9576.

WASHINGTON
• The Pacific Northwest Audio Society meets the second Thursday of each month. Usual start time is 7:30pm at 4545 Island Crest Way, on Mercer Island. For more information, call Tom at (425) 481-8512 or Earl at (206) 907-8206.

Stereophile, September 2000
“The next best thing to being there”

is no longer an advertising cliché used
to manipulate you into buying a product.

Once you hear it you’ll understand.

DVD-Audio. The next generation of sound. You’ve heard CDs. You’ve heard regular DVDs. But until you hear DVD-Audio, you’re living in the past. With seven times the information of CDs and six-channel sound instead of a wimpy two, you’ll hear music the way it’s meant to be heard. Even better, our 5-disc DVD-Audio players also play DVD-Videos and CDs. To truly understand this incredible sound, get a demo at your Kenwood dealer. And if you still can’t believe what you hear, we’ll understand. For a dealer near you, call 1-800-KENWOOD. Or go to kenwoodusa.com
Industry Update

appropriate track, artist, and other relevant information about the CD. The Expo sample used a Palm Pilot as its controller, and the demonstration showed how easy it was to search the internal database to call up tracks and compile playlists. A clever extra trick was the option of calling up pre-programmed Internet radio stations.

The SoundServer supports various digital formats—allowing, say, a mix of CD and MP3 recordings—and its capacity depends on the choice of hard drives. For example, three 40GB drives can hold 230 hours of uncompressed 16-bit/44.1kHz or 2200 hours of MP3. One advantage over “CD jukeboxes” is the SS’s virtually instant access to any track, and the ability to provide entirely independent access to up to 16 individual zones.

You’d think an “outsider” like Inmagine might have trouble getting its ideas adopted by the hi-fi and custom-install fraternity. However, it already has a powerful ally: Linn Products has licensed the XIVA software and is busy getting its own hard-disk storage project under way. Called the KIV and featuring Linn’s proprietary DAC technology, early prototypes of this were seen at Las Vegas and CEDIA UK. The product could well become a reality by the end of 2000.

UNITED KINGDOM
Jon Iverson

The demise of Apogee Acoustics three years ago was one of high-end audio’s biggest losses. The company’s ribbon loudspeakers were among the best-sounding and best-looking high-fidelity products ever made. What remained of Apogee was picked up by a/d/s, which at the time made a commitment to supply parts and service for the thousands of speakers in use, but that plan appears to have been abandoned shortly after it was announced. Apogee owners have since had to fend for themselves.

Last year, we ran a notice of a New York-based Apogee users’ group, begun by a fellow named Matt Carnicelli, which at that point was the only one of its kind. Now the situation is looking considerably brighter. Last week, we received a note from British audiophile Jon Oakley informing us of his new website, devoted to Apogee Acoustics products: www.apogeespeakers.totalserve.co.uk/. Oakley’s site is nicely laid out and easy to navigate, with pictures and information about many Apogee products. “This site is intended as a resource center for present and future owners of Apogee speakers,” Oakley informed us, “with technical information, reviews, ways to upgrade the speakers, and a link to the hopefully soon-to-be-official repair company.”

Oakley said he started the site “after various postings on the Apogee Acoustics users group forum at www.audioimage.com made me realize that even simple information on Apogee speakers can be very hard to find. People have been very helpful so far in filling in the blanks in my knowledge by supplying information on the speakers, pictures, reviews, and their personal experiences with the speakers.”

Oakley encourages Apogee owners without Internet access to contact him at 8 Dormington Green, Great Barr, Birmingham, United Kingdom.

FRANKFURT, GERMANY
Markus Sauer

In the last few years the Frankfurt High End show has established itself as the most important European high-end show, and this year’s edition did nothing to undermine that status. As always, the show was well organized, and attendance from trade and public alike was excellent, with a marked increase in the number of foreign trade visitors and even exhibitors. The German show now sets the pace for the high-end business in most of continental Europe. In fact, Frankfurt High End 2000 was so large that a report such as this can only scratch the surface. Michael Fremer covers the analog side of the show in this issue’s “Analog Corner,” so I’ll concentrate on non-vinyl-related news.

Arcam showed production models of both the DAB tuner (at $1350) and their DVD player (no price given), both from the superb-looking FMJ range.

Audiodata, one of Germany’s most respected and successful audiophile speaker companies, showed a new flagship, the $25,000 Sculpture. Conceptually, this is a three-driver/two-way speaker, with its midrange drivers mounted symmetrically above and below the tweeter, augmented by two active subwoofers on top and below, each sporting two drivers on the front baffle and one driver on the back; each bass driver is driven by its own 150W internal power amp and fully regulated. The bass cutoff frequency can be set at 16, 20, 25, or 31Hz, depending on the room.

Audio Physic showed a prototype of their new Avanti 3 loudspeaker (at $10,000). This speaker will include several new technologies. The tweeter is a variant of the new Vifa ring radiator, which in other Audio Physic speakers has given truly remarkable results. The real breakthrough, however, is said to have been achieved in the midrange. Audio Physic has long hypothesized that metal-cone drivers should sound great because of good spatial definition and explosive dynamics. In the real world, however, cone resonances have led to unacceptably colored sound from such drivers. Audio Physic’s idea is to mechanically pre-load the outer edge of the metal cone. The technology is dubbed ACI, for active cone damping, and is applied to special drivers from SEAS. The bass is handled by four woofers, two on each side of the speaker, mounted in a push-push arrangement and with the lower pair working only up to 160Hz or so. The cabinet is highly rigid and includes several innovations that are beyond the scope of a show report.

One of the most unusual speakers at High End 2000 was the Rondo from Auditorium 23 ($4200). Using a 1 I asked for the US price where applicable; otherwise, prices are converted from Deutschmark at $1 US = Dm 2.05, exclusive of German VAT.
PHY-HP full-range driver from France in a teardrop-shaped (when seen from above) cabinet, and with thin, resonant sidewalls, this speaker violates practically every high-end convention imaginable, yet was recently given a glowing review in a German magazine.

Probably the most important introduction from the product side was a new range of loudspeakers from B&W. The CD-M range was left behind a bit by the latest developments in B&W’s repertoire; a number of dealers were surprised that, after the huge success of the Nautilus flagship range, it had been not the next range down—the CD-M line—but the budget 600 series that had been given the Nautilus treatment. This oversight has been corrected with the introduction of the CD-M NT series (NT is presumably for Nautilus Technology). The speakers look more or less as they did, but where a normal tweeter had been sitting on the angled top baffle of the speakers, there is now a tweeter in a sculpted enclosure, as in the Nautilus models.

Dieter Burmester showed a new loudspeaker, the $25,000 B99, which is a smaller version of his flagship B97; and a new belt-drive CD player with 24/96 upsampling technology, the 001 ($7000). The latter builds on the experience of Burmester’s 969/970 transport/DAC combo, which has been acclaimed worldwide as one of the two or three best CD replay systems ever built. The company proudly boasts a growth in earnings of 36%, and now exports to 25 countries worldwide.

Ceratec demoed its complete range, proving once again that B&O-style good looks and good sound are not mutually expensive.

Cyrus showed prototypes of their Icon speakers, which use NXT panels from 400Hz up, and a dynamic driver for woofer duties. The finished speakers will sell for a $3000. Also new was a Silver version of the Cyrus electronics. Rumors of a DVD...
player have been confirmed; it will come in early 2001.

I.Q showed a new flagship speaker, the five-driver, four-way MD 6000 ($4200), available in September. And Krell gave the world premiere performance of its new KCT preamp.

French amplifier company Lavardin Technologies premiered the new flag-

ship MAP mono power amps ($7500/pair). These hark back to the work done by French electronics engineer Gérard Perrot, who, under the nom de plume Hephaïstos, wrote a series of articles in the very influential French magazine L'Audiophile. Having heard the wonders of 300B single-ended triode amplifiers, Perrot set out to discover why transistor amplifiers seemed less successful at transporting the musical message. He came up with the concept of memory distortion, starting that it is the "memory" of the silicon layers in modern transistors that makes them sound less vivid than tubes, which, operating in a vacuum, don't suffer from the memory effect. The Lavardin range is the commercial realization of Perrot's designs; the company claims to have identified nine sources of memory distortion, and to have found solutions for seven of them. Judging from the company's success in the extremely difficult French market, there must be something to it. JMlab, for example, chose these electronics for the press presentation of their Utopia range of speakers.

Myryad showed a very pretty new range of electronics, slipped in between their existing M and T series. The Cameo range so far comprises an integrated amplifier (this is a British company, after all), a CD player, and a tuner.

Naim demonstrated its new NAP 500 stereo power amp to excellent effect. A pair of DBL speakers showed a delicacy and expressiveness that had been out of the reach of Naim systems in my previous experience; great tonal colors, too. The real news, however, was the introduction of a new budget series of electronics that takes its styling cues from the NAP 500: the NAIT 5 integrated amp, the NAT 05 tuner, and the CD 5 CD player. Prices are expected to rise 10-20% over the previous generation. This little lot drove a pair of Naim Intro II speakers well. Apparently, the technology from the NAP 500 has already trickled down to this new entry-level system. There'll also be a new version of the FlatCap power supply, this time suitable for supplying superior juice to two components at the same time. Finally, new versions of Naim's small preamp, the NAC 112, and a new power amp, the NAP 170, were announced, the latter posing a serious threat to the current NAP 180.

The award for best sound at the show from a reasonably priced system goes to German speaker company Newtronics. With a Creek CD 43 Mk.2 CD player and a Creek 4330 S2 integrated amp, Newtronics' Empress loudspeaker ($1650/pair) impressed me with powerful, detailed, and not too colored sound. Once again, the Vifa ring radiator is used for tweeter duties, and four small woofers, one of them run crossoverless as a combination midrange driver, provide serious fun from this small floorstander.

Nordost's Lars Kristensen gave a demo of the company's range of interconnect cables for me and a fellow journalist, and also of the aluminum and titanium versions of the Pulsar Point equipment supports. Very effective—I'll just have to give both cables and Pulsar Points a chance in my system. It's also refreshing that a company can show clear improvements in their products' sound with ascending price. All too often, the top version of a range doesn't really sound better than the middle version; here, the difference between the top Quatro Fil and one-step-below SPM cables was actually one of the largest.

NXT showed a concept of a high-end flat-panel speaker, intended as a showcase of this technology's possibilities. The company does not intend to make speakers itself, but stick instead to research and the licensing of its discoveries.

Octave showed a new reference power amp, the Power Jubilee, a 250W tube monoblock costing $28,500/pair and featuring a sophisticated autobias system; 6550 and KT88 tubes from different manufacturers can be used without external adjustments.

Dutch company Siltech showed preproduction models of their power amp, a single-ended tube monoblock unlike any you've ever seen. The output tube is a very unusual design.
It's not the size of the dog in the fight.
It's the size of the fight in the dog.

It used to be that if you wanted a lot of deep bass you had to have a big subwoofer. Not anymore. B&W's new ASW2500 measures little more than a cubic foot. That means you can place it anywhere you want without it looking like a Great Dane's Kennel. Fire this puppy up and it retrieves deep bass with bone-rattling impact matched only by the largest of "woofers". The ASW2500 growls powerful, accurate, bass through a combination of 1,000 watt amplifier and an ultra-long throw 10" bass driver. Now you can get visceral, deep bass that's house-trained to be heard and not seen. Best of all, this woofer's B&W pedigree makes it the top dog in any fight.

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For the music …
adapted from radio usage, and, with a special output transformer using silver and gold wire, is said to be capable of 100W output with a bandwidth extending to 150kHz, 120dB S/N, and no hum or microphony. The amp uses the lowest possible number of parts, because each part means additional connections, and every connection subtly alters and filters the sound. The price? A mere $65,000/pair. A matching battery-powered preamp is scheduled for next year.

Sony premiered production versions of their low-cost ($715) SCD-XB940QS SACD player, which will ship to Europe in July. If the DVD-Audio camp doesn't get its act together soon, SACD might actually have a fighting chance. Given the fact that, during most of 1999, SACD looked like the designated loser in the battle of the new hi-rez standards, this is quite a comeback. The real winners, of course, will be triple-format machines for DVD-A, SACD, and CD.

T+A was one of a number of specialist manufacturers showing DVD players. I single out the $1250 DVD 1210R because it is actually available, in contrast to many designs still in the prototype stage, and because considerable effort has been taken to make it sound good when playing audio CDs. Apparently, the downfall of most DVD players is the jitter arising from the different clock levels employed in a DVD player. The 1210R contains separate clocks for DVD and CD modes. As soon as the new DVD-A standard is finalized, T+A intends to upgrade existing units.

Theta Digital premiered the first active showing of the Casablanca II home theater control center, available in September. First-generation units will be upgradeable.

Van den Hul introduced a cable for optical digital connections, with special lens-shaped input and output surfaces for minimal light attenuation and jitter; and a new interconnect called the Integration Hybrid, consisting of metal and carbon-fiber strands. The cable is intended to bridge the gap between vdh's more traditional metal cables and their top-of-the-line carbon-fiber products.

One major disappointment at High End 2000 was that surprisingly few companies seem to have come to grips with the new possibilities of digital amplification. Exceptions were the Creos Digital V loudspeaker, which accepts both analog and digital inputs, and has a powerful DSP engine for both crossover and time and frequency correction; and the Ascendo System M speaker, intended to be driven via a Dask room acoustics processor.

Probably the most exciting demo of the show, however, was provided by the new, at $13,500 Sharp SM SX100 digital amplifier [reviewed by Michael Fremer in the July 2000 Stereophile — Ed.]. Where the TacT Millennium employs a PWM algorithm, the Sharp is a PIDM design that runs at the same frequency together with a matching amp, for only $6500. Replay of a regular CD via a pair of the small-but-excellent Elac CL 310 Jet speakers was mouthwatering: superb clarity, dynamics, tonal shading, and bandwidth, and no discernible coloration (under show conditions). The only fly in the ointment was suboptimal timing, but this could have been caused by a number of factors and should not be held against the digital amp. In my humble opinion, the Sharp SM SX100 is what the future will look and sound like.

If the DVD-Audio camp doesn't get its act together soon, SACD might actually have a fighting chance. as Sony's SACD: 2.8MHz. There will be a direct digital link, which means that the Sharp can amplify an SACD signal directly. In the demo, it was driven by a prototype SACD player, the production version of which will sell,
Introducing Prelude™ MTS from Infinity. Rarely has sonic accuracy been realized in a form so beautiful. It is indeed a remarkable meeting of art and science.

Prelude MTS includes more than a dozen cutting-edge transducer technologies, most notable of which is Infinity's own Ceramic Metal Matrix Diaphragms (C.M.M.D.). They are three times as rigid as other cones, which results in minimized internal resonances and maximized sonic accuracy.

Brushed and anodized aluminum extrusions contain midbass, midrange and high-frequency drivers which are mounted atop a real-wood veneer, 850-watt powered subwoofer. The towers can be used as side or surround channels along with the center channel to create a complete multichannel music and theater system.

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Immerse yourself today in the sonic art and science that is Prelude MTS from Infinity. Contact us at 1-800-553-3332 or www.infinitysystems.com.
So much stuff, so little Sam's Space—at home, that is. And with so much new equipment on the way, this month I'm going to clean out my closet. Not that I rushed my listening, mind you.

**Cambridge Audio A500 integrated amplifier**

The Cambridge Audio A500 doesn't look like much. A reviewer for the UK magazine *HiFi Choice* (September 1999) referred to the A500's "primitive" livery. "Primitive" may be going a bit far, but the A500 sure is plain.

On the other hand, it doesn't cost much: $450, with, apparently, some wiggle room for dealers to discount. This model won't have much sex appeal on a dealer's shelf.

Appearances, though, can be deceiving. And how about that label: "DESIGNED AND ENGINEERED IN LONDON, ENGLAND." That's what it says on the back of the amp. To reinforce the point, a Union Jack is silk-screened on the circuit board, as I saw when I installed the optional moving-magnet phono-board module ($60).

So you might take the A500 for a British import. But look more closely and you'll see a sticker on the back of the unit that whispers, "MADE UNDER LICENSE IN PRC."

That's People's Republic of China.

Now, I have no problem with that. After all, China has become the largest supplier of consumer electronics to the US—probably to the world. And, as another manufacturer (not Cambridge Audio) told me, there are good factories in China and not-so-good factories. Cambridge Audio, he told me, comes from a good factory.

In the UK, Cambridge Audio is a house brand of Richer Sounds—32 stores nationwide. You can check out the Richer Sounds website at richer sounds.co.uk. It's a screamer. In the past, they've said things like, "Musical Fidelity Mayhem" and "Marantz Madness."

True to form, "Crazy Cambridge," read one banner when I logged on at the end of June. The A500 was selling for sound, build, and value. I can hear why, and I'll share my own impressions in a moment. First, some specifics: The A500 puts out 50Wpc into 8 ohms, although Crazy Cambridge touted it as an 85Wpc amp on their website. But let's look. Aha! That's 85Wpc into six ohms. Clever Cambridge! The *HiFi Choice* reviewer found that the A500 did well under dynamic (music-like) conditions into 4 and even 2 ohms, and I found that it had no trouble at all driving the Triangle Antal 5s speakers in our living room. Good combination.

There are four line-level inputs, one of which can accommodate that moving-magnet phono card. The card is a doodle to install, as the Brits like to say. That means easy. But you do need to be careful when lining up the pins. If I could do it without messing up, I'll bet you could too. But Audio Plus Services recommends that your dealer install it.

You'll find one tape loop and provision for a second tape deck or MiniDisc unit, from which you can record (via the preamp outputs) but not monitor. Bass and treble tone controls are defeatable, which I did for most of my listening. The tone controls work over a rather narrow range, so you can't boost the bass or cut the treble by all that much. (In other words, you can't screw up the sound too badly.)

Finally, there are two sets of speaker binding posts—a nice touch, except that I wasn't able to use banana plugs. The holes where the bananas should go

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**China has become the largest supplier of consumer electronics to the US—probably to the world.**

For £199.95, including value-added tax (VAT)—or about $300. So why $450 here? Because it's a British import?

I asked John Bevier of Audio Plus Services, the importer, who hinted that US dealers might not always stick to the sticker price. As I said, wiggle room for dealers to discount. So ask.

But even at $450, the A500 is a good buy. *HiFi Choice* awarded the A500 five stars (the highest rating in its price class)
are covered with metal to comply with CE regulations. The least Cambridge Audio could do for North American users is supply binding posts with removable plastic inserts!

I instantly liked the A500's sound. I found it detailed, dynamic, and clean, with a lifelike but not overly lush harmonic presentation: very smooth, and free of hardness and grain. The A500 did exceptionally well (for such a reasonably priced integrated) at reproducing the ambience of a recording.

The bottom end was especially impressive. This is where you might expect an inexpensive amp to poop out, and many do. The A500 was extended, tight, and tuneful in how it conveyed the rhythmic pulse of the music. Designed and engineered in London, England, indeed! You know how the British love to tap their toes—the critics, anyway. However, I wouldn't push my luck with a difficult speaker load, especially in a large room.

With the B&W Nautilus 803 speakers a while back, the A500 strained to fill the room with a big sound.

The phono stage?

I hooked up my Rega P25 turntable, equipped with Goldring G1042 moving-magnet cartridge, and found the A500's phono stage to be as good as it needs to be: not killer, but up to the performance of the rest of the unit, and certainly not an afterthought.

A forethought: Even if you don't own much vinyl, why not get the phono stage? It's only $60. And it's never too late to start with vinyl, because people are always getting rid of their records. Guess what? You can scoop them up. You can go to garage sales. Haunt thrift shops. Attend library book sales. Tell friends that you're into vinyl. Soon people will start unloading their records on you.

For $299, you can get yourself a Music Hall MMF-2 turntable, with Goldring cartridge included. It wills, you're into vinyl for about $350; and from then on, most of your software is free.

The Cambridge Audio A500 is a perfect choice for a second system or a system for a parent or child. Good for a college dorm—stuff looks so drab that no one would ever think of stealing it.

Audio fubsbudgets with more money to spend will probably want more resolution, more power. Tube aficionados might find the sound a tad lean. (In the end, though, I didn't.) While the A500 was remarkably free of grain, as I said, it wasn't so smooth that it was bland and uninvolving. My complaint was one of some inexpensive integrations that aim to ingratiate. The A500 aims to ingratiate, too—but not at the expense of being a bore.

I'd say I was listening to a $750 or $800 player.

While the looks aren't snazzy, the build quality seems up to snuff. The drawer closed with a reassuring solidity, and all functions operated smoothly. I especially liked the jog shuttle control (like those on many VCRs), which lets you fast-forward or reverse with a flick of your wrist.

I noted one peculiarity. With most players, you can leave a disc in an open drawer, go to your seat, and hit Play. With the D500, I had to first close the drawer, then hit Play. The player has both 75 ohm BNC and TosLink outputs (but not an RCA coax output), so you can use it as a transport if you decide to upgrade later on.

Upgrades, upgrades, such a treadmill. The Cambridge Audio D500 is a far more sophisticated deck than you might assume. It features a Crystal 20-bit Delta-Sigma DAC (the CS4327). The controller chip and transport mechanism are sourced from Sony.

The heart of the player, according to Cambridge, is a VLSI (very large scale integrated) circuit developed by Sony in league with Cambridge. This chip is said to optimize focusing, tracking, and the output level of the laser—all for maximum retrieval of digital information. According to Cambridge, the chip increases the pickup laser's output when fingerprints, scratches, etc. are encountered on a disc. This is said to help decrease the time in error correction, leading to better sound—probably the same reason why various CD treatments work.

While the D500 comes with its own dedicated remote control, you can also use the remote supplied with the A500 integrated amp to control both your amp and CD player.

The D500 performs to such a degree that you might not hear its full capabilities unless you use amplification of very high quality. I discovered this when I tried the D500 with the remarkably resolving Musical Fidelity A3 CR preamp and power amp. I heard excellent low-level resolution—beyond the ability of the A500 integrated amp to convey—a very smooth, grainless harmonic presentation, excellent bass extension (particularly unexpected with a player at this price point, where skimpy power.

Cambridge Audio D500 CD player

How does Cambridge Audio offer all this for the price?

I suspect that the reason is exactly what Cambridge Audio goes to such lengths to obscure. So let's spell it out:

Made in People's Republic of China.

Cambridge Audio D500 CD player

How 'bout some more Crazy Cambridge?

Cambridge Audio's CD player, designed to match the A500 integrated amp, is the D500, also for $450. But prices may vary. Again, £199 at Richer Sounds, where the list and discounted prices are the same. If your dealer doesn't discount, you might remind him or her that this really isn't a British import.

Even at full ticket, the D500 offers outstanding value. I have not heard a better player for under $500. If you blindfolded me and asked me to guess,
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Stereophile Guide to Home Theater
Today's Dolby® Digital and DTS® encoding requires both low distortion and extended bandwidth sound from all speakers in a home theater configuration. It was upon this inviolable precept that Mirage® developed the incredible new HDT system. Timbre-balanced L/C/R and rear speakers — all marry together seamlessly, integrating Mirage's latest, most unique advances in sound design with the ultimate flexibility in placement so that every seat in the house enjoys the most realistic sound imaginable. High Definition Theater from Mirage. The sharpest dialog. The most explosive special effects. The most magnificent musical reproduction. All defining the true state of the art in digital home theater sound.

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TELEPHONE (416)521-1800  FAX (416)521-1500
The Ah! Tjoeb CD player looks like a Marantz CD-38. (Easy to tell: Its badge hasn't been altered.) The stock Marantz player has been modified and upgraded in Holland by Herman van den Dungen of Durob Audio. The 99 is imported and sold directly in the US by Kevin Deal of Upscale Audio, in

ordered for an additional $20, and a Supercrystal clock upgrade adds $50.

As Kevin Deal explains, the clock on the original Marantz CD-38 is a basic ceramic oscillator. The Ah! factory experimented with several crystals and found that the better ones improved the sound quite a bit, especially in the low frequencies.

During this testing, they worked with a crystal manufacturer in Europe and found that the improvement was due not just to this crystal's lower jitter, but also to its extremely tight tolerances. They also found that the crystal was less affected by temperature. The Supercrystal is encased in a material that helps to damp vibrations.

This product reminds me of the early days of CD, when there were few high-end players and no digital separates, and audiophiles scrambling for better sound turned to the kludge meisters, some of whom upgraded the Magnavox CDB650 with tubed output stages.

Once better players and digital separates became available, I wasn't keen on kludges. The problem was, you sank a lot of dough into what was still essentially a cheap player—lowly DAC, flimsy transport, etc. Some kludges sold for upward of $1000. At least the Ah! Tjoeb 99 is only $450.

Mechanically, the CD-38 worked okay, except for an annoying click every time I advanced the track. The drawer was about what I expect on a sub-$200 player—flimsy—as was the crappy captive power cord. Deal says that a power-cord upgrade will be available, perhaps by the time you read this. The

Ah! Tjoeb! is Dutch for "Ah! Tube."

I rather doubt at the moment. I see the D500 as a good interim standalone player—something to buy if I had to purchase a CD player now because my present player is on the fritz.

For those looking to put together a budget system, the D500 is terrific news. Pair it with the A500 integrated and add, say, the Triangle Zephyr ss speakers (which I tried with the Cambridge combo, along with the Antals). Get some decent cabling and a discount on the Cambridge gear, and you'll have yourself a fine system for well under $2000.

By the way, the D500 is made in PRC.

Ah! Tjoeb 99 CD player

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state amp, you might find that the Ah! Tjoeb 99 is a cost-effective way to get the sound of glassware into your otherwise tube-deprived system.

No surprise that its harmonic presentation was smoother, richer, more rounded than that of the similarly priced Cambridge Audio D500 (richer sound). Sometimes, while listening, I actually did say to myself, "Ah! Tjoeb." (Remember: Don't say the j)

Ultimately, though, with the Cambridge and Ah! units side by side, and my own "ahs" notwithstanding, I found the 99 somewhat bland and uninviting. More than once, I fell asleep—not necessarily a bad sign, but an indicator that my attention was less than riveted. The D500 gave me more resolution and top-end extension, and I stayed awake more often. I felt that it also had better extension, drive, and pace in the bass.

If you want a tubed sound, though, the Ah! Tjoeb 99 might be your pass-

port to bliss. I think the player does deliver what most people expect from a tubed player: rich harmonics and smooth, non-fatiguing sound.

It would be a lot less expensive to tube-ify your system with the Ah! Tjoeb 99 CD player than to jetison all your solid-state gear. But if the rest of your system is tubed already, you might be better off with, say, the Cambridge Audio D500—better build, more rez, a better grip on the bottom end.

So, if not a $1500 contender, the Ah! Tjoeb 99 is a $450 contender. After all, there aren't a lot of other tubed CD players for under $500. Kudos to Kevin Deal for making this player available in the American market.

By the way, I did my final listening comparisons with the new Musical Fidelity A3CR preamp and power amp separates (review next month) — very resolving components, indeed — and the Triangle Antal 5x speakers, for the most part (also very resolving).

And what did Sam listen to?

Patricia Barber. (Just kidding.) I used four discs in particular, pretty much picked out at random, but they do sound good:

- **Bing Crosby: The Chronological Bing Crosby, Vols. 9 and 10.** Jonzo Wiggins, the North American representative of the International Crosby Circle. (Contact F.B. Wiggins, 5608 North 34th Street, Arlington, VA 22207)

At the low dither settings (0, 1, and 2) I noted excellent low-level linearity. But when I went higher (4, 5, and 6) I noted a loss of transient attack and apparent detail. Robert Harley summed it up in his January 1996 review of the RCD-990: dither softens the sound. The sound became rounder, smoother — more analog-like, if you will. The soundstage appeared to move farther behind the speakers. If you have an

**Even without da ditha, the Rotel RCD-991 was one smooth-sounding player.**

aggressive-sounding system, dither might help to tame it.

Even without da ditha, this was one smooth-sounding player — if a little dark by comparison to, say, the Musical Fidelity A-3, which I'll get to next month. The A-3 sounded more open and airy, but also more lightweight. The RCD-991 delivered bass with more weight and impact — with greater authority. Also, the A-3 lacks HDCD decoding and balanced outputs.

I don't mean to dwell on dither, but it is, after all, what makes this player unique. (The different dither settings are built into the Pacific Microsonics PMD-100 HDCD decoder/digital filter.)

Now, with dither settings accessible from the front panel, you can try different ditherings for different recordings. Got a string quartet CD that sounds too bright? Want it to sound more analog? Just select a higher dither setting.

The RCD-991 uses a Sony transport. Digital/analog conversion is handled by dual Burr-Brown PCM-63P 20-bit DACs working in dual-differential mode to cancel nonlinearities and unwanted glitches around bipolar zero. Errors are summed and canceled at the output — less distortion, lower noise.

For balanced listening, I used a Boulder L5M line-level preamp and Boulder 1060 stereo power amp (review of the power amp coming up), and compared the balanced outputs with the single-ended RCA outputs (using different brands of cable, alas). I heard a slight improvement with fully balanced operation — specifically, a lower noise floor and more ambient information. If you're looking to run fully balanced from CD player through preamp and power amp, the RCD-991 is an excellent choice at a reasonable price.
Although it’s the rare individual who is equally talented in two endeavors, NHT’s powered subwoofers are exceptions. Our models—SubTwo, SubOne and the new SuperSub—use innovative circuitry to switch between audio and video modes to produce the optimum contours for both music and movie soundtracks. NHT’s dedication to sonic accuracy, flat response and dynamic range finds full expression in this remarkable selection.

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The SubTwo’s twin 10" subwoofers powered by a 500 watt Bob Carver/Sunfire amplifier etch the bass into your soul. NHT’s unique Audio/Video switch technology produces tight, accurate, low end extension for two-channel audio reproduction or spine-tingling impact for multichannel home theater. The outboard processor enables connection of two SubTwo units for stereo operation.

The SubOne features a 10" woofer driven by 250 watts of Bob Carver/Sunfire amplification for powerful, refined punch. Its outboard controller provides volume and bass tuning functions as well as an A/V switch for music and movie modes.

The compact SuperSub packs two 6.5" drivers and 150 watts of built-in power. An elegant solution for audiophile-quality sound if space or budget is limited, the SuperSub boasts dual down-firing woofers driven by a Class AB amplifier for tight, dynamic lows to 33 Hz. Choose music or movie contours with the A/V switch.

Real World Value
With versatile, sublime performance at real world prices ranging from $1,200 to $500, these subwoofers reinforce NHT as the brand that delivers high-end performance without the high-end price.
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Very few things in life are uncompromising. We are honored to count the Cary CAD-805C mono-bloc amplifiers among them. And so will you.
However, this was not one of the most exciting players I've heard—I could have done with somewhat more top-end extension, a greater sense of airiness, and more ambient detail. The Rotel RCD-991 has been available for nearly two years, and perhaps time is beginning to pass it by. I was more captivated by the newer Musical Fidelity A-3 CD player, which Audio Advisor retails for $995. I heard greater upper-register extension and more air.

More detail, too? That's hard to say. There was very good low-level rez with the Rotel; I just wish I didn't have to listen so hard to hear it. I found the player a little too laid-back for my own tastes. Boring. Bland. As if it didn't want to take too many chances. I found the less expensive Rotel RCD-971 ($699) more involving, The Cambridge Audio D500, too.

The Rotel RCD-991 is "made by Rotel in China." You have to look closely to tell because these words are almost hidden under the captive power cord. (For this price, Rotel should have fitted an IEC connector. They might also have included a polarity-inversion switch—a useful feature of the RCD-990.)

According to Rotel's Mike Bartlett, the RCD-991 is approaching the end of its product life cycle. Will its successor be as robustly built? Offer adjustable dither? Have balanced outputs? It's too early to say. Meanwhile, if the Rotel RCD-991 appeals to you because of its solid build quality and rich, analog-like sound, now might be the time to buy.

Assemblage

Chris Johnson of Assemblage, aka The Parts Connection, aka Sonic Frontiers, tells me that there will be an Assemblage SET-2A3 single-ended triode amplifier to complement the SET-300B I reviewed in July (Vol.23 No.7). The SET-2A3 will sell in kit form for $899 including power tubes, making it effectively $150 to $250 cheaper (at least) than the 300B version, for which power tubes are supplied à la carte. The power-supply transformer doesn't have to be so large for a 2A3 amplifier, which makes the 2A3 version somewhat less expensive to offer.

Also, Chris would like to clear up a misunderstanding about the feedback. Neither the SET-300B nor the forthcoming SET-2A3 has any global negative feedback. However, all amps have some amount of local degenerative feedback. The terminology is tricky, and I wouldn't want a SET devotee to get the wrong idea.

A Passing

Mikhail Lvovich Volokhonsky died on May 14. You didn't know him, but I was privileged to do so. He was my wife, Marina's, father.

After World War II broke out, Pappa Misha, as I called him, then 17, added a year to his age and enlisted in the Soviet Army. He earned a chestful of medals for bravery, including three equivalents of our Purple Heart.

After the war, Misha enrolled in the Russian equivalent of business school and rose to become the director of one of the largest food stores in Leningrad, the Gastronome, on Nevsky Prospekt, next door to the main Melodiya record shop. It was a high-stress job in ways you cannot imagine, and eventually led to a heart attack.

In November 1990, retired, disillusioned, in poor health, and in need of open-heart surgery that he could not obtain in the Soviet Union (he wasn't important enough), Misha emigrated to Brooklyn with his wife, Tamara, and his then-single daughter, Marina—the same Marina whom I met 16 months later and married a year after that. Like the rest of his family, Misha was officially classified by the US government as a refugee—from a country for which he was willing to give his life, and very nearly did. If he was bitter, he didn't dwell on it.

I have learned a lot from Pappa Misha and from Marina's many other relatives, most of whom arrived in America with nothing but their clothes and a few sticks of furniture. It was then forbidden to leave the Soviet Union with one's antiques, art, rare books, etc. Or money. Imagine your life's savings confiscated and you'll get the idea.

So basically, after lifetimes of hard work, they had nothing. Younger members of the family were able to start over and launch careers, but for Marina's father and mother (she's a retired dentist), it was too late by 20 years. For them, a treat was a night out at a Russian restaurant or a Russian play at Abraham Lincoln High School. With few exceptions—notably Marina's Uncle Sam—they certainly didn't worry about having good stereo equipment. ( Somehow Sam knew, and manages.)

But they had something far more important than possessions: They had each other. Maybe Marina is right: To understand that, you need Russian soul. With Russians—unless corrupted by capitalism—family and friendships come first, second, and third, above all else. (Among new Russians, though, I suspect that things like stereo systems come first. Marina and her family are definitely old Russian.)

Misha, who became a US citizen, had almost 10 years in America—good ones, for the most part, and years he would not have had in Russia, where senior citizens were regarded as disposable by the Soviet government, and are by the new regime as well. He neither asked for nor wanted much. He had his dog, on whose account he almost didn't emigrate. He had family and friends, many of whom emigrated to Brooklyn at the same time; he was surrounded by those who loved and respected him.

Suffering from heart and kidney problems, Misha died quickly but quietly during his afternoon nap on Mother's Day.

Thank you, Pappa Misha, for reminding me that material possessions—such as the ones I write about and you read about each month—aren't everything, and for giving me perspective.

It's hard for me to obsess over speaker cables now or worry that my system isn't the absolute or ultimate.
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What's June without a hi-fi show? With Stereophile's exhibition put on hold for 2000 while en map usa sorts out future possibilities — Manhattan in May 2001 is the most probable place and date — I flashed on High End 1996 in Frankfurt, Germany, a June show I'd attended and reported on in this column. German audiophiles were still heavily into vinyl back then, so why not hit High End 2000?

Sure enough, the show is still held at the Kempinski Hotel, outside Frankfurt; and sure enough, German audiophiles are still into vinyl — and still seem far more intense about audio than Americans. I guess you could say Germans are more intense, period, but it was refreshing to attend a consumer show where the demographics appeared to be all over the map. There were plenty of young people, a healthy smattering of elderly, and turntables all over the place — makes and models you've probably never heard of or seen.

For a relatively small country, Germany has a big audio industry. While I don't have sales figures, and can't tell you whether the trends are moving up or down, one indication is the proliferation of magazines: five big, sumptuously produced publications and a few small ones. Most prominent are Audio, Image Hi-Fi, Stereoplay, Audiophile, and HiFi & Records. It would be worth learning to read German just to be able to devour these mags, all of which can be found on mainstream German newsstands. But even if you can't read German, mags like Image Hi-Fi and HiFi & Records are worth perusing for the stunning photos and layouts alone.

Such an impressive print lineup shows you how sad the situation is here, where, currently, there's Stereophile and a few small audio magazines. We continue to reap the bitter harvest of decades of "it all sounds the same," and of mind-numbing passivity in the face of same among many in the industry who should have spoken up sooner.

Not so in Germany, where there's enough interest in audio — without following in Germany, but I doubt the American market would support it. One was mounted on Loricraft's facsimile edition of Garrard's classic 501 turntable, which is driven by an idler wheel. Dirk Sommer, the astute editor of Image Hi-Fi, reviewed the 309i, along with Ortofon's SPU Royal N and GM cartridges, in the January/February issue of that magazine. But don't ask me what he thought — ich spreche Deutsch nicht. Analog oldsters will remember the precision, Swiss-made Breuer Dynamics tonearm, also once again in production. I spotted the Type 8 (first-place winner of Image Hi-Fi's Millennium Award for tonearms) on a Brinkman Balance turntable. The Brinkmans were among the most impressive-looking designs I saw at the show, in terms of both mechanical design and build quality. I'd love to hear one in my system. Speaking of arm resurrections, the British Hadcock is also back in production.

It was one thing to walk into a room and find an interesting new turntable I'd never heard of — like the seemingly shockproof, electric-blue Fuchs, which sells for DM 17,000 with unipivot arm (DM 5300 for the arm, DM 12,000 for the turntable), but in some rooms I found brands I'd never heard of — like Acoustic Solid, which showed a whole line of "tables including the Solid Machine Small, the Solid Machine, the Solid One, the Solid Round, and the Solid One to One. Like the Brinkmans, the Solids appeared to be unique, well-engineered designs, not just plinths fitted with bearings and slabs of machined acrylic.

Another company showing sophisticated-looking analog products was

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1 Throughout this report, halve the amounts in Deuchmarks for the approximate value in $ US.

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For a relatively small country, Germany has a big audio industry.

More fun than the Magic Eight Ball, Verdier's Gyrascope is a record weight and strobe light all-in-one.
The assurance of indulging in the absolute best.
The assurance of capturing the peak experience.
The assurance that none of this will change over time.
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The state-of-the-art in high-tech for the coming millennium.
To hear or not to hear.
The Evidence or not the Evidence.
Pluto Audio, founded in 1974. Pluto displayed three “handcrafted” turntables—the 10A, 11A, and 12A (DM 11,800)—and three tonearms: the 5A Special (DM 8,000), 7A Special, and 9A Special. No acrylic here, either. Pluto (DM 7,795 with SME 3,009), the multimotor Quintessence (DM 55,000), and the Fat Bob (DM 7,300)—it seemed to me that “looking cool” had been the main design rationale. Lots of gleaming chrome and acrylic arranged in various thicknesses and layouts, but compared to my reaction to some of the more intensely engineered ’tables I saw, I walked away from the Transrotor room unimpressed...but starry-eyed.

A few German brands are imported Stateside, including Amazon (by Audio Advancement) and, of course, Clearaudio (by Discovery Audio), both of whom were at the show. Amazon likes unipivots: they showed with both the Danish Morch and American Immedia RPM-2 tonearms. Amazons feature sophisticated motor drives, including an option for battery-powered operation.

Clearaudio’s room contained turntables familiar to many Americans. Debating at the show was the Champion, a ’table that begins life as a simple polished acryl plinth/thin acryl platter design with an outboard motor and Rega RB250 arm, upgradeable to a dual-plinth affair with a much heavier, taller platter, stainless-steel standoffs, and, of course, a higher price. No doubt this ’table will find its way to America.

Clearaudio also introduced a prototype of a unique if somewhat unwieldy vacuum record-cleaning machine. The spinning LP is lowered into a fluid bath where it is automatically brushed on both sides, lifted out, then dried on both sides—all in about a minute. The concept was really attractive; I hope the finished product will be quieter, more compact, and better built.

Another cleaning machine, far smaller and more conventional, was being put through its paces at the Blue Danube Records booth. The hand-built machine operates much like a VPI HW-17, with a fluid reservoir and pump, a bidirectional platter, a fluid applicator wand, and a velvety-lined suction tube, but the Blue Danube refines a few of the 17’s rough spots. The gear-driven platter is quiet and of ultra-high torque (it’s unstoppable), and the label-wide record holddown clamp includes a rubber surround that prevents cleaning fluid from accidentally spilling onto the label—a very good idea. The design of the suction tube/housing interface makes changing tubes for records of different diameters really easy. With the VPI, you have to change everything. This convenient, well-thought-out, high-quality cleaning machine is sold factory-direct for $1000, only from Blue Danube Records, a giant used-record store (blue.danube@unet.at) located in Tulln, Austria, on the Danube near Vienna.

According to owner Christian Bierbamer, Blue Danube has 10 rooms and two floors of audiophile-quality records—more than 250,000 in all—in a clean, well-organized environment. He told me that 30,000 LPs arrive every month from around the world, and that I’d need three days to thumb through everything. The store also sells used audio gear. The RCA amps used by Wilma Cozart Fine are there, along with walls of vintage gear. Record collectors from around the world visit the store, Bierbamer told me as I pored over the few dozen boxes filled with vinyl treasures (many from America, including an impressive cache of vintage Mercurys) he’d schlepped to Frankfurt from his store. Of course, I bought a few.

Despite the overload of homegrown turntables, many models from around the world are imported into Germany, including Basis, Spotheim SPJ, Avid, Simon Yorke, Thorens, Immedia (which showed a new, RCA-jack-out update of its RPM-2 arm, so you can choose your own phono interconnect), and Pierre Lurie’s Audiemecca designs, the Romance and the J1/SL5.

I walked away from the Transrotor room unimpressed...but starry-eyed.
linear tracker. I ran into the guys from Roksan, who promised a review sample of a brand-new 'table they’re about to introduce.

But there were still more German turntables on display, including the Symphonic Line, the Clearlight Audio, the Audio Analog Rotation T1, and the Audio Agile Blue Moon and Verve. In fact, vinyl remains so highly regarded in Germany that the used market is very thin; there are few used-vinyl shops compared to, say, the UK. Apparently, most collectors didn’t unload their LPs when CDs were introduced, and of course in the East, CDs never were introduced. Who said Communism was all bad? (Save your right-wing ink — I’m joking.)

A few columns ago I reported on the Kingston Dub Plate lathe for cutting your own LPs. There’s another home cutting lathe coming soon: the Vestax VRX 2000 Vinyl Recorder, which looked like a neat product, though the actual cutting head was not on the machine.

On Saturday I ventured off-site to a local dealer to see and hear the new Scan-Tech-built Connoisseur 4 line-level preamplifier and separate phono section, as well as a prototype of the brand-new Audio Physic Avanti loudspeaker. The two Connoisseur units, housed in handsome wood enclosures, share a common outboard power supply. You can buy one with power supply and add the second later. The design, by Petr Mares and Jonathan Carr, features a white paper’s worth of innovations that are best left to the review (which I hope will happen toward the end of the year). The exact price has yet to be announced, but it will probably be around $16,000 for either box and the power supply, and another $9000 for the second box, bringing the total cost to $25,000 for line stage, phono stage, and power supply.

As for Audio Physic’s new Avanti, it features a pair of 8'' woofers, and a pair of metal-cone midrange drivers with aluminum phase plugs, and a ring radiator tweeter, all of which are built into an absolutely stunning and incredibly complex curved-back enclosure. Audio Physic sources its cabinets from the same Scandinavian outfit that supplies B&W and many other speaker companies. You don’t think most of these speaker guys — even the biggest names — do their own woodwork, do you? Sonus Faber introduced here sometime this fall — thanks in part to the strong dollar. Unfortunately, the dealer’s room was pretty awful and the CD player was too, though the few LPs we heard, played on an Amazon/Merch/Lyre Parnassus D.C.t combo, sounded quite vivid and spacious — in the Audio Physic tradition.

Best sound at this show? Well, the Avantgarde horns sounded more coherent (especially the horn–cone woofer integration) and less colored than I’ve ever heard them at a show, but the two best rooms I heard were those of Chord and Einstein. I stayed in each for well over an hour, playing the two compilation CD-Rs I’d brought along: one made from the Rockport/van den Hul Colibri/ARC Reference Phono/Ref 2 preamp combo, the other with the same chain but substituting the Lyra Helikon cartridge. In most rooms, heads turned and jaws dropped as listeners demanded to know on what equipment I had made those discs.

The superb-sounding Chord room featured the Micromega data CD transport, Chord DSP1500 pulse-array DAC, CPA 3200 preamp, 1400B 450Wpc monoblocks, and the Wilson-Benesch Act II loudspeakers. My young host, while a fan of ‘60s music, had never heard much of it on vinyl. I wish I had a picture of his face as he listened to an original British Parlophone pressing of the Beatles’ “Mother Nature’s Son” and “Everybody’s Got Something to Hide (Except Me and My Monkey),” a Decca fss rendering of the Stones’ “Gimme Shelter,” a lacquer of the Who’s “Baba O’Riley,” and a white-label promo of Van Morrison’s “Domino.” The guy was stunned into analog submission. I was thoroughly captivated by the Chord system’s grip on the music.

My custom CDs elicited the same response in the Einstein room through Einstein’s The Last Record Player (a CD player), The Tube preamp, and a pair of Final Cut OTL monoblocks driving a pair of Odeon Tosca loudspeakers. The

\[ \text{2 As does Thiel.} \]

—JA
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last so captivated me that I'm getting a pair for review soon. This system flat-out rocked and was probably my favorite at the show... though the Chord/W-B was close behind.

In the Gradient/Gamut room I compared the CD of "Boy in the Bubble," from Paul Simon's Graceland, with the CD-R cut from the Rockport. Not even close! Of course, the CD dates from 1986, when A/D conversion was basically an exercise in noise pollution. Meanwhile, the Gradient Revolutions, which feature open-baffle dipolar bass, proved their design merit by producing some of the finest bass I heard at the show, and in the smallest hotel room.

Finally, some of the most fun I had in Germany was in Stereoplay magazine's large demo room, which featured the Sharp SM-SX100 digital amp. The German reviewer was as impressed as I had been by the sound of the amp, and after the demo and speech — in German, so I didn't understand a word — I went up to him to say that my review of the Sharp was about to appear in the July 2000 Stereophile.

"No! Zet iss impassible!" he cried. "Nuts! Vee heff veerld eggleguish!"

"I guess not," I told him. "My review will be in print in a few weeks."

Accepting the unacceptable, he looked at me. "Vell, you didn't review zis one! Zis unit is special!"

Oy, audiophiles... they're the same, all around the world.

**Three Great Gadgets**

With an installed base of who knows (Roy Gandy, that's who) how many tens of thousands, the decision to market Rega accessories and upgrades is a natural. And given that Rega tonearms come with a base that does not include adjustable VTA, there are a number of aftermarket devices for adjusting VTA on Rega arms, including those from VPI and J.A. Michell. Basis makes one too, but the newest one, the Easy Rider, from Germany's Incognito (distributed in the US by Rega importer Lauerman Audio Imports), is easily the best and most convenient. It's also only $50.

A tonearm is actually more rigid and better locked in place with an Easy Rider than without. To install the ER, remove the locking nut, unscrew the cable-strain relief, pull out the arm, and screw the threaded ER onto the arm's mounting shaft. The Easy Rider is so thin that, even with it screwed on, the mounting shaft will still fits through the plinth hole. The fit is now tighter, however, and thus more secure, and the arm mount now sits in a threaded shaft.

To raise the arm, you loosen the locking nut under the plinth and rotate the hex-shaped top plate. The adapter even includes a stick-on gauge that lets you know how high you've raised the arm. The only problem: either the new P3's plinth is thicker, or the latest version of the RB300 arm has a shorter threaded shaft; when you raise the arm even a few millimeters, the bottom of the threaded shaft disappears up into the hole and there's no way to use the lock nut. Fortunately, Lauerman Audio Imports includes a special nut that reaches up into the hole to grab and lock the end of the shaft. If you're a Rega owner wishing you could easily adjust VTA without having to hack up your plinth, you now can, for $50. There's also help on the way for that Grade/Rega hum problem... but more about that next time.

Apex, the American importer and distributor of Verdier turntables, sent along the Verdier Gyroscope (sic), a dramatic-looking $500 cylindrical aluminum record weight that doubles as a strobe light. Place it on the spindle one way and it's a weight. Turn it over and two series of holes drilled around the cylinder's circumference glow yellow, thanks to embedded LEDs and a built-in battery. The holes are spaced to create 45rpm and 33 1/3rpm strobes; when the platter rotates at speed, the lights "stop." A fun toy, a greater conversation piece than the Magic Eight Ball, and it really works.

From The Cartridge Man in the UK, maker of that reasonably priced electronic stylus gauge, comes the Cartridge Man Digital Level Gauge. It, too, dips over the spindle hole: You level your turntable until the horizontal and vertical digital readouts both show "0." You can use it to level anything, but it works particularly well on turntables. Price: about $300. Distributed in the UK by Moth Group.

Finally, there's a new, much more effective Townshend Seismic Sink, called the 3D Sink because it works horizontally and vertically. The 15" by 19" model is good up to 40 lbs, which should be sufficient for most CD players, preamps, and some turntables. The 18" by 22" model is good for 53 lbs, and the heavy-duty 15" by 19" version supports up to 175 lbs. In case you're unfamiliar: Seismic Sink isolation platforms are supported by air bladders. They're quite effective under electronics (especially tube gear), CD players, and turntables.

I tried a standard 3D Sink under the Michell Gyrodec, which is itself suspended (via springs), and didn't like the results: There was a loss of focus and solidity. But under the Music Hall MMF-5, which has isolating elastomers, and under the new Rega P3 (the replacement for the Planar 3), the improvements were noticeable: better overall focus and tighter bass. I also thought I heard an improvement with a 3D Sink under my Marantz DR-17 CD burner, but it wasn't as clear-cut an improvement. Unfortunately, my reference Ayre K-1 preamp and the Audio Research Reference phono stage and Reference 2 line stage are so tall that, in my racks, there was no room under them for Sinks.

I'd promised a phono-stage shoot-out for this column, but High End 2000 got in the way, and it's just as well — a few new phono stages have arrived in the interim, which should make competition even keener. What did the 3D Sinks do for these shimmer phono stages? Next time...

**In Heavy Rotation**

1) Yo La Tengo, _And then nothing turned itself inside out_, Matador 150gm LPs (2)
2) The Byrds, _Sanctuary: Rarities and Alternate Takes_, Sundazed 180gm LP
3) Gene Clark, _With the Gosdin Brothers_, Sundazed 180gm reissue LP
4) Louis Armstrong, _Satchmo Plays King Oliver_, Classic 180gm reissue LP
5) Johnny Coles Quartet, _The Warm Sound_, Classic 180gm reissue LP
6) Carla Bley/Steve Swallow, _Are We There Yet?, WATT/ECM CD
7) Tom Lehrer, _The Remains Of_, Rhino CDs (3)
8) David Chesky, _The Agnostic_, Chesky CD
9) Blonde Redhead, _Melody of Certain Damaged Lemons_, Touch and Go CD
10) Free, _Songs of Yesterday_, Island CDs (5)
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I knew that someone would find the Achilles' heel in my musings on medicine and subjective testing in May's "Undercurrents." As Ross Salinger notes in his letter in this issue (pp.10-12), the parallel I drew between medicine and audio goes only so far. To be admitted to the halls of medicine, alternative medical techniques are tested with blind tests. But subjective audiophiles usually eschew blind tests.

For Mr. Salinger, that's a problem, and he generously outlines a new kind of blind test to challenge me and other audiophiles: "Just have someone substitute cables or any other component without his knowledge in 50 trials over a two-month period." Then, he suggests, we would know "the facts about subjective listening tests," at least as far as my slightly alloyed golden ears are concerned. Mr. Salinger believes that I would have "no idea at all of what's been changed in [my] system."

The proposal cleverly circumvents a standard criticism of blind tests. I can't complain about the fact that I missed, say, the differences between 99.9% and 99.9999% pure copper cables because I was distracted by the curtains, the program material, or unfamiliar components in the test setup. I'd stay right at home with my beloved audio system. But I'd still have to keep a "daily diary" in which I would, in effect, review the performance of my system. Never knowing for sure if Mr. Salinger's blind-test elves had swapped a component or cable or tweak while I was out, I'd have to listen critically and make an entry in my diary during (or just after) every listening session.

Mr. Salinger doesn't think this is problematic. How, he asks, would "not knowing in advance" what has been changed in my system make me less able to hear the sonic effects that most audiophiles attribute to tweaks or cable-swaps? I have an answer for that, but it's not a simple one. The saying goes, "for those who don't, none is possible." Fortunately, the saying is about God, not blind tests. So here's an argument (proof's underrated cousin) to show that blind tests stink—even Mr. Salinger's audiophile-friendly version.

For argument's sake, consider a serious experience different from listening to music: making love, having sex, whatever you want to call it. Suppose some connoisseurs claim that very small factors—say, the precise angle of a haircut, the fiber content of clothes, eating certain foods, using certain soaps, or other small tweaks—make small but important differences in their amorous experiences. For them, they claim, it matters whether their partner uses 99.9% vs 99.9999% pure soap.

The arguments would be familiar. Skeptics waving the banner of science would say that these effects are illusions. Science understands a lot about sexual behavior, and these variables just don't enter the picture. Nor do they find that their own libidos start percolating when their spouses or lovers experiment with the tweaks in question. But they're open-minded, even to the idea that they work for only some people ("golden-...".) They'll believe, they say, when the alleged effects of these tweaks are shown to hold up under blind tests.

At first, the connoisseurs are enthused. "Blindfolds! Great idea!" But then the reality sinks in. Following Mr. Salinger's proposal, they will live their lives as they normally do while elves secretly and systematically adjust the variables in question. They will keep a diary describing their experiences. As best they can, they must say whether one of these performance-enhancing variables has been changed and, if possible, specify what that variable is. After two months, the skeptics will collect the diaries, analyze the results, and look for statistically significant correlations.

This test would be just about useless. Assuming they're wearing any, put yourself in the subject's shoes. During the test, you'll have something new on your mind: "How am I doing?" you'll ask yourself. "Is this particular sensation new, or something I've experienced before? Yes, it's different, I think. I'll have to find a word for that later on when I write in my diary. Oh, and what's that fragrance— is my partner using a different soap tonight? Hmm. Not sure about that one. But something seems different. Could this be a 'statistically significant correlation'?" And so on...

If such an inner monologue doesn't strike you as the opposite of an aphrodisiac, then you're unique, or too young to be reading this magazine. This test would put a damper on the phenomena it was designed to measure. When those diaries are collected and analyzed, they would have entries like "not quite as much fun... not going so well since this lousy test began."

Now, before objectivists go to their computers and fill John Atkinson's e-mail account with letters about how stupid I am, I am not claiming that listening to recordings and the pleasures of the flesh are equivalent (though there's...
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something to the idea of aural sex). I'm saying instead that this test would interfere with the behaviors it attempts to measure in much the same way, and for similar reasons, that Mr. Salinger's test would make it harder to hear the effects of tweaks and cable swaps. In both cases, most test subjects would fare poorly. But that would have less to do with their abilities than with this interference. It's simply more obvious in the former case than in the latter.

The interference arises because sensations and perceptions are as psychological as they are physiological. Experts say the mind is the main sex organ, and it has to cooperate in the right way with the rest of the body. Everyone knows what Elvis Costello meant when he sang, "The spirit is willing but I don't believe in miracles" (from "Boy with a Problem," on Imperial Bedrock, re-released on Rykodisc RCD 20278).

The mind and body have to cooperate when listening, too. Take the common wisdom that audio systems sound better late at night. One explanation is that AC power is cleaner at that time because of lower demand on the power grid. But it could also be because of lower demand on the mental grid. For me, the day is over, the phone's stopped ringing, and the promise of several hours' sleep is a comfortable buffer between me and tomorrow. I'm relaxed, and then I often do my best listening. That's when the characters of individual recordings, cables, or speaker positions (if I'm in the mood to tweak) stand out the most. On the other hand, if I indulge in a quickie listening session during the day, my system is more likely to sound dull and hi-fi-ist. It could be the power grid, but I think the problem is closer to home: my conscience. Then Elvis sings, "The ears are willing but I do believe I've got a deadline tomorrow ...

How relaxed could I be were I always wondering whether Mr. Salinger's elves had visited my listening room? Whenever I notice something about the sound quality that seems novel — and, remember, we're talking subtle effects here (no one doubts that swapping speakers makes an audible difference) — how can I help but wonder if it's due to the elves, my state of mind, the wax in my ears, the condition of the power grid, or what-have-you? It might even be a quality that's been there all along (in the system or in the recording) that I had simply never noticed. I'd be reasoning, supposing, analyzing, and, as a result, distracted from the intimate one-on-one session I want to be having with my audio system. It just wouldn't be the same. If it could talk, my system might ask me if something were wrong. It might even accuse me of infidelity.

Mr. Salinger's test is more demanding than it sounds. It requires you (ideally) to do two things at once that exclude each other. One cannot listen and write (or think about writing) at literally the same time. When I'm thinking about some difference I seem to hear — questioning if it's really new, fishing for the right adjective, etc. — and actually jotting down my thoughts, I will not be then listening to my system. It would be like trying to eavesdrop on two conversations or listen to two songs at the same time. Your ears take them both in, but the mind can make sense of only one at a time. The best you can do is switch back and forth.

Mr. Salinger's test requires a similar dexterity. The problem is not missing segments of music, but the switching back and forth between two states of mind. Returning again and again to my notepad and to these questions about what the elves may have done would prevent me from fully sinking into that relaxed but focused state of mind that's the hallmark of a good (late-night) listening session.

Unfortunately, the language of the debate obscures this point. The issue is not whether or not some audiophiles have "golden ears" in the same way that some people have good teeth or low cholesterol. Those qualities can be measured objectively at any time you like. Golden-eared audiophiles have ears and auditory nerves that function well and are good at extracting information from what they hear. That's the mental, psychological side of things that blind testing interferes with.

Nor are these circumstances unique to audiophiles. I doubt that Mr. Salinger's test "works perfectly in all other fields" and that audiophiles uniquely (and suspiciously) shy away from testing situations. Take food critics, poets, actors, or even audio engineers and ask them if they'll submit to controlled test situations designed to validate (or refute) their claims about their expertise. As long as they know that they'll be working in an environment outside of their full control, that variables will be changed behind their backs, and that their self-observations will later be scrutinized and analyzed, most will act, think, and perform differently. No matter how benign you try to make it, it's still a test, and people don't like tests. Many will self-consciously fear that they are making mistakes, will be distracted by that, and won't carry on naturally.

None of this counts against Mr. Salinger's observation that audiophiles can be full of hot air about sonic differences among components and cables. As he notes, there are lots of reasons and incentives to tell big-fish stories. But that issue has nothing to do with my point. Logic compels us to admit that it could be true that some audiophiles (at least) may clearly be able to discern subtle differences in one frame of mind, but not when they know that they are taking part in a test. Skeptics may doubt this interpretation all they like, but they can't disprove it. To be fully effective, Mr. Salinger, your test needs to eliminate this awareness. But without that, there's no diary describing listening sessions. And without diaries there are no data, and there is no test.

Still, there's something unsettling about my argument. If audiophiles avoid blind tests for these reasons, what are we to make of audio reviewers? In a way, they spend their professional hours in testing situations. They listen to components, live with them, and compare them in just those ways that, if I'm right, diminish one's audiatory acuity. Of course, the test anxiety is lower because they control precisely what's changed in their systems. Nonetheless, their observations are published for all the world to read and criticize. That would make me nervous.

There are always exceptions — even with my fictional blind tests of sexual performance. While the tiger in most of us would be subdued by the task of keeping a regular journal, some would jump at the chance. They'll do fine when sharing every detail with others, even — or especially! — if surrounded by lights and cameras. Could there be an undiscovered personality type that leads some into pornography and others into audio journalism?
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Most people who now listen to tube amplifiers began with a transistor amp, and know from experience that a tube amp of a given measured power output sounds louder than its nominally identical transistorized equivalent. The unofficial consensus is that you need two to four times the transistor power to achieve the same loudness as you would using tubes. In other words, given the (subjectively) undistorted sound level a 25W tube amplifier can provide, if you want the same loudness from solid-state technology you would have to replace it with at least a 50W transistor amp.

There has been much speculation about the reasons for these differences between measured and perceived performance. The oldest is probably the one that points out that tube amps tend to clip rather softly, whereas most transistor amps clip hard. So when you drive your tube amp into clipping, the occasional peaks will be compressed and rounded off—not clipped off, as would happen in a transistor amp, which is subjectively far more objectionable. Of more recent date are hypotheses that it is the different harmonic-distortion spectral contents of the two technologies that account for the perceived difference in loudness.

There is probably some truth in all of these ideas, but in the last months of the past century I reserved a couple of days to examine an idea that had been triggered by the CD Touch, recorded by my friend and colleague Eelco Grimm for cable manufacturer Siltech. It turned out that there is a directly measurable explanation for the discrepancy.

Edwin van der Klei of Siltech and Eelco Grimm are both audio purists, which is why they worked together on this project. Siltech wanted to celebrate their new G-3 cable (gold-dotted silver), which was used in the recording. Tube microphones were used, and the mike amp was Siltech's own tube preamp. During the mastering process, Eelco found that, even though the processing was being done in the digital domain, whatever processing he tried had a detrimental effect on the sound quality. He tried slight limiting to lift the average loudness to a more acceptable level, but even though this was done exclusively in the digital domain,

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1. While 25W may be the filament power-consumption figure alone of many big American tube designs, in Europe it is quite a normal figure for the output power of a tube amp. European speakers are just more sensitive, as well as being faster and livelier to boot. I do my normal listening on either a homemade 300B single-ended amplifier outputting some 10W (the exact figure depends on your tolerance of THD); or a pair of 40-year-old modified Philips power amps delivering about 4Wpc (measured)—EL34 push-pull in triode mode, class-A, no overall feedback. And I'm not ashamed to confess that the Philips are sometimes replaced by their baby brother with an output of 1.6Wpc.

2. This comparison assumes similar circuit topologies: both class-A, both push-pull. Otherwise, the volume difference will be greater. At the same measured power, class-A will sound louder than class-B, single-ended will sound louder than push-pull, etc.
it still degraded the sound. He tried level-shifting using Sonic Solutions, Meridian 51B, and Wave Renaissance EQ. He even tried 1-bit level-shifting on the data files using a specially written program.

Everything degraded the sound. The many kinds of noise-shaped dither tried also led to the conclusion that "simplest is best." In the end, van der Klei and Grimm decided to use no processing and leave the recording as it was, and apply flat dither when truncating from the master's 20 bits to the CD's 16 bits.

On Touch you hear percussion music performed by a single player. Percussion instruments by their nature are extremely dynamic. On practically all commercial CDs, compression is used to render this dynamic signal suitable for playback in a home environment, but the dynamics on Touch are left unsullied by compression. As a result, its average level is very low. Play Touch with your volume control at its normal setting and you'll hear almost nothing—but some peaks come within 0.5dB of clipping. [I listened to this CD and was astonished by the dynamic range captured by Eelco Grimm — and yes, it plays very quietly. — Ed]

Listening to this CD renewed my curiosity about the puzzling perceived dynamic performance of tube amplifiers, and I finally did what I should have done a long time ago: I hooked up my oscilloscope to one of the speaker outputs of my 300B amp and observed the screen while Touch was playing.

Holy Moses. I saw something like 30V peaks from an amp that, when driven with sinewaves and loaded with an 8 ohm resistor, never showed more than a 14V peak — more than twice the voltage assumed technically possible. You'd need a 50W transistor amp to realize the same peaks my 9W 300B launched without wincing at my speakers.

However, I didn't know how to shoot a picture of such a moving target, and I don't own a digital 'scope. To record this behavior for history, I carried the amps to my car and drove to the magazine where Grimm works as a technical editor, and where they have an Audio Precision System Two. We loaded the amps with 8 ohms and fired a variety of pulse-like signals at them, but never arrived at more than 1.4 times the peak voltage observed with a steady-state sinewave near clipping. I was disappointed and puzzled. What was happening here?
runs I started measuring for real. The floor was soon littered with printouts; I'll share the most revealing with you.

First, I loaded a 25W transistor amp with 8 ohms resistive. It clipped at almost 17Vp (peak) on a continuous sinewave (fig.1). (Note that the vertical scale used here is 5V/division.) I then connected the amp to my main speakers (Audio Note E's) and cued Touch to five seconds into the first track, where the percussionist hits a tambourine very hard—so hard that, during recording, he broke two tambourines. The 'scope was triggered to capture the first 8ms of this stroke, which sets off a train of pulses at basically 600Hz—so I also chose 600Hz as the frequency for the sinewave measurements. The result is about 18Vp (fig.2). This slight increase can be explained by the fact that this amp is not fully class-A, implicating that, under pulse conditions, the power-supply voltage will be slightly higher than when driven with a continuous sinewave.

I then simulated the tambourine stroke by an 8ms train of 600Hz sinewaves, then tried a single-period 600Hz burst, then a different speaker as a load, then 8 ohms and bursts, then tried to push the amp harder (to see if there was any-

thing "beyond clipping"). In every case, I ended up with the same 18Vp.

I then connected my 300B amp and repeated the tests, with the 'scope's scale set to 10V/div. Fig.3 shows that this amplifier went into mild clipping (estimated THD 3%) into 8 ohms at 14Vp for the positive, least-clipping side, and 11Vp negative. This suggests a maximum output power of 11W RMS. Doubling the amp's input voltage produced heavy clipping at 17Vp positive.

I replaced the 8 ohm load with the speaker and tried to see how far I could crank up the volume with this passage instead of the usual steady-state sinewave condition, the heavy positive clipping could have been avoided. This deserves investigation, but that means a whole new project...

I then tried to simulate the tambourine stroke with 600Hz single-sine and 8ms bursts. The results were roughly similar into the speaker load, but the amp bottomed out at 19Vp into an 8 ohm resistor. I tried the Touch-at-0:05 signal and the 8 ohm load: same 19Vp. So it had to be an interaction between the tube amp and the speaker. I connected a different speaker, an old Wharfedale Denton 2XP, and got an astonishing 39Vp.

Look at that
36Vp in the negative half of the picture—it would take an 80W class-A transistor amp to allow such a voltage excursion!

Fig.5 4W EL84/triode-mode push-pull tube amp into 8 ohms, sinewave just into clipping, 8.5Vp, 5V/vertical div.

Fig.6 4W EL84/triode-mode push-pull tube amp into
Audio Note E loudspeaker, 0:05 into track 1 of Touch, driven to maximum produced 15Vp, 5V/vertical div.

Fig.7 25W transistor amp with 3.5 ohms in series with output, system into 8 ohms, sinewave just into clipping, 12Vp, 5V/vertical div.

Fig.8 25W transistor amp with 3.5 ohms in series with output, system into Audio Note E loudspeaker, 0:05 into track 1 of Touch, driven to maximum produced 175Vp, 5V/vertical div.
“Does real wood sound better than vinyl?”

Matt Polk, Speaker Specialist

It's common sense: A wooden speaker sounds better than a vinyl speaker. Or does it? Actually, a speaker's finish is just that—a thin layer covering the speaker enclosure. Most speakers are covered in 'wood-colored' vinyl. Even so-called 'real wood' speakers usually use thin wood veneers instead of solid hardwood.

Cabinet Construction 101
What's really important to speaker sound is what's underneath the veneer or vinyl finish. Speaker enclosures should be rigid and non-resonant. Solid construction ensures a speaker that doesn't hum, sing or buzz along with your music. (Leave that to your tone-deaf brother-in-law.)

The most common enclosure material is particleboard: pressed and glued wood chips. Typical speakers use 3/4" particleboard; some are even thinner. Better speakers use a material called MDF ("Medium Density Fiberboard"): a denser, less resonant (and costlier) material than particleboard. The enclosures on my speakers have braced 3/4" MDF side walls. I like to make the front panel, or 'baffle,' even thicker—1 inch—to suppress unwanted cabinet resonance where it's most likely to occur; on the driver mounting surface.

The Knuckle Test
How do you tell if a speaker is well built? Retailers frown on customers taking display speakers apart to see what they're made of, so leave your screwdriver at home and use your knuckles. Knock on the side, front and back panels of the speaker. Listen for a non-resonant 'thud,' (good) or a hollow 'boing.' (Hint: 'boing' is bad.) Pick the speaker up; heavier speakers aren't automatically better, but it improves the odds that the speaker is well made and accurate.

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Herein lies a key to another mystery: It is well known that tube amps, and especially single-ended variants, are choosy about the speaker they have to drive. High sensitivity (preferably >90dB/W/m) is a necessary condition, of course, but not a sufficient one. Pick a speaker that, impedance-wise, looks like an 8 ohm resistor (the theoretical ideal!) and your tube amp will sound restrained.

By now I had grown pretty curious about how my 4W push-pull triode would fare. Fig. 5 gives the 8 ohm situation: Vp is about 8.5V. (As this is a lower-output amp, the vertical scale is again back to 5V/div.) Defining clipping as 3% THD, the scope indicates a 4.2W RMS power rating. Pushing further leads to hard clipping at 10.5Vp output. Playing Touch at 0.05, the speaker load managed to produce fig.6, with a positive Vp of 15V—not as shocking as with the 300B, but this still implies almost a doubling of the Vp under steady-state conditions, and represents a quadrupled transient output power. With the Deuton 2XP, the peak output was 15.5V—very close to that of the 25W transistor amp. (Not bad for a tiny triode, eh?) I repeated the simulation tests, but nothing new emerged.

The interaction between speaker and tube amp haunted me. Both tube amps operated without overall loop feedback, meaning that their internal output (source) impedance was about 3.5 ohms, compared to an effective 0 ohms for the transistor amp. What if I added an external 3.5 ohm resistor to the latter? The output under steady-state conditions would fall, of course. See fig.7: Vp is now 12V against the 17V measured earlier directly at the output. But with a speaker hooked up, the maximum peak voltage on Touch was 17.5Vp positive (fig.8). The transistor amplifier's output at clipping had increased almost by a factor of 1.5.

However, the little push-pull triode still fared better at 1.8x, and the 300B SE was supreme at 2.6x. So there's more at work than just the output impedance. Magnetic energy stored in the output transformer? Unlikely: I would have seen it at work with an 8 ohm resistive load also. And I didn't.

So tubes do something special transistors can't. But we already knew that, didn't we?

3 Compare this to fig.2 and note that, in both cases, the transient output level into a speaker load is almost the same regardless of the presence of the external 3.5 ohm resistor—nothing gained, nothing lost. Would this externally-mixed transistor amp now suddenly sound tubelike? Anyone care to try?

4 While measuring earlier with the Audio Precision, I did see a 1.4x increase in Vp with pulse-like signals, but as I was disappointed I made no prints. Stupid. And I haven't since been able to reproduce this result using the HP gear. I have no clue why frustrating.

---

**Single Crystal™ Wire for Superior Audio and Video**

*Stereophile April, 2000 Recommended Components issue: SD (Shannon Dickson) found the well-made Harmonic Technology line of cables and interconnects competitive with the best he's heard, "and a real bargain to boot."*

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"When asked to re-create the dynamics of a Dolby Digital soundtrack, the Monitor Audio system answered with a resounding 'bring it on!'"

Audio Magazine

"The imaging was amazing – the kind of imaging that keeps me listening..."

The Sensible Sound
In the past, my brother and I would talk on the telephone about twice a year, but now that I have a computer and e-mail, he sends me messages almost every day. Recently he's been very excited about his new audio/video system.

"I love my new sound system," he writes. "It sounds really great! Only problem is, my new receiver has AC-3 and my DVD player and my satellite receiver are old. They don't have AC-3."

"That's great. How's the family?"

"They're fine. What should I do about my receiver?"

"Well, I guess you'll have to get a new DVD player that handles AC-3. Make sure it has a progressive-scan video output. The new satellite receiver should also output AC-3 and progressive-scan. And make sure it can process HDTV. When are we getting together?"

A week later, he says, "Wow, I have all this hi-tech equipment, but my six-month-old rear-projection TV doesn't handle high-definition."

"When you bought that TV, I told you to make sure it was HDTV, but you said it didn't matter. Now you need a new TV. Want to meet next week?"

The next day: "Wow, the hi-def picture I get on my brand-new rear-projection TV is really amazing and the sound quality of the AC-3 is great, but now I have a cool new toy, a TiVo. I'm too busy with my new system to get together — I have to figure out how to use the TiVo."

"I know about HDTV, DVD, and MP3. I know about Devo and diva; Devo was a rock band from the '70s. A diva is an alien with blue skin and the voice of an angel. She mesmerizes the audience while their space-age cruise ship is attacked by a pack of angry dogs. What's a TiVo?"

"Get with it, sis! You're living in the Dark Ages. A TiVo is a hard-drive-based television recorder and controller. It can automatically record your favorite program and delete the commercials. You better do some research and learn about this!"

I have to ask: "Did you get an MP3 player yet?"

"What's an MP3 player?"

"Better do some research, Mr. Techno-Wiz."

"What is it? I want one!"

I decide to leave him hanging. Forget it, I say to myself. Go offline and listen to some music.

I walk to my music room and close the door behind me. I caress the smooth metal housing of my high-powered single-ended amp and sniff at my preamp's glowing tubes, my nose tingling at their warmth. Am I a music-lover or an equipment-lover? That is the question.

My thoughts wander back to my brother's e-mail and his new obsession with technology. He plays the guitar and loves jazz and rock. With a little encouragement, maybe he'll develop a love of high-end stereo systems.

The turntable catches my eye, and once again I gaze in wonder at its heavy platter and sleek tonearm — though the turntable technology was invented a century ago, the basic design remains unchanged. In my mind's eye, I see a turntable platter spinning, its motion reminding me of the earth spinning on its axis and Newton's theory of gravity.

The tonearm is a mechanical masterpiece, a delicate balance of weight and counterweight; I hold it gently in my hand and think of Newton's Laws of Motion, now..."
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rendered approximations by recent advancements in scientific theory. I look at my CD player and contemplate the invention of computers, the Internet, the development of digital technology. I'm living in the computer and information age; all of the CD's data can be stored on a tiny computer chip — amazing.

Thoughts of the new physics come to mind. I've always hated math, but I'm fascinated by the new theories of physics. After 30 years, I've finally learned that rational numbers are whole numbers, like 3, 10, and 250, or decimals like 0.50 or 0.25 — so exact and unquestionable. Well-defined and orderly, these numbers remind me of my bank, and people lined up in neat rows: the account holders' line, the non-account holders' line, the information line, etc.

Then I think of irrational numbers, like Pi and e with their infinite stream of decimals, and am reminded of my friends and family. Their behavior is unpredictable, the choice of possible responses to them infinite and chaotic. Physicists call the degree of disorder in the universe "entropy." Irrational numbers don't have a simple solution; their complexity gives rise to the Theory of Chaos — a universe of randomness guided by a creative force.

Since the beginning of civilization, musicians and composers have called on this creative energy to produce beautiful melodies, harmonies, and rhythm. It's the music that sets our spirit free. The beauty of the music is the raison d'être of high-end audio.

I find myself dusting off an LP of Debussy's La Mer, with Charles Dutoit conducting the Montreal Symphony Orchestra. I turn up the volume and the music engulfs me, washing away the tension of a tough day in the chaotic reality of the new millennium.

In my reverie I'm standing on a beach, a surfboard under my arm. (This is truly miraculous — I can't swim.) The sun beats down on my body as I paddle out to meet the waves. The ocean roars in my ears as I set my balance and feel a wave carry me along in a rush of speed. I feel the moon's gravitational pull as the wave rushes toward the beach. I experience the energy and magnificence of nature at work — the same energy that sends a stream of electrons from the electric socket, through the power cord, and into my amplifier to result in beautiful music.

Now I'm on stage, standing on a podium before the Montreal Symphony. I raise my arms, point the baton, and the orchestra plays the opening bars of this beautiful piece of music. The notes of La Mer race through my mind as I urge the orchestra to join together in creative ecstasy. The magic of the music casts its spell on musicians and audience. I cue the bass section and feel the deep rumble in the pit of my stomach. I cue the brass section, but before I hear a sound, a voice calls to me —

"Gigi, it's four in the morning and you're asleep on the couch. Please turn off the music and come upstairs."

Am I a music-lover or an equipment-lover? That is the question.
Stereo Review, June 1998
Tom Nousaine

"... the CT-120 is one of the few subwoofers I've tested at any price that could produce clean output at 20 Hz ..."

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neil finn

Stephen L. Betts

ew Zealand-born singer-songwriter Neil Finn's musical journey has included several side trips, but he's rarely been off track for long. In 1985, the phenomenally crafty songwriter derailed his new-wave band, Split Enz, and headed in a more pop-oriented direction with Crowded House. Buoyed by their biggest hits—"Don't Dream It's Over," which reached No.2, and "Something So Strong," another Top Ten track from their eponymous 1986 debut album (Capitol, 46693)—the trio became an American and international sensation in the late '80s. But three subsequent albums chock-full of solid, quick-witted pop failed to recapture that early success in the States, and Crowded House called it quits in 1996.

But even as Finn began his solo career with the release of the amusingly titled Try Whistling This (Sony/Work 69372) in 1998, the Crowded House legend refused to die. Fans familiar with Finn's live shows clamored for more, knowing that several House tunes remained unreleased. In late 1999, Finn relented and compiled the posthumous Afterglow (Capitol 43524). The 13 tunes on the new CD date from 1985 to 1994, but, to the sheer delight of Crowded House fans—and to Finn himself—they sound just as new and exciting as if written and recorded last week.

"It's kind of a contradictory thing," Finn said during a recent phone interview from his New Zealand office. "It was nice to discover that there were a lot of things in the vaults that were worthy of release that I had completely forgotten about. Then, when I compiled and mixed a few of them up, it started to sound to me like it was going to be a really good record. On the other hand, you don't want to spend all of your time working on old stuff. There was the feeling of 'Well, I'm really mostly concerned with getting on with something new. But, man, it would be good to round this off, and these songs deserve to be heard.'"

Chief among the songs deserving to be heard is the luscious ballad, "I Love You Dawn," which Finn composed for his wife and had originally recorded for the album that became Woodface (Capitol 46682). Another highlight is the soaring "I Am In Love," which Neil says was probably passed over initially because of the directness of its title; along with the affectionate honky tonk of "Lester," written for Finn's faithful Dalmatian following a life-threatening mishap.

The rest of the material is less direct and/or personal, but Finn's delicate touch remains on such tracks as "Recurring Dream," which became the title of the band's 1996 greatest hits album...
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hits compilation, though the song itself wasn't included on that disc. And from drummer Paul Hester comes the wacky ode to TV, "My Telly's Gone Bung" — it will never rank as a classic, but does serve to remind listeners that Crowded House was, indeed, a group effort.

Although Finn has been in two high-profile groups, has occasionally recorded with his brother Tim, and continues a successful solo career, he admits that Crowded House remains the basis of his international reputation.

"I don't mind, because it's all good stuff and I'm proud of it. The only odd thing is that I've had distinct cutoff points between one entity and another, and in most cases I don't venture between songs on stage. Though I do actually always throw in a few old ones."

In preparation for his follow-up to Try Whistling This, expected later this year, these days Finn enjoys working more in his home studio.

"There are more options to recording now. You don't have to necessarily have a song worked out if you're working in a digital fashion, like ProTools or something. You can get a spirited take that may be wrong in structure or some detail, and you can edit it up afterwards a lot more easily than you used to be able to. You could always do that a bit with multi-tracks. But basically nothing's changed — a good idea's a good idea. You can't dress up a turd, as it were. If you haven't got a good song, or a good groove going to start off with, no amount of technology's going to help you out."

When it comes to gadgetry, Finn admits he's "no 'tech head," though he is fascinated with the applications of fancy new devices.

"Things sort of accidentally end up on my desk and I'll try them out, like little pedals and stuff. But I'm not somebody who admires the specifications of these things."

As a songwriter, Neil Finn has drawn the occasional comparison to Paul McCartney, and has worked with another obvious inspiration, the Byrds' Roger McGuinn, with whom he's recorded a handful of Byrds cover tunes.

As for future volumes of unreleased Crowded House tracks, Finn says don't count on it — though a few choice cuts could be just a mouse click away "for enthusiasts, and not really for general release." He's in the process of building a website on which Crowded House demos and various other recordings will be available for downloading. Called "nilfun.net" (Finn says that's how his name is pronounced in New Zealand), the site is a highly entertaining multimedia experience. Several other Split Enz, Crowded House, and Neil Finn fan sites are currently active on the Internet, and fans continue to snap up the odd bootleg recording.

Where ideas and desires for future projects will lead, Finn says, "There's no rhyme or reason to it. Songs come when they come. Generally with a deadline, that helps a lot. Having a record coming up means you crank it on a bit. But months go by and I don't write anything, so it's not a regular or dependable thing.”

Finn says his family life "and other things going on in New Zealand" keep him from working constantly, but once he starts writing and recording, he buckles down a bit.

"I'm not very prolific," he laughs, "but I keep cranking them out."

"THERE'S NO RHYME OR REASON TO IT. SONGS COME WHEN THEY COME. GENERALLY WITH A DEADLINE, THAT HELPS A LOT." — NEIL FINN
Could all these music lovers be wrong?

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You don't have to take our word for it. Here's what other leading manufacturers, reviewers, and audiophiles are saying about the New Avantgarde Series 2.0 Hornspeakers—

"These speakers (UNO 2.0) are so good, it's scary." —Gordon Rankin, Wavelength Audio

"The new Series 2.0 Avantgardes have raised the reference level for loudspeakers." —Geoffrey Poor, National Sales Manager, Balanced Audio Technology

"It's true; I spent a considerable amount of time auditioning the Duo 2.0 at the St. Tropez... The combination of clarity, lack of distortion, and stupendous dynamics was most impressive. Easily, Best Sound at Show, and I mean anywhere in Las Vegas!" —Dick Olsher, CES 2000 report, EnjoyTheMusic.com

"Heard the DUO 2.0s for myself and totally agree—they are truly stunning. Yes—one of the finest sounds at the show as well as anything I've ever heard... period!!" —Bill Wells, The Audiophile Voice

"The Avantgarde Acoustic room... afforded me my first listen to the stunning DUO Series 2 horn loudspeaker. Driven by all BAT components, the DUOs sounded glorious, and far less colored than any other speaker I've heard employing horn-loaded drivers. The sound of massed choral voices was particularly sumptuous, the speaker conjuring an eerie apparition of the original event. A true achievement. Not to be missed." —Andrew Chasin, Groovenoise.com

"I walked into the Nirvana and Wavelength Audio room to be greeted by a pair of eye-popping Avantgarde loudspeakers. This was my first experience with these horn loudspeakers and I was rewarded with a positive experience. The midrange did not have that cupped-mouth, hollow sounding hoot that most people associate with horn loudspeakers. In fact the midrange was open and clear with a slight warmth to the sound that added balance to the overall sound...this system will really change audiophiles' perceptions of good sound." —Gregory Kong, CES 2000 report, planethi.com

"Absolutely Amazing.... The response of those who have heard the unbroken-in speakers (DUOs). Imagine after they are broken in." —Jamal Instrum, Foss Audio

"Needless to say, they are awesome. I totally agree with your premise that the music's message comes through! Two quite obvious events convinced me: 1) I constantly tapped my feet while listening—even to music I normally wouldn't listen to. 2) When it became time to leave, I really didn't want to go. It was leaving the music that was traumatic.

They are certainly everything you said they were. I don't ever recall listening to any speakers that were more totally satisfying." —Dr. Ron Stroud

"I have NEVER experienced anything that seems to so closely tie the listener to the emotions the artist is expressing. It was as if you were wiring your preamp to my brain. Sound staging, timber, speed, dynamics
are all there, but these horns do something else to the listener that I have never experienced.

I was overwhelmed, especially with the sad, emotional music we were playing at first. Indeed, I found them powerful—emotionally..."

—Dr. Patrick Conner

"As far as soundscape and imaging goes, the UNOs ability to "pressurize," or fill my room with a full and complete soundscape, was awe inspiring.... Imaging was...properly sized and each instrument also had its own sphere of acoustic reverb (or "hall sound").... Depth was realistically portrayed of course. Even more amazing was how well the UNOs in my room disappeared to the point that, when dictated, instruments/sounds were easily produced outside the speakers (and not just between them)

The upgraded SUB 225 CTRL PRO as supplied with my pair of (Series 2.0) UNOs sounded very fast and clean.... The UNO is the very first speaker where I felt my prized M+K MX2000 subwoofer was never needed during pipe organ or music's other low frequency needs.

These speakers are so transparent that they will, I repeat, will tell you about the synergy of your system or lack thereof. In my listening room the UNOs' unbelievable all out clarity and immense dynamic capabilities was enough for me to part with my own hard earned cash. You just might too. In the end what really matters is that you... Enjoy the Music."

—Steve Rochlin, EnjoyTheMusic.com

"Up until now I have had reservations about horns. ...As a consequence I had expected the DUOs to sound coloured, ultra-dynamic, and to a certain extent the sum of two rather obvious parts. That is not the case.

...They can exhibit stunning ranges of subtlety, dynamics and ultimate loudness...exemplary imaging to recordings...pretty much seamless top-to-bottom even frequency response in-room...very uncoloured...transparency that many speaker systems are still striving for. They have an uncanny presence and immediacy ...dynamic range matched more closely to real life than anything else I have heard.

So, to conclude, these speakers are simply the best I have ever heard in my domestic system. Nothing else has come close to recreating the power and fineness of a full organ, or bringing a full orchestra into the living room, and conveying the emotion of a solo performance.

Electrostatics now have a serious contender in the transparency stakes. These horn systems are so revealing...it's hard to imagine using anything else. My favourite reference speaker is now ousted in favour of these music-making devices. Don't be swayed by people telling you they don't perform and are coloured. These speakers make music in a way that you simply can't argue with."

—Chris Beeching, Audio Quarterly, UK

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Convergence. There, I've said it. I swore I wasn't going to use the "C" word, but when you're faced with writing about a product that smashes the boundaries between component categories as completely as the CardDeluxe does, you have little choice.

"But it's only a PC soundcard," I hear you groan. "What's the big deal?"

The big deal is that while soundcards — since the very first SoundBlaster — have aimed low with respect to sound quality, and have often failed to reach even that standard, the CardDeluxe (and some other new cards I intend to write about at a later date) represents a no-compromise attitude to computer sound that is worthy of an established high-end audio company. I was impressed with what I saw and heard of a prototype CardDeluxe at an AES Convention a couple of years back, so when Digital Audio Labs contacted me in fall 1999 about a review, I jumped at it.

A Delux Card

The CardDeluxe is a small printed circuit board that plugs into one of a PC's PCI-bus slots. Unlike regular soundcards, it does not offer a MIDI port or FM synthesis. What it does offer are two channels of balanced I/O using TRS (tip-ring-sleeve) ¼" phone jacks, and two channels of S/PDIF digital I/O using RCA jacks. It also offers 24-bit word depth, a sample rate of 96kHz, an optional AES/EBU digital interface adapter ($50), and an extension port to word-sync it with other CardDeluxes so that an inexpensive PC can be used as a high-resolution multitrack digital recorder. Its specifications offer virtually state-of-the-art A/D and D/A conversion, using delta-sigma converter chips from AKM. The fact that the CardDeluxe retails for less than $600 can be explained by the fact that its manufacturer doesn't have to sell you the two most expensive parts of an audio component: the power supply and the chassis.

Installation

The first PC in which I installed the CardDeluxe, a 350MHz Pentium Pro, already had an integral soundcard on its Intel motherboard. The Windows 95 plug-and-play feature made installation straightforward. All I had to do was, when prompted, insert the diskette with the driver software, and select — from the Windows Control Panel's "Multimedia" submenu — the CardDeluxe as the default device for record and replay. But even though the Windows Device Manager reported no interrupt or address conflicts, I occasionally experienced the No Sound Syndrome.

I therefore reinstalled the CardDeluxe in a less-well-specified PC: a Pentium MMX running at 166MHz, which is the minimum computer recommended by Digital Audio Labs (DAL). I upped the RAM to 64MB and added a second, 27GB IDE hard drive that I picked up cheap at Office Max, then a third 10GB SCSI drive. (That you can never have too much hard-drive space has been my experience from the Sonic Solutions audio workstation that I use to edit, mix, and master the Stereophile CDs.) The CardDeluxe proved perfectly reliable in this PC.

The card saves sound files as standard two-channel PCM WAV files. It deals with 24-bit data in the same manner as the Soni by saving each word as two 16-bit bytes, which is inherently wasteful. (See what I meant by hard-drive space?) And, at the highest sample rate of 96kHz, you're writing data to or reading it from the hard drive at more than 6 megabits/second. This might be too much for older drives.

Sound

I mainly used the CardDeluxe to output 88.2kHz- and 96kHz-sampled digital audio data to the Mark Levinson No.30.6 D/A processor during my regular review auditioning. The DAL performed sterling service in this role, though I found that relocking the datastream with a dCS 972 maximized sound quality. And it was kind of cute to hear the mighty Levinson gear reproducing all the various Windows sounds. The
Win98 opening noise was envelopingly trippy, suggesting that they're not all pocket-protected nerds up in Redmond.

The analog outputs offered no clue that the DAC chips were housed in a PC rather than a standalone processor of high-end pedigree. The basic presentation was full-bodied, with good low-frequency extension and definition. Going from CD-standard playback to my now quite extensive library of 24/88.2 and 24/96 WAV files, the improvements in transparency and sonic ease were readily apparent through the CardDeluxe. Listening to my 88.2kHz masters of Robert Silverman's Beethoven sonata cycle, due to be released this month on the Canadian Orpheum-Masters label, was deeply satisfying.

As well as WAV files, I auditioned some commercial 24/96 recordings through the CardDeluxe's DACs using a Panasonic A-120 DVD player's S/PDIF data output. Compared to the Panasonic's internal DACs, the CardDeluxe's presentation sounded fuller, with a considerably smoother midrange and a more solid-sounding presentation.

As good as the CardDeluxe's analog outputs sounded, they were no match for the $15k Levinson's. For a more relevant check, I did some level-matched comparisons using the soundcard's digital output to drive the $450 Musical Fidelity X-24K D/A, which I reviewed in February 1999. On some live 24/96 drum recordings, the differences were very small: the CardDeluxe's bass was fuller and more extended, the MF's perhaps better-defined. On my hi-rez piano masters, the differences in sonic character were more apparent. The distinction in the bass remained the same, though I would give the edge in LF solidi-
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by to the PC card, the Musical Fidelity having a somewhat exaggerated upper bass.

But the standalone processor gave both slightly lower midrange "clang" to the sound of the big Biwondorfer, and a better-fleshed-out sense of space. And on Sara K.'s "Brick House" (from Hobo, Chesky CH19DJ177), K.'s distinctive voice revealed a little more grain from the CardDeluxe than from the MF. But while the sonic characters of the two D/Acs were different, their presentations were sufficiently similar in absolute quality (other than the PC card's flatter soundstage) that I could reverse my preference for the Musical Fidelity by boosting the volume of the CardDeluxe by 1dB.

I used the card's analog inputs mainly to archive LPs and aging open-reel tapes to 88.2kHz/24-bit WAV files. While the CardDeluxe's ADCs were not as deathly quiet or as grain-free as the professional dCS converters I use for the Stereophile recordings, they were amazingly transparent and detailed, considering the enormous difference in price.

One thing that should be remembered when recording straight to hard drive is that your PC should be boot up "clean": No screen savers, no utilities that decide to "image" a hard disk at arbitrary intervals. You want nothing else going on while you're streaming the data to disk. Even then, at the

**Measurements**

I looked first at the DAL CardDeluxe's A/D converters. The analog input impedance was 10.8k ohms across the audioband, dropping very slightly at 20kHz. With the card's jumpers set to the higher of the two output levels (this is how I did all my auditioning), the analog input clipped at 7V RMS in, equivalent to 706V out, and 16.9dB above a nominal 1V output level. Fig.1 shows the complete A/D/A frequency response at three sample rates: 32kHz, 48kHz, and 96kHz. The audioband response is flat, but at the highest sample rate the top-octave output droops a little at both frequency extremes.

The CardDeluxe converters output 24-bit data words, but without cryogenic freezing of the circuits and ultra-low-impedance topologies, there isn't an analog circuit yet designed that can achieve a full 24 bits of dynamic range. Not that this matters — while the practical limit that can be currently achieved is around 20 bits, digital data with a true 20 bits of resolution should be sonically transparent to all listeners under all conditions.

The red trace in fig.2 shows a high-resolution spectrum of the digital data produced by the CardDeluxe's A/D converter driven by a 1kHz analog sinewave from my Audio Precision System One. (The digital data were analyzed by a PrismSound Dscope II, which has sufficient mathematical dynamic range to examine 24-bit data.) The noise is below -140dBFS, and though distortion components can be seen at two, four, five, six, seven, and eleven times the fundamental frequency, the highest in level of these — the second harmonic at 2kHz — is still an astonishing 111dB below full-scale. However, sidebands at ±250Hz can be seen surrounding the 1kHz peak, as well as some lower-frequency components, including one at 60Hz. But at -113dB, this is of only academic interest.

Though fig.2 indicates better than 16-bit dynamic range for the CardDeluxe's analog inputs, it is not quite up to the best. The blue trace in fig.2 shows a spectral analysis of a 1kHz tone generated in the digital domain by the Dscope and dithered to 20-bit word length. Its noise floor lies approximately 11dB below that of the CardDeluxe's A/D converter, suggesting that the latter achieves slightly better than 18 bits' dynamic range. This is still excellent, and some of the analog noise might indeed be due to the Audio Precision generator.

The digital input appeared to be transparent to the input data, i.e., the data words stored on the computer's hard drive were the same as output by the digital source. (I understand that this is not always the case with inexpensive soundcards.)

Turning to the balanced analog outputs, the source impedance was 598 ohms across the audioband, and absolute polarity was correct with XLR inputs wired with pin 2 hot. Channel separation was better than 120dB below 1kHz, and though some slight capacitive coupling between channels reduced this to around 100dB at 20kHz, this is still superb performance.

To test the D/A converters, I mainly used 44.1kHz WAV files played back with CoolEdit 2000. This gave one anomaly, visible in fig.3 — a graph of the CardDeluxe's frequency response with and without pre-emphasized data. While the response is superbly flat with regular data, driving the card with pre-emphasized data, both from the WAV file and from an external CD transport, gave the top response, which shows that the appropriate de-emphasis was not being applied. I checked that the "emphasis" flag was correctly set in the external source stream. It was, suggesting that this flag was not being recognized by either the CardDeluxe or CoolEdit 2000. But given that

**Fig.2** Digital Audio Labs CardDeluxe, A/D spectrum of 1kHz sinewave, DC–22kHz, at -1.7dBFS (red trace); and of digitally synthesized, TPDF-dithered, 20-bit 1kHz sinewave (blue). (Linear frequency scale, 10dB/vertical div.)

**Fig.3** Digital Audio Labs CardDeluxe, D/A frequency response with (top) and without (bottom) de-emphasis at -12dBFS, 44.1kHz sampling (right channel dashed, 2dB/vertical div.)

**Fig.4** Digital Audio Labs CardDeluxe, D/A 1/2-octave spectrum of dithered 1kHz tone at -90dBFS, with noise and spurious, 16-bit (top) and 24-bit (bottom) data, 44.1kHz sampling (right channel dashed).
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high sample rates and word depths, I occasionally got a dropout in the new file, which might have been due to the drive not keeping up over a long period of time. New, high-rpm drives are what you need.

**Summing Up**

Even though the Digital Audio Labs CardDeluxe generally offers superb measured performance—astonishing performance, considering how little it costs in comparison to high-end audio gear—the fact that it must be used in the hostile electronic environment of a PC did make its presence known in the narrow-band jitter analysis (see "Measurements" sidebar). Does this behavior correlate with the slight treble graininess I noted from the card's analog outputs? It's impossible to say. And, of course, this problem can be circumvented by feeding the CardDeluxe's S/PDIF data output to a separate high-end digital processor.

What I can say is that, at $595, the CardDeluxe is the most cost-effective way of making a PC an integral part of a high-end system. You can use it to make your own 24/96 recordings while we all wait for DVD-Audio. And for archiving your precious LPs onto cheap-as-dirt CD-Rs, look no further. You can pack between 15 and 18 minutes of 24/96 WAV data onto a regular, computer-grade CD-R.

the chances of the CardDeluxe being used to decode pre-emphasized data are very small, I don't see this as a serious problem.

Fig.4 shows a ½-octave spectral analysis of the CardDeluxe's analog output while it decoded 16- and 24-bit WAV files representing a dithered 1kHz tone at -90dBFS. The increase in word length drops the noise floor by around 15dB, which implies excellent dynamic range—one of the better-performing DACs I have measured. There is a narrow 60Hz peak in the left channel's 16-bit trace, but as this is not present in the 24-bit trace, I assume this is aritical. Repeating the test with 16- and 24-bit "digital black" data revealed the presence of ultrasonic noise from the sigma-delta DAC's noise-shaping. However, the drop in the audioband noise floor with the 24-bit data was now almost 18dB, implying superb absolute performance around the 19-bit level.

Linearity error was also very low: less than 1dB to well below -110dBFS. As a result of the low noise and superb linearity, the CardDeluxe's re-creation of an undithered 16-bit, 1kHz tone at -90.31dBFS (fig.5) is essentially perfect, clearly showing the three discrete voltage levels described by the digital data.

When it came to distortion, the CardDeluxe's analog outputs were pretty much bombproof. Driving a full-scale 50Hz sinewave into 600 ohms gave the spectrum shown in fig.6. All the distortion components are below -100dB, which is below the Audio Precision's own floor. Intermodulation distortion (not shown) was also very low, with the 1kHz difference component lying at -100dB.

So far, the CardDeluxe measured as well as the $11,000 Accuphase DP-75V CD player, reviewed in the July issue. But despite such excellent readings, the DAL's jitter performance was disappointing. I assess jitter by driving the device under test with data representing a high-level tone at 11.025kHz, with the least significant bit toggling at 229Hz. I use the Miller Audio Research analyzer to average sixty-four 32k FFTs on the device's analog output.

The resultant narrow-band spectrum for the CardDeluxe's analog output is shown in fig.7. The actual jitter level is respectably low at 552 picoseconds p-p, with the highest-level sidebands at ±260Hz (marked with a purple "3" in this graph), which is suspiciously close to the frequency of the sidebands seen in fig.2. Data-related jitter (indicated with red numeric markers) is actually quite low, the ±229Hz sidebands contributing just 47ps to the total. But the CardDeluxe's noise floor features a lot of narrow spectral spikes (blue markers) that cannot be due to jitter, as they are not pairs of sidebands.

I repeated the measurement using a PS Lambda transport to drive the CardDeluxe's S/PDIF input. The jitter level rose to 846ps, mainly due to an increase in data-related sidebands and the appearance of a strong pair of sidebands at ±15Hz. But the noise components were still apparent.

— John Atkinson
realize the depths

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Marantz SA-1 SACD player

At last, a SACD machine from someone other than Sony! This time, it’s a Marantz—the Reference Series SA-1, described as a no-compromise “ultimate-quality” player.

Man, is this thing gorgeous! The SA-1 weighs in at a hefty 40 lbs, liveried in rich, satiny champagne finish. It’s a front-loader, the drawer set to the left of a central circular display. The green tint of the display window perfectly sets off the bronze-tone feet and the golden luster of the machined aluminum-alloy top, side, and front panels. Makes a guy wanna stroke it! I swear I heard it purr…

The SA-1’s display is easy to read from a distance, and bright red LEDs set below the track info indicate SACD or CD mode. Large Play, Stop, and Pause buttons smartly echo the display, to the right of a pair of smaller SACD/CD and Display On/Off buttons. Below them is a discrete row of Open/Close and Track Advance/Back switches, with the remote sensor last in line. The slim, golden-hued remote echoes the elegance and functionality of the control interface.

Around back, two single-ended RCA plugs sit above a parallel pair of XLR balanced output connectors. A small graphic next to the XLR explains the wiring layout. In what Marantz amusingly calls the “USA System,” pin 2 is cold, pin 3 hot. The SA-1 also ships with pin 2 hot and pin 3 cold — the actual US standard—but that’s referred to as the “European System”! Ya gotta chuckle — it’s not quite a global village yet.

A pair of digital outputs (TosLink and coax S/PDIF) are fitted to the rear panel. A datastream only appears at these outputs when the SA-2 is playing a regular CD; there is no SACD information, even downsampled/decimated. Finishing it off, there’s an IEC mains-in socket and the same Filter switch (Standard/Custom) as in the Sony SCD-1. I left this in its Standard setting to avoid problems with associated components, thus restricting the SA-1’s ultra-high-frequency output.

Technical Features

The SA-1’s technical details were very hard to come by. But, as the Iron Chef puffs while bowing, “I did my best…”

The interior looks like a Cartier jewelry case — Frank Lloyd Wright would feel almost at home. Heavy-duty mechanical construction dampens internal resonance and mechanically induced jitter with a copper-plated double-layer steel bottom plate and shock-absorbent mounting feet. Behind the drive and toward the chassis’ center, in a cylindrical polished copper housing, sits a shielded toroidal transformer featuring “Super Core Ring” technology. A cross-section of the core reveals it to be oval, not just another oblong lump. A separate transformer drives the fluorescent display.

It was obvious from the get-go that the SA-1’s drive mechanism was special: precise-sounding and very quick in action. The laser pickup ramps up fast, like a squarewave; it’s off, then it’s on, scooting around doing your bidding, more atomic clock than Swiss watch. Even the ToC comes up fast. The sounds of precision relays accompany every control function, the tray’s motor practically shouting “high torque!” It respects your time, babe.

The drive features an aluminum diecast tray with diecast zinc parts and base chassis. The optical pickup has dual lenses for reading CD, SACD, or dual-layer media. In fact, the SA-1 will even read CD-Rs. The “Optical Transducer” is covered with what appears to be a perforated copper shield. The circuit diagram shows the signal exiting the drive on various CD and SACD data lines to various filter/selector arrays, arriving shortly thereafter at the four TDA1547 1-bit Dual Bitstream DACs.

Description: Two-channel Super Audio CD player. Frequency range: 2Hz—100kHz. Frequency response: 2Hz—50kHz, ±3dB. Dynamic range: 109dB. THD: 0.0012%. Analog outputs: single-ended RCAs at 2.2V RMS; balanced XLRs (pin 3 hot) at 3.9V. Digital outputs: 74 ohm S/PDIF on RCA and optical on TosLink (44.1kHz, CD only). Power consumption: 33W.

Dimensions: 18" (458mm) W by 5.25" (133mm) H by 14.375" (365mm) D. Weight: 39 lbs.

Serial number of unit reviewed: MZ000015040055.

Price: $7500. Approximate number of dealers: 500.

Manufacturer: Marantz, 440 Medinah Road, Roselle, IL 60172. Tel: (630) 307-3100. Fax: (630) 307-2687. Web: www.marantz.com.

Stereophile, September 2000 77
Damn, just when I thought it was safe to take a nap

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SACD uses Direct Stream Digital (DSD) technology at a sampling rate of 2.8224MHz to deliver a theoretical frequency response of 10kHz to more than 100kHz, with greater than 120dB of dynamic range. DSD is analogous to the music’s waveform, encoding it as a 1-bit pulse train. (For a more detailed explanation of how SACD works, see JA’s technical sidebar in my Sony SC-D-1 review in the November 1999 issue, Vol.22 No.11, p.96.)

According to product manager Satoshi Suzuki, although the SACD specification is 120dB, the signal/noise ratio of a single TDA1547 DAC7 module is 106dB. “There are two pairs of DAC7s for each channel. We shift the DSD data one word (a half cycle of sinewave) and send that shifted data to the second DAC7 and mix the output. This is effective at reducing noise associated with noise-shaping because the data shift changes the phase of the noise.” In CD mode, an 8x-oversampling digital filter sends the 16-bit/44.1kHz signal to the same array of eight Bitstream DACs.

But no matter how good the power supply or the DACs, nothing really happens without a good analog output stage. Some have criticized Sony for the parts-bin mentality evident in the SC-D-1’s output stage, well-built though it may be. However, without disssing Sony, Marantz explains that they use premium capacitors and other components for maximum sonic purity.

Suzuki: “Marantz believes that slew rate is extremely important for reproducing the wide-range frequency response of the SACD specification. So we use HDAMs—High Definition Amplifier Modules. The SA-1 uses eight of them: six are dual HDAMs in differential configuration, and four as analog filter amplifiers. The output data from the dual-differential DAC7 modules is sent directly to these four HDAMs. In addition, two dual HDAMs are in the unbalanced output, two regular HDAMs in the balanced output circuit.”

What the heck is HDAM, anyway? “Normally, the output stage in an unbalanced circuit is designed with discrete parts, but then it’s very hard to make it completely symmetric. Our HDAM module has a well-balanced positive and negative circuit in a single package. That way, both channels are favorably processed.”

**Operation and Music**

Using the SA-1 was nicely intuitive. The SA-1 defaults to SACD if you feed it a dual-layer disc, but you have to hit Stop...
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of an undithered 1kHz sinewave at -90.31dBFS (fig.6) is essentially perfect; the three discrete voltage levels and the band-limiting Gibbs Phenomenon “ringing” are easily discerned.

Harmonic (fig.7) and intermodulation (fig.8) distortions were both very low, with the third harmonic the major constituent (if you can call something just above the -100dB level “major”). The balanced output evinced slightly more even-order harmonics, as well as some higher odd harmonics.

Turning to SACD playback, fig.9 shows the SA-1's frequency response at -3dBFS, with the back-panel switch set to Standard (bottom traces) and Custom (top traces). Both traces feature extended ultrasonic response, but this was more extended at the Custom setting: -3dB at 45kHz vs 36kHz.

DSD encoding also offers greater dynamic range and resolution than CD's 16/44.1kHz LPCM encoding. This is shown in fig.10, the spectra of low-level 1kHz sinewaves at -90dBFS and -120dBFS. The audioband noise floor is significantly lower than it is for CD playback (fig.4), and the tone at -120dBFS can easily be seen above the noise.

Only when it came to distortion did the SA-1 do anything less than superbly proclaims a booklet found in Sony SACD recordings. "This is even better." I smiled wryly, like Chairman Kaga on Iron Chef. In any case, SACD is obviously a maturing format, evidenced by the 20 or so SACD-only discs on hand, not to mention a goodly number of dual-layer discs.

Auditioning made it clear that the SA-1's sound was extremely transparent. For instance, the player showed very little sympathy for anything less than stellar in the playback chain. Only the right cables (Cardas Golden Reference balanced or TARA The One/Air One single-ended), the right preamplification (Mark Levinson Reference No.32), the right amplification (Krell 350Mc monoblocks), and just the right speaker cable (Cardas again) would do the trick through our JMlab Utopias. This was something of a pain in the ass, but I sensed from the start that it

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**Measurements**

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**Stereophile, September 2000**
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was worth the chase, and so applied myself to the task.

I started with the SACD-only edition of Bruno Walter's 1959 recording of Mozart's Symphonies 38 and 40 with the Columbia Symphony Orchestra (Sony SACR703). Revered though the "Prague" may be, it's No.40, K.550, that does it for me. From the first moment of the first movement I sat entranced, mouth agape. Notes: "Massed strings are particularly well served. The engagingly sweet highs are nonetheless very finely delineated. It's very liquid and dead-on acoustically, the strings so real in that slightly piercing way that can be heard at a live event, yet still sweet and attractive. So deep, so wide, so transparent — the air and tonal color are extraordinary!" I closed my eyes and settled in. The truth is, I haven't listened to a complete symphony on record in years. But from the first notes, I had no choice but to listen through to the end, completely bound to my listening chair.

I like to kid myself that I'm pretty jaded, but listening to this SACD proved an over-the-top musical experience. Clarity, coherence, and palpability usually come at some slight cost with most other audio devices. Not with the SA-1. I've enjoyed components that take over the acoustic space of our listening room before, but never so comprehensively as this! In fact, listening to the Andante of K.550 completely redefined "transparency" for me.

At symphony's end, I sat and thought about what I'd just experienced. I realized that there wasn't a single element of the presentation that didn't wipe CLJ's clock. Scale, dynamics, imaging, air, bass.

on SACD playback. Fig.11, for example, shows the spectrum of a full-scale 1kHz tone, where some higher-order odd harmonics can be seen. These are still low in level, however, and might well be from the test disc. (Note that the higher noise floor in this graph is due to the Audio Precision System One's internal A/D converters.)

To assess a player's jitter, I play a test CD-R with a high-level 11.025kHz tone to which has been added the LSB toggled on and off at 229Hz. I then perform a narrowband FFT analysis. Sony's test SACD doesn't have this test signal, but does include a DSD-encoded 11.025kHz tone at 0dBFS. Fig.12 shows the spectrum of the player's output as it decodes these data.

The only jitter sidebands present are at ±120Hz (dark blue "3" markers) and ±161Hz (purple "1" markers), while the noise floor is superbly low in level. I suspect that the ±120Hz sidebands are encoded on the disc, as they are not present on a similar spectrum taken while the SA-1 decoded diagnostic CD data (fig.13). The highest-level jitter sidebands are now data-related (red markers), though other sidebands can be seen at ±151Hz (purple "1") and ±336Hz (purple "3"). The absolute jitter level was 149 picoseconds p-p, one of the lowest I have measured.

The SA-1 offers state-of-the-art CD playback, while its analog section is low enough in noise and high enough in linearity to allow much of what DSD has to offer to emerge unscathed from its output jacks.

— John Atkinson
Subject: I am DELIGHTED!

I just purchased and installed a pair of your Micro Purl interconnects between my pre-amp and amplifier. What did I have to lose with your three week full refund offer? NO WAY are you getting these cables back! They have been in my system for only 24 hours and I simply cannot believe the improvements in bass, reduction of midrange glare and clean accurate highs.

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Dean Zolubos, May 2000
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The essence of music is emotion.
midrange, highs — more, better, best! Whew.

I turned next to the Steve Davis Project’s Quality of Silence and played my favorite track, “One Two Free.” I mentioned the acoustic bass and drum work found here in other reviews, but comparing the CD to the SACD stood my hair on end. Notes: “Utterly free of artifacts, thrilling, tight, and impactful — just so damn acoustic!” There’s some mighty deep bass in this track that chuffs out of the speakers as Davis stomps his kick-drum pedal. Tom Jung of DMP explains that it’s produced by Davis’ heel thumping the raised platform on which the drums are set. More notes: “I’ve never heard it sound so visceral before! ‘Transparency’ as an ascribed quality of audio no longer exists; SACD goes beyond ‘bracketing’ concepts such as that. It’s alive in front of me beyond any ability to describe!” Linear and wideband, the frequency response didn’t jump out at me in any particular way — exemplary in every aspect.

Want to listen to a fun dual-layer recording? Try Monty Alexander’s Stir It Up: The Music of Bob Marley (Telarc CD-83469-SA). Call it Island Music, Marley with a jazz twist. It’s an excellent recording, each piano note precise, clear, and tonally full, zero overhang anywhere, the whole presentation coherent beyond belief. No, the music isn’t very challenging, but in my view, music can (should?) convey love-of-the-moment as well as deep intellectual profundity.

The bass was tremendous — very controlled, tight, extended, and powerful. The organ sounded open and happy on top, per my notes, sweet but oh-so-clear, fresh as a mountain stream. While this recording is pretty awesome in CD mode, after I’d heard it in SACD mode, the CD level lost something of that wonderful clarity and transparency. Notes: “Again, there’s not a single sonic parameter where SACD doesn’t kill CD.”

The Very Tall Band, with Oscar, Ray, and Milt, is one of my favorite Telares. Cue up “Bass Solo Medley” and close your eyes. Some jackalope starts coughing a few seconds into the track and the poor lack never shuts up, but for sure you’ll feel like reaching for a napkin to wipe yourself down. Switching to the CD layer on the Marantz, the coughing head was still fairly startling, but turning to the music — yes, I know, it’s about the music — I found the sound slightly thicker, more veiled, less coherent in some elemental way. The presentation was still attractive, although I preferred the Accuphase and its upsampled 24/192 output. In general, at higher listening levels, CD was slightly less refined than SACD, a bit harder to take. Not that the sound turned hard — it was just harder to listen to cracked way up. In fact, rather surprisingly, I preferred single-layer SACDs or CDs in comparison to their dual-layer equivalents in all the players. But ultimately, there was no comparison — SACD was that much better.

Kind of Blue made the Krell run kinda hot! Notes: “With the SACD version there’s a limitlessness to the music: a wide and very deep soundstage, soaring tonality, horn ripping but still sweet, very communicative.” Switching to the Sony SBM CD on the SA-1, I found it less wide and free, but still possessed of an abiding and powerful bass line. Everything about the presentation was “good,” but I lost something of the excitement and involvement.

Listening to the SACD version of Mighty Sam McClain’s “Too Proud,” from Joe Harley’s BluesQuest, I noted a very special illumination from the midrange up, a subtle openness that moved my soul (according to my effulgent notes). Vocals, both male and female, were entirely open, palpable, and captivating on SACD. As a format, it never missed.

Now what?

There was some kind of metaphysical change that came over me every time I listened to the SA-1. Call it relaxation, an inner acknowledgment that, yeah, that’s music. It wasn’t just my intellectual self that recognized it; there was some kind of physical reaction that let me relax into the music. For me, the SA-1 completely fulfilled the promise of SACD.

While I didn’t have the Sony SACD-1 on hand for direct comparisons, I’d have to say that, in SACD mode, I preferred the Marantz. The Sony was more opulent, more eager to please, especially given the adjustable filters for CD playback. The SA-1 was entirely more purist in its presentation.

As regards to 16/44.1 media, well . . . I still prefer upsampling on both the Accuphase and the dCS Elgar. But there wasn’t a single recording I didn’t enjoy more in SACD mode when that choice was available, and by a wide margin.

“How’s that Marantz?” a good friend demanded. Before I could draw breath to answer, he was proclaiming, “Before I buy digital again, I’m waiting for a player that’ll do it all!” I think he waits in vain. Such a mythical beast, in my view, will never be made.

The wild card in all of this is the 20-grand Linn CD12, a sample of which has been resident in our system of late. I noted in my Krell 350Mc monoblock review in August that 16/44.1 just didn’t do it for me anymore, but to that I must add a caveat: the Linn CD12 is an incredible player! I don’t understand why it’s so great, but it is. It, too, embodies something of that awesome clarity found in the SACD-driven Marantz, if still shaded toward PCM sound. Compared to SACD, even upsampled 16/44.1 sounded a bit more “reconstructed” and unnatural. Which, in fact, it is.

The SA-1 made discovering music a thrill again — the very thing audiophiles live for. Some say we reviewers worship too much at the Altar of Equipment. But for me, the foundation, the basis, the kernel of my love affair with the High End is fundamentally linked with some higher need — spiritual, mathematical, I just can’t say — to receive the music into my mind and body. Taking things at face value, and ignoring for the moment whether CD and SACD masterings are the same or not, the Marantz SA-1 always moved me that way. I loved it. I will miss it.
Some of the world's most respected recording industry professionals rely on Nova loudspeakers. This includes engineers and producers with countless Multi-Platinum & Gold credits as well as a succession of #1 Hits. These industry icons trust Nova products to bring out the musical truth in each recording. Hear the truth for yourself. Hear it with Nova!
Prelude

I fell in love with the original Link DAC, as was obvious from my review in the January 1999 Stereophile. I said that "the Link redefines entry into high-quality digital sound," as it provided excellent sound and 24-bit/96kHz conversion for the remarkably low price of $349. It is as firmly ensconced in Class C of "Recommended Components" as it is in my weekend system, where it tames the digital signals from my DMX receiver and my trusty old Pioneer PD-7100 CD player.

Since that review appeared, everyone seems to have gotten on the Link bandwagon, even as the price has inched up to a still-remarkable $399 for the Link III. The Link II rearranged the circuit and afforded some opportunities for on-site upgrades. The Link III continues this process by providing for user-installable enhancements, including upsampling (with rates of up to 132kHz!), HDCD decoding ($199), virtual 3D Surround Sound ($149), and, in the near future, the ability to handle 192kHz-sampled signals, one of the standards for DVD-Audio. On paper, this makes the seemingly modest Link III as prodigiously potent as any DAC on the market.

Not content to rest on their technical laurels, MSB has also revealed a deep-set tweako streak. The Full Nelson version — named after Carol Nelson, the MSB sales rep who arranged to get the mod into production — transforms the unpretentious Link III with wholesale component swaps that preempt much of what the cottage-industry modifiers do for a living. The major effort is put into the analog stages, including 2% Wima PP caps in the output filters, 75-ohm low-inductance Caddock ceramic resistors, and ultra-high-speed AD827 precision op-amps. Signal-path resistors are replaced with Roderstein 1% helical metal-film resistors, and the internal PS rails are upped from 8V to 12V. Finally, an AES/EBU digital input replaces the TosLink of the stock Link III.

The Half Nelson version ($385) includes all of the above enhancements except for the AES/EBU input. Unlike the user-installable options referred to above and below, the Full Nelson and Half Nelson upgrades are done only at the MSB factory.

In addition to the Full Nelson treatment, my review sample of the Link III came supplied with the Upsampling Option, plus, as the icing on the cake, a large and optional external power supply. Although it has the same footprint as the Link III, MSB's P1000 Power Base significantly outweighs the DAC.

A fully tricked-out Full Nelson Link III with P1000 Power Base seems to be as far as MSB's imagination can push the basic circuit. Beyond this, MSB offers full-credit trade-ins of the Link III against their admittedly non-budget, multiple-D/A-processor Gold and Platinum DACs.

Exposition

The Full Nelson Link III arrived in the

MSB Link DAC III D/A converter: Solid-state D/A processor with S/PDIF coax and S/PDIF TosLink digital inputs (AES/EBU input with Full Nelson Upgrade), one pair analog bypass inputs, 8x-oversampling digital filter, and 24-bit D/A converter. Sampling rates: 32, 44.1, 48, 88.2, and 96kHz. Frequency range: DC–20kHz (CD data). Dynamic range: 106dB. Signal/noise ratio: 106dB. Channel separation: >95dB. THD+noise: 96dB. Stopband attenuation: ~82dB. Analog outputs: 2V RMS @ 0dBFS.

Dimensions: 17" W by 1.75" H by 14" D. Weight: 25 lbs net.

Serial number of unit reviewed: None noted.

Price: $299.

Approximate number of dealers: Not disclosed.

Manufacturer: MSB Technology Corporation, 14251 Pescadero Road, La Honda, CA 94020. Tel: (650) 747-0190. Fax: (650) 747-0405. E-mail: info@msbtech.com. Web: www.msbtech.com.

P1000 Power Base: High-capacity power supply, providing ±22V @ 900mA, ±12V @ 900mA, ±12V @ 1.8A.

Dimensions: 17" W by 1.75" H by 14" D. Weight: 18 lbs net.

Serial number of unit reviewed: A100000886.

Prices: Link III, $399; Full Nelson upgrade, $485; Upsampling Option, $199.
now-familiar pizza box looking very much like its predecessors. A new LED on the front indicates the potential for 192kHz sampling, while another, labeled Option, indicates the presence of an H1CD signal (full brightness) or upsampling (half brightness), if these options are installed. A new toggle switch on the back selects Normal or Upsampling operation, and an XLR connector for AES/EBU input replaces the TosLink jack.

Basic setup and operation are as simple as possible: Connect an input or two, connect the outputs, plug in the power supply of your choice, and power up. There’s auto-switching of inputs and no power switch, so the Link III is always ready to go.

My experience of the Link III just out of the box was fine, but MSB insisted that the upsampling daughterboard be returned for a revision. This gave me an early excuse to open the chassis and see that the original Link’s clean, compact layout has been retained, with lots of internal space left for other add-ons that MSB might think up. It also confirmed the presence of the fancy parts that are the basis of the Nelson upgrades. Because many of the upgraded parts are larger than the standard ones they replace, the overall appear-

**Measurements**

For most of these measurements I upsamle the 44.1kHz data to 96kHz, which was how KR preferred to audition the MSB Link III. When I stuck with 44.1kHz data, I say so in the text.

Although KR had problems getting the Link III to lock on to AES/EBU datastreams, I had no problems with the Audio Precision’s XLR digital output. The Link III also had no problems locking on to the 96kHz-sampled S/PDIF data output of a Panasonic A-120 DVD player playing DADS or the data output of a RadioShack 3400 portable CD player.

As seems always to be the case these days — presumably because no one wants to be the quietest player in the store — the Link III’s maximum output level of 2.275V was higher than the CD standard’s 2V RMS. This was sourced from a low 51 ohms across the audioband, and the unit didn’t invert signal polarity.

The Link III’s frequency response with 44.1kHz sampling, with and without pre-/de-emphasis, is shown in fig.1. With a pre-emphasized signal, there is a tiny presence-region boost apparent and slightly more rolloff at 20kHz, but this is inconsequential. What is more significant is the rise in the very low bass. Will this be audible? Hard to say, as human hearing is insensitive in this region. However, the “contour lines” in the human sensitivity curve are very close together in this region; this slight boost might be heard on appropriate program material.

Upsampling to 96kHz didn’t change the response — although, of course, neither did it add any information above the CD’s Nyquist frequency of 22.05kHz. Channel separation (not shown) was excellent at better than 115dB below 2kHz, and with a slight rise above that frequency.

Fig.2 shows a 1/2-octave spectral analysis of the MSB’s analog output while decoding data representing a dithered 1kHz tone at -90dBFS. The peak at 1kHz just kisses the -90dB mark, implying low linearity error. Increasing the data word length from 16 bits (top traces) to 24 bits (bottom traces) gave about an 8dB lowering of the noise floor above 1kHz, less below 1kHz, and no change below 70Hz or so. The Link III accepts 24-bit data, but its dynamic range is ultimately limited by the output stage’s analog noise compared with state-of-the-art (and much more expensive) digital processors.

Extending the measurement bandwidth to 200kHz and changing the data to -1LSB DC gave the graph shown in fig.3. The MSB’s DAC chips use noise-shaping to achieve their resolution, as revealed by the rapid rise in ultrasonic noise. The left-hand trace was taken at 44.1kHz sampling, and the noise floor reaches -50dB at 180kHz. But with the unit set to upsample to 96kHz, the ultrasonic rise in the noise floor is pushed an octave higher, which might have positive subjective consequences with some amplifiers.

Even with upsampling, the Link II’s linearity was superb, as shown in fig.4. Any level error remains below 1dB.

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**Figures**

![Fig.1 MSB Link DAC III, CD frequency response with (top) and without (bottom) de-emphasis at -2dBFS, 44.1kHz sampling (right channel dashed, 0.5dB/vertical div.).](image1)

![Fig.2 MSB Link DAC III, 1/2-octave spectrum of dithered 1kHz tone at -90dBFS, with noise and spurious, 16-bit (top) and 24-bit (bottom) data, 44.1kHz sampling (right channel dashed).](image2)

![Fig.3 MSB Link DAC III, 1/3-octave spectrum of -1LSB, with noise and spurious, 16-bit data and 44.1kHz sampling (top), 96kHz sampling (bottom) (right channel dashed).](image3)

![Fig.4 MSB Link DAC III, departure from linearity, 16-bit data (2dB/vertical div, right channel dashed).](image4)

![Fig.5 MSB Link DAC III, waveform of undithered 1kHz sine wave at -90.31dBFS, 16-bit data.](image5)
Theme and Variations
As with any device offering so many options, it was difficult to determine how each of those possibilities contributed to the end result. How much of the Link III’s performance was due to the improvements to its design, how much to the Nelson mods? I haven’t audionned a No Nelson Link III or a plain-vanilla Link II, so I can only say that, even with the stock power supply and upsampling defeated, the Full Nelson Link III was an advance on the original Link DAC.

The charms of the original’s transparency and immediacy were retained, joined by a newfound smoothness and sense of ease in the upper frequencies. The midrange seemed unchanged, but, allied now with an improved top end, was better appreciated. For example, while I preferred the California Audio Lab Sigma II DAC’s rendition of female singers to that of the original Link (see my review in the July 2000

down to -115dBFS, with noise then revealing its presence as an increase in positive error. As a result, the unit’s reproduction of an undithered 1kHz sinewave at -90.31dBFS (fig.5) was excellent, if not quite to the standard achieved by the Marantz SACD player reviewed elsewhere in this issue. Increasing the word depth to 24 bits gave a waveform more closely resembling a sinewave (fig.6), though now some DC offset, or perhaps very low-frequency noise, makes an appearance.

Regarding linearity, the MSB was virtually free from harmonic (fig.7) and intermodulation (fig.8) distortion — only when it came to jitter did the processor seem to stumble a little. I assess jitter by driving the device under test with data representing a high-level tone at one quarter the sample rate (11.025kHz), over which has been overlaid the 16th bit toggling on and off at a rate of 229Hz. Using the Paul Miller analyzer, I average sixty-four 32k FFTs on the device’s analog output to get a narrow-band spectrum. The analyzer software then searches the FFT bins for symmetrical pairs of sidebands on either side of the 11.025kHz tone.

The result for the Link III is shown in fig.9. The grayed-out trace is with the unit set to decode 44.1kHz directly. An enormous boost in the noise floor can be seen on either side of the tone, and the measured jitter was 3030 picoseconds (ps). However, though this measurement was repeatable, I am not sure that it really shows what is happening. You can never eliminate the possibility that there is some strange interaction between the device under test and the test gear.

Switching in the 96kHz upsampling gave the black trace in fig.9. The absolute level of the jitter dropped to a respectable 165ps, which compares favorably with the 229ps I measured for the original Link DAC. There are some data-related sidebands present, indicated with red numeric markers, but perhaps the most significant aspect of this graph is the broadening of the central peak, due to low-frequency random jitter. Paul Miller has suggested in the past that this kind of measured behavior correlates with a broadened perceived soundstage, at the expense of a reduction in perceived “pace.” — John Atkinson

![Fig.6 MSB DAC III, waveform of undithered 1kHz sinewave at -90.31dBFS, 24-bit data.](image)

![Fig.7 MSB DAC III, spectrum of 50Hz sinewave, DC -1kHz, at 0dBFS into 100k ohms, linear frequency scale.)](image)

![Fig.8 MSB DAC III, HF intermodulation spectrum, DC -22kHz, 19+20kHz at 0dBFS into 100k ohms, linear frequency scale.)](image)

![Fig.9 MSB DAC III, 96kHz upsampling, high-resolution jitter spectrum of analog output signal (11.025kHz at -6dBFS with LSB toggled at 229Hz). Center frequency of trace, 11.025kHz; frequency range, 2.35kHz. PS Lambda transport connected via 6’ Aperature 5/PDIF cable. (Grayed-out trace is same conditions but without upsampling.)](image)
The Moon P-5 has transparency, very low noise and flexibility of control... and should be considered among the finest line preamps available today. The Moon W-5 is one of those few amps that can convey a real 'jump' with no loss of detail or focus. Kalman Rubinson - Stereophile - March 1999.

Simaudio deserves recognition as a solid state brand of first rank, alongside well known luminaries such as Jeff Rowland, Krell and Levinson. Moon P-5 & W-5 - International Audio Review #80 - 1999.


'This is the cream of the crop so far. At its price, it is definitely one to check out.' I-5080 - Steve LeFkowicz - Listener Magazine - Summer 1999.
Stereophile), I would now give the nod to the Link III.

There's been some discussion in the general press, including the New York Times, about the sound and balance on Dave's True Story's second album, Unauthorized, in its Chesky release (JD189). Played on either of my systems via the Link III, I found a richness and immediacy in Kelly Flint's voice that was significantly better than on their first album, while the balance of voice and instruments was near ideal. (I can't vouch for how it might sound on a $100 boom-box.) The CAL Sigma II's midbass made the album's rendition a bit fuller than the Full Nelson Link III's. Consequently I preferred the Link III as barely more natural and balanced on my main system, and the Sigma II for my slightly leaner weekend system. The differences were that system-dependent; they weren't much. On the other hand, the added fillip of upsampling did put a little more daylight between these two.

So I pushed the hot button and invoked the Upsampling Option. The upsampling daughterboard comes with a 25MHz oscillator and will upsample input signals to 96kHz. The Option LED is illuminated at half-brightness when the switch is flipped, but the 96kHz LED lights up only with an active source. (An alternative 33MHz oscillator, also provided, allows for upsampling to 132.3kHz. With this oscillator, there is no appropriate LED indicator: Only the Option LED and the lack of a frequency LED to accompany the music signals the oscillator's operation.) Because switching is graceful and quiet, one can A/B between normal and upsampling operation on the fly. I usually left the switch up, as there was no downside to the upsampling. All the felicities of the original Link, the Nelson tweaks, and the P1000 Power Base were conserved, and augmented by the now-familiar enhancements of upsampling: a greater sense of the unity and discreteness of individual instruments and voices. Unfortunately, I must grope into the inner reaches of my equipment rack to do this: the switch is on the back of the chassis. Not only is such placement annoying to us obsessive assessors, it is inconvenient for anyone who wants to decode HDCD discs—the Upsampling Option is not simultaneously compatible with the HDCD option! Either/or is what you get, and the switch in the back doesn't make it easy.

Whether the source was my ancient Pioneer CD-7100 or the Meridian Reference 800 CD player, the upsampling Link III was a delight. With the Pioneer, I re-experienced the feeling, with greater delight, that the Link is the obvious upgrade route for all the aged but functional CD players still doing yeoman's duty. This young/old combo made a respectable and enjoyable source. With the support of the Meridian 800, the Link III was even better. (Anyone surprised?) But better than the DACs in the megabucks 800? Wishful thinking. There was a consistent advantage to the 800 in terms of the perceived delicacy of details, the richness of the voices in the rear of the soundstage, and the closeness of the sound as the volume was raised. At low levels, both the Link III and the 800 were similar in perspective. But, as I turned up the wick, the Link III output seemed to loom forward from the speakers, while that from the 800 stayed where it belonged.

This was particularly noticeable playing an excellent recording of Mahler's Symphony 3 (Glen Cortes, Manhattan School of Music Symphony Orchestra, Titanic Tr-252), a concert recording in the huge Riverside Church. Recording engineer Jerry Bruck has achieved the nearly impossible in balancing the impact and clarity of the direct sound with the hall's monumental ambience. Via the Link III, it was glorious, but the instruments and voices bloomed and the ambience lost some specificity as I approached lease-breaking levels. The Reference 800 handled it with aplomb.

Of course, there's more available to Link users. When I unplugged the hefty but ordinary stock power supply and connected the P1000, the Full Nelson Link III took another step up. I can't fault the noise performance or the tonal balance with the stock power supply, but the P1000 seemed to extend and reinforce the Link's lower reaches. I know, I know—there probably was no actual extension (unless John Atkinson measures it, of course!). But the impression of greater power and weight was considerable.

The opening brass-and-drum irruption of Bernstein's Candide Overture (Eiji Oue, Minnesota Orchestra, Reference Recordings RR-87CD) was startling in its impact, the bass tight, clean, and palpable even without HDCD decoding. The original Link, itself no slouch in the bass, also benefited from the addition of a P1000. The Power Base is the most cost-effective option, as it elevates the performance of any Link DAC.

**Final Variations and Coda**

Three loose ends to tie up:

First, MSB offers the option of manipulating the amount of analog filtering on the outputs. Stock Link III's come with two jumppers per channel and "rather heavy filtering [of] the outputs to achieve perfect measurements." My Full Nelson version had only one jumper set, a suggested option for "those who prefer greater dynamics and attack." I found two jumppers in my computer-parts bin and confirmed MSB's prescription: One pair is just right for the Nelson version, but may not be for the plain-vanilla Link.

Second, I briefly auditioned the optional 33MHz oscillator for the upsampler, but its effect was marginal. I used it for a while, then switched back to the 25MHz chip, noting no appreciable differences.

Third and most significant, I connected the balanced output of my Z-systems...
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The Stereo Times, August 99

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Stereophile, September 2000
rdp-1 digital preamp-equalizer to the AES/EBU input that distinguishes the Full Nelson from the Half Nelson Link III. At first, this simply did not work. The DAC would not reliably switch from the S/PDIF input, and when it did, there was a cacophony of buzzes and zizzes, but no music.

Had I tried this earlier, I might have sent the whole thing back to MSB, but by now I was in the final countdown. I powered down the Link, disconnected it completely, and ran off to the country for the weekend. When I returned, I connected the AES/EBU input, the analog outputs, and, finally, the P1000 Power Base — no S/PDIF. On power-up, the Link III buzzed and zapped for two or three seconds, then, miraculously, locked on to the signal. Gorgeous sound peeled forth.

Wow and double-wow! I had left this feature for last, as my experience is that the audible differences between AES/EBU and S/PDIF are at best minor, and usually irrelevant. Not so here. By far, I obtained the most musical and impressive performance from the Link III via AES/EBU. I reveled in a wonderful live recording of Handel’s Messiah (Anders Ohrwall, Swedish Radio Symphony Orchestra, FIM XRCD 2000), a performance recorded in 1982 by Bertil Alving, who was responsible for the famous LP Cantate Domino. The transfer of the analog masters to XRCD is breathtakingly beautiful, and the AES/EBU input revealed it in the integrity of the voices and their individual and combined placements in the reverberant space. It was also nice via S/PDIF, but AES/EBU had more power, life, and space. Upsampling was simply not needed. Who’d a-thunk it?

Encore
I thought the original MSB Link was an unbeatable value. I was wrong. The Link III is even better, and more exciting. The sound qualities of the Full and Half Nelson versions are excellent and fully justify the prices. As for the other sonic goodies, the P1000 and the Upsampling Option are both desirable and cost-effective. Add them all up, however, and the price approaches $1400, so a little prioritizing might be called for. If you’re thinking about plonking down all that cash at once, there are many other DACs to consider, including MSB’s own Gold Link and Bel Canto’s DAC I.

But few products short of a Swiss Army knife offer the versatility and options of the Link III. I recommend that you start with the Full Nelson version if you want to realize the full potential of the Link III. Unless you’re sure you’ll never have an AES/EBU source, pass up the Half Nelson and go all the way.

As for upgrades, the P1000 is the mandatory next step because it lets the AES/EBU Link really sing. Upsampling? Nice but not essential. HDCD? Useful but not urgent. Virtual 3D? Not for me. 192kHz processing? I can hardly wait.

You make your own choices with the Full Nelson/P1000 version of the MSB Link III: a great DAC that can play anything today, and is adaptable for the future.
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—WES PHILLIPS, WWW.ONHIFI.COM

Audio guru Wes Phillips ranks the Musical Fidelity A3CR power amp with gear that costs "from five times to more than ten times the cost of the A3CR." Clean, revealing performance is the key. The Choke Regulated power supply technology provides the purest possible power to the audio circuits. Frequency response of both components is a staggering 10 Hz to 100 kHz. "It didn't really matter what type of music was played, the result was the same: an inspirational listening experience," raves the June 2000 Hi-Fi News & Record Review. You could spend several times the money on a power amp/preamp combo. But it won't buy you better sound than the A3CR.

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DISTORTION

The A3CR's exclusive choke regulation eliminates the charge/discharge sawtooth from the DC power to the power amp, as shown in this before and after oscillogram of a 1kHz signal. Most other amps supply distorted DC voltage to the audio circuits.

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Music Fidelity components are available in the U.S. exclusively at Audio Advisor.
You've probably seen the ad in Stereophile: a very personal account by Avantgarde-USA president Jim Smith, describing how, during a 30-year career in high-end audio, he had become increasingly disappointed with conventional loudspeakers' ability to communicate the emotional impact of live music, and how he found the answer with the Avantgarde horn loudspeakers. It's advertising copy in the best I-liked-it-so-much-I-bought-the-company tradition — with the exception that Smith did not actually buy Avantgarde Acoustic, but did become their North American distributor.

Stereophile's policy is to have total separation (a "Chinese wall," in publishing parlance) between the advertising and editorial departments: a manufacturer's status as an advertiser does not determine whether its products are reviewed, and has no influence on a review's content. However, all advertising is intended to draw the reader's attention to the product, and, in this reader's case, the Avantgarde ad certainly fulfilled its function. I was intrigued.

The ad reminded me that I had spent a fair amount of time listening to some Avantgarde speakers (I'm not sure if they were the Unos or the Duos) at HI-FI '97 in San Francisco, and had thought then that if I were ever to review a horn speaker — a product category for which I previously felt little affinity — it would have to be an Avantgarde. Should I give an Avantgarde review more serious consideration now?

Checking Avantgarde's website, I noted that the Uno and Duo had been revised within the past year, and that a new, higher-performance subwoofer was now standard with the Duo and optional with the Uno. It was looking more and more as if this might be a good time to review these speakers. All

Description: Three-way, floorstanding loudspeaker with midrange and treble horns and powered sealed-box subwoofer. Drive-units: 1" horn-loaded inverted-dome tweeter, 4" horn-loaded midrange driver with 2.5" dome, two 10" cone woofers. Cross-over frequencies: 220Hz, 3500Hz. Frequency range: 220Hz-20kHz (midrange/treble); 22Hz-300Hz (subwoofer). Sensitivity: >100dB. Nominal impedance: 8 ohms. Recommended power: >5W. Power handling: 100W. Subwoofer amplifier power: 200W.

Dimensions: 57" H by 22.5" W by 28" D (mid/treble); 22" H by 12" W by 22.5" D (subwoofer). Weight: 153 lbs.

Finishes: Standard: polished white ABS Uno), SUB225 CTRL PRO subwoofer in Nextel; horns in metallic lacquer, add $1000; subwoofers in matching lacquer, add $1000.

Serial numbers of units reviewed: 07020011/12.

Price: $10,970/pair. Approximate number of dealers: 20. Warranty: 10 years for material fatigue, 5 years for color coating, 1 year for all electronic components.

Manufacturer: Avantgarde Acoustic Lautsprechersysteme GmbH, Nibelungenstrasse 349, 64686 Lautertal, Germany. Tel: (49) 6254-306-100. Fax: (49) 6254-306-109. Web: www.avantgarde-acoustic.de. E-mail: avantgarde-acoustic@t-online.de. US distributor: Avantgarde-USA, 6445 Calamar Drive, Cumming, GA 30040. Tel: (800) 944-9537, (770) 777-2095. Fax: (770) 777-2108. Web: www.avantgarde-usa.com. E-mail: hornguys@aol.com.
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that remained was the phone call to reviewer Jonathan Scull (who promptly approved the project) and to decide whether to go for the Uno or the Duo. The Duo (although not the latest version) had already been reviewed by Martin Colloms in Vol.21 No.6, and the Uno is said to be more suited to smaller listening rooms, like mine. After a discussion with Jim Smith, I decided to go with the Uno, but with the upgraded SUB225 CTRL PRO subwoofer. My adventure in the world of horns was about to begin.

**Description and Design**

As horn fans are wont to point out, the first loudspeaker (Emile Berliner's) was a horn, and horns have an inherent advantage over any other type of loudspeaker in their ability to produce the most sound with the least electrical input. Horn critics counter that while efficiency was important when amplifier outputs were restricted to the 2–5W range, high efficiency is no longer required now that much more powerful amplifiers are available, and that horns' high efficiency comes at the price of colorations (frequency-response and phase anomalies) that detract from the accuracy of reproduction.

Avantgarde’s response to these criticisms is that, regardless of available power, horns' high efficiency confers benefits in dynamics and low distortion, and that careful design can reduce horn colorations to a negligible level. The Avantgarde speakers feature a spherical horn construction, which is said to yield exceptional uniformity and integration of the response in the vertical and horizontal planes. The horn is made of ABS, a material chosen for its neutral resonance behavior, resistance to temperature- and humidity-induced changes, and because it can be manufactured to high tolerances—all factors that are critical to performance. The only downside is that the manufacturing process is quite expensive.

The Avantgarde Uno is technically a hybrid: a sealed-box cone subwoofer supplements the horn-loaded midrange and tweeter modules. The midrange driver is a 4" unit with a 2.5" dome, covering the range from 220Hz to 3500Hz, and was developed especially for the Uno. In the original Uno, the tweeter's sensitivity was lower than that of the midrange, which required a network to lower the midrange sensitivity by 1.5dB.

The Uno Series Two has a new tweeter that matches the midrange in sensitivity, so that the midrange is now driven directly by the amplifier, with no electrical crossover. The midrange driver's physical design produces an acoustical rolloff of 12dB/octave above 3.5kHz and 18dB/octave below 220Hz. The tweeter's response potentially extends down to 1kHz, but it's rolled-off by a 12dB/octave crossover at 3.5kHz so that it matches the mid-range. The crossover uses high-quality polypropylene-foil capacitors, air coils, and metal-oxide resistors. The tweeter has an oversized 6.5-lb magnet, and its claimed power-handling capacity is more than 100W.

The new SUB225 CTRL PRO subwoofer, optional with the Uno Series Two (the speaker is also available with the 217 PRO subwoofer, at a $1000 saving, but Jim Smith strongly recommends the 225 CTRL PRO), represents a major design effort to have a subwoofer that matches the horn drivers in

**Measurements**

![](image1)

**Fig.1** Avantgarde Acoustic Uno, electrical impedance (solid) and phase (dashed). (2 ohms/vertical div.)

**Fig.2** Avantgarde Acoustic Uno, nearfield woofer responses with crossover set at its maximum (220Hz), minimum (90Hz), and three intermediate frequencies.

**Fig.3** Avantgarde Acoustic Uno, anechoic response on design axis at 63°, averaged across 30° horizontal window and corrected for microphone response, with the nearfield woofer response plotted below 150Hz.

*Stereophile, September 2000*
The two 10" subwoofer drivers are apparently quite special: 3" voice coils, 15-lb high-
energy magnets (HL-force factor of more than 19 newtons per ampere, if that means anything to you), 0.71" excursion, each driver with a power-handling capacity of 250W (RMS), and a sensitivity of 95.0dB. The subwoofer drivers are connected in parallel, yielding an efficiency of over 100db, thus matching the horns' efficiency. The enclosure is of 1.2"-thick MDF, with very rigid construction.

Integrated with the rear panel of each subwoofer is the PA101 power amplifier/crossover. The amplifier puts out 200W and is optimized for bass reproduction, with a high damping factor to control the drivers. The PA101 also features what Avantgarde refers to as a velocity-controlled driver feedback system. This is not a conventional servo control using an acceleration sensor on the driver, but a type of equalization that varies with changes in signal level and frequency.

The final step in the production of each 225 CTRL PRO is the tweaking of the driver control circuit, taking into account variations in the characteristics of the specific drivers. User controls include potentiometers for subwoofer level and crossover frequency (variable from 90 to 220Hz, 12dB/octave), and a switch that allows selection of 20, 25, or 30Hz as the low-frequency extension point (12dB/octave), with an additional constant 6dB/octave filter at 18Hz to protect the system from damage. I'll take bass quality over quantity any time, so I used the 20Hz setting. The PA101 takes the signal from the amplifier speaker output rather than the preamplifier, which is said to preserve the main amplifier's tonal and dynamic characteristics, enhancing the integration of the subwoofer with the rest of the range. (REL subwoofers use the same approach.) The subwoofer amplifier presents a high impedance load, so driving it draws a negligible amount of power from the main amplifier.

When it comes to describing the Uno's appearance, I'll forgo taking up a thousand words and leave the task to the photo accompanying this review. Although the Uno is the smallest Avantgarde, it's still a pretty big speaker that takes up a considerable amount of floor space.

Although the Uno is the smallest Avantgarde, it's still a pretty big speaker that takes up a considerable amount of floor space.

Measurements

63". (A similar measurement taken at my standard 50" distance differed only in the low treble, and then only regarding the heights of the peaks and dips.) The measurement axis was again the manufacturer's recommendation: midway between the center of the midrange and tweeter horns, a sensible 36" from the floor. The lack of energy in the lower crossover region is most likely due to interference resulting from the overlap of the midrange horn and the woofer. It suggests that the woofer would integrate better at this relatively close distance if its electrical polarity were to be inverted. Unfortunately, the need to return the measurement sample of the Uno to its Austin, Texas owner before I could process the measured data meant that I could not further explore this aspect of the speaker's performance. But if you're bothered by a thinness in the Uno's lower mids, I encourage you to experiment by changing the polarity of the speaker leads connecting the woofer terminals to the upper-range units.

Higher in frequency, though there are a series of small peaks and dips evident, the overall balanced trend is very flat—certainly the flattest I have personally measured with a horn speaker. The very top octave is slightly hotter than the region below, which I could

![Fig.4 Avantgarde Acoustic Uno, lateral response family at 50", from back to front: responses 90°-5° off-axis, reference response on design axis, responses 5°-90° off-axis.](image1)

![Fig.5 Avantgarde Acoustic Uno, lateral response family at 50", normalized to response on design axis, from back to front: differences in response 90°-5° off-axis, reference response, differences in response 5°-90° off-axis.](image2)
speaker, not a speaker masquerading as a piece of French Provincial furniture.

The finish on the review sample was the standard white polished ABS, with the subwoofers in gray Nextel. The speaker is also available with the horns and sub in matching automotive metal lacquer finishes, which boosts the price by as much as $2000—a bit steep, if you ask me. I quite like the standard white ABS—even if the midrange horn does bear a certain resemblance to a Yamaha Sousaphone. The quality of fit/finish is exceptional, confirming Avantgarde’s claim that their products have much in common with Porsche, Leica, Mercedes-Benz, and other examples of German craftsmanship.

Setup
Given the Uno’s size and unusual dimensions, unpacking and setting up a pair of them was not as much of a chore as I had anticipated—once I figured out that the midrange and tweeter have to be switched around from the way they’re shipped, a fact the instructions fail to point out. The speaker consists of three parts: midrange horn, tweeter horn, and subwoofer, which are all attached by long bolts to three metal posts. There are three sets of holes in the posts, allowing the horns to be mounted at different levels depending on the height of the listening seat. The highest mounting position is recommended unless the listening seat is very low, and this worked well in my situation. As delivered, the weight of the entire speaker, including the subwoofer, is supported by the posts, which have feet that allow the speaker to be moved around with relatively little difficulty.

Once the speakers are optimally positioned, a set of four supplied spikes can be screwed into the bottom of each subwoofer. The posts’ feet are removable, giving the speaker more solid support. I followed this procedure and found that the installation of spikes improved general focus and tightened the bass. The Uno can be single-, bi-, or tri-wired; short pieces of cable are supplied for joining the different modules if single- or bi-wiring is used. For all my serious listening, I used Nordost SPM biwire speaker cables, one pair connected to the midrange and the other to the tweeter, with the supplied Avantgarde wire linking the midrange and the subwoofer.

I initially set up the Unos in the living room, just to give them some playing time until the arrival of Jim Smith, who had offered to come by for a visit to help carry the speakers upstairs to my listening room and check that they were working properly. The Uno is heavy (the subwoofer alone weighs 100 lbs) and awkward to get ahold of, so taking them up the narrow set of stairs to my listening room involved a certain amount of yelping, wailing, and gnashing of teeth.

Once in the listening room, they were placed in what is my more-or-less-standard position, along the long side of my 16’ by 14’ by 7½’ room, forming an angle of about 70° from the listening position, toed-in to point almost exactly

hear in the nearfield as just a slight emphasis to the hissy MLSSA noise when I was measuring the speaker. However, I note that RD was not bothered by this excess high-treble energy, which means that in-room, it might well be compensating for the speaker’s off-axis behavior.

I have shown the Avantgarde’s lateral off-axis behavior in two ways: fig.4 shows the actual responses to the speaker’s sides; fig.5 shows just the differences between the off-axis responses and the central, design-axis response. First, note the flare to the speaker’s sides in the lower midrange. The cancellation notch between the midrange and the woofer occurs exactly on-axis and becomes less deep off-axis.

Second, note that, with the exception of the upper crossover region, the “contour lines” are very even. The physical design of the two horns and the frequency ranges they cover have been carefully chosen to give a consistent radiation pattern. It can be seen that the midrange horn does have a slightly wider dispersion than the tweeter horn, however, the latter’s output falling uniformly by 24dB approximately 45° to the speaker’s sides. All things being equal, this would tend to make the speaker sound rather dull in large, overdamped rooms. But given the on-axis rise in response, the speaker’s highs in more typical rooms will actually tend to sound better balanced as a result.

In the vertical plane (fig.6), the high frequencies are well-maintained in the ±10° shown. However, various peaks and dips occur off-axis in the low-treble, suggesting that the listener sit with his or her ears on the intended axis. In the time domain, the Uno’s step response (fig.7) appears to indicate that the tweeter is connected in inverted electrical polarity, the midrange and woofer in positive polarity. And not surprisingly, given the physical displacement of the drive-units,

![Fig.6 Avantgarde Acoustic Uno, vertical response family at 50°, normalized to response on design axis, from back to front: differences in response 10°–5° above axis, reference response, differences in response 5°–10° below axis.](image)

![Fig.7 Avantgarde Acoustic Uno, design-axis step response at 50° ( Sims time window, 30kHz bandwidth).](image)
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at the listening seat. The distance from the listening position to the midrange driver (the driver itself, not the front of the horn) was about 9.5'. Jim Smith had brought along a 1/3-octave spectrum analyzer, which was useful in tweaking the subwoofer levels. My room has a closet with louvered doors on one side, which tends to create a L/R bass imbalance; the Uno's subwoofer's level and frequency controls were able to correct this to a considerable extent. Subwoofer phase is reversible by the simple expedient of reversing the subwoofer cable connections; I left the sub in phase with the midrange and tweeter. The horns' controlled dispersion (narrower than that of direct radiators) is supposed to make them less sensitive to room acoustics; this may be so, but a pair of RoomLens placed to the outside of each speaker still resulted in a reduction of "room sound" and a wider soundstage.

The Uno's powered subwoofer allows the use of main amplifiers with much lower power; unfortunately, it also means that there are two more amplifiers in the system with greater opportunity for ground loops. And, sure enough, when I first set up the speakers in my listening room, I got all sorts of buzzing and humming noises coming through the midrange horns and the subwoofers. In my experience, the only way to solve ground-related noise problems is to try different grounding and hookup arrangements (each piece of equipment grounded/ungrounded; preamp, power amp, and subwoofer amp plugged into the same outlet/different outlets) and hope that some combination works. The Uno's sensitivity is about 13-15dB higher than that of the average audiophile speaker, which means that noise as well as signal will be correspondingly higher. In any case, I was able to get ground-related noise down to an acceptably low level by grounding some of the equipment and letting the rest float.

**Sound**

One of the most thought-provoking articles to have appeared in *Stereophile* in recent years was Markus Sauer's "God Is In the Nuances" (Vol.23 Nos.1 and 2). Taking another run at the perennial problem of defining what it is exactly that we want from a music-reproduction system, Markus argued that the main reason people listen to music is to have an emotional experience. He presented experimental evidence (from a doctoral thesis by Jürgen Ackermann) to show that some audio components are markedly superior in their ability to produce an emotional response in the listener, and that this emotional response is a function of subtle factors in the reproduced music, factors that are difficult to identify by the sort of critical analysis normally performed by audiophiles and reviewers.

Markus' example was of the superiority of an analog/tube system over a digital/solid-state one in producing an emotional response to the music, but he might well have been talking about the Avantgarde Uno. There was something utterly compelling about this speaker's presentation of music, something that produced an emotional response in a way that rendered almost pointless the analysis of sonic attributes commonly used by audiophiles and audio reviewers. The Uno drew me into the music, focusing my attention on expressiveness in the playing and singing rather than on audiophile concerns like detail, soundstaging, tonal balance, etc.

Emotional response to music is a very personal matter. Listening to "Make Our Garden Grow," from *Candide*, played over a car radio affects me more profoundly than *The Beastie Boys' Greatest Hits* played over the world's best audio system (or live, for that matter). However, whatever kind of music you like — yes, even the Boys — my bet is that you'll find it more involving with the Avantgarde Uno.

If I were to attempt to analyze the Uno's appeal in audiophile terms, the obvious starting point would have to be dynamics. The Uno could play loud, very loud — and live music is sometimes very loud. Of course, given sufficient power, some conventional (ie, non-horn) speakers are capable of high sound-pressure levels, and speaker designers have started paying more attention to this attribute. (The Vienna Acoustics Mahler, which I reviewed in Vol.23 No.4, and the Paradigm Reference Studio/100 v.2, reviewed in Vol.23 No.6, are good examples of this trend.) However, the way the Uno presented high levels seemed qualitatively different. It wasn't just loud; it was effortlessly loud.

---

**Measurements**

The speaker is not time-coherent. The cumulative spectral-decay plot (fig.8) is quite bony, but this is not, I suspect, due to resonances but to the presence of early reflections. The lip of the midrange horn, for example, is clearly in the tweeter's acoustic environment.\(^1\)

All things considered, there is nothing to be ashamed of in this set of measurements. Although he used horns, the Avantgarde Uno's designer has clearly overcome many of the traditional problems of horn speakers.

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\(^1\) The average audiophile speaker's sensitivity is 85-88dB, according to John Atkinson's article, "Measuring Loudspeakers," in Vol.21 No.11, also available in the "Archives" section of www.stereophile.com.
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There’s the obvious automotive analogy of 200hp from a 6-cylinder vs 200hp from a 4-cylinder engine. Even more apt is the comparison of a singer with a naturally big voice vs one with a smaller voice who is able to produce a big sound through sheer effort: Both singers can produce the same volume, but the one who doesn’t have to “push” to get the effect is more pleasant to listen to. With the Uno, there was never any sense of “pushing,” and no dynamic compression as things got louder.

Martin Colloms reported that the Avantgarde Duo has extremely low distortion; I expect the same will prove true of the Uno. The effect of this low distortion was an absence of volume-dependent strain, and I often found myself playing the system louder than is customary. Played at realistic levels, Reference Recordings’ Big Band Basie had a visceral impact, the combined weight of the brass filling the room with a power and punch that were simply breathtaking.

But the ability to produce high SPLs with low distortion was only part of the Uno’s dynamic capability. The speaker was also able to project a great sense of quickness and dynamic tautness at moderate and low levels. The sound was very direct, as if the speaker was being driven directly by the signal, with no intervening electronics—an effect that may be related to the fact that there’s no crossover between the amplifier and the midrange driver. In demos, there’s a tendency to want to show off the speaker’s ability to play loud, but the Uno doesn’t have to be played loud to sound dynamic.

A friend who admits to preferring levels considerably lower than the typical audiophile—and who promptly asked me to reduce the volume from the blow-the-man-down demo level—said that he was most impressed by how the Uno maintained a dynamic feel even while playing at a “background” level. At every level, the ebb and flow of musical expression—in, microdynamics—was communicated with a precision that went beyond any other speaker I’ve had in my listening room.

Dynamics are all well and good, but a loudspeaker can’t be described as a high-fidelity device unless it’s able to produce an accurate reproduction of the tonal characteristics of musical instruments and voices. The Uno did. Instrumental and vocal timbres were extraordinarily lifelike, and there was impressive tonal neutrality across the frequency range, bass and treble evenly balanced with the midrange. The tweeter managed the difficult trick of being sweet and revealing at the same time. Bass extension held up well to the low 20s, with lots of power on tap when required.

Matching a direct-radiating subwoofer with a horn midrange is no trivial task, but Avantgarde has done an admirable job, given the size and price constraints. (The $38,000 Avantgarde Trio has a horn woofer and four SUB225 CTRL PRO subwoofers, crossed over at a lower frequency than with the Uno.) After suitable tweaking of the subwoofer controls, the midrange/subwoofer blend was quite good, and the subwoofer came close to matching the midrange in tautness and agility.

Perhaps the most surprising aspect of the Uno’s ability to present music was the way it seemed to transcend limitations in the quality of the source material. Poorly miked recordings, worn LPs, early digital transfers that I had dismissed as harsh-sounding—all came across as much more listenable, and at times were stunningly lifelike. The Uno was singularly lacking in hardness and grain, which lent an utter ease to the quality of reproduction. (The associated equipment I used for most of my listening, which included the Cary 2A3SE monoblock amplifiers and Bel Canto DAC1, made a major contribution here.) A CD transfer of Mario Lanza’s radio show, recorded in mono in the early 1950s (When Day is Done, RCA 63254-2), had me thinking that if Lanza were to miraculously appear in my listening room, this is just what he’d sound like. (Actually, this CD sounds better than most of Lanza’s later studio recordings.) With every CD and LP I played, the Uno led me to feel that the music, performance, and recording were all better than I had realized.

The Uno’s ability to present recordings in a favorable way didn’t mean that it wasn’t revealing the differences in recordings or associated components. In fact, the Uno’s levels of clarity, transparency, and detail exceeded those of any other speaker of my experience. Whatever differences there were in the sound of recordings and equipment, the Uno allowed me to hear them. However, unlike speakers generally regarded as “analytical,” it didn’t thrust them at me in a way that interfered with the music.

Listening to the original cast recording of Hair through other speakers, I’d always thought that they must have recorded it with bandwidth- and dynamics-limiting filters. Through the Uno, all of this was plainly audible when I deliberately tried to listen for it, but unless I made a real effort to switch my mind into the analytic mode, I was able to simply enjoy the work as a dated but tuneful piece of ’60s nostalgia.

The Uno also allowed me to hear the differences among the various dither

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**With every CD and LP I played, the Uno led me to feel that the music, performance, and recording were all better than I had realized.**

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**Associated Equipment**

**Analog source:** Linn LP12 turntable (fully updated), Linn Itok tonearm, AudioQuest AQ-7000nsx cartridge.

**Digital sources:** PS Audio Lambda II CD transport, Muse Two Ninety-Six and Bel Canto DAC1 digital processors, Rotel RCD-991 CD player.

**Preamplifier:** Convergent Audio Technology SL-1 Ultimate, Cary SLP-50B (with shunt volume control).

**Power Amplifiers:** Cary 2A3SE monoblocks, Balanced Audio Technology VR-60, Bryston 9B-ST, YBA Intégré DT.

**Cables:** Digital: Illuminati Orchid, Kimber Illuminations D-60, Interconnects: Nordost Quattro Fil, TARA Labs The Two, Speaker: Nordost SPM Reference, TARA Labs The Two, AC: TARA Labs Decade.

**Accessories:** PS Audio P300 AC synthesizer (used with preamplifier, analog and digital sources), Bright Star Little Rock (atop CD transport), Nordost PP4 Ti and PP4 Al Pulsar Point component supports, Arcici Suspension Rack, PolyCrystal amplifier stand, Furutech RD-1 CD demagnetizer, Auric Illuminator CD treatment, four Argent RoomLenses.

— Robert Deutsch
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settings of the Rotel RCD-991, and the beneficial effect of giving CDs the Auric Illuminator treatment. The nature of the Uno is such that it revealed more clearly the effects of tweaks and component differences that might otherwise have been obscured, but its sound was so involving that I was less tempted to be forever tweaking or wondering if something needed to be changed in my system to get me closer to that elusive live sound.

Being used to the standard-setting soundstage imaging and imaging capabilities of the Dunlavy SC-IV/As, and knowing that this is not usually considered to be horn speakers' particular strength, I thought I might find this aspect of the Unos' performance disappointing. As it turned out, the Unos were able to throw an extremely wide soundstage, with life-size images well-defined within the stage, lacking only the last bit of imaging sharpness provided by the Dunlavys. Listening position was not ultra-critical; in fact, I was able to get a good semblance of a soundstage when sitting directly in front of one of the speakers. (The soundstage was much better in the sweet spot, of course) Initially, I had the impression that the images were somewhat larger than life, but this turned out to be an artifact of the tendency to play the speakers at levels louder than usual. The sense of depth and accuracy of placement in the soundstage was excellent; I was able to differentiate clickers at the 60', 70', and 80' distances in the depth test of Chesky's second jazz sampler and test CD (Chesky JD68).

The music presented by the Unos was so vibrant, so compellingly natural, that whatever coloration was occasionally noticeable seemed like a small price to pay.

And what about those infamous "horn colorations"? Virtually absent. The Uno certainly did not have the megaphone-like sound that people associate with horns, nor did it sound nasal, honky, or forward. From time to time I was aware of some resonance/uneveness in the lower midrange that may have been due to the horn loading, but its magnitude was low enough that it really didn't bother me. The fact is that every speaker has some characteristic that you will either get used to or find increasingly annoying. Some speakers avoid coloration in the usual sense, but have a kind of blandness that robs the presentation of excitement. The music presented by the Unos was so vibrant, so compellingly natural, that whatever coloration was occasionally noticeable (and it was only occasionally) seemed like a small price to pay.

Horns’n’SETs

There is a historical association between horns and single-ended triode (SET) amplifiers, an association that continues in the minds of many audiophiles today. But does buying the Avantgarde Uno mean having to get rid of whatever amplifier you’re using now and buying a SET? And, in general, is this speaker so fussy about the quality of the associated components that only the best—i.e., the most expensive—will do?

The answer I’d give to both questions is “Not necessarily.” Because SETs have low power (except for ones using exotic tubes), they have to be used with high-efficiency speakers such as horns, but there’s no reason to believe that the opposite holds true.

As it happened, most of my listening was with Cary 2A3SE monoblocks (much beloved by Sam Tellig), which are prototypical SETs. They certainly have the genre’s famed midrange magic, with a wonderful liquidity and a sense of space and openness. Although the rated output is only 5Wpc, they played quite loud enough for me, and the sound was so musically right that I can well understand the devotion that some audiophiles have for the horn/SET combination.

However, if I start to get analytic about it (there I go again...), I have to admit that the bass was somewhat on the mushy side, and there was some compression of dynamics at the high levels the Uno is capable of. The Balanced Audio Technology VK-60 (60Wpc, a modern bridged-SET design) had more extended, tighter bass and greater dynamic headroom, and its midrange was almost as good as the Cary’s.

In both cases, the preamp was the $6000 Convergent Audio Technology (CAT) SL-1 Ultimate, with a digital front end costing $3–$5k, and power amps in the $4–$5k range—not quite price-no-object, but still pretty expensive. (The $1895 Cary SLP-50B preamp proved a credible alternative to the

A Dilemma

From early on during my time with the Unos, I started thinking that here was a speaker that had what it takes to dethrone the Dunlavy SC-IV/A as my reference. Continued experience reinforced this notion, but, as I thought about its implications, it became clear that the selection of a reviewer's reference speaker has to involve more than personal preference.

In addition to delivering sound quality, a reference component also has to be suitable for reviewing purposes. Alas, the Uno’s design—high sensitivity, integral powered subwoofer—makes the speaker too different from the type of loudspeaker owned by most Stereophile readers, so that reviews of electronics (especially amplifiers) done with the Uno would have limited generalizability. The speaker’s size and shape are such that shifting them in and out of the listening room to accommodate other speakers would not be practical. And yet, I didn’t want to give up the sound of music as presented by the Unos. What to do...what to do...

Could I set up a second audio system in the living room as an alternate reference? (I already have a home-theater system in the basement.) You’ll recall that’s where I first set up the Unos, and they sounded pretty good there, too. But that was on a temporary basis. Would my wife, Beverley, accept them as a long-term part of our living-room décor? I knew that she really liked these speakers, but did she like them that much? Her response: “Only if I can play my records more often!” Jim Smith is getting a check. The Unos are staying here.

—Robert Deutsch
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To check out what the Uno might sound like with more moderately priced components, I set up a system consisting of a Rotel RC11-991 CD player ($1390) and YBA Intégré DT integrated amplifier ($2345, 50Wpc). Cables were still the pricey Nordost Quattro Fil/SPM, but I wanted to keep this part of the system as a constant. The results were more “mainstream” in

tonal balance (less warmth, brighter) than the tube-based systems, but were very satisfying overall.

In general, I’d say that if you have a predilection for a certain type of amplifier design (solid-state or tube, single-ended or push-pull, Class Whatever), there’s a good chance that it can be mated with the Uno. When you’re shopping for an amplifier to match the speaker, keep in mind that the one with the lowest power in a given amplifier line is likely to be more than adequate, and usually sounds better than its higher-powered siblings.

Two technical aspects of the compatibility between the Uno and associated equipment that have to be considered carefully are preamplifier output level and amplifier gain. The Uno’s high sensitivity makes the amount of residual noise in associated components critical, and some preamp/amp combinations that work well with less sensitive speakers are problematic with the Uno. The CAT preamp/Cary amp combination had an acceptably low noise level with the Uno, but the CAT driving a Bryston 98-ST, an amplifier with extremely low inherent noise but high gain, resulted in annoyingly audible tube noise coming through the speakers. (The same preamp and amp with Dunlavy SC-IV/A or Vienna Acoustics Mahler speakers was dead quiet.) I’m told by Bryston’s James Tanner that lowering their amplifier’s gain is a simple internal modification involving the addition of some resistors; I assume this to be the case for other amplifiers as well.

Conclusions ... The illusion of “liveness” in reproduced sound is a delicate perceptual phenomenon dependent on the source material, equipment, room, and time of day, as well as the listener’s mood and expectations. I have experienced this illusion in the past with some speakers in my system, but only rarely and in a fleeting manner. With the Avantgarde Uno, it was a frequent occurrence, and persisted for longer periods before something about the sound acted as a reminder that I was listening to a recording.

At times, the sense that these singers and musicians had somehow appeared in my listening room and were performing for me was quite spooky.

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3 The combination of the CAT preamp, BAT power amp, and the Uno resulted in a fairly high level of AC buzz coming though the speakers that I was unable to eliminate through changes in grounding, etc. The CAT preamp is unbalanced, so connecting it to the BAT power amp requires RCA-to-XLR adapters. In theory, this arrangement is not ideal, but it produced very little AC buzz when using Dunlavy SC-IV/A, so the difference might have to do with the Avantgarde’s higher sensitivity, or may represent one of those mysterious system interactions. Balanced Audio Technology’s VP of marketing Steve Bednarski and sales manager Geoff Poor both own Avantgarde speakers, and Jim Smith uses BAT equipment in some of his demos, so I’m pretty sure the Uno can work well with all-BAT electronics.

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At times, the sense that these singers and musicians had somehow appeared in my listening room and were performing for me was quite spooky.

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Stereophile, September 2000
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Audio Research's first 21st-century, audiophile-quality line-stage preamplifier combines retro-tech vacuum-tube amplification and power-supply circuitry with innovative, remote-controlled gain, balance, tape monitoring, and signal routing. The price is also 21st-century: $9995. As in ARC's Reference phono section, the Reference Two's four vertically mounted circuit boards result in a single, relatively tall chassis.

The fully balanced gain section, rated at 2V RMS balanced (maximum output is 30V RMS) and 1V single-ended, uses eight specially selected Sovtek dual-triode 6922 tubes, while the onboard power supply consists of a 5AR4 rectifier tube, with the resultant DC regulated by a 6L6GC and a 6922.

In place of traditional mechanical potentiometers or stepped attenuators, the volume and balance controls are spring-loaded on/off switches that control the electronic attenuator's 125 steps. Turn the volume control quickly in either direction and release, and the level rises or drops by a single step. Hold the switch to the left or right and the gain increases or decreases continually, measured by a succession of LEDs surrounding the gain and balance knobs on the unit's face. There are far fewer than 125 LEDs around the knobs—the level and balance can be changed by many steps before any change is reflected in the LED display.

Similar spring-loaded electronic switches control the eight selectable inputs and the seven-position tape-monitor facility, giving you the option of listening to one source while taping another. Four toggle switches control power, muting, balanced/single-ended in, and phase. Once configured, a memory feature automatically switches between single-ended and balanced inputs as you switch through the input choices.

The slim, compact remote control duplicates all of the front-panel controls except for the balanced/single-ended switch, which, after the initial input configuration, you won't need to adjust anyway. With volume and source remote-controllable, the Reference Two is a reviewer's best friend.

Continuing a long Audio Research tradition, the rear panel's right-channel row of inputs and outputs is placed above the left-channel row. Don't ask me why; everyone else does the opposite. Whatever: the chassis-mounted RCA and XLR jacks are generously spaced and easily accessed. In addition, there are two sets of Main outs, a Record out, and an IEC mains jack.

Everything about the solidly built Reference Two has been designed for the convenience of the well-heeled audiophile able to buy such an expensive product—everything but the 16 screws he or she will have to remove to get to the circuit boards and install the tubes. Hopefully that inconvenience won't have to be repeated for many years! While ARC thoughtfully provides a high-quality screwdriver, I was happy to have a...
powered screwdriver (set to minimum torque) for the task.

**Operation and Sound**

The Reference Two is not intended to be left on continually, but about an hour’s warmup time is needed before it’s ready to give you all the music it’s got. If you buy one and want to listen after a hard day at the office, switch it on before dinner — though it will play after about 45 seconds.

The remote is a pleasure to use, and, with its phase-inversion and input-selection capabilities, offers genuine 21st-century convenience. Thankfully, AR chose not to adapt a cheap, plastic mid-fi remote — an insult to the purchaser of a $10,000 preamp — nor did it encase the remote in a weighty, unwieldy aluminum sarcophagus. The Reference Two’s remote is lightweight, unobtrusive, and won’t tire your wrist muscles.

I used the Ref 2 in single-ended mode and once broken in and warmed up, it sounded like anything but the proverbial “straight wire with gain.” It definitely had its own sound. I confirmed this by connecting my EAD 12DSP9000 Mk.3 processor directly to the power amplifier via its internal digital/analog volume control, then through the Ref 2.

The Reference Two definitely changed the sonic landscape, but in ways that were subtly euphonic and ultimately pleasurable, even after long-term listening — especially after long-term listening. Given that most recordings are too bright and too edgy, and most mixes tipped-up on top, this is not necessarily a bad thing. If you like tubes, you’ll like the Ref 2. If you don’t...you still might like it.

Like a plush, comfortable chair, the Ref 2 put a soft cushion around the music’s bottom end — not so cushy that the deep bass sank in and disappeared into the foam, but enough to add a warm, comfortable, enriching envelope. Sort of like tube gear in the days of yore, but with no disruption of the timing of bass events. If that sounds to you as if the bass was slightly fat, fair enough — but the Ref also added a whorlpin’, stonupin’, explosive bass dynamic that was downright nuclear in its attack. Soft and mushy this bass wasn’t! (Thank you, Yoda.)

The net effect was big, dynamic, rhythmically lithe bass that was just slightly larger than what was in the signal fed to the Ref 2. No doubt with some loudspeakers this might lead to overload or overshoot, but through the Sonus Faber Amati Homages, which do not offer tight, overamped bass to begin with, the results on great bass-rich recordings (like Davy Spillane’s Atlantic

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**Measurements**

I measured the performance of the Reference Two in both full single-ended and full balanced modes. Maximum voltage gains were 15.2dB balanced in to balanced out, and 13.8dB single-ended in to single-ended out. With a single-ended input, the maximum gain available from the balanced outputs was just under 20dB. The preamp was non-inverting from both sets of outputs. The unity-gain settings of the volume control were 2:00 balanced, 2:30 unbalanced.

The preamp’s input impedance varied from 52.5k ohms (unbalanced at 20kHz) through 66.5k ohms (unbalanced, bass through midrange) and 163k ohms (balanced at 20kHz), to 235k ohms (balanced, bass through midrange). The output impedance was basically 440 ohms balanced and 270 ohms unbalanced, though these figures did rise at the bottom of the audioband to 625 and 750 ohms, respectively.

As a result, the bass rolled off early into the very low 600-ohm load (fig.1, top trace), though into the more typical 100k ohm load (top trace) the Reference Two offered excellent extension at the low-frequency extreme. The high frequencies were slightly curtailed into both loads, at ~1.5dB at 20kHz. As MF noted, “the Ref 2’s top end was ever so slightly soft.”

Channel separation (fig.2) was excellent, but the ubiquitous 6dB/octave rise in crosstalk with frequency due to capacitive coupling can be seen in this graph. (Double the frequency and you get double the crosstalk.) Channel separation was slightly worse in the balanced mode, presumably because then you have double the number of signal-carrying paths.

Distortion at 1V output into 100k ohms was very low in either mode (fig.3), though the unbalanced THD was a little higher overall, perhaps due to the contribution of noise to this result. Figs.4 and 5 show the spectrum of a 50Hz sinewave at 2V in unbalanced...
Bridge) were always musically effective. Bass never sounded muddled, syrupy, uncontrolled, or unnatural. Rock-band kick drums on great recordings like The Clash's Sandanista (British CBS FSLN 1), while rich and full-sounding, had plenty of slap and texture without becoming rhythmically or tonally soggy.

This sort of rich bass performance would probably stick out like an unwanted hangnail if it wasn't so well connected to the higher registers. The Ref 2's performance above the bass was also subtly more vivid, warm, and harmonically enriched than the incoming signal, but only slightly so: full bloom, no stem rot. The result was a coherent, fertile, BIG picture — the fundamental opposite of the best solid-state preamps, like my reference, the Ayre K-1x. To some ears and with some associated components, such gear can sound overly damped below and knife-sharp-thin on top, just as, to some, the Ref 2 will sound overripe. That's why there's more than one high-end audio manufacturer, and why some experienced ears prefer Krell, others Conrad-Johnson, though the two companies' sounds are at opposite ends of the sonic spectrum.

I borrowed a friend's 1980s-vintage Audio Research SP11, and it sounded far less "together" than the Reference Two, with punched-up upper mids, a thin "hot" band in the treble, a noticeable warm zone in the midbass, and generally far more of a "hi-fi" sound. Highly regarded in its day, the SP11 can't compare to ARC's latest effort.

Compared to the fresh-out-of-the-box Ayre K-1x (updated from the K-1 with the new power supply), the Ref 2's top end was ever so slightly soft, taking a bit of the metallic edge off of cymbals and the hard ringing of bells. One of my favorite test tracks for this is John Renbourn's exquisitely recorded Sir John A lot of (Transatlantic T0A 167), which features a fabulous acoustic guitar and crystalline finger cymbals and glockenspiel. The Ref 2 took a bit off the top-end extension and "ring" compared to the K-1x, but not enough to harm the astonishing clarity and illusion of reality of the percussive events, or to slow or soften the attack of Renbourn's guitar, which sounded slightly more rich and woody through the Ref 2.

That compliments both products, which fall just to either side of the "neutral" line. The Ref 2 sounded fast. It kept up with the K-1x, while sounding somewhat richer and more fully fleshed-out. This is not to say it sounded better or worse; it all depends on your taste and associated gear.

The Reference Two was quiet for a tube preamp, with just a trace of thin white noise when no signal was fed to —

and balanced modes, respectively. Now it is the balanced result (fig.4) that has slightly higher THD, with the second and third harmonics around ~70dB (0.03%). Note also the presence of an AC supply-related component at 180Hz (-76dB, or 0.015%), presumably due to magnetic coupling. The only harmonic of significance in the unbalanced spectrum (fig.5) is the second, at ~74dB. While the 180Hz component is gone, a 120Hz electrical hum can now be seen at ~90dB (0.003%).

Intermodulation distortion in either mode was very low. Fig.6 shows the balanced result at 2V output into 100k ohms; the 1kHz difference tone lies at a low ~80dB (0.01%).

Finally, the Reference Two can output very high levels of low-distortion signal into high impedances. Fig.7 shows the THD+N percentage plotted against balanced output voltage into 100k ohms (bottom trace) and 600 ohms (top trace). The preamplifier doesn't clip (defined as 1% THD+N) until 35V into the higher load! And note how the increase in distortion above the "knee" in the traces is quite gradual, indicating soft clipping behavior.

Perhaps more important, note how the THD+N figure drops with increasing output voltage below 2.5V. This reveals that the figure below 2.5V output is actually dominated by noise, and that this noise will be lowest around the voltage where the partnering power amplifier itself starts to clip. This is sensible design. The preamplifier clips earlier into the unrealistically low 600-ohm load, but it should still drive many power amplifiers into clipping before it clips itself.

The unbalanced result is shown in fig.8. The distortion is a little higher and the maximum voltage swing about half that of the balanced mode. Nevertheless, there are still enough low-distortion volts available to drive most power amplifiers to their limits. —John Atkinson
a far narrower spectrum than the usual "tube rush." Still, there was a slight price for paying for the raised noise floor compared to the best solid-state preamps: on classical recordings, lower resolution of very-low-level information such as back-of-the-stage reverberant events; and on pop and rock, a de-emphasis of electronic studio effects. The latter was actually a blessing; most of this studio detritus is not supposed to be so obvious in the mix, and isn't with the kind of gear it's usually played through.

Dynamics at both ends of the scale were among the best I've heard, rivaled only by the Sharp SM-SX100 digital amplifier: explosive at the loud end, nuanced and capable of revealing fine gradations below. The Ref 2 never unraveled on orchestral crescendos, maintaining spatial and tonal integrity. Its rendering of small-scaled, delicate dynamic movement gave life to some recordings that previously had seemed to fade into a glaze as the musical detail descended in level. The Reference Two delivered this sensation of living music even at relatively low volume levels.

Put It All Together and . . .

The Reference Two's sonic parts were impressive, if not perfectly neutral. It had character, but because of its superb overall balance, not what I would call noticeable flaws. A lean speaker would probably mate well with the Ref 2, a plummy one not so well, but to be a truly bad match a speaker would have to almost be off the richness scale, and its bass would have to be nearly out of control. Or, one's room would have to have a serious "bump" in its low-frequency acoustics.

The Sonus Faber Amati leans toward rich and lush in the midrange, and is slightly reticent on top. Yet the combo of the Amatis, the Reference Two and Reference phono stage, the Musical Fidelity Nu-Vista 300s, and every front-end I tried, analog or digital, was magical. And the Rockport Technologies System III Sirius turntable took this assemblage to overwhelming, near-organic levels of sonic pleasure with all varieties of music.

The Reference Two managed to take the edge off of unpleasant recordings—that is, all too many of them—without spoiling or diluting the sonic wonders of great recordings. It conveyed the woody weight and majesty of a grand piano, while preserving the instrument's felt-on-metal percussive attack, better than any preamp I've heard. With the speed-perfect Rockport in the system, the combination yielded the most realistic piano sound I've heard from recordings, in terms of tone, dynamics, and, especially, space. It's a matter of balance, and balance was the Ref 2's strongest suit.

The Reference Two's rhythmic presentation was convincing without being stiff, its image focus sharp without being edgy, and its portrayal of image size appropriately big, solid, and robustly three-dimensional, all without bloat. The Ref 2's tonal balance, while slightly soft on top and slightly rich on bottom, was, overall, as musically neutral as I've heard, with the frequency extremes complemented by a gorgeous, liquid midrange. And the preamp's dynamic presentation was a clear stand-out.

That's why the Reference Two was equally at home with rock, jazz, classical, and every other genre of music I played through it. Unlike the Jadis RC JP80 MC Mk.II (reviewed in the December 1998 Stereophile), which was gorgeous when fed classical music and at a loss with rock's rhythms and electric bass foundation, the Ref 2 sailed through every musical challenge I set it. I've heard that the Ref 1 could sound lean, if super-detailed, and the original Ref 2 a bit ripe and stuffy. The current version of the Ref 2, which is what I reviewed, has a tube complement that must pass a new, rigorous cherry-picking procedure, along with a few other changes.

Conclusion

It's only a line section and it costs $10,000, but the Audio Research Reference Two looks, feels, behaves, and sounds like a $10,000 product. It combines the best of the old technology—including tube rectification and regulation, super-dynamic presentation—with the signal-routing and remote-control features demanded by today's affluent audiophiles, including remote phase inversion and fully balanced operation. The extra gain and added quiet should only improve what is already the most credible-sounding, musically poised preamplifier I've heard.

True, the Ref 2 seemed to ever so subtly enrich what it was fed, but this was done with such magical sleight of hand that I remained unaware of the behind-the-scenes sonic activity. I never wished for more or less while listening, whether it was the Eurythmics' horn-blasting "Would I Lie to You?" or the RCA Soria LP edition of The Honowitz Collection, a set of remarkably clean-sounding vintage mono recordings from the mid-1940s through the mid-'50s. The result was that the Ref 2 remained in my system for months; I forgot about it until I had to send it to JA for measurement.

If you can afford it, and if its seamless though quite distinct sonic stamp fits your system, room, and your particular idea of what sounds real in the artificial world of recorded sound, you'll find the Audio Research Reference Two a reliable, long-term musical partner.

Michael Fremer

Associated Equipment

Analog sources: Simon Yorke turntable; Graham 2.0 and Immedia RPM2 tonearms; Rockport Technologies System III Sirius turntable; Lyra Helikon and van den Hul Colibri cartridges.

Digital sources: Musical Fidelity X-Ray CD player, Marantz DR17 HDCD recorder, EAD DSP-9000 Mk.3 DAC.

Preamplification: Audio Research Reference and Zanden phono stages, Lyra Azion step-up transformer, Ayre K-1x preamplifier.

Power amplifiers: Musical Fidelity Nu-Vista 300.

Loudspeakers: Sonus Faber Amati Homage, ProAc Future 1.


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Bryston 9B-THX five-channel power amplifier

Bright April Sunday sunshine beams through the bay window of my listening room. The light catches four loudspeakers on stands, two stacks of electronic equipment, a small video monitor, black cables strung behind furniture, and a pile of freshly opened DVDs. I sit in the center in a large, overstuffed chair covered in blue velvet, listening to an array of six loudspeakers and a TV monitor playing The Haunting’s DTS soundtrack. The floor rumbles as the sounds of cracking timbers come up from below.

Now it’s late June and I’m looking back on my metamorphosis. Like other middle-aged American males, I have reinvented myself. I have shed my skin and tried not to look back.

Big words, right? No, I hadn’t taken up bungee jumping, hang-gliding, or racing a BMW 2001-series M3 (not that I’ll turn down any offers). What had been tempting me more and more was the thought of being engulfed by the sound of a DVD-based multichannel audio/video system. Auditioning the Bryston 9B-THX — a hot new five-channel, solid-state A/V power amplifier — seemed like an easy entry to this brand-new technology. Or so I thought.

The transformation took some doing. I had to learn a new audio language, tear down my two-channel system, install new speaker cables and interconnects, run onscreen system configurations on DVD decks and A/V processors, and realize that my expensive built-in wall shelves were woefully lacking in space for gear. No more Rutter Requiem — I now use a brand-new set of DVD source material (see sidebar, “Welcome to the Real World”). Armed with a copy of Len Schneider’s superb Guide to Better Hi-Fi and Home Theater and leaning on Denon’s David Birch-Jones and Lexicon’s Bart Lo Piccolo for A/V technology phone support, I dove in.

How did I feel? Not too bad — say, like the moment after Neo takes the red pill and is disconnected from the Matrix in the film of the same name.

But I’m getting ahead of myself. This is a review of the Bryston 9B-THX. I asked to review this product because the word on the street was that it might be the best Bryston amplifier since the 7B-ST monoblock. The 9B-THX arrived well before I completed the surround-sound installation, so it started its audition in two-channel mode. I really liked what I heard, but the best was yet to come.

**Description:** Five-channel, solid-state, power amplifier. Output power into 8 ohms: 120Wpc (21dBW), 20Hz–20kHz, ≤0.5% THD (FTC). Output power into 4 ohms: 200W minimum continuous (23dBW). Frequency response: not rated. THD+noise: 0.007%, 20Hz–20kHz, ≤0.1dB. Intermodulation distortion: 0.002%, 60Hz+7kHz mixed 1:1. Noise: –107dB, input shorted, dB below rated output, 20Hz–20kHz bandpass. Input impedance: 15k ohms, balanced or single-ended. Input sensitivity: balanced input regular, 2V in for 100W into 8 ohms; balanced input in +6dB switch position, 1V in for 100W into 8 ohms, unbalanced input, 1V in for 100W into 8 ohms. Output impedance: not given. Damping factor: not given. Power consumption: typically 100VA, all channels idle; 900VA, all channels at full power into 8 ohms; 1600VA, all channels at full power into 4 ohms.

**Dimensions:** 17" (425mm) W by 5.25" (131.25mm) H by 17" (425mm) D. Weight: 75 lbs (33.8kg).

**Serial number of unit reviewed:** 900407 (listening); 900858 (measuring).

**Price:** $3695. Approximate number of dealers: 200. Warranty: 20 years.

**Manufacturer:** Bryston Limited, P.O. Box 2170, 677 Neal Drive, Peterborough, Ontario K9J 7Y4, Canada. Tel: (705) 742-5325. Fax: (705) 742-0882. US: Bryston Service U.S.A., 30 Coventry Street, Newport, VT 05855. Tel: (802) 334-1201. Fax: (802) 334-6658. Web: www.bryston.ca.
Beefy Construction

The 9B-THX is a massive solid-state amplifier, much of its heavy iron coming from five large toroidal transformers and a stiff, rigid, reinforced-steel chassis that would seem to make the product reliable enough to last twice as long as its 20-year warranty. The model is designed to last in professional audio installations, where ruggedness is a main virtue.

Thermal pathways had to be carefully laid out. It’s not unusual for a 9B-THX to be mounted by its front panel in a rack and transported in a truck for hours over rough dirt roads to the next gig. While removable, the plug-in channels are clamped down by captive plates to prevent anything from getting loose inside the chassis. Should a module fail, the bad channel can be repaired by simply removing the old module —

The 9B-THX is designed to last in professional audio installations, where ruggedness is a main virtue.

transformer/circuitry/output stage/heat-sink — and plugging in a replacement. The 9B-THX’s 75 lbs make it the second-heaviest Bryston amplifier in production, outweighed only by the very new, 6/00Wpc 14B-ST.

A Roscoe S-1 Square recess screw-driver is required to lessen the 30-countersunk Robertson machine screws that fasten the 9B-THX’s top panel to its chassis. These screws fit snugly into the chassis’ threaded steel inserts by means of a locking thread-scaler that lowers vibration and increases structural stability.

The 9B-THX is the most densely packed Bryston product I’ve seen. Five large modular amplifier-channel mother-boards consume all available interior space. These line up vertically, like plug-in computer cards, fitted into gold-plated edge connectors. Each channel module’s large toroidal power transformer is

Measurements

The five-channel Bryston 9B-THX is the first multichannel amplifier I’ve measured for Stereophile, so I had to scramble a little to get five identical dummy loads. Even then, the Audio Precision System One I use can measure only two channels at a time, so I generally looked at just one channel. However, for the power testing I did drive all five channels for the 8 ohm measurement, and two for the 4 ohm result. Although the 9B has a tip-ring-sleeve balanced input connector for each channel, I tested it only using its single-ended RCA inputs. I also didn’t measure channel separation — met culpa — but, given the amplifier’s independent-module construction, I would be astonished to find any significant crosstalk present.

The 9B-THX was preconditioned by being driven (all five channels) at one-third power for one hour. This maximally stresses an amplifier with a class-B output stage, and, after the hour, the exposed edges of the Bryston’s internal heatsinks were too hot to keep my hand on, implying a temperature higher than 60°C (140°F). The chassis, however, while hot, was not too hot to be touched, implying sensibly arranged heatsinking.

The amplifier was non-inverting via its single-ended input. The voltage gain measured 292dB into 8 ohms, a 100mV input resulting in a power delivery of just over 1W into 8 ohms. The input impedance was suitably high at 476k ohms from the bass through the mid-treble, this dropping to 415k ohms at 20kHz. (On the suggestion of a reader, we are now measuring input impedance across the audioband rather than just at 1kHz, as we used to.) The output impedance was a very low 0.04 ohms except at 20kHz, where it rose to a still impressive 0.07 ohms.

As a result, there will be hardly any resistive divider interaction between the amplifier and the speakers it drives. This can be seen in fig.1, where the small-signal frequency response was hardly affected by the simulated loudspeaker load. The bass is extended to the 10Hz lower limit of the graph, while the highs roll off above the audioband, reaching their 3dB-down point around 180kHz. Not surprisingly, the small-signal 10kHz squarewave response (fig.2) was essentially perfect.

As can be seen in fig.3, the 9B offered very low distortion, except at higher frequencies into 2 ohms. What distortion was present was primarily the innocuous second harmonic (fig.4), but observe the very high power required to lift the distortion waveform out of the residual noise. Both the low level of the distortion and its second-harmonic nature are confirmed by fig.5, while fig.6 shows that intermodulation distortion products are conspicuous almost by their absence, even at the very high power used to generate this graph (just below visible clipping with this demanding signal). Note,

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mounted on edge just behind the front panel; except for the common AC cord, the 9B-THX is a collection of completely separate amplifiers in one chassis.

The circuit boards are very-high-quality double-sided glass epoxy with component-designator screening. Soldering is done by hand to avoid damaging the PCBs with the 800° necessary for automated wave soldering. Soldered and other gas-tight mechanical connections are used for signal circuits, while the power supply uses high-quality push-on connectors.

The 9B-THX is derived from Bryston's 3B-ST, reviewed positively in these pages in October 1996 (Vol.19 No.10). The modules' design was further developed in Bryston's PowerPac series, as a 120W (875W) amplifier mounted on a flat plate that could be attached to the back of a speaker to make it a powered monitor. For the 9B-THX, this single-channel amp was transformed into a thin, 17"-long computer plug-in card. The card's length keeps the front power supply a good distance from the rear input stages, to minimize hum.

But Bryston's Stuart Taylor decided that the 9B-THX required more than a reshaped circuit board. For example, the grounding is far more complex than the schemes found in Bryston's two-channel amps. All five amplifiers are first grounded separately, then connected through a large bridge rectifier. Dual 25-amp diodes keep differences between channels to less than 1V.

Besides electrical hum, five toroidal power transformers squeezed into a single chassis can generate a bit of physical noise. To combat this, a special grade of steel was selected for each toroid's core. Furthermore, the filter capacitors are mounted to the PCBs using 5-pin rather than 3-pin connectors, so that no torsion of the amplifier will easily twist the filter cap off the board. The filter capacitors, selected for longest life, are guaranteed to run at 105° for 5000 hours. The 9B-THX is designed to shut down if it reaches a temperature that would make the filter caps exceed 70°F. This extends their mean time between failures.

However, the suspicious rise in the spectral noise floor around the peaks that represent the 19kHz and 20kHz tones I have no idea what this will mean subjectively, but I'd prefer that it wasn't there.

Even with all five channels driven, the 9B-THX more than met its 120Wpc output power specification, the left-hand trace in fig.7 revealing that it put out approximately 160W (22dBW) into 8 ohms at our standard 1% THD+N clipping point. I didn't have enough high-power resistors to simultaneously test all five channels into 4 ohms, but with two channels driven, 260W (21.1dBW) was available (right-hand trace). (Ignore the sawtooth effect in this graph. With the very low distortion and noise offered by the Bryston, these discontinuities in the traces are due to the Audio Precision's automatic range-changing.)

To test the 9B's ultimate power, I used the Miller Audio Research Amplifier Profiler, which drives one channel of the amplifier under test with a low-duty-cycle 1kHz toneburst (10 cycles on, 400 cycles off). This more closely approximates how the amplifier will behave with a music signal.

Fig.8 reveals that, under these dynamic conditions, 227W was available for 1% THD (horizontal magenta line) into 8 ohms (black trace), 410W into 4 ohms (red), 680.5W into 2 ohms (blue), and 967W into 1 ohm (green). The latter is equivalent to a current delivery of 31.1A!

This excellent set of measurements indicates solid, reliable engineering.

—John Atkinson
Welcome to the Real World

Watching The Matrix on the home-theater system I used to review the Bryston 9B-THX was a kick. The sound was highly dynamic, extended, and effortless, and the visual action was non-stop. Laurence Fishburne, who plays the prophetic leader, Morpheus, says, "Welcome to the real world" after the hero, played by Keanu Reeves, undergoes a rigorous education that teaches him a new way of thinking. Neo was re-educated the Hollywood way: kicked, stomped, tossed against walls, shot at, and thrown off buildings. While not as vigorous, my multichannel education got my attention just as firmly.

Although I've uncrated and positioned huge 250-lb loudspeakers and wrestled sharp-finned 100-lb amplifiers up my stairs, their installation always followed one simple rule. Like Noah's Ark, everything came in pairs: two channels, two main loudspeakers, two interconnects, two pairs of speaker cables. With the advent of the CD player, all non-speaker components for two-channel stereo can be stacked, if necessary, in a single, central column. With monoblocks like the Bryston 7B-ST, the amplifiers can be placed on the floor behind the two loudspeakers, so the large speaker cables are run out of sight behind the equipment stack to behind the loudspeakers. One can minimize the clutter of speaker cables and interconnects by running them behind the speakers and the equipment stack without major renovations of one's living-room walls or floors.

This is not the case with multichannel. Six-channel systems obviously can't follow the Rule of Pairs. Furthermore, there is much more equipment in the simplest multichannel system than is found in a component stereo system, even if one owns monoblocks. Where to put it all?

I found I couldn't stack a large television monitor, a five-channel amplifier, a video processor, a subwoofer, and a central-channel loudspeaker in one neat array. As they say in the counseling business, who goes on top? The amplifier and TV monitor are both heavy, and should go on the bottom. Yet the amplifier runs hot and can't be stuck under all those other boxes. I could put it on the floor... but the system's six 1m interconnects keep the amplifier closely tethered to the Lexicon MC-1 processor. The sizes of these boxes differ greatly, so one can't make a neat little Tower of Hanoi. On a visit to Sony's cavernous retail store in Manhattan, I learned that they install their home-theater control centers in huge credenzas. I didn't have room for a huge credenza and all the loudspeakers necessary.

The Matrix's Neo was re-educated the Hollywood way: kicked, stomped, tossed against walls... While not as vigorous, my multichannel education got my attention just as firmly.

So I made two stacks, starting with the Velodyne HGS-18 subwoofer on the bottom. Then came a Mark Levinson No.334, for using Revel Salous as my two front-channel speakers when I needed a huge bass response (no more than three times a day!). Then came the Mirage HDT FCH-1 center-channel unit, the Theta Carmen DVD player, and the Lexicon MC-1 digital controller. Finally, atop everything, I perched — like a cherry on an ice-cream sundae — a very lightweight Panasonic 13" video monitor. (The stack wouldn't accommodate the weight or width of my 27" Sony Trinitron.) The Bryston went in a second stack, sitting by itself on a piano bench next to the subwoofer. That gave it good ventilation and easy accessibility for wiring loudspeaker cables. But it wasn't pretty.

After the electronics were installed, I followed Bart Lo Piccolo's advice and made certain that the front-, center-, and rear-channel speakers all came from the same manufacturer. I temporarily replaced the Revel Salous and B&W 805 Nautilus with Mirage HDT-FCH-1 front-channel loudspeakers 11' apart and 10' from the listening chair. 1' from the rear wall, and about 3' to each side of the HJRT-FCH-1 used for the center channel. The rear-channel speakers were placed on stands next to the side walls and 5' 6" behind my listening chair. On Lo Piccolo's advice, the Velodyne HGS-18 remained as my powered subwoofer.

Then there were the speaker cables. I prefer very-high-quality audiophile speaker cable sourced from such manufacturers as PSC, Audiolink, and Coincident Speaker Technology, but their heavy spade lugs were thicker than the 1/4" slots in the plastic shrouds of the 9B-THX's binding posts. Of the cables in my cable box, only Sumiko OCOS cable's spade lugs were thin enough for the rear-channel speakers, and only Mark Levinson LF-10 for the front channels. Bryston's Chris Russell says this problem has been corrected in current-production 9B-THX's: the shroud slots have been enlarged to 9/16" width.

Finding the optimal video outputs of the Theta Carmen required me to RTFM (read the factory manual). I hadn't initially, and so got to enjoy Run Lola Run in pure black and white. Setting the Theta Carmen's composite video outputs to Component turned my color monitor into a black-and-white TV. Toggling to Component returned color to the screen. I then had to decide on the digital audio output: "PCM Only" or "PCM/AC-3/DTS?" The latter position was the only one that let me listen to my DTS demo disc.

The next lesson was simple: Hook up the center channel and ask questions later. As an aging two-channel man, I hadn't hooked up the center channel at first. Impulsive and eager to hear what my DTS demo DVDs sounded like, I'd connected the front-channel speakers, fired everything up, and put on track 3 of the DTS demo disc — a scene from The Haunting. I heard lots of smashing glass, cracking doors, blowing wind, and rumbling thunder — everything but Catherine Zeta-Jones' voice. I had transformed Hollywood's technological masterpiece into a silent movie! Wiring up the center channel unear感触 the missing dialogue.

To fully test the Bryston 9B-THX, I needed brand-new source material. None of my "Records To Die For" were going to give me discrete channels and video signals, so I bought a
selection of DVDs and DTS-encoded CDs featuring wide-ranging special effects or music. Among the former, I found many that were revealing and enjoyable: The Bone Collector (Universal DVD 20716), Kiss the Girls (Paramount 531887), The Long Kiss Goodbye (New Line N4446), Godzilla (TriStar 231129), Saving Private Ryan (DreamWorks 84433), Run Lola Run (Sony Picture Classics 94014), The Fifth Element (Columbia Pictures 82409), The Matrix (Warner Bros. 17737), and Blade Runner (Warner Bros. 12682). For DVDs with strong musical content, I turned again to Run Lola Run, then Digital DTS Surround Demonstration DVD 4 (DTS DVD 99121). For DTS-only source material I listened to Holst's The Planets (Telarc 20CD-80466) and Don Henley's The End of Innocence (Geffen 69286-01062-2).

Finally, I learned that listener participation differs greatly between multichannel and two-channel systems. A surround-sound home-theater setup had me involved every minute. I find two-channel audio at its best to be a more meditative experience in which I literally sit back to savor the intricacies of the stereo soundfield: its depth, breadth, three-dimensionality, transparency, and effortlessness. With no visual signal, I close my eyes and become gradually more and more involved with the music. To enjoy the experience, I have to bring more to it.

Surround sound was dramatically different. I needed to be more active, as it took two remotes to control the system: one each for the Theta Carmen and Lexicon MC-1. I sat forward and was pulled into the action instantaneously, because all my senses were activated. Paradoxically, in another way, I had to do less work to get into this very active experience. The sound, instead of being the main component, is only a part of the experience. The soundstaging was around me instead of in front, and that enhanced the involvement. All these factors made the multichannel, multimodal experience exciting and different, but not necessarily better than two-channel audio.

—Larry Greenhill

failures to 400,000 hours. Such overdesign is necessary to justify Bryston's 20-year warranty.

The 9B-THX's five 60V rails could really pull down the AC voltage on startup when large amounts of current are needed to initially charge the electrolytics. Bryston uses a sophisticated soft-start circuit to prevent the 9B-THX from tripping your home's circuit breakers. The startup components and circuit are placed on the sixth board, at the far right of the chassis.

The 9B-THX resembles other Bryston amplifiers in sporting pairs of handles fore and aft. The front panel is of 1/4"-thick sculpted aluminum with two narrow horizontal grooves; the two front handles are similarly grooved. Because the faceplate is buff-finished with a fine abrasive like jeweler's rouge, its surface is very smooth to the touch. Besides the company name, the only lettering on my review sample's face were two logos: "THX" and "ST." The former is self-evident; the latter are the initials of Bryston's circuit designer, Stuart Taylor.

Amplifier functions are addressed by a square pushbutton power switch and five bicolor power-indicator LEDs. These glow green while the unit is powered, turning red only when the amplifier is clipping or suffering an internal fault. The clip-sensing circuit uses a comparator to detect signal distortion, clipping, short circuits in cabling, excessive DC, or supersonic signals.

The rear panel is laid out in simple fashion. At extreme left sits the detachable AC connector and the remote turn-on input. The remainder of the rear panel is divided into five narrow, identical panels, each with clearly printed instructions in white lacquer that make it possible to set up the 9B-THX without having to consult the written instruction sheet. There is a switch to set the channel to an unbalanced RCA input, or to balanced or balanced +6dB inputs. The balanced input uses a dual-function connector by Neutrik that takes a balanced XLR plug (pin 2 positive) or a TRS ("tip-ring-sleeve") balanced 1/4" phone plug (tip positive). Each amplifier's output uses a new speaker binding post (rated at 60 amps) that allows you to insert one banana plug in the back while screwing another into the same post from the top. These binding posts have been designed to meet the rigorous CE standard, which changed the spacing of speaker binding posts from 19mm to 25mm or more. The posts themselves are plastic-shrouded so fingers can't get to the contacts when the amplifier is playing. The first 9B-THXs came with slots in the plastic shrouds to allow for 1/4"-thick spade-lug connectors. Speaker-cable manufacturers quietly exceeded that thickness — as I found out (see sidebar, "Welcome to the Real World"). Current-production 9B-THXs have 5/16" wide slots for their speaker binding terminals.

The ST logo signifies that the 9B-THX has the latest Bryston circuit innovations. These include lower power-supply impedance, a distortion-lowering input buffer amplifier, 28% more energy storage, improved power-transformer layout, shorter lead lengths, and improved signal isolation. Compensation for capacitive loads is provided by a single loop of wire in the output stage. The new toroidals are precision-wound, each with exactly the same length of double wire.

After bench-testing, the 9B-THX gets a grueling 100-hour factory burn-in consisting of a squarewave input signal clipping the amp into a capacitive load. In theory, this load draws an infinite amount of current on the rising leg of the squarewave, stressing the power supply to the max. Unlike a resistive load, which dissipates all the energy as heat, a capacitive load feeds back the entire signal into the amplifier, which puts maximal stress on the output stages. The driving signal is gated one hour on and one hour off, this cycle repeated many times. This heats up the amplifier, cools it, and heats it again, the resulting expansion and contraction exposing any loose connectors and shaking out any devices subject to early failure. After burn-in, each 9B-THX is again bench-tested, and the results are shipped with the amplifier.

The ground trembles with its force
Following a steady stream of massive two-channel audiophile amplifiers, the relatively compact Bryston 9B-THX spelled relief for this reviewer. During my auditioning, I placed it atop a Mark Levinson No.334 stereo power amplifier. Rated at approximately the same

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We won't sell you Martin-Logan Statements

Now, please don't get us wrong. We love the Statements. They are simply our favorite line-source speakers. The Statements reproduce complex, loud passages with spine-tingling dynamics and yet manage to retain the delicacy and finesse of simple, more intimate music. Their famed and fabulous curved electrostatic panels create a seamless you-are-there listening experience, with superb transient response and holographic imaging. Close your eyes and the speakers disappear. Open them and you may be shocked that such a large speaker can sound so involving.

And the bass is, uh... well... wow! Eight 7-inch midbass woofers in a dipole line array. Eight 12-inch sub-woofers in the separate modular bass tower. Per side. Dynamic? Oh, my yes. Clean, tight, well-controlled? Yup. Authoritative, deep, and articulate? That too.

Now, if the Statements are so great, then why won’t Goodwin’s High End sell them? Well, we’d be happy to demonstrate them in our acoustically-designed and meticulously-constructed state-of-the-art listening studio. We’d power the Statements with the finest amplification from Spectral, Boulder, or Audio Research. We’d play your CDs on our reference-quality Spectral, Boulder or Wadia digital front end. Or we’d cue up your LPs on our favorite Basis Debut Gold Vacuum turntable. We’d explain how the Statement system works. We’d leave you alone to listen, or if you’d prefer, we would stay with you to guide your evaluation. No, we won’t sell you the Statements, but we’d be pleased if you eventually choose to buy them from us — no hurry, no pressure.
power, the Levinson was 1.6 times as expensive, almost 1.5 times as heavy, just as deep, twice as tall, and yet had three fewer channels! For someone used to doing the audiophile amplifier-lift—deep breath, bend at the knees, lift straight up to protect the back—moving the 9B-THX's 75 lbs around was downright easy.

It might be compact, but the 9B-THX packs plenty of punch—my notes on first hearing the Bryston through the Dynaudio Evidences I reviewed last May testify to its speed and power. Like the 4B-ST and the 3B-ST I wrote about several years ago, the 9B-THX's strength is in the power region of the audio spectrum: the mid-bass and bass. The 9B-THX delivers fast, powerful, well-defined midbass, and low bass with depth, extension, and solidity. It combines snap and slam, allowing the listener to perceive both the low-frequency energy and the tightness and definition of the leading edge of the bass pulse. Playing back two-channel audio through the Evidence towers, it excelled in its focused imaging, absence of midrange grain, and extended, transparent highs.

As a multichannel amplifier, the 9B-THX was superb. DVD recordings of live concerts benefited from its speed, punch, slam, and rhythmic drive. For half the listening test, I set the Lexicon to treat the Mirage front- and rear-channel speakers as "Large" (ie, driven full-range). After 45 minutes of Godzilla's thunderous footfalls and the pounding techno beat of Run Lola Run, the Bryston's internal heatsinks were quite hot. But the sound remained open, transparent, clean, and revealing of detail, as made evident by concert DVDs. The opening drum beat of the Eagles' Hotel California (DTS DVD 99121) made my room shudder. Similarly, the extremely deep bass-guitar chords dominated the opening of Sheryl Crow's Am I Getting Through concert DVD (DTS DVD 99121).

The multichannel experience placed me in the center of the action. The surround action in Chapter 12 of Godzilla made the front-to-back action—as when the dinosaur approaches from the front channels, passes over the hero, and leaves via the rear loudspeakers—completely convincing. A similar front-back fly-by gripped me as the attack helicopters chased Godzilla through the streets of New York.

After several hours of listening, I pushed the 9B-THX until the front panel's LEDs occasionally flashed red. While the sound exhibited the expected compression, refusing to get louder, it didn't become brittle, analytic, hard, or distorted.

The midrange was excellent. The pace'n'rythm of Run Lola Run's throbbing techno score became an integral part of the movie, its brush strokes on synthesized drums driving Franka Potente's tireless running. I heard the individual notes from the several guitars in Hotel California more clearly and distinctly than ever before; they refused to be homogenized by the conga drums in the selection's opening.

To hear subtle amplifier differences, it was necessary to replace the front Mirage speakers with 250-lb Revel Salons, driving them alternately with the Mark Levinson No.334 or with two 9B-THX channels. This revealed differences in the uppermost ranges. While the Bryston 9B-THX sounded clean, fast, and very dynamic, it was not as transparent as the much more expensive No.334 driving these exquisite $15,000/pair loudspeakers. The Levinson was also more defined and etched playing the guitar accompaniment to Roy Orbison's "Pretty Woman" on DTS's Demo Disc IV.

Conclusions My listening revealed the Bryston 9B-THX to be not only a surprisingly powerful amplifier with strong dynamics, but also the equal of more expensive solid-state amplifiers in its ability to deliver powerful midbass, wide dynamic contrasts, and involving vocal reproduction.

Bryston's 9B-THX is a beefy, rugged, reliable home-theater amplifier whose 20-year warranty and midprice point make it a real value. It's powerful, built to last, and appears to be very easy to service. Sonically, it resembles the other ST Brystons, particularly the 3B-ST's midbass punch and solidity, and equals top two-channel audiophile amplifiers like the Bryston 4B-ST and 7B-ST. While these two-channel stereo amplifiers have slight edges in transparency, high-end openness, and soundstage depth, they can't deliver the Bryston 9B-THX's ultra-clean power to five separate loudspeakers. Such pristine power makes it a perfect choice for someone who wants to have a home-theater system, yet have a basic amplifier for multichannel music-only recordings.

So sit forward and join the action: Put on a DVD and enter the new world of multichannel home-theater sound. The 9B-THX five-channel amplifier took me there on that bright spring day in April. It could take you there, too.
I’d been to the Mississippi Delta and seen both of Robert Johnson’s graves. I’d stood at the crossroads where he made his deal with the devil. I’d been to Graceland, Tupelo, and the other Elvis shrines. I’d immersed myself in Elvis lore for several features written for the May 2000 issue of this magazine. But somehow I knew there was still another journey in my personal quest to soak up the history of rock ‘n’ roll.

That peculiarly American music has, as most music people know these days, fallen on strange, hard times. Judging from the songs now being written and the talent currently deployed, the music has lost its muse. A struggle is on for the soul of rock, and the outcome is still very much in doubt.

Which was why yours truly was sitting in a plane winging its cramped but onionskin way toward the belly of the beast — St. Louis, Missouri — to see how much juice the author of “Johnny B. Goode” still had left in him at age 74.

Berry wrote most of rock ‘n’ roll’s classic numbers: “Roll Over Beethoven,” “Thirty Days,” “Back in the USA.” He’s also one of the finest lyricists the movement ever produced, a killer guitar player (when he wants to be), and a marvelously clear singer. Two new albums, the budget-priced The Best of Chuck Berry (MCA MCAD-11944) and the more comprehensive two-disc set Chuck Berry: The Anthology (MCA 088 112 304-2), provide ample evidence of Berry’s seminal influence.

Several months earlier, my old friend, Stereophile writer, and St. Louis–area native Dan Durchholz had mentioned that Berry plays a monthly gig at a small St. Louis club. We arrived on Delmar Avenue. There, on a sidewalk inlaid with brass stars representing a baroque gumbo of St. Louis heroes — playwright Tennessee Williams, bowler Dick Weber, Civil War general William Tecumseh Sherman, and one of baseball’s greatest warrior-kings, Bob Gibson — stands Blueberry Hill, Joe Edwards’ shrine to rock ‘n’ roll.

Downstairs in The Duck Room, named for Berry’s signature stage move, with a big smile and that “ra-dah-dah-dey-dey-dey” double-stringed guitar lick he can play in his sleep, rock ‘n’ roll’s living Manhattan Project launched into “Roll Over Beethoven,” lingering on his still distinctive pronunciation of “Bay-toe-ven.”

The duckwalk made its first appearance in the set’s third number, but the old flames that had first ignited rock ‘n’ roll were there from the first. Dressed in the captain’s hat he’s begun to favor à la Count Basie and his old bandmate pianist Johnnie Johnson, a red shirt covered in glittering green palm fronds, and a rather short pair of long pants he joked were his son’s, Berry turned in a loose, clowning performance that amused both himself and the adoring crowd. His daughter Ingrid sang backup and played harmonica, while her husband, Chuck Clay, played rhythm and lead guitar.

Chuck Berry was once a normal joe. Hell, he wanted to be a hairdresser. In the 1987 film Hat! Hat! Rock ‘n’ Roll he even said that he still kept up his beautician’s license, just in case. Elvis drove a truck. They may have started a revolution, but they weren’t revolutionaries. They just loved the attention. And the cars. And the gurls, gurls, gurls. Oh yeah, and they loved the blues — the lowdown, dirty blues, which, when you add a backbeat, become what poor old Alan Freed called “rock ‘n’ roll.”

Like Elvis, Berry dabbled in evil. For Elvis it was buying Cadillacs at 4am and watching chimp snort perform sex acts. For Berry, young girls, Caddies, and tweaking his lyrics were the allure. According to The New Rolling Stone Encyclopedia of Rock & Roll he “brought a 14-year-old Spanish-speaking Apache prostitute from Texas to check hats in his St. Louis nightclub and after he fired her she complained to the police.” That tangle, led to two trials, the second of which landed him in jail for two years for violating the Mann Act. In 1990 he had another run-in with the law over possession of marijuana and a bunch of now infamous videotapes apparently shot in a women’s restroom at his amusement park, Berry Park. But these are just the sort of low-budget, banal evils you’d expect from a former truck driver or hairdresser.

The problem today is that, in business in which records are now “product,” the whole process can be evil of the sort that saps imagination and exhalation. Being a rock musician is now a career choice, as opposed to something you’re inexplicably inspired to do. Too many assume they’re pros from the start. Too many players buy MC Hammer’s mansion before they’ve even become proficient at playing an instrument, let alone have written a song.

I’m sure this also applies in some degree to jazz, classical, and other musical genres. For many, music is no longer something that’s in their bones, the kind of itch that would propel them to show up at the Cosmopolitan Club and start singing, as Berry did, or run down to Sun Studios before Sam Phillips had hung up the phone, as the famous legend about Elvis has it. Now it’s about money, marketing, and only occasionally about music. Perhaps a few more deals with the devil down at the crossroads wouldn’t be such a bad thing.
The REF300 and REF600MKII mono block power amplifiers are among the best selling and most critically acclaimed amplifiers ever produced by Audio Research. Now there's a monoblock amplifier that achieves reference quality at a more affordable price. The new VTM200 monoblock amplifiers pack 200 watts into a relatively compact chassis making them easy to place in your room.

The sound is simply wonderful. Bass response is fast and forceful, staging is extremely well-focused, layered and naturally proportioned. It's all here. Power, richness, and an uncanny ability to resolve small textural and harmonic detail are all here.
Chesky Records

THE CONGA KINGS
Giovanni Hidalgo, Candido Camero, Carlos "Patato" Valdes, congas, vocals; Joe Gonzalez, bongos; Guillermo Edghill, bass; Nelson Gonzalez, John Benhal, tres; Mauricio Smith, flute; Jose Francisco Valdes, claves; Hermengildo Olivera, Jr., Nelson Gonzalez III, Luis Roso, vocals

CLARK TERRY: One On One
Clark Terry, trumpet; Monty Alexander, Gerri Allen, Kenny Barron, Tommy Flanagan, Don Friedman, Benny Green, Sir Roland Hanna, Barry Harris, Eric Lewis, John Lewis, Junior Mance, Marian McPartland, Eric Reed, Billy Taylor, piano

Too often in the past, audiophile records have been concerned with showcasing some aspect of recording technology than shining the pristine light of sonic purity on the performers and their music. Lately, though, it seems as if some audiophile imprints are growing more probing and adventurous in their choice and presentation of material. In these sessions — recorded a week apart in December 1999 at St. Peter's Episcopal Church in Manhattan by producer David Chesky and engineer Barry Wolfinson — the quality of spiritual interaction is at such a high level that it reflects back on the technology, resulting in two of the most aurafully involving, musically vital recordings I've ever heard.

Each session documents tribal elders in intimate settings at the autumnal peak of their powers. The degree to which they succeed is a testament to how moving and powerful the audiophile aesthetic can be when placed in service to the music. Be it the ritual rhythm chants of The Conga Kings or the harmonic/melodic glory of trumpeter Clark Terry in One On One's improvised convocations with the cream of the modern jazz piano, these recordings celebrate musicians who possess a genius for producing distinctive, personal sounds.

Between them, Candido Camero and Carlos "Patato" Valdes represent a century of experience in traditional Afro-Cuban musical forms and jazz hybrids, while Giovanni Hidalgo is among the most prodigious and respect-
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Gyro SE - Spider Edition

“If you get a chance to get up close to a GyroDec SE, you’ll wonder how something so exquisitely machined can be sold for $1595, especially when compared to most other 'tables of similar price... and when it’s all put together, it looks great!’”
- Michael Fremer, Stereophile, July 2000

“Your ears will be as pleased as your eyes”
- What Hi Fi magazine

“The GyroDec remains one of the biggest bargains in Hi-Fi”
- Ken Kessler, Hi-Fi News & Record Review
tone and fluttering phrases on Billy Strayhorn’s “Intimacy of the Blues” (with Kenny Barron) illustrates how effortlessly, efficiently the sly old fox exerts his will over this most recalcitrant of horns. Sir Roland Hanna offers a properly symphonic intro to Eubie Blake’s “Memories of You,” and Terry responds with a formal operatic vibrato, his shadings all the more effective for how centered his fundamental tone is on the horn. Of particular joy to me is how Terry employs air flow alone to evoke the rhythmic bug and wing of Jo Jones’ hi-hat cymbals, before engaging Junior Mance on muted horn in homage to the good groove and time-less blues feeling of Lester Young, Harry “Sweets” Edison, and Buck Clayton in aymation above the Basic rhythm section. And Eric Reed’s rollicking left hand inspires the trumpeter to dig deep into the unspoken traditions that pre-date the recording age ... much as his deep, sustained tone on the conclusion to “Skylark” (with Marian McPartland) bespeaks a sound that will go on and on in our hearts without limit.

One On One is the most soulful, original, involving jazz recording experience I’ve had in a long time. If you invite Clark Terry and friends over for dinner and drinks, your loudspeakers will thank you again and again.

Here’s the odd alluring soundtrack to one of the campiest pieces of tripe ever committed to film. Legendary director John Huston should be mounted on a barbecue spit—affording him the opportunity to brown evenly on all sides as he spins in his grave—as only partial karmic punishment for this hopelessly dated, self-indulgent bit of ’60s kitsch.

Burt Bacharach’s music is a curiously vaudevillian mix of elements, and I assume that it is the audiophile classic status of Dusty Springfield’s “The Look of Love” that triggered Classic’s decision to single out the movie soundtrack for a 24/96 portrayal. Not that it isn’t an interesting audio experience—I found myself involuntarily charmed by many of Bacharach’s melodies and effects, not the least of which is the bouncy title tune as depicted by the dual-trumpet front line of the Tijuana Brass. (And yes, when I was a child, there was a copy of Whipped Cream and Other Delights in our house. I deny any culpability in its procurement.)

There are lots of nice “arranger” touches (all very ’60s, man!), such as the blaring tuba combined with electric bass on “The Big Cowboys and Indians Fight at Casino Royale,” and the use of percussion and harpsichord on the reprise of the main theme. Still, this disc hardly contains the kind of sonic thrills, chills, and big extended frequency gestures that would recommend the kind of meticulous attention usually paid a Classic audiophile reissue. Phil Spector, Brian Wilson, and Frank Zappa all did it better.

But when you think Burt Bacharach, you think Hal David and a string of perfectly crafted pop tunes, none more appealing or enduring than Dusty Springfield’s classic take on “The Look of Love,” an alluring, Latin-jazz-styled ballad. There’s a lovely give and take between a ratchet-like percussion sound in the left channel and those trademark Bacharach piano chords in the right, and Springfield’s husky, diaphanous phrasing (answered in kind by Ronnie Scott on tenor sax à la Stan Getz) is the last word in sex-y. This DAD conveys Springfield’s palpable physical presence as she floats suggestively in a mentholated acoustic space, centered and so far forward she’s practically in your lap. Gulp ... check, please.

MILES DAVIS: Miles Smiles
Miles Davis, trumpet; Wayne Shorter, tenor sax; Herbie Hancock, piano; Ron Carter, bass; Tony Williams, drums

By the grace of God and a $0.99 price tag in a Woolworth’s record bin, this was one of the first 10 jazz records I owned, and it endures as a watershed in the evolution of the post-modern sensibility. Even more than E.S.P., Miles Smiles is a milestone in the recorded evolution of this ensemble, and marks the point where Miles finally unleashed them for a full-frontal assault on the avant-garde firmament, the leader himself jumping in head first and finding the water just fine. Tony Williams and Ron Carter combined to create a spring-loaded groove so buoyant and flexible that an infinite number of rhythmic permutations could be superimposed on top of it, and soloists Davis, Shorter, and Hancock responded with epic improvisations that were the last word in structured freedom — a telling response to those post-bop antediluvians who were seeking to transcend traditional harmonic and melodic architecture, as well as...
as a swinging metric pulse. On Miles Smiles, the Prince of Darkness and his Justice League of American improvisational superheroes proved that you didn’t necessarily have to abandon jazz basics to enjoy life beyond the Earth’s gravitational field.

One could write a thesis on the nature of these tunes and their treatment, but for “Quarter Notes” fans it’s the sonic revelations of the new SACD format that are of greater import, and which sent me searching my archives for earlier editions with which to compare and contrast: an old LP, the original 1992 ADD CD issue, and the 1998 Super Bit Mapping remastering for the Miles Davis Quintet: 1965–1968 boxed set. (This SACD is presumably derived from the last version.) I concentrated on the band’s locomotive version of Jimmy Heath’s “Gingerbread Boy” and Davis’ spectral ballad “Circles,” wherein Hancock’s piano functions in a more or less traditional manner.

As I suspected going in, the 1992 version showed evidence of helpful hot-rodding in the form of equalization, to enhance the attack of the bass and the brilliance of the cymbals. Also, compared to the subsequent reissues, the imaging was less than stable—the more intense Williams’ drum dynamics, the greater their tendency to wander across the center divide. However unnatural, the effect was pleasing compared to my old LP, which was dull and boxy, Williams’ snare strokes sounding as if his drum was made of Styrofoam. The sound from the 1998 boxed set was much more smooth and natural, though it still had a touch of dithery digital gleam.

The SACD sounds visceral, open, and engaging on so many levels that I hardly know where to begin, but I keep coming back to the analog quality of the soundstaging depth, the stability and detail of each image within the acoustic space. This was particularly noticeable in the more natural qualities of Hancock’s piano on “Circle,” which tended to sound flattened and congested in its earlier digital incarnations. The overall sound was both warmer and more spacious, and when Williams’ drums and cymbals exploded, their spread into space was more contained and natural. What most impressed me about the SACD was that sounds didn’t seem quite as directional in relation to the speaker drivers, and that the palpable (there’s that word again) sense of Davis’ physical presence front and center in the original four-track mix made the hairs on the back of my neck dance with delight.

DMP

THE STEVE DAVIS PROJECT: Quality of Silence
Steve Davis, drums; Tim Ries, soprano sax; John Hart, guitar; Andy LaVey, piano; Drew Gress, bass

JOE BECK/ALI RYERSON: Alto
Joe Beck, alto guitar; Ali Ryerson, alto flute; Steve Davis, percussion

I’ve always had a sweet tooth for DMP founder Tom Jung’s vividly detailed digital recordings. Inspectably produced and right on the cutting edge of recording technology, they’re dynamic and extended in ways utterly convincing in a musical sense, even if the label’s sonic signature failed to suggest any of my beloved analog artifacts, and some of DMP’s early musical output were a tad conservative for my tastes.

Now, with these two rich-sounding releases—one an adventurous exploration of group improvisation and percussive dynamics, the other an elegant lyrical convocation of two unusual instruments—I’m happily able to give myself over to the nuances Jung achieves with Direct Stream Digital technology. The single-bit process offers greater information and extended dynamic range, both on a straight-up SACD hybrid disc and in comparisons with traditionally noise-shaped 16-bit/44.1 kHz CD.

Quality of Silence is just that: an exploration of sound in which the space around each note is as telling as the note itself. Some of the playing is so imbued with a quest for stillness and solitude it makes Bill Evans sound like the Sex Pistols—I’m talking musical haiku here. A drummer myself, I can really appreciate Davis’ love for the textures, dynamics, and melodic possibilities of the multiple percussion kit, particularly the cymbal—an incredibly complex musical instrument, and one that rarely gets its due in the recording studio this side of a Manfred Eicher recording.

On languorous readings of the old chestnuts “I Thought About You” and “Smoke Gets In Your Eyes,” Davis shades the harmonic development with a variety of scrapes and side-stick accents on his flat ride cymbal, punctuated by pithy rolls and open splashes of the hi-hat with his foot. Sometimes he even shakes a brush in mid-air to create a bent, Dopplerish sound. To capture such delicate nuances, Tom Jung employs a fair amount of level, though without hot-rodдинg things, and depicts the drums’ lateral dimension in a broad soundstage that nevertheless sounds perfectly in scale and natural.

Elsewhere, on “One, Two, Free” and “Freedom,” Davis explores the possibilities of pure texture and pulse, while on “Yesterday’s” and “I’m Old Fashioned” he investigates the Latin implications of the kit while still leaving oozles of space for his bandmates and the listener to fill in the blanks. The sense of the band being right in the room with you is downright unnerving.
Guitarist Joe Beck is a veteran of the fusion wars of the '60s and '70s—he was the first electric guitarist to record with Miles Davis, and later co-led a terrific quartet with the late reed virtuoso Joe Farrell. Beck employs an alto guitar of his own design with a special tuning scheme and three separate outputs for tri-amping. This allows him to play deep, full bass lines through one amp and split the signal on his four melody strings with a stereo chorus, and to employ choral voicings and impressionistic clusters more usually associated with pianists. In fact, Beck’s instrument sounds like a more expressive cousin to the venerable Fender Rhodes electric piano, with its stereo vibrato effect. Ali Ryerson’s throaty, deep-sounding alto flute gives the duo’s conversations a rich vocal dimension, with a warm lower midrange that’s fat and engaging.

Alto is a probing, intimate recital that focuses on arrangements of standards, and in which one musician’s voice is an extension of the other’s. (Steve Davis provides percussion on half the tracks.) According to the liner notes, it also marks the first commercial use of DSD recording technology. Using a copy of the DMP Does DSD SACD sampler (SACD-02), I was able to compare CD vs SACD renditions of “Summertime” and “’Round Midnight,” and while it’s interesting how much of the harmonic detail and spatial dimension of DSD survives the dithering down, SACD’s extra degree of detail and top-and-bottom frequency extension are stunning—particularly the pinpoint detail and resolution of individual images, as blended together on a capacious soundstage and in relation to (this is hard to convey in words) the acoustic space itself. The effect is vividly real, totally involving, and utterly non-fatiguing in the best analog sense. I guess digital is finally coming of age.

Blues In Orbit is the single Super Audio Compact Disc to be released by this trend-setting audiophile imprint before they went under, and there were still plenty of copies in circulation as this issue went to press. While the disc contains less than 40 minutes of music, it’s a stunning example of the analog-like resolution qualities that distinguish this emerging format.

Recorded in two quickie late-night sessions at Columbia’s famous 30th Street studios in December 1959, Blues In Orbit captures the Ellington band at its most loose and casual, in an off-the-cuff blowing session distinguished by blues, blues, and more blues. Of course, the Ellington band on auto-pilot represents a different level of achievement than what’s generally found on your garden-variety blowing session, and of this album’s eight Ellington/Strayhorn tunes (plus three contributions from Jimmy Hamilton and Matthew Gee, Jr.), five come in at less than three minutes—truly remarkable, considering the level of detail and nuance packed into each chart and solo.

Compared with a 1988 Columbia/Legacy LP cut from a digital master, this SACD lifts a veil of compression to illuminate all sorts of details. But, again, it is SACD’s portrayal of the actual experience a sense of air moving heads in an acoustic chamber.

Unfortunately, the three excellent bonus tracks included on the most-recent LP issue are missing from this version; it’s a close call as to whether or not you’ll want to wait for Columbia/Legacy to get around to a fresh SBM and/or SACD release.
Dear Mom & Dad,

... Camp is great!
Perfect blend, very emotional, please send money...
focus seems to happen on "Here’s Looking At You," and then, on "Haunted Heart," the decongestant kicks in on Melvoin’s mellifluously voiced piano. We get more of a sense of the piano’s being in an acoustic space—not just lateral articulation, but depth of detail in terms of reverb trails and overtones, particularly on the bell-like bass notes and crystalline chords that conclude the performance.

Once everything settles in, The Capitol Sessions is a warm, engaging recording, though vocalist Bill Henderson’s contributions are not to my taste. Melvoin’s harmonic richness makes performances such as the last track, “La Luna Negra,” very satisfying, though I found myself returning to the more boppish fare: the opening “Bud’s Open,” and “52nd Street.” And Christianson really captures Haden’s warm, round tone and big beat on “Blues for Leroy,” a moving dedication to the West Coast bass master, Leroy Vinnegar.

Those who’ve already dismissed Kennedy more for the cut of his hair than that of his jib will likely be scandalized by such notions. Such is the fate of “classical” musicians who seek to reach out beyond the immediate congregation. Still, in taking on the peacock’s array of sounds and colors that was Jimi Hendrix, Kennedy has conjured up some surprisingly visceral performances. Of particular interest to followers of “Quarter Notes” should be the manner in which The Kennedy Experience takes advantage of the interaction between room sound and acoustic instruments by reconfiguring things in that no-man’s-land where few audophiles deign to tread: the mixing console. Hello?

Kennedy adapts melodic variations, harmonic ornaments, and elements of color and mood suggested by Hendrix’s original arrangements of these songs, and recasts them in the primeval manner of some Druidic rite. Kennedy’s folkish arrangement of “Little Wing” expands on the Native American overtones that often animated Hendrix’s music; he comes swooping out of the dense ensemble mists with double and triple stops, a broad, vocal vibrato, expressive glissandos, and whistling bowed overtones—all idiomatic to the violin, yet suggesting Hendrix’s extended electrical tonal palette. And with a nod to Sirs Paul McCartney and George Martin, Kennedy incorporates Scottish folk airs into "1983... (A Mermaid I Should Turn to Be),” an extended rhythmic dance that would do Steve Reich proud—even as Kennedy tosses off trademark Hendrix quotes from “The Star-Spangled Banner” and “Strangers in the Night.”

Kennedy often hot-wires the sonic balance, using acoustic instruments to create unconventional “psychedelic” tonalities (“Fire,” “Purple Haze”). Yet on his truly lovely arrangement of “Drifting,” he employs a variety of acoustic perspectives to achieve a shimmering curtain of woodwind and harp-like guitar colors, floating through it all like some learned gypsy forging a spiritual connection between the avant garde and folk elements Kennedy obviously hears in Hendrix and his other beloved 20th-century archetype, Béla Bartók. It’s a provocative mix, searching and edgy, yet grounded in modalities and traditions that pre-date purely classical approaches. While not everyone’s cup of tea, The Kennedy Experience is a provocative recording, and a real workout for your system and psyche.
In April 1955, Jimmy Scott, whose name at that time carried the prefix "Little" but whose voice was anything but, cut a version of "Imagination" for Savoy Records. The singer, then 30 years old, cut loose on the Burke-Van Heusen standard, pouring on the volume while showing signs of an odd, irregular concept of phrasing.

Forty-five years later, on his newest album, Mood Indigo, the world is treated to the same singer — his voice no longer the lithe, elastic wonder it once was, but the wisdom of age and that angular phrasing now turned into an artform all Scott’s own — in a totally different yet equally affecting version of the same congenial standard. In between those two covers, Scott has lived through several lifetimes worth of calamity and triumph.

Scott was born in 1925 in Cleveland, Ohio with a congenital glandular condition, Kallman’s Syndrome, that gives his voice a unique, almost adolescent tinge that means it’s often mistaken for a woman’s voice. His life as a jazz singer has been filled with ephemeral turning points and bitter dead ends. While Scott, as a jazz singer, is as gifted as the very greatest — Billie Holiday, Dinah Washington, Louis Armstrong, Nat King Cole — his struggles with labels and his own sometimes jagged personality mean that his recorded legacy is remarkably thin. While some of his recordings are out of print, the fact is there simply weren’t that many of them in the first place. He’s made nearly as many recordings since his 1992 comeback on Sire Records as he did in the more than 40 years before. Scott’s talent is a singular one; his career is an unfortunate example of how cruel the music business and humanity can be.

According to Billy Vera’s liner notes to his new boxed set, The Savoy Years and More... (Savoy Jazz 92857-2, 3 CDs, 1999), Jimmy Scott’s first recordings seem to be four tracks he cut for Universal Records in 1949. The masters of two of these recordings were later sold to Savoy, but cannot now be located.

Scott’s first widely available recordings were available on and off over the years on reissues of albums by Lionel Hampton, of whose band Scott was briefly a member. These tracks have recently been reissued on Little Jimmy Scott: Everybody’s Somebody’s Fool (GRP GRD-669, 1999). Opening with four cuts from a 1950 Hamp-led session for Decca, this 15-track mid-price collection fills a crucial hole in Scott’s discography. It’s filled out with eight tracks recorded in 1952, split evenly between sessions done for Decca subsidiary...
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Coral by the orchestras of Billy Taylor and tenorman Lucky Thompson. The slow, seductive title track, which reached #6 on the 1950 Billboard R&B chart, remains Scott's highest-charting single. The 25-year-old singer, whose voice was a tad husky and a lot less nuanced than it would become, earnestly croons words that, legend has it, were presented to him backstage by a fan. This promising start also established from the first that Scott's lifelong forte would be ballads. Another highlight is a rousing version of "Wheel of Fortune," then a hit big for Kay Starr and recorded by Dinah Washington and others.

Many of the details that would later mark Scott's style, from the big windup and delivery at the close of "Come What May" (with unknown accompaniment) to the expansive, upper-range singing and stretched phrases of "Why Was I Born?", are present in these first sessions. None of the disc's three previously unreleased tracks are remarkable, although a solo in "Do You Mind If I Hang Around?" by Stan Getz, who was then holding down a chair in Billy Taylor's band, is worth a listen. A 1996 remastering by Erick Labson has given these tracks new sonic life.

Scott left Hampton following the above recording session and briefly joined Paul Gayten's band, with whom he recorded Regal Records: Live in New Orleans (Specialty SPD-2170-2, 1991). While primitive sonically (think of a mediocre radio broadcast), this live set includes a classic introduction — "the guy who really gave whipped cream its personality, the voice with the kiss" — and such performances by Scott as "When Your Lover Has Gone," in which he demonstrates the soaring power his voice had in the early days.

In 1951–52 Scott again jumped labels — as would become habitual in his career — this time to Royal Roost, then to Decca/Coral (see above), then back to Royal Roost. Nine of the sides from his second stint with Roost open the Savoy boxed set, and while none is a musical revelation, these tracks are significant additions to Scott's discography, having been previously available only when released, as singles. Then, urged to sign with Savoy Records by A&R man/producer Fred Mendelsohn, a fan, Scott began to cut tracks for the label in 1955 with Mendelsohn producing.

One of the saddest music-business archetypes involves black artists signing away their freedom — and any hope of fair compensation — to unscrupulous white label/owner/entrepreneurs. Because of the subsequent lawsuits that effectively extinguished his career for a time, Scott's contract with Savoy is one of the great turning points in the singer's artistic life.

Still, The Savoy Years is an essential part of any Scott collection. But be prepared — it has more than a few oddities, and its focus on ballads (many in dated arrangements) can get a bit too lugubrious for extended listening. Most of these tracks, however, have the considerable sonic advantage of having been recorded in the Hackensack, New Jersey studio of engineer Rudy Van Gelder.

Scott's first sessions for Savoy were the most star-studded, including bassist Charles Mingus and tenor player Budd Johnson, who turns in a masterful solo on "Everybody Needs Somebody," a tune semantically and emotionally akin to Scott's first hit. In "Why Don't You Open Your Heart," from the same session, what sounds like a police siren can be heard screaming past the studio.

The rest of the 66 tracks on the Savoy box — nine of them previously unreleased — find Scott developing his style: lagging behind the beat, stretching lyrics into near-infinity, adding gobs of open space, and booming out lines that then trail off in a powerful, sustained vibrato.

The Savoy recordings also mark the beginning of efforts to project Scott's voice into other, usually inferior settings, in this case the musical whirlwind of the mid- to late-'50s: rock'n'roll. While it's fascinating to hear Scott pick his way through a bluesy midtempo number like "I May Never" or a saxophon' rocker like "I Need Some Lovin' Baby," it's clear not only that this is a waste of a great voice, but, more important, that the singer's heart was just not in it.

Critics have often been split over Scott's Savoy output. The most frequent complaint has been the relentlessly slow pace: with a few exceptions, Scott cut only ballads for Savoy. And, like Billie Holiday and most other black singers, he was saddled with some less-than-stellar material, which in all but the most banal cases he nevertheless managed to find a transcendent angle on. In addition, many of the sleepwalking arrangements were goofy the day they were recorded. In "I'm Afraid the Masquerade is Over" Scott almost drowns in waves of violins. Despite the singer's exertions, the happy violins and plink/plunk raindrop guitar line in the 1960 recording of Jerome Kern's great "Just the Way You Look Tonight," or the plucked strings on the already silly "Blue Bird of Happiness," make these tracks simply ridiculous. With certain exceptions like Mingus (four tracks), drummer Kenny Clarke (four tracks), and guitarist Bucky Pizzarelli (four tracks), the quality of the accompanying groups also declined the longer Scott was with Savoy. In some cases even Scott, at this time still finding his way stylistically, is too over the top, too strident, opting in a tune like "Never Peace of Mind" for power when finesse might have added more to the interpretation.

But it's also true — and taken for granted by longtime fans — that the Savoy tracks are the recordings that first
At 75, most musicians—and most regular folks, for that matter—want to take their foot off the pedal and cruise: settle in for a well-deserved rest. But not jazz singer Jimmy Scott—he’s got plenty of lost time to make up for.

“Yoou gotta keep busy,” Scott says one July afternoon from his home in Cleveland. “After being in the business for so long, hey babe, it’s an active business and you keep yourself up to that kind of activity. Once you’re grown to it, it’s hard to sit down. It’s really hard to sit down.”

Scott doesn’t want to sit down because he remembers very clearly what it’s like to have to sit down—to be beaten down by the greed and small-mindedness that often infect the music business, and that stunted his career. Since his “rediscovery” in 1991, Scott’s story has become a cherished part of jazz history.

A singer with a bright future who in 1950 had a #6 R&B hit with “Everybody’s Somebody’s Fool,” Scott saw his career plunge into a tailspin in the ’60s thanks to bad contracts, ill-conceived albums, and, most of all, lawsuits between his record labels. By the late ’70s and early ’80s, the diminutive singer, whose distinctively feminine tone is due to a genetic hormonal imbalance called Kallmann’s Syndrome, was back in his hometown of Cleveland, working on the loading dock of the local Sheraton, determined to give up singing—and destined, it seemed, to be little more than a footnote in jazz history.

But it was the funeral of one of his greatest champions that brought the then-dormant Scott back to life. By the mid-’80s, many people, including knowledgeable jazz fans, assumed Scott had died. Jet magazine even printed his obituary. But in one of jazz’s great happy accidents, Scott showed up in 1991, very much alive, for the funeral of legendary songwriter Doc Pomus, where, with the help of Mac Rebennack (Dr. John) on organ, he wowed a crowd of record-label execs with a rendition of “Someone to Watch Over Me.”

Quickly signed by Sire Records head Seymour Stein, Scott cut the defining record of his career, 1992’s *All the Way*, and became the celebrity du jour. Faus old and new clamored for tickets to Scott’s suddenly sold-out performances. He sang backup on a Lou Reed record, was asked by Bruce Springsteen to sing in the film *Philadelphia*, and even appeared briefly as a ghost on David Lynch’s exotically hip TV series, *Twin Peaks*. When Alec Baldwin and Kim Basinger asked him to sing at their wedding, the re-emergence of Jimmy Scott was complete.

Like all show-biz rides, Scottmania has since subsided. Fortunately, however, the singer’s career has continued to prosper, if at a much slower pace. Earlier this year, the vocalist, still very lazy after all these years, inked a deal with Berkeley, California-based Milestone Records, which just released *Mood Indigo*, an album that says a return to form for this greatest of all living jazz singers.

Produced by new 32 Jazz label head Todd Barkan, *Mood Indigo* is Scott doing what he does best: using his gift for phrasing and his deep well of sadness and reflection to transform standards into a musical art unlike any other.

“Jimmy can mirror a lot of the sadness of human life, the ups and downs of human experience, without feeling sorry for himself,” Barkan said in a recent interview from his New York office.

“When he sings ‘Smile,’ I really believe him. What it is is the honesty of his expression. He becomes the words of the song that he’s singing, but at the same time he does it without a lot of self-conscious artistry. He lets the song happen to him in a natural way more than any other vocalist or instrumentalist I’ve ever worked with.”

*Mood Indigo* features an all-star set of backing musicians that includes pianist Cyrus Chestnut, bassist George Mraz, and drummer Grady Tate, as well as Scott’s own working band of pianist Michael Kanan, bassist Hilliard Greene, and drummer Victor Jones. The album also benefits from the instrumental contributions of guitarist Joe Beck, and of alto saxophonist and old friend Hank Crawford.

But, like any Jimmy Scott album, the focus on *Mood Indigo* is on the voice and awe-inspiring phrasing of its star, who seems very happy with his new situation.

“Musically it’s been a pleasurable thing. When [labels and producers] don’t want to accept your thoughts about the expression of music, it makes it hard because you’re not letting loose as you would like to. I’m not talking about ignorant stuff, I’m talking about something colorful and musical.”

“Colorful” and “musical” are apt descriptions of what Scott has done since he began traveling with vaudeville acts, like shake dancer Estelle “Caldonia” Young, before World War II. A native of Cleveland, James Victor Scott was born in 1925 into a family of...
10 children. His mother was killed when he was a child, and he and his siblings grew up in foster homes. He arrived in New York in 1947 to sing at the Baby Grand, at the invitation of boxer Joe Louis. A couple of years later he joined Lionel Hampton’s big band, with whom, in 1950, he cut his first and still biggest hit, “Everybody’s Somebody’s Fool.” In 1955, Scott signed a fateful record deal with Savoy Records, for whom he cut more than 60 sides, some of them minor jukebox hits, between 1955 and 1960.

In 1962 it looked as though the singer was going to get a break when Ray Charles founded his own label, Tangerine Records, and decided to produce and play on a Scott album. But the resulting album, Falling in Love is Wonderful, never had a chance. After a few thousand copies had been shipped, Savoy owner Herman Lubinsky sued, claiming Scott was still under contract to him. Unwilling to wade into a legal slugfest with the legendarily pugnacious Lubinsky, Charles put the record on the shelf, which is where it remains. Two subsequent sessions for Atlantic met similar fates, also thanks to Lubinsky’s legal wranglings. A last-gasp 1975 session for Savoy proved difficult and unsatisfying. It was then that Scott headed home to Cleveland.

To this day, he remains convinced that the Tangerine record would have broken him out to a larger audience. In the past few years, though rumors abound that the legendary tapes may finally see the light of day, the fact that they remain unreleased continues to frustrate Scott.

“Listen, it was one of the ones. I just knew when I did this album with Ray Charles people would see the brighter side of what I was about musically. And it was the kind of record that would do that. I’ve been waiting for this man [Charles] to make a decision. I’m in the dark because I don’t know why he is sitting on it like this.

“I know he was being misled about it from the get-go, because all of a sudden he stopped preparing to release it. The next thing I heard it was being sold as a bootleg made by collectors, who’d managed to find a copy from the album’s original release under the table in different little stores. People were paying two and three hundred dollars for it. I’ve had people come up to me [at live shows] and say, ‘I know you’re going to sing this song ‘cause I paid two hundred dollars for this record.’

After the miracle at Doc Donnus’ funeral and the subsequent All the Why, Scott made two more discs for Sire/Warner Bros: Dream (1994) and Heaven (1996), the latter a controversial and not entirely successful collaboration between Scott and pianist Jackie Terrasson. In 1998, after Scott and Warner Bros parted ways, the singer was signed by a tiny New York-based indie, Artists Only! Records, with whom he cut Holding Back the Years — another experiment that, like Heaven, featured Scott singing modern music, this time by Prince, Mick Hucknall, Bryan Ferry, John Lennon, Elvis Costello, and Elton John and Bernie Taupin. Holding Back the Years was a brave attempt to find new fans that had the unintended effect of confusing his old admirers.

Scott says that while he enjoyed trying out new music on Heaven and Holding Back, he’s glad to be back singing standards like “Imagination,” “Smile,” “How Deep is the Ocean?,” and the album’s title tune — the music he knows and loves best.

“Well see, Mood Indigo...these were all beautiful, great tunes, baby. There were eras and times when these tunes were real big, okay, and the memory of folks. All you do is bring a little memorabilia back. Hey, it’s time.

“It’s about life, isn’t it? It’s about life, babe. You hear so many commercial gimmicks, it’s a joy when music lovers can listen to something about life. So we just step back to what was and what could be, really.”

At this point in his career, what can still be ahead for Jimmy Scott? What goals remain unfulfilled, what songs unsung?

“There’s a lot, baby,” he says with a serious tone. “Aging ain’t nothing but a number, and it has proven to be very true: If you keep your mind clear and prepared to accept the possibilities, you get through, you get through, and I’m too keyed up now to stop.”

—Robert Baird

For more on Jimmy Scott, see Richard J. Rosen’s interview in Vol.22 No.8.
unreleased 1972 sessions to five tracks from The Source. With the addition of two cuts presumably from the same era, "This Love of Mine" and "Our Day Will Come," Lost and Found has since been reissued in the Bravo Profiles series as A Jazz Master: Little Jimmy Scott (Rhino Special Products R2 75698), as part of a special promotion between Borders Books and the Bravo Network, celebrating the airing of a recent documentary on Scott.

Like the Tangerine sessions, the Atlantic albums show Scott's voice at its peak. Produced by Joel Dorn and following the engineering lead set by Rudy Van Gelder (the voice placed front, center, and very forward), these sessions are also the first recordings—the Charles sessions not withstanding—in which arguably the best musical formula for showcasing Scott was finally set: sparse instrumentation that keeps time; unobtrusive, bare-bones arrangements; lots of open space; and the kind of meandering pace that allows Scott to weave and jab his distinctive way through a song. Performances from these sessions—like "The Folks Who Live On The Hill," "For Once in My Life," and "Day By Day"—rank among Scott's best work. The accompaniment boasted a few stars, including bassist Ron Carter, pianist Junior Mance, guitarist Eric Gales, and tenor saxman David "Fathead" Newman on the 1969 sessions, and drummer Billy Cobham on the '72 date.

The final disc of the Savoy set collects the nine tracks that comprise Scott's 1975 swan song for the label, originally released as Can't We Begin Again (Savoy SJL 1183, now out of print). While marred by awkward arrangements and ludicrous instrumental contributions (a flute on "When I Fall in Love"), this album, like the Atlantic albums, shows off Scott's voice at what was perhaps its peak—a near-perfect balance of finesse and force.

After the Atlantic album was pulled, its follow-up was buried, and the final reunion with Savoy was over, Scott quit singing and returned home to Cleveland. In the mid-'80s Scott returned to performing, mostly in New York-area dives. He also released a self-produced album, Doesn't Love Mean More? (JVCID 001, now out of print), cut with his band, the Jazz Expressions, which he plans to reissue sometime in 2001.

Scott continued to toil in near-obscurity until 1991 when he was "discovered" at Doc Pomus' funeral (see sidebar). The first fruits of his new record deal, All the Way (Blue Horizon/Sire/Warner Bros. 26955-2, 1992), proved to be the crown jewel of Scott's recording career. Unlike Billie Holiday and many of the other great black jazz singers, Scott finally got his shot at making a first-class record in a modern studio with peerless material arranged by Johnny Mandel, Dale Ohler, and John Clayton. The project was directed by a skilled and sympathetic producer, Tommy LiPuma, and featured an A-list group of sidemen, including pianist Kenny Barron and, reprising the roles they played on Scott's 1969 Atlantic sessions, Ron Carter and David "Fathead" Newman. Best of all, it was for a label that, for the time being, was solidly behind him.

Scott made the most of the opportunity—All the Way is one of the sexiest, most stylized vocal albums ever released. Clearly focused and in touch with his muse, Scott works his ingenuous gifts of phrasing on standards like the Gershwin's "Embraceable You" and Cole Porter's "Every Time We Say Goodbye." The album also contains what is, to my ears, the single best performance of Scott's career: his measured, unerring, soul-stirring stroll through the title tune, with Kenny Barron's superlative cat'n'mouse piano managing to push the song along while staying tastefully in the background.

There's also a reprise of the tune Scott sang at Pomus' funeral, "Someone to Watch Over Me." He changes the phrasing of the famous refrain with each verse, in one pass spinning out a typically elongated bit of the phrasing so representative of his art: "Wooooooon't you tell her please / To put on some speeeeed / Follooooooo ooowo myyy myyyyy / Oooohh how I neeeeeded / Some...one to waaaaaaatthh...oooooooverrrrrrr...me."

Critical reaction to All the Way was swift, slobberingly positive and, for Scott, surely very surprising. At long last, Jimmy Scott had caught a break and was reaping some of the fame he so richly deserved.

Like all idyllic moments, however, Scott's victory was fleeting; neither of the follow-ups to All the Way came close to equaling that album's success. The first of these, Dream (Blue Horizon/Sire/Warner Bros. 45629-2, 1994), was ably produced by Mitchell Froom, who in an interview at the time gave me the quintessential quote about Jimmy Scott: "No one sings a sad song like Jimmy Scott. Nobody does the pain business like Jimmy." Dream does have a towering version of "I Cried for You," a rare midtempo tune for balladeer Scott. But after that, while it meanders along pleasantly enough, Dream lacks the classic, eminently likable group of tunes, as well as the rich, round-toned vocal performances, that made All the Way so special. Worst, Scott's voice sounds a bit strained and thin throughout. Milt Jackson on vibes is a nice touch, though.

Apparrently convinced that a radical change would do Scott good, Warner Bros. teamed him with pianist Jacky Terrasson for what became Scott's finale for the label, Heaven (Warner Bros. 46211-2, 1996). This very mixed collection features Scott trying to wrap his unique vocal gifts around such unfamiliar material as the David Byrne/Jerry Harrison title tune, Curtis Mayfield's "People Get Ready," and Bob Dylan's "When He Returns." Determined to be an equal partner, Terrasson, who is simply not an accompanist by any stretch of the imagination, refuses to get out of the way and let Scott sing. His overlong fills and, at times, impenetrable arrangements handicap the album from its first notes. His sparse, artsy arrangement of "Wayfarin' Stranger," for example, simply does not comprehend what Scott does. While projecting Scott's singular vocal approach into something other than standards is an interesting idea, this is not the way to go about it.

Still, as it has throughout his career, Scott's heart is impossible to bury, no matter how weird or wrong the setting. Though again not just in the best of these sessions, he manages to pull off several affecting moments—as in "People Get Ready," where he tugs tempos and lyrics this way and that like so much musical taffy.
After a two-year break during which he toured occasionally, Scott returned to the studio with a New York–based indie label. Artists Only! Records didn’t have a proper office or even a telephone number when they released *Holdin’ Back the Years* (AOR-11, 1998). Not surprisingly, the album, which can be hard to find, is hit-and-miss as Scott again tries to mesh — this time with more success — with modern tunes, this time by Elvis Costello, John Lennon, even Prince.

Freder from Terrasson’s unsympathetic arrangements and in better voice than on the last Warners album, Scott turns in several winning, if less than ace, performances on *Holdin’ Back*, including a swinging, appropriately cool take of the title tune (with muted trumpet by Pamela Fleming), a gorgeously slow, sad version of Prince’s “Nothing Compares to U,” and a pleading, almost too leisurely reading of Elton John and Bernie Taupin’s “Sorry Seems to Be the Hardest Word.” To the credit of producers Gerry McCaughy and Dale Ashley, *Holdin’ Back the Years* sticks with simple, unadorned arrangements that leave Scott plenty of room to thrust and parry.

Fortunately, Scott has returned to form on his most recent album. Intelligently produced by Todd Barkan, *Mood Indigo* (Milestone MCD-9305-2, 2000) finds Scott back, finally, on an all-jazz label for the first time since his comeback. The disc also features Scott’s best supporting cast since *All the Way*, seven of the 10 tracks featuring bassist George Mraz, pianist Cyrus Chestnut, and drummer Grady Tate. Guitarist Joe Beck, alto saxophonist Hank Crawford, and harmonica player Grégoire Maret (an odd choice that actually works) provide the solo instrumental voices. The other three tracks — including a run-through of “How Deep is the Ocean?,” a standard that’s a notable track on Scott’s still-lost Tangerine album, — feature Scott’s working band of pianist Michael Kanan, bassist/musical director Hilliard Greene, and drummer Victor Victor.

Scott is on intimately familiar ground here with songs like “Day By Day,” “Imagination,” and the title tune. His voice, though thinning and occasionally a bit wobbly, still has astonishing power and expressiveness at age 75.

Most important, after several records in which he seemed at times to lose his concentration, on *Mood Indigo* Scott sounds committed and content — a state he has rarely experienced for long in his difficult yet glorious, precocious yet again thriving career as one of the most distinctive vocal stylists in all of popular music.

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**Stereophile**, September 2000
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Recording of the Month

CHARLES LLOYD: The Water is Wide

Charles Lloyd, tenor saxophone; Brad Mehldau, piano; John Abercrombie, guitar; Larry Grenadier, Derek Gomes and Wright (one track), bass; Billy Higgins, drums
Performance ******
Sonics ******

Charles Lloyd has made seven recordings for ECM since 1989, and they constitute one of the abiding bodies of work in late-20th-century jazz. They sustain a continuity of creative inspiration that few albums of improvised music reach even for moments, and they establish Lloyd as one of the living masters of the tenor saxophone.

It is surprising that the two most recent of these recordings, Voice in the Night (1999) and now The Water is Wide, are the strongest of the seven, and yet each introduces new personnel. It is surprising because the quartet that made the first five ECM albums, featuring the great Swedish pianist Bobo Stenson and drummer Billy Hart, was one of the finest small jazz ensembles of its era, and its achievements were collective.

For the new album, Lloyd uses two players who are essentially new to him: Brad Mehldau, widely regarded as the most promising under-30 pianist in jazz, and a brilliant young bassist, Larry Grenadier. Two players return from Voice in the Night: guitarist John Abercrombie and drummer Billy Higgins.

The Water is Wide is made up entirely of ballads—a risky programming decision. The danger is that the unvarying slow pace will falter into stasis. Lloyd transcends this potential pitfall because he conducts a journey, and because his voice on his reed instrument, even when it whispers, smolders, always on the edge of breaking into flame.

Another notable aspect of Water is the presence of so much material not written by Lloyd. His first six ECM albums contained exactly two standards, but only five of Water’s 12 songs are Lloyd originals. It’s as if the move to new personnel, and the simpler, more stark musical contexts that the new players provide, inspire Lloyd to encounter truths that begin as other than his own.

The album opens with a version of Hoagy Carmichael’s “Georgia” that is astonishing—first that Lloyd would choose it, second that he unfolds previously unrevealed depths of poignance while staying so close to the melody. Lloyd’s sound, pure and dark, is rich with bright overtones of connotation, an elevated form of human utterance as song. Mehldau announces himself with a statement that is also pristine and elemental, but containing only partial nuclei of the melody for reference. Billy Higgins (whom we can hear softly grunting in ecstasy), through small gestures with brushes, implies enough energy to float this music free.

The next piece is the title track, a Scottish folk song from the 18th century or even earlier. Lloyd’s tone is like a welling-up from deep ground waters of being, sobs of sadness and joy. Abercrombie quietly scatters guitar, and all five players participate in something beyond time.

If there is a criticism of The Water is Wide, it is that the album is sequenced with these two pieces first, and what comes after inevitably feels like a step down, a subtle breaking of the spell. Still, that step down is to a level that, if lower, is still very high. On Lloyd’s tribute to Duke Ellington, “Figure in Blue,” it is revelatory to hear Mehldau encounter unfamiliar material. He evokes structures that sound pretrained, even as he moves them in response to Lloyd’s shifts of nuance. Lloyd’s “The Monk and the Mermaid” is a nine-minute piano–tenor duet that traverses many paths, individual and interconnected, slowly escalating in intensity as it spirals and climbs. “There is a Balm in Gilead,” an old spiritual, also slowly rises—with Lloyd, driven by Higgins, spilling over and crying out—before it subsides.

The Water is Wide is one of the first analog recordings that ECM has released since 1984. It was engineered by Michael C. Ross at Cello Studio in Los Angeles, and its sonic portrait is so correct, so meticulous in its lucidity, that it calls no attention to itself. This great music lives and breathes.

—Thomas Conrad
A s we approach the end of the second millennium (all right, I'm a pedant), it is interesting to compare our situation with that of 1000 years ago. True, we have our share of millennial weirdness, but it's mild by comparison. At the end of the first 1000 years, following the birth of Jesus, discussion hinged not on the future of Internet commerce, but on the survival of humankind itself. By the year 1000, the Carolingian empire, the successor to the stability and order of Rome, was falling apart. Without the effective systems of communication and transportation that had existed in classical times, it had proven impossible to maintain a true imperial control over a large and diverse geopolitical region. Ordinary people of the day may not have known the exact year, or the texts in Revelation that supposedly predicted the Second Coming, but they were acutely aware of the chaos that appeared to grow swiftly around them.

Into this political and spiritual vacuum came the Church of Rome, eager to replace the old Imperial order with one of its own. Unable to project military force in the same way as Caesar and his legions (the Crusades were a century in the future), the Church relied instead on the spiritual power of mystery. Critical to this was the rapidly evolving Roman liturgy, with its Latin texts comprehensible only to the learned, and the sublime ethereal music with which it was accompanied.

While liturgical music would not have been sung (except perhaps privately by women in this period, the effect of a trained monastic choir on lay listeners must have been even more extraordinary. Echoing within the great Romanesque foundations of the early Church, or in the earliest Gothic structures, it must have sounded truly angelic. The power of music itself is, in fact, somewhat mysterious and difficult to overestimate. Victims of Alzheimer's disease in its final stages, who have lost the power to speak or to understand spoken language, still react pleasurably to music.

Several of my colleagues have rightly described the sound of Anonymous 4 as "angelic." Hearing them live this winter in a beautiful neo-Gothic church, this cynical agnostic found himself genuinely transported out of temporal space. If this can happen to a modern victim of sensory overload, we can only guess at its effect on a pre-literate, pre-industrial audience whose only sensory experiences came from the "natural" world.

I have wandered off on this somewhat pleasant historical and psychological discursus because I can add little to what I have already said about Anonymous 4. Their interpretations of early medieval music are not only well-founded in historical research and scholarly practice, they are also a pure joy to hear. Although they have added a new member since their last recording, their sound is still gloriously the same: pure, exact in intonation, and perfectly felt. As often with these ladies, most of the singing is in plainchant, with the perfectly judged addition of organum and early polyphonic styles.

Robina Young and Brad Michel know by now precisely how to record performances of this kind, in an equally pure and unvarnished fashion. The new millennium is (or will be) getting off to a fine start.

— Les Berkley

**BEETHOVEN**

*Symphonies 1–9*


Performance ****1/2

Sonic ****

How is it possible that Daniel Barenboim waited until now to record the Beethoven symphonies? Surely, this former child prodigy must've recorded them sometime before puberty in his native Argentina—or back in the 1970s, when hardly a month passed without three new Barenboim recordings flooding the market.

Seriously, this set is strangely belated, considering that Barenboim has been playing and recording Beethoven's piano sonatas and concertos longer than many of us have been alive. And if
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there's lurking ambivalence toward the symphonies, or an inability to come out from the long shadow of his idol, the late Wilhelm Furtwängler, it's not over: Though this Beethoven cycle is worth hearing at every turn, thanks to the personality of the Berlin Staatskapelle (more on that below), Barenboim's voice as a Beethoven conductor comes and goes, particularly in comparison with the confidently defined approach-es heard in Beethoven cycles by David Zinman (Arco Nova), Otto Klemperer (EMI), and, of course, such giants of the pre-stereo era as Furtwängler and Willem Mengelberg (both heard on any number of labels).

Barenboim is strongest in the first three symphonies, becomes more neutral in the middle symphonies, and grows heavy-handed in the more profound later works, particularly Symphony 9. A recurring pattern is Barenboim's relishing of delayed arrivals: In the first movement of Symphony 1, the arrival of the home key in the recapitulation has rarely felt more relieving, though even that is dwarfed by the ensuing codas, which has an even more powerfully announced harmonic resolution. There's special electricity in the first movement of 8, when the primary theme group has its last statement prior to its development. Final movements, which should always give a sense of arriving at the symphony's summit, tend to be the highlight of these interpretations, the exception being the most famous finale of all, the Ninth's choral outpouring of peace and brotherhood. That Barenboim pushes the musical pageantry hard enough to sound labored suggests that he wasn't able to arrive at a set of tempos con-vincing to himself (and his listeners) for this most complex and episodic of all Beethoven finales.

Consistent strengths are in the least pretentious, most straightforward symphonies. Symphonies 1, 2, and 8 are among the best ever interpretations, but not necessarily for the same reasons. Beethoven's first two symphonies are often interpreted as proto-Romantic warmups for the "Eroica." With Barenboim, there's nothing "proto" about the Romanticism, though it's rendered with a classical succinctness that makes the music's grandeur all the more exciting. In what many describe as the comic-opera finale of Symphony 2, Barenboim's emphasis is on opera, not comedy, and he brings the symphony to an unusually substantial close.

Barenboim's most Classical moments are in Symphony 8: leaner textures, Mozartean lightness, tempos with an almost strict sense of dance, and no dallying to enjoy local color. Whatever musicological arguments can be made for or against this approach, it suits the music perfectly.

In the "Eroica," one hears from Barenboim the beginnings of what more seriously dogs the later symphonies: a pleading that is all too passionate. Like so many modern opera directors, who go to great lengths to underscore the obvious, Barenboim seems compelled to tell you — with an extra lingering of a fortissimo or a telling harmonic dissonance — that this is music of great gravity. Of course, such telegraphing of what we already know takes the listener outside the music by calling too much attention to the conductor's commentary on it. Still, his insights of harrowing depth in the second-movement funeral march are effectively projected. And in the final movement, where thisinky darkness turns into a lighthearted recycling of Beethoven's Creatures of Prometheus, there is (as can be expected) a great sense of arrival.

The above pluses and minuses are heard in various proportions in Symphonies 4-7. Two examples: Given Barenboim's response to the intoxicated high spirits of Symphony 2, it's surprising he doesn't convey a deeper connection with 4. Given his great sense of arrival, the light after the storm of the "Pastoral" is particularly gratifying. Much of the rest is well-played, with tempos that are moderate and well-judged — as long as you don't expect Barenboim to adhere to the composer's famously fast metronome markings. At worst, Barenboim falls into the sort of neither-here-nor-there tempos that make Karl Böhm's Beethoven now sound dated, and this happens particularly in Symphony 9. If ever music made a case for its uninterpreted self, it's this; if ever its messages have been more broadly spelled out, it's in Barenboim's recording.

Amid such shortcomings, Barenboim never falls into the tricks heard in his lesser recordings — such as delivering a compelling flourish at the start of a movement, then slumping into autopilot. Even when the interpretations are at their most neutral, the symphonies always work well as architectural entities. More important — and this is what keeps me returning to this set — the Berlin Staatskapelle reflects a distinctive, regional identity thanks to its having been cloistered for many years behind the Berlin Wall. It has an attractively astringent string quality — a refreshing change from the more sumptuous Berlin Philharmonic — with woodysounding winds played with great character, and timpani with an unusually lean but penetrating sound. Most lovable is the orchestra's clearly etched, purposeful phrasing, which skillfully builds tension as each phrase builds on what has come before. That's why these recordings always repay close attention: The tempos and overall shape of the interpretation may suggest nothing special at times, but the details are a completely different matter.

The engineering is excellent: Though lacking room ambience, the studio sound gives the orchestra equal measures of bloom and clarity, always alert to the antiphonal, which is not always brought out in Beethoven's music. One wishes this set well for more artistic reasons: How nice it would be to prove to the recording industry that new Beethoven symphony recordings can still sell.

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Stereophile, September 2000
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sively in the recordings of Herbert von Karajan, but made an exception for Barenboim’s Beethoven cycle, which even had a special display. That’s the spirit!

— David Patrick Stearns

MOZART

Violin Concertos 1–5
Pamela Frank, violin; David Zinman, Tonhalle Orchester Zurich
Performance ******
Sonics ****

The world is full of violinists who can play fine Mozart concertos, and there’s no shortage of recordings of them. What a surprise, then, that this budget-priced set stands easily above the others, thanks to a number of elements. Collecting all five together, plus the solo violin movements of the "Haffner" Serenade, form a revealing creative progression. All of these works were written during a relatively short period of time — the catalog numbers span K.207–250, which isn’t long in Mozart time — and show the composer emerging from a fluent, ingratiating, but rather impersonal rococo style to something less formal, more expressive, and much more personal. In other words, one hears Mozart becoming Mozart, trying out techniques in one piece, building on them in the next, and clarifying the voice that will become familiar in his mature masterpieces.

Violinist Frank gives the music everything it needs, from technique to intellect, but the most distinctive performance element come from conductor Zinman, who has been an outstanding Mozart conductor since at least 1977, when I first heard him. All of the graceful melodic sequences and airy melodies one has heard for years in performances of these pieces take on deeper meanings with Zinman, particularly in slow movements, which turn into nothing short of a confession, though without the least distortion of line. For example, when Mozart repeats the same figure in the accompaniment of a slow movement, Zinman varies it dramatically in expressive ways, using the boundaries of historically informed performance. In fact, his style is more crisp and pointed than that of almost any Mozart specialist — but that, too, has a meaning deeper than the mere tidiness one hears in performances by Neville Marriner. Also, Zinman is aware of the harmonic tectonic plates in this music, and shows you where they are. I’m tempted to say that Zinman is the greatest living Mozart conductor, but that judgment is best saved for when he records the symphonies. I hope that will be soon.

— David Patrick Stearns

Rock

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Riding with the King
Performance ******1/2
Sonics ******1/2

Superstar summits are almost always better in theory than in reality. Often, they’re so highly anticipated that even a near-perfect album can’t hope to live up to expectations.

Not this time. B.B. King and Eric Clapton have known each other for more than three decades, having first played together on the stage of New York City’s Café Au Go Go in 1967. Back then, of course, Clapton was still God, and King was — well, if Clapton was God, let’s just say King was someone God knew was worthy of genuine worship.

Since that time, King has done everything in his power to make the appellation “King of the Blues” mean something. He’s played countless one-night stands — hundreds of them every year — and served as the planet’s chief ambassador to the music he’s been playing since he was a Mississippi teenager. Clapton, of course, has suffered numerous ups and downs, both personal and professional. But no matter how great his popularity in the world of rock and pop music, his playing has always been informed by the blues.

So each performer brings a lifetime of experience to this recording. What’s surprising is that neither has chosen to merely cruise through what will surely be a best-selling album. Instead, both lay everything on the line on every cut. The song selection is terrific, too, including classics from the repertoires of both artists (though mostly King’s, hence the title), but also some material from the songbooks of current tune-smiths John Hiatt and Doyle Bramhall II. The album thus feels like the current release that it is, not merely a museum piece.

Kicking off with a strutting, funkified version of Hiatt’s “Riding with the King,” the title track, the guitarists’ styles mesh from the start, King’s stingy finger vibrato darting around Clapton’s elegant, sustained notes. Their swagger drips off the vocals, sung in tandem. It’s a fair warning to strap yourself in for what’s to come.

King takes the lead on the pleading “Ten Long Years” and the jumping “Days of Old,” while “When My Heart Beats Like a Hammer” and “Three O’Clock Blues” feature spectacular solos by both guitarists.
Other tunes are more in Clapton's rock/pop style, particularly the Bramhall selections, "Marry You" and "I Wanna Be." Don't think King can handle the new stuff, though. After all, he's the guy who once took a U2 song ("When Love Came to Town") and made it more B.B. than Bono. It's also intriguing to hear King play acoustic guitar — something he rarely does on his own LPs — on Big Bill Broonzy's "Key to the Highway" and Macco Merriweather's "Worried Life Blues."

You could argue that Riding With the King is a little slick — it's produced by Clapton and Simon Clinie (Slowhand's collaborator on the disastrous techno-flavored TDF project), and the backup band consists of seasoned studio pros Joe Sample (piano), Tim Carmon (organ), Nathan East (bass), and Steve Gadd (drums). But the playing is never sterile, and the sound is warm and detailed. And hell, this is Clapton and King we're talking about — neither of them just fell off the turnip truck, so an uptown version of the blues is what you'd expect and exactly what you get. So praise God, and all hail the King.

— Daniel Durchholz

### STEVE ELY

#### Transcendental Blues


Performance ★★★★★

Sonic ★★★★1/2

A recent interview, Steve Earle swore to me that he was going to slow down...after this album, that is. Ever since he was released from jail five years ago, country rock's onetime whiz kid has maintained the blistering pace of writing and recording an album a year, each then followed by the obligatory press, promotion, and a world-wide tour. The fact that Earle has also managed to grow the uhmm...transcendence with each new outing makes his past half-decade's worth of fired neurons one phenomenal run.

All of which made Transcendental Blues look, prior to release, like the crossroads at which the mighty one would fall. And on first listen, it did sound like the rushed, sub-par album that would finally end Earle's post-penitentiary creative geyser. But while TB lacks a knockout punch on the order of "Hard Core Troubadour" or "Someday," it creeps up on you, working its slow magic in the way of albums that sound better after 10 hearings — like its now-bearded creator, its charms are more mature, no longer easy or obvious.

Subtlety, of course, usually spells ambition, and Transcendental Blues is no exception. The psychedelic flavors of the first two tracks — the title tune and "Everyone's In Love with You" — hint at Revolver-era Beatles as their model. The short, rocked-up "Another Town" is as close to his old restless, self-destructive self as the now seriously adult Earle ever gets: "Once upon a time I loved this house / Now I'm thinkin' bout burnin' it down / And I'll be long gone when the fire burns out / On the way to another town."

That's followed two cuts later by the grandiose "The Boy Who Never Cried," in which pilgrims whisper loud "in quatrains dim" — a cherished blues location set to an Irish tune; "Steve's Last Ramble"; and the outright Celtic "The Galway Girl," complete with pennywhistle and bodhran. Finally, the same sensitive, alive-to-regret songwriter responsible for "My Old Friend the Blues" and "Valentine's Day" returns with two stingly sad tunes: "I Don't Want to Lose You Yet," and the more sad than condemning death-penalty air, "Over Yonder (Jonathan's Song)." As artistic statements go, Earle has written and sung his way to another resonant high.

In the supporting cast, former dBs drummer Will Rigby adds new energy, and on "When I Fall," three of Ma and Pa Earle's kids — Patrick, Stacey, and Steve — all play and/or sing. Sonically, Earle and co-producer/engineer Ray Kennedy have applied too much compression which is the album's only downside.

With a book of poems soon to be published, a play about to be produced, and more recording projects in the pipe, Steve Earle (thankfully) shows no signs slowing down. Forget about this guy's chances at recidivism; given the pace of his creativity, his biggest worry now is burnout.

— Robert Baird

**JOE ELY**

Live at Antone's


Performance ★★★★★

Sonic ***1/2

The third live album of Joe Ely's career is a solid set, and better recorded than the first two. Trouble is, the previous live albums — 1980's Live Shots (recorded on tour with the Clash) and 1994's Live at Liberty Lunch — were a tad more than merely solid. Each was a white-hot document that focused on Ely's grab-a-crowd-and-ring-em-out rock side.

Apparantly mellowing with age, Ely now aims for a more introspective southwestern, flamenco-tinted sound, as exemplified by flamenco guitarist Tye. Live Shots guitarist Jesse Taylor holds down the all-important lead chair, and while he's got chops and familiarity a-plenty, he's no match for the procession of young singers, like Ian Moore and David Grissom, who in recent years have put the teeth into Ely's bands.

Mellowing aside, this Austin legend is still one of the most charismatic performers ever to have squeezed into a pair of too-tight black leather pants. His singing has never been better, and his ability to make another writer's heretofore neglected tune his own remains unparalleled. Here, Tom Russell's "Gallo del Cielo," Butch Hancock's...
“Road Hawg,” Utah Phillips’ “Rock Salt and Nails,” and Robert Earl Keen’s “The Road Goes On Forever” (which has become Ely’s de facto theme song) are all Ely-ized to the point where you’d swear he wrote ‘em himself.

Of course, when it comes to writing songs, Ely can do that too. While it’s debatable whether the world really needed another recording of his “Me and Billy the Kid,” originals like “Up On the Ridge” and “All Just to Get to You” (co-written with Will Sexton) are definite keepers. Sonically, this is a live album so while the sound is okay, there are the usual less than ideal mixing problems.

A must for old fans and a decent introduction for new ones, Live at Antoine’s is another sure, authentic, if slightly less edgy step in a glorious career. — RB

JENNYANYKIND

I Need You

Rock’n’roll has always basked in the twin art of resurrection and reinvention. But in the indie world, such goings-on are largely overlooked as so much amateurish rumblings in the underground.

In the case of Chapel Hill’s Jennyanykind, however, something far too special to be ignored has been brewing for some time. The group’s core has always been identical siblings Michael and Mark Holland, and for their seventh record they’ve opted, at least for the moment, to operate as a contained duo, composing, performing, and recording everything in their basement studio. This self-reliance stems in part from what was presumably a dispiriting blink-you-missed-it stint with Elektra (for 1996’s Revelator), and there’s probably some of that good ol’ womb magic operating as well. No, they don’t let Ma Holland dress them up in matching polo shirts and penny loafers anymore, but they clearly share a musical sensibility that can be described only as deeply empathetic.

Or maybe it’s just that phenomenon known as growing (up) together musically. Early on, Jennyanykind had a quirky, spaced-out psychedelic sound that bore the stamp of early Pink Floyd, with just enough hints of Allman Brothers-esque blues-jamming to mark them as Southerners. By the time the ill-fated Elektra deal rolled around, however, the Hollands had discovered such diverse musical treasures as Let It Bleed, Highway 61 Revisited, and A Love Supreme, and even as the major-label door was shutting, the Holland brain trust was opening wide.

I Need You, then, is part culmination and part open conversation. Its touchstones are impressive: “Up Early in the Morning” is a good-tiney slide-guitar shuffle reminiscent of some of Ronnie Lane’s compositions following his tenure in the Faces; “It’s a Wicked World” takes as its departure point Gershwin’s “Summertime” before steering decisively onto the aforementioned Huey 61; “Acoustic...Ambient,” an instrumental in which acoustic guitar meets droning organ, has a meditation-al, John Fahey vibe; and “In a Village Square”’s crunchy, maracas-driven arrangement and subtle guitar twang suggest the presence of some Muwell Hillbillies fans in the Holland household.

I Need You was initially captured on half-inch tape courtesy a vintage Otari 8-track, then mixed to disc through a Yamaha 01V digital board. The result — the distinctive, humming analog warmth that befits much of today’s so-called “Americana” efforts, merged with a crisp clarity wherein each instrument is never blurred or obscured in the mix—is of a striking then/now quality, the kind of perfect blend that should satisfy both today’s digital kids and those of the Neil Young “vinyl sounds better” school.

The set’s oddest track is its most radio-friendly. “We Can Be Happy” is barely more than a recurring chime of a riff and the album title repeated over and over—a not quite shameless variation of the old Stealers Wheel chestnut, “Stuck in the Middle with You.” Quirky in its simplicity, or maybe just simple in its quiriness, it’s also an apt manifesto for a combo that’s worked long and hard to find its own sense of peace and place in the world. What’s fascinating now is wondering what will issue forth from this, Jennyanykind’s season of contentment. — Fred Mills

CHRISTY MCWILSON

The Lucky One
High-tone HCD 8119 (CD), 2000. Dave Alvin, prod.; Mark Linett, eng. ADD. TT: 41:22 Performance **** Sonics ***

As part of Seattle’s beloved roots-rock purveyors The Picketts, Christy McWilson has charmed more than one drunk off his barstool and onto the dance floor with her set of Patsy-Cline-meets-Mary-Chapin-Carpenter pipes. At the urging of labelmate (and Americana music icon) Dave Alvin, McWilson went into the studio with an array of musical talent that included veteran sessioners Greg Leisz, Rick Shea, and Don Heffington, R.E.M.’s Peter Buck, and even producer Alvin himself. Despite McWilson’s 10-year veteran status, the result, The Lucky One, will be hailed by critics as a must-hear newcomer’s debut.

Alvin applies a deft producer’s touch that, for a budget-conscious project, seemingly sprinkles fairy dust in all directions. Mandolins, 12-strings, dobro, and pedal steels all have a sparkling, crystalline quality, as does McWilson’s voice — and you’ve never heard sleigh bells sound quite so joyful as on the upbeat, gospelish “Weight of the World.” With the players falling into telepathic grooves, McWilson is left free to roam.

And roam she does. Against a country/folk/rock backdrop, she offers tiny epiphanies about what it means to go through life with the usual litany of complaints and regrets, and finding the strength to not wallow in but learn from them. Sometimes these lessons come slowly, as in the Emmylou Harris-
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styled, ironically titled “The Lucky One,” in which dashed dreams gather over time like troublesome lumps in a mattress. In others, like the honky-tonk stomper “Cryin’ Out Loud,” it’s easier to just gather the wagons around; sings McWilson, “There’s nothing so relieving / As howling at the moon.”

At still other times, McWilson suggests, life’s terminal cruelty requires a Zen-like approach. Brian Wilson seemed to intuise this when he penned his fragile, slipping-off-the-edge classic “‘Til I Die” for the Beach Boys’ great Surf’s Up. In her cover here, floating across the tune’s oddly complex melodic changes like the proverbial “cork in the ocean” described in the lyrics (Leisz’s weeping pedal steel and Buck’s mandolin are unexpected but perfect accompaniments), McWilson sings in a voice so heartrendingly sweet, yet drenched in such otherworldly sadness, that it practically brings you to your knees.

Actually, it does: The closing moments, when McWilson duets and harmonizes with herself on the familiar lines “These things will be / Until I die,” bring crushing home a sense of existential loneliness comparable to that brief, punched-in-the-stomach feeling one gets when thinking of a family member, friend, or lover who left the earth too soon. Such musical moments as this eternal tune are to be savored, and it’s to McWilson’s extreme credit that she revives it in all its savory, memorable glory.

— Fred Mills

**MARVIN PONTIAC**

**The Legendary Marvin Pontiac, Greatest Hits**


Performance **** 1/2

Sonics **** 1/2

It took a little while for the world to figure out that the legendary Afro-Judaic bluesman Marvin Pontiac was only a figment of Lounge Lizard John Lurie’s rich imagination, but the hoax was a fun ride—much like the “Paul is dead” theory of the late ’60s. When the pre-release CD with the blurred photos showed up late last year with a full bio detailing Pontiac’s bizarre and tragic history, it seemed likely like yet another lost hero of popular music was about to be resurrected.

According to the story, Pontiac was a largely unknown blues/R&B artist who had a few obscure hits, then went into a mental institution where he wrote more material, then was tragically run over by a bus in 1977. Lurie somehow “found” the tapes and decided to release them to the world, in the process getting a range of notables—including Iggy Pop, Beck, David Bowie, and Leonard Cohen—to sing the praises of this forgotten master.

Lurie’s lure worked. I spun the CD once and was hooked. Frequent spins later, I was wholly enthralled by the whimsical, at times goofy lyrics, the indelible melodies, and the brilliant layers of sonic textures, from the marimbas and Casios to the sparkling female vocal choirs backing up Pontiac’s growly voice. But the attention to sonic detail was a dead giveaway—this was hardly the sound quality of unearthy tapes, no matter the advances in restoration technologies.

Sure enough, a few months before the official in-store release, rumors were leaked that Lurie had cloaked himself in the disguise of an alter ego. When the final package arrived, it was pretty clear, based on the musicians listed in the liner notes (a full cast of Lurie’s downtown New York jazz/pop buddies), that John was Marvin and that he had a minor hit on his hands. The music is that good.

While this 14-track “greatest hits” collection runs a few tunes too long—I’d have ditched “Bring Me Rocks” and “Arms & Legs”—Lurie has come up with a winning set list. Highlights include the dreamy, Afro-pop-ish “Small Car” with its mesmerizing rhythmic flow; the dirty “Now I’m Happy”; the loopy, loping “Power” (fuelled by the odd Casio-clavinet keyboard parts and sparked by shards of electric guitar); the wah-wah funky “Runnin’ Round”; the mid-tempo groove of “Rubin,” with Angelique Kidjo harmonizing with Lurie on the chorus; the galloping “Wanna Wanna”; and the down-home, Delta-flavored banjo-and-sticks blues of “She Ain’t Going Home.”

So long live Marvin Pontiac in your CD player. It’s been well worth the wait for Lurie to dream this legend into being.

— Dan Ouellette

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**Jazz**

**JAMES CARTER**

**Layin’ & Chasin’**


Performance ****

Sonics ****

Chasin’ the Gypsy James Carter, F mezzo, soprano, tenor, bass saxes; Regina Carter, violin; Jay Berliner, steel-string acoustic guitar; Romero Lubambo, nylon-string acoustic guitar; Charlie Giordano, accordion; Steve Kirby, bass; Joey Barron, drums; Cyro Baptista, percussion Atlantic 83304-2 (CD). 2000. Yves Beauvais, James Carter, prods.; Danny Kopelson, eng.; Danny Kadar, mix. AAD? TT: 54:30

Performance **** 1/2

Sonics ***

With the simultaneous release of Layin’ In the Cut and Chasin’ the Gypsy, James Carter has significantly elevated the creative bar for himself, both as a soloist and as a bandleader, with a matched set of electric and acoustic sessions on which he stretches his conceptual chops to satisfi—
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LOUIS HAYES QUINTET
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Performance *****/2
Sonic: ****

W e keep hearing cries of the death of bebop and its evolutionary successor, hard bop, but folks, it just ain't so. This cracking new album by drum great Louis Hayes is further proof of the vitality of the classic, yes, timeless, music that is a contemporary outgrowth of what was first heard in the '40s, '50s, and '60s. True, I'm a diehard hopper who can't fathom why more people don't get with this fabulous genre (and maybe, therefore, am a bit deaf to its weaknesses, if any). But even I know that for the music to really breathe with life so that such boundaries as period and style are erased, it must be played with an in-the-moment vigor and elan. That certainly is the case here.

Hayes, a wee lad of 63, provided essential rhythm-section heat for Horace Silver, Cannonball Adderley, Oscar Peterson, and that superior '70s co-op band with trumpeter Woody Shaw and tenorman (and Silver sidekick) Junior Cook. Here he's the sparkplug who makes things happen, driving his band with such force it seems he's about to caroen into a sonic wall. But he never goes that wild, keeping the fire at just below a boil when pushing, at a simmer when less impact is called for.

His cohorts more than hold up their end. Trumpeter Riley Mullins, a dynamo who should be better known, coaxes forth a tone that's alternately warm as hotcakes and sizzles like bacon in the pan as he issues both straightforward and complex ideas that recall Clifford Brown or Fats Navarro. Abraham Burton, often an altoist but sounding quite at home here on tenor, delivers frontline contrast with his Trane-based modernisms. David Hazeltine is a top-call New York City pianist, and a man for just about any musical season. And bassist Santi Debriano plays the kind of wrist-thick notes and supple beats that go hand-in-glove with Hayes.

The material has breadth. Pianist James Williams is represented by two compositions: the dulcet, bossa-sliding "Alter Ego," in which Mullins displays his knack for finding lyrical notes that fit just so; and the rapid "Progress Report," which finds Hayes dropping brief state-

Stereophile, September 2000
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— Zan Stewart

BILL EVANS

Five Reissues on JVC XRCD

Portait in Jazz
Performance *****
Sonic *****

Explorations
Performance *****
Sonic ****

Waltz for Debbie
Performance *****
Sonic *****

Moonbeams
Performance *****
Sonic *****

How My Heart Sings
Performance *****
Sonic *****

All five: Bill Evans, piano; Paul Motian, drums. First three: Scott LaFaro, bass. Last two: Chuck Israels, bass. Orrin Keepnews, prod. AAD.

Other great jazz pianists have fans. Bill Evans has a cult. What makes Evans’ music so important to his audience is not his sublime voicings, his flawless timing, his metrical complexity, or even his otherworldly touch on the keys. It is his unprecedented ability to communicate feeling through sound. Gene Lees best described the experience of discovering Evans. He put his first Bill Evans album on his turntable one night after supper in the summer of 1959, and was still listening at 4am. “Until then,” Lees states, “I had assumed, albeit unconsciously, that I alone had the feelings therein expressed.”

Bill Evans died in 1980 at the age of 51. On the artistic level, his life was one of permanent achievement. On the personal level, his life was a slow suicide through narcotics. He recorded prolifically, but he never made an album with good sound. That is, not until now.

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Bill Evans’ early recordings on the Riverside label contain his most important work, and 10 of those albums have now been reissued in JVC’s XRCD series, including the five reviewed here. When these recordings first appeared on LP in the ‘60s, and even when they reappeared on CD in the ‘80s, members of the Bill Evans cult who were also audiophiles assumed that this sublime music would always be heard as through a glass, darkly, because of the limitations of the master tapes. But now we can actually hear the original masters, and they are better than we ever dreamed.

For example, “My Foolish Heart,” the opening track on Waltz for Debbie, is dim and cloudy on the 1986 Riverside CD reissue. In the XRCD version, the piano notes have harder, cleaner edges. Paul Motian’s brushes on drum heads and cymbals have distinct details as musical elements, rather than as background hiss. Scott LaFaro’s bass notes are plucked on the JVC reissue; on the Riverside they are an undifferentiated rumble. It is a live recording, from the
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Stereophile, September 2000
Village Vanguard, and at 1:37 someone in the front row coughs. On the JVC, it is a woman's cough. Each piano note carries more expressiveness because more of it is there, and the trio clarifies into focus in an actual physical space.

Portrait in Jazz, from December 1959, with its famous cover photo of Evans as geek/ascetic, was his third recording for Riverside, and his first with a new trio. Evans, LaFaro, and Motian were together for only four recordings. (Three are included here; the fourth, Sunday at The Village Vanguard, was released in the XRCD series two years ago.) They became one of the legendary ensembles in the history of jazz, and brought simultaneous improvisation to new levels. Scott LaFaro, only 23, is an equal partner. His poetic bass solos, with their nimble, whirring patterns in his instrument's upper register, conjure a rapt, inward atmosphere that was this trio's signature. Portrait in Jazz is where it began, and from soaring uptempo numbers like "Autumn Leaves" to slow meditations like "Spring is Here," this album sings. In the miraculously reclaimed sound of this XRCD reissue, we hear that singing as never before.

Explorations, from February 1961, is quieter but luminous, an album of interactive precision and rare grace. LaFaro's voice has become so important that a song like "Nardis" provides only a brief thematic statement by the piano before flowing directly into a long, searching bass solo that makes you sit very still in your chair.

Waltz for Debbie contains half of the material that was taped at the Village Vanguard on June 25, 1961. (Sunday at The Village Vanguard has the other half.) These are probably the most famous live piano-trio recordings in jazz. Even though they are in a public place, the trio sounds as if it is more turned in on itself than ever, gliding and rising and receding together in a blossoming of inspiration. "My Foolish Heart," in which Evans simply plays Victor Young's melody, and "Some Other Time," both melt into eternity. It was the last time the group ever played together. Scott LaFaro was killed in a car accident 10 days later.

Evans did not record or even play much for several months following LaFaro's death, but by early 1962 he had formed a new trio with Chuck Isacks on bass, and in May and June the group recorded enough material for two albums. Riverside decided to put all the ballads on one album, Moonbeams, and all the uptempo pieces on the other, How My Heart Sings. Such packaging can be questioned, but Moonbeams, on paper, should have been a Bill Evans album to die for. Somehow it isn't quite. The program contains perfect Evans vehicles—such jewels of the American song repertoire as "If You Could See Me Now" and "It Might As Well Be Spring." But the uniformly slow pace becomes somber, and the ecstatic lift that LaFaro provided is missing. Israels' closely stepped note choices and unremarkable solos tether this music in the secular domain, whereas LaFaro set it free to find the celestial.

Because Evans' ballads are always intense at their cores, and because his more uptempo pieces are always elegiac, How My Heart Sings does not feel that much faster than Moonbeams. But it is brighter, more energetic. And in the JVC versions, both albums are transformed, brought to vivid new life.

JVC’s rescue of Bill Evans' early recordings is a supreme example of technology in the service of art. —Thomas Conrad

Etc.

VARIOUS ARTISTS

Paranda: Africa in Central America


Sonic's *****1/2

The Garifuna people are descendants of enslaved Africans who escaped from a shipwreck off the Caribbean island of St. Vincent. They lived on the island for several generations, evolving their own language out of African and indigenous Indian dialects, before the British forcibly relocated them to Central America. Today the Garifuna are scattered along the Gulf of Honduras, a small minority among the populations of Honduras, Guatemala, and Belize.

The Garifuna have had a musical impact out of proportion to their numbers; "punta-rock," a modern adaptation of traditional Garifuna punta music, is now the national pop style of Belize. But an older folk idiom, paranda, now performed mainly by a few elderly men, is dying out. In 1997, Ivan Duran and Gil Abarbanel of Belize's Stonetree Records began researching their "Paranda Project," seeking out aging paranderos in coastal villages. The resulting album could be described as a Garifuna Buena Vista Social Club.

Paranda presents tracks by 72-year-old Paul Nabor and 57-year-old Junie Aranda, both of Belize, and 60-year-old Jursino Cayetano, of Guatemala. All three are singer-songwriters who accompany themselves on guitar, backed by wooden Garifuna drums and other percussion. Also featured are Dale Guzman, who performs material by 94-year-old Gabaga Williams; and percussionist Lugua Centeno, who sings a couple of songs by his late father, Honduran parandero Teofilo Centeno. Rounding out the collection are 27-year-old Aurelio Martinez, the young hope of paranda, and punta-rock star Andy Palacio, who first brought the genre to the attention of the producers.

The driving, buoyant music has a pan-Caribbean feel that variously suggests Cuban son, Dominican bachata, Trinidadian calypso, American blues, and the Bahamian stylings of the late Joseph Spence. But the intricate rhythms, while similar to Puerto Rican bomba or Dominican merengue, are unique to the Garifuna. The melodies are sweet, but the singing is often harsh and nasal, with distinctively African inflections. The lyrics, translated in the CD booklet, include such memorable stanzas as "When your woman doesn't think that your fart stinks / You are free to do with her as you please / But when it starts to stink, one little whiff and out you go" (from Aranda’s "Mingigli").

Among other highlights are Nabor's "Naguya Nei," with its Bo Diddley-style lead guitar; Guzman's "Tuagu Bigidran," with its Polishian-like vocal harmonies; and Aranda's "Dondo," which rides the same bass line as the Chantays' surf-music classic, "Pipeline." Curiously, this bass line powers most of the tunes on the album, and though it becomes a bit monotonous, it adds a delicious if unintentional twist of irony.

—Larry Birnbaum
"The Montana’s $8000/pair pricetag makes it not merely a good deal, but a freaking bargain."

 Manufacturers' Comments

Krell FPB 350Mc
Editor:
Krell Industries, Inc. would like to thank Jonathan Scull for his comprehensive review of our Full Power Balanced 350Mc amplifier in August. In explaining our CAST technology, Jonathan's discussion of cables illustrates the effect that traditional voltage cables have on the sonic signature of an audio system. That is precisely why I developed CAST—to remove the effects of capacitance, inductance and inductance have on cables operating in the voltage domain. Conventional balanced cables, as Scull suggests, provide the listener with a mechanism for fine-tuning a system to his taste; CAST transmits the signal in a fundamentally unaltered state.

A comment is in order regarding John Atkinson's measurements. Atkinson stated that there was a "hint of overshoot" on the leading edge of a 10kHz squarewave. Attached are copies of both the 10kHz and 20kHz waves, taken from our test bench. These figures indicate the precise accuracy that the Full Power Balanced 350Mc amplifier exhibits on our laboratory bench. Please note that the artifacts on the horizontal portion of the signal read-out are caused by the digital oscilloscope that we use, the Fluke PM3382A.

Don D'Agostino
CEO, Krell Industries

We have not reproduced the Krell-supplied squarewaves here, but I can confirm that they are excellent. It turns out that the Heath digital scope I used had not been correctly calibrated and was exhibiting a very slight overshoot on high-frequency waves that should have been square-cornered. I have since recalibrated it.

—JA

Music Hall MMF-5
Editor:
It's not Michael Fremer's lack of praise for the Music Hall MMF-5 turntable ("Analog Corner," July 2000) that spurs me to pen and paper, it's his lack of superlatives.

What happened to words like "earth-shattering, fantastic, amazing, incredible, unbelievable"?

What about phrases like: "How can Roy give you so much for only $499?"

"You have to be crazy not to buy this package."

"...most music ever for the money..."

"I can't believe I spent $10,000 on my [fill in the blank] when I could have bought a Music Hall MMF-5 turntable."

"If my wife finds out about the Music Hall MMF-5, I'm dead meat."

Instead, MF says, "it delivered surprisingly good detail and pleasantly quiet backgrounds," and that "the sound it made was really satisfying."

The sound of Tipperware closing is really satisfying.

Where's the passion, the fervor? Some of the above would have sounded much better.

I reckon the 'table is too keenly priced. Maybe if I increased the price to, say, $1000, praise would come easier. Should I do that? Put a shiny finish on it, up the price, and make lots more money? Hey, that's not a bad idea.

An extra 500 smackers on each one, plus glowing praise from Michael Fremer. Then Myles Astor of Ultimate Audio would have to review it, because it would finally be expensive enough for him to take it seriously. Jonathan Scull would be next. He would re-review it, add some Shun Mook whatever to it, and tell the world that it sounds better than my XJR at 120mph.

Then The Absolute Sound, and then, and then...? Ah... the mind boggles.

But I digress. I'll just leave the MMF-5 at $499 and give the public a really good deal.

My advice to you, Michael: Next time, don't let the inexpensive price restrain you. Don't hold back — express what you really feel.

It will do both of us a world of good.

Roy Hall
Music Hall

van den Hul Colibri
Editor:
We of van den Hul are delighted at the experience of Michael Fremer in evaluating our latest premium moving-coil phono cartridge, the Colibri ("Analog Corner," August 2000).

He very quickly grasped our radical approach to a design of minimalist mass and output. We believe that the degree of our approach in this direction has no parallel. In fact, we at first questioned its fundamental compatibility with many modern tonearms. The Rockport arm was the only state-of-the-art arm whose published specifications would accommodate a cartridge of 3gm weight.

Happily, in discussion with several tonearm designers about the process of their assumptions and the basis of their specifications, we found that, indeed, the vdH Colibri was compatible with more designs than we had previously assumed.

During our evaluation of Colibri prototypes, our auditioning told us that such arms of medium mass as Linn and SME are eminently suitable. Somewhat heavier arms, such as the Graham, La Lune, and Triplaner, have also been appropriate. And damped unipivos such as the Immedia and Well Tempered are best served with minimal use of their type of mechanical compensation.

You rightly indicate the appropriateness of the March series, and we look forward to the forthcoming lighter arm-tubes for the VPI JMW. However, arms of high horizontal mass are unfortunately precluded. This in no way invalidates the principles of their design. It simply notes that these arms are not as compatible with a design as mechanically lithe as ours.

We have long held that our high compliance and modest mass can optimize LP tracking under the extremely variable conditions of playback, given ubiquitous warps and myriad cutting systems. In fact, our designs have become progressively lighter over the years. You'll note that our current Grasshopper IV GLA is about 30% lighter than our Series III. The Colibri is about 75% lighter in comparison.

To address MF's comments regarding output level, we'd like to resurrect the old theoretical saw that the ideal phono cartridge would be the one with the lowest output. That statement is somewhat facile because it is made in an electrical vacuum. In other words, all well and good, but which element is going to do the amplifying in the chain?

We appreciate Michael's historical perspective on older phono sections, such as that of the Audio Research SP11 vs their current Reference Phono Preamplifier, which he used in his review. It may be worth reflecting on the fact that many premium phono sections of even a decade ago were designed with the higher-output cartridges of the time, or were intended to be paired with separate step-up transformers. In fact, ARC incorporates such a combination in this design, which we hold in high esteem. However, for those individuals whose other
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Stereophile, September 2000
rounder or more dynamic, taut bass. Up to you. After they have figured out their overall tonal balance, customers can upgrade the tubes later to any 6922/7308/6L6 type (most use new old stock from Amperex, Siemens, etc.) to help get that last 10% of the system just so. It's plug-and-play with no adjustments, and most find "tube rolling" is a hoot. If they need advice or tubes, they can contact us.

The faint mechanical click you hear is there by design, and, for clarity, does not come through the speakers. Most every CD player, with the exception of the most expensive models, will use a transistorized muting circuit. The problem is, they can degrade sound, as they are never really out of the signal path. That circuit is disabled on the Tjoeb and replaced with a relay, which is switched out of the circuit during use. More expensive to do, but worth it.

The drawer itself is indeed plastic. The drawer and the Philips CDM 12.3 transport (now replaced with the new Philips VAM series, which plays CDRs) is used in CD players that cost thousands. This workhorse is used in most high-end products and is easy to identify. The Tjoeb does not have a heavy case? Hey, it's $450. But we are happy to show the inside, and do so to let people know what they get for their money — and not many manufacturers want to "take their tops off" for under $500.

When we at Upscale Audio brought in the Tjoeb, we wanted to make it as affordable as possible. In Europe, it sells for about the same as products that, when imported to the US, sell for $800. Rather than mark it up and set up sales reps and dealers, we sell direct to make it affordable for more people and an easy buying decision. Given the choice of a higher price for all or a lower price with a restock fee (the refund period is 14 days, by the way), we opted for the latter. You can't have both, and we feel we made the right decision. It is something that we may revisit and change at some point. That info would be on our website.

Sam mentioned our ads stating that the Tjoeb is the best $1500 CD player. Perhaps a clarification is needed. The ad refers to statements to that effect made by another respected reviewer, and our ad is an invitation for a copy of that review. While we are proud of that, I don't say that any product is "the best," as everyone has different tastes and needs.

Thanks again for the great write-up and the job you folks do.

Kevin Deal
Upscale Audio

Avantgarde Acoustic Uno
Editor:
Q: How do you make a small fortune in the loudspeaker business?
A: Start with a large fortune, then introduce horn speakers to high-end audio!

Okay, I'm just kidding! But, after all, it's "common knowledge" that horn speakers can't possibly be any good in serious music systems.

That's what my partner, Bill, and I always said. Then we heard the Avantgardes, and it was a revelation. These horns didn't sound anything like those we'd heard before. But were we passionate enough to challenge the preconceived notions of other audiophiles just like us?

Then we thought about other "common knowledge" mileposts in audio history. Remember the '70s, when Audio Research Corporation, Mark Levinson, Fulton, Linn, and Magnepan defined new segments of audio? Until each of them appeared, it was "common knowledge" that:

- "Vacuum tubes are outdated. Transistors measure better, so they must sound better." (ARC)
- "No one will buy a preamp without tone controls." (Mark Levinson)
- "All turntables sound alike. Direct drive is high-tech." (Linn)
- "All cables sound alike. Lamp cord is all you need." (Fulton)
- "Panel speakers are just a fad. They'll never be taken seriously." (Magnepan)

All these products were "tweaky" and "way out" of the mainstream when they were introduced. Each introduced a 180° shift in direction for the high-end audio industry. They were radical ideas, and "common knowledge" didn't accept them at all. I know, because I was there.

And now we're introducing the Avantgarde Hornspeakers. Will they be the next milestones? Many are already saying Yes, but could the Avantgardes really change audio history? We honestly don't know. We do know that these speakers deserve to be heard.

So what to make of this review? Although it must be considered a "rave" (Robert Deutsch bought the review pair), we want to strongly encourage music lovers to listen for themselves. Please, be sure the Avantgardes speak to you emotionally. If not, then we've missed the mark.

Robert commented on the realism and extraordinary emotional involvement he experienced. That's precisely what happened to us! But where does this emotional involvement come from?

Music is an extraordinary gift. It's an amazing "attitude adjuster." Composers and performers pluck our emotional heartstrings with several tools, but...
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—The Inner Ear Report, 11/99

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the most effective involve musical dynamics. These dynamic shifts are often very subtle (microdynamics), but it's here that the music takes on life and breath.

Ever notice how you feel at a concert as a piece of music ends? Guess what? The composer/performers wanted you to feel that way. Did the piece end very gently, or with a rousing flourish? Either way, you just got an emotional message from the musical dynamics. Why shouldn't we get that emotional involvement at home?

Another way of looking at the value of dynamics is to consider how we can absolutely know that music coming from a nearby room is live music. It doesn't have to be loud. It can be a chamber group or a jazz trio. We know before we get in that room that it's "live." Although the rhythmic quality and the musical timbres have some effect, it's the dynamics (even on soft music) that identify it as live.

RD's comparison of a big-voiced singer to effortless dynamics was especially apt. Why? Because he's a singer, RD regularly (and personally) experiences the vital musical difference between pushing hard and effortlessly projecting.

Another thing Bob appreciated was that—although the speakers were extraordinarily revealing—they didn't "bite" on lesser-quality recordings. To his delight, he discovered new treasures in old recordings he had thought were unlistenable.

Why do audiophiles accept the "common knowledge" that, as we spend more, our systems become so "revealing" that only a few recordings will really sound good enough to play? Who wants to spend more and enjoy it less?

If the end result were that, after spending all that money, you'd rather just watch TV because listening to music isn't pleasurable, why would you continue inflicting pain on yourself? Could this be the very idea that's contributing to the widely reported "death of high-end audio"?

Finally, I just want to acknowledge the efforts of these reviewers in providing us with such interesting and informative reviews. We don't always think about it, but I can tell you, from watching Bob Deutsch wrestle heavy components around, the reviewer's job isn't exactly glamorous. Thanks for all the hard work!

Jim Smith
Avantgarde-USA

Harmonic Technologies Pro-9 Plus
Editor:
First, let me thank you, Shannon Dickson, and your editors, for including both our Truth-Link interconnects and Pro-9 Plus loudspeaker cables in the April 2000 "Recommended Components" listing.

As proud as we are of that fact, imagine our chagrin when we noted that there was a misprint in the price of the Pro-9 Plus. The erroneous price listed on p.135 [of the April issue] is "$475/8\text{ft pair.}" Though that is the correct price for our Pro-11 Plus 8' cable set, the Pro-9 Plus 8' set retails for $860.

We would hope that you could find the space to make such a correction so that people understand that it was just a misprint. We know our products have been lauded for their affordability, but we want readers to be apprised of the correct price.

Once again, let me express our great pleasure at having received this gracious and distinguished recognition. Harmonic Technology, Inc. strives to bring audio and videophiles the highest-quality cables money can buy.

Greg Weaver
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Stereophile, September 2000
Last month I delved into avoiding reflective, parallel-wall slap echoes from ruining your audiophile day. But I've since learned of a perfectly useful workaround that's much less costly and involved than horning around the Sheetrock. Much to my chagrin, the info came from the same source, George Cardas. When he told me about it, I slapped my forehead so hard I'm sure they heard it in Brooklyn. One caveat: This tweak works best with big, juicy collections of LPs. It could work with CDs... but we'll come to that.

Say, like most people, you have a rectangular listening room. With any luck, your speakers sit a third or more of the room's depth from the back wall and well away from the side walls. Maybe there's a nice, comfy listening chair with another chair perched behind. If you're a sweet-spot guy or gal, ya gotta be between the speakers to Feel the Thrill.

Here's what you do. It's so simple, given that slap echoes build up between parallel surfaces. Build or have built relatively thick shelves on the side walls adjacent to the speakers. (Best case: Build 'em for all three walls facing the listening position.) Taper the depth of the shelves as you move back toward the listening position. Make something sturdy—from a hardwood, perhaps—with plenty of bracing to avoid droopy-drawer shelves and resonating members. And while you're at it, router in nice French curves of non-similar radii on the sides facing the room.

Now pile your LPs in the shelves, fire up the stereo, and clean your stylus. Playing familiar recordings, you can tune the room by pulling forward or pushing back the records in the surrounding shelves! Combining this with slightly repositioning your speakers can pay big dividends for those languorous Saturday-night listening sessions.

Of course, you can do the same with a big CD collection, but the flat plastic spines of CD boxes facing the room are harder and much less absorbent than LPs. However, as detailed in past "Fine Tunes," the point is to avoid standing waves at all the wrong places—like your listening position. Given CDs' more live, bouncy, and reflective case acoustic, you'll have to work harder to find and adjust the sweet spot by manipulating reflections and standing waves.

If LPs you have not—Philistine!—and so must go the way of the jewelbox, you might consider purchasing ETF 5x from Acoustisoft (reviewed by Kal Robbinson in W21 No.7). This impulse-response measurement software ("ETF" stands for "Energy Time Frequency") costs $149 (calibrated mike and preamp extra) and works with most PCs, and now even with game cards. I've got the latest version and a modern laptop; all I have to do is install the software and "ping" my room. Try their informative website: www.etf.acoustic.com/index.htm.

You don't want to see me blush. It's ugly.

Now an e-mail from enthusiastic tweaker Martin Thomas (Martin Thomas M@ao.com): "Jonathan, I have been a follower of your audio reviews for many years. In fact, I have a list of many of your reviews, including your Loft article, that I use as a Tweak Bible. No reviewer includes as much setup information in a review as you do. And once again, my man, your "Fine Tunes" column has planted a seed in my brain that has grown into a very successful DIY project."

You don't want to see me blush. It's ugly.

"In this case I must give equal credit to your reviewer Leif Christensen. Recently, I've been toying with the idea of duplicating a Symposium Ultra Shelf to mount my amplifier on. They use layers of aluminum, high- and low-density fiberboard, ridged foam in the center, and a mirror image of the aluminum-and-fiberboard sandwich on the bottom. My big Mark Levinson amp sits in a 50-lb sandbox that couples to the floor with large PolyCrystal cones. I attached two aluminum plates, a 1/4" HDF plate, and a 1/4" LDF plate with 3M high-strength adhesive, set on a 480/400 by 8 size tube mounted in the sandbox. I got the tube (15" outside diameter) in the Garden department of Home Depot."

"The top plate has boards on the sides to hide the tube, allowing a 1/2" gap when the tube is inflated. I attached a small section of white plastic ruler overlapping the gap for reference. Somehow, almost rupturing myself, I managed to get the +100-lb amp to the top of the shelf. (I certainly wouldn't want to be a reviewer!) The amp sits on Black Diamond cones; to help load the tube and facilitate balancing, I added two 25-lb weightifters, a trick I learned from the guys at Arcici. It does make a difference. The rest of my components are mounted on an Arcici Air Suspension Rack using Black Diamond, PolyCrystal, and Bright Star products—and, oh yes, lots of weightifters weights. The guys at the Sporting Goods store can't believe how I can have pumy muscles with all the weights I've purchased!"

"The amp stand is very effective, and cost a little over a song and a dance. I've painted it black; when my local hi-fi dealer stopped by to hear the system, he thought the stand was a purchased product. The 200W Levinson sounds like 300W on steroids!"

"Jonathan, keep up the excellent work—you remain my favorite reviewer. On a scale of one to ten, you are J-10."

"He's too kind. (Hey, don't agree so fast!) Another attractive and easy-to-implement tweak comes to us from the great Pacific Northwest. Kylie Gardner, understanding wife and soulmate of Positive Feedback assistant editor and audio reviewer Rich Gardner, uses glass blocks to suspend speaker cables above the floor. She stands them on end, two or three in a row, to support the Jena Labs cables (www.jenalabs.com) fastidiously string throughout their system. It looks neat... and glass is an insulator!"

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Stereophile, September 2000
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Gorgeous "clothing" and wonderful specs don't prove anything. You will have to listen for yourself to really appreciate the ability of these cables to present you with the musical truth.

### Speaker Cable

<table>
<thead>
<tr>
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<th>Construction</th>
<th>Metal</th>
<th>Features</th>
<th>Gauge/Sq. mm</th>
<th>Jacket</th>
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<td>SST, Hyperlitz</td>
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<td>CV-4</td>
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<td>Double Quad Helix Hyperlitz</td>
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<td>Perfect Surface Silver</td>
<td>SST, SBW</td>
<td>9 / 5.94</td>
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<th>Metal</th>
<th>Insulation</th>
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<th>Jacket</th>
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<td>Polyvinyl Chloride</td>
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<td>Double Balanced</td>
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<td>Foam Polyethylene</td>
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<td>Foam Polyethylene</td>
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