The king is dead. Long live the king!

After eight years the Aragon 4004, the most successful amplifier in the history of high end audio, is no longer in production. Its reign has not ended, but been handed to the next generation of Aragon amplifiers...the 8008. With additional features such as 300% more heat sink area and DC servo control, this heir to the throne possesses far greater refinement and control. Because of these additional features it also possesses far greater value.

In the service of music, Aragon’s 8008. Long live the king!
As We See It

One Standard to Rule Over Them?

As you can read in this month’s “Industry Update” (pp.35 & 37), the two conglomerates who hitherto seemed driven to offer the world two competing standards for the forthcoming Digital Video Disc came to their senses. Instead of consumers being offered Toshiba/Warner/Matsushita’s SD and Sony/Philips’s MCD, there will be just one high-density 4.75” disc to take both video and audio data storage into the 21st century.

There’s still one area of the proposed standard that succumbs big-time, however: the multichannel surround-sound audio soundtracks for DVD’s MPEG-2-encoded digital movies will still be squeezed down to a rate of a few hundred kilobits/second using a lossy compression algorithm, most probably Dolby’s AC-3. Every piece of Home Theater market research indicates that the improvement in sound quality drives purchases (that and the ability to watch live sports with enhanced picture quality). Play a movie with better sound, and everyone thinks the picture quality has been improved. Yet the video and cinema industries appear to think it a good idea to level down the sound quality on DVD in order to free up data space for multiple-language soundtracks.

Is lossy audio data compression really that bad? As I write these words, I’ve just returned from the 99th Audio Engineering Society Convention, held at New York’s Jacob Javits Center last October (full report next month). Over and over again, the message at the Convention from engineers who have been evaluating lossy data-reduction algorithms in rigorous listening tests was that not one was audibly transparent! Sure, there were some kinds of music or sound in which listeners couldn’t detect any degradation—but every algorithm failed most of the time to pass the transparency test, and every one failed catastrophically on some signals.

In one AES workshop, for instance, we were played one such example: the sound of a pitch pipe. Because of the simple nature of the signal—three tones accompanied by wind noise—there was no psychoacoustic masking, and all the compression artifacts were gloriously audible. Complex film soundtracks are kinder, in that there are plenty of places for the compression nasties to hide, but the worry is that what one sensitive person might hear now, everyone will hear in five years’ time.

The irony is, you wouldn’t need to steal much bandwidth from the DVD’s video data to vastly improve the prospects for audio, perhaps even making possible the use of a lossless algorithm. But am I alone in thinking that for the consumer electronics industry to lock into a standard featuring a lossy audio algorithm with audibly demonstrable flaws is madness?

Regarding the High Quality Audio Disc prospects for DVD, things look more promising. As Peter Mitchell writes in this month’s “Update,” the most exciting prospect for HQAD is that the one disc would carry every quality option. At its most basic level, a music HQAD would include some kind of data-reduced music signal in order to be compatible with video DVD players. The next step up in quality would be “RedBook CD Standard” two-channel data, and this would be encoded on just one of the data layers, allowing HQADs to be played back on conventional CD players. The ultimate quality signal—multichannel, 20-bit-precision, with perhaps a 96kHz sampling rate—would coexist with the other two formats on the same disc, but would need a new player to be accessible.

I find this idea the work of genius. As well as offering premium-quality sound, the one medium would replace both analog cassette and CD. Not only would the record retailer be able to stock just a single inventory; also, the “Super CD” would offer customers something they haven’t seen to any great extent since LP’s heyday: freedom of choice when it comes to quality.

Every HQAD purchaser could have the level of audio quality they’re prepared to pay for. And should someone decide at a later date to upgrade their playback system, their investment in software wouldn’t have been wasted. All they’d need to access the better sound is a new player. This combination of backward compatibility with CD and forward upgradeability maximizes the HQAD’s commercial prospects—unless some mouth-breathing corporate knuckle-draggers decide against it. Or if the days of purchasing a physical item are over, and we’ll all be downloading our digital music from the Internet instead.

Personnel

We welcome two names to the magazine’s staff with this issue. Equipment reviewer Robert J. Reina joins us following stints at Sounds Like… and The Absolute Sound. His biography appears on p.151, and as you might guess from his choice of the subject for his first review, the little Creek 4240 integrated amplifier, Bob’s focus will be on affordable gear. Nice to have you with us, Bob!

Stereophile’s new copy-editing engine, Jeanette Alt, joins us from Better Homes and Gardens. Proficient in the daunting ways of QuarkXPress, Jeanette is responsible for fine-tuning the deathless prose of the more than 60 writers who contribute to each and every issue of Stereophile. Welcome aboard, Jeanette—and don’t forget to buckle your syntactical seatbelt as you take the wheel at your PowerMac.

—John Atkinson

1 Since we purchased a large-screen TV, I’m astonished at how much broadcast-video quality is, compared, for example, with live sports coverage such as the recently finished 1995 World Series. (Welcome back to our home, Baseball)
Sacrifice Nothing.

B&W’s Matrix HTM Home Theater Speaker resolves the movies versus music debate once and for all.

Corey Greenberg, Home Theater Technology

Greenberg: “The main reason the HTMs are so superior to any movie speakers I’ve heard is solely because these are music speakers first and foremost.”

Nousaine: “This speaker is accurate. Dialogue and vocals are always intelligible and natural. Music sounds sweet and clean.”

Greenberg: “The sound of the B&W Matrix HTMs is so much better than any of the movie speakers I’ve heard, even systems costing many times the price of the HTMs, that it’s a joke.”

Nousaine: “The Matrix HTM is a tremendous performer. It makes a terrific center speaker and a pair of them would even do a great job as mains in a music-only system. I’d be proud to own one.”

Greenberg: “This is the best sound I’ve ever had in my home theater, bar none. Whether I played movie LDs or music CDs, the sound of the B&W Matrix HTM was honest, accurate, and the very definition of the term ‘high fidelity.’ It’s a speaker system you’ll want to live with for a long, long time.”

What else can we say? For the name of a B&W dealer near you, call 1-800-370-3740. And hear why the critics’ choice in music speakers is the critics’ choice in movie speakers.
Our commitment to flawless music reproduction is evident in every loudspeaker we make. B&W’s advanced engineering is conducted at its famous Steyning Research Laboratory in Sussex, England, where scientists and acoustic engineers pursue the quest for perfection begun by founder John Bowers over 25 years ago. The B&W HTM Home Theater Speaker is a product of this relentless effort.

**What started out as a raging debate has ended with rave reviews.**

Here B&W presents the considered opinions of two respected critics, Corey Greenberg of *Home Theater Technology* [Nov 1994 issue] and Tom Nousaine of *Sound & Image* [Fall 1994 issue].

Not only can the Kevlar cones used in the B&W Home Theater Monitor stop a stray bullet, they reduce surface standing waves to minimize coloration – whether you’re listening to music or watching movies.

B&W’s optional THX-approved 800ASW Powered Subwoofer with a discrete 200-watt MOSFET amplifier delivers wall-shaking bass.
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Thank you
Editor:
I have been a satisfied subscriber to Stereophile for approximately two years now. When I first tried your magazine about four years ago I really didn't like its digest-sized format. All I can say now is your new format is wonderful. I can't wait to receive my new issue each month.

Pietro A. Pitts
Houston, TX

Grateful
Editor:
Thanks for the pieces on Jerry Garcia in October. My love of the Dead’s music is what turned me into an audiophile.

Jed Gelber
Minneapolis, MN

See Elizabeth Cohen’s appreciation elsewhere in this issue.

—JA

Lips live!
Editor:
I found Richard Lehnert’s review of Van Morrison’s Days Like This in the September 1995 Stereophile (p.235) most interesting. However, like many Stereophile writers, he is too quick to list “CD only” next to a review. All of Van Morrison’s releases, including the current Days Like This, are available on the superior LP format. I know, as I have all of them.

Viva la Vinyl,
Mick Wolk
Havertown, PA

Yet the record companies insist that the LP releases (often pressed just for foreign markets) don’t exist, and tell us so to our faces. —JA

Uh-oh!
Editor:
I opened up the August 1995 issue of Stereophile and saw Energy Loudspeakers’ advertisement for the “Energy Connoisseur” series loudspeakers (p.48). There was a naked woman sitting on the floor with a picture of the speaker inset.

I found this ad offensive because it was degrading toward women. Is the only good picture of a woman a nude picture? I don’t think that having a nude picture of a woman will make Energy’s product sound any better, although it will help them sell it.

As a woman, I find the ad tasteless. You are objectifying and exploiting women by having this ad in your magazine. This ad also makes me think that “stereophiles” are a bunch of perverted chauvinists.

Ann C. Simonds
Moreno Valley, CA

Cancel my subscription!
Editor:
I was surprised to see a naked woman in a Stereophile advertisement (Cello, October '95, p.226). I am not willing to have that around my house. I would expect your editorial policies to disallow such objectionable material.

Please cancel my subscription.
S.P. Mumme
Little Rock, AR

Stems’n’seeds
Editor:
Why is a company like Cello using a naked “split tail” in their ad? I guess Uncle Tom and Uncle Mark are down to stems and seeds in their stash.

Give me a break!
Leland A. Beaman
Vacaville, CA

We regret that resources do not permit us to reply individually to letters, particularly those requesting advice about particular equipment purchases. (We are also unable to take telephone calls regarding equipment purchases.) Were we to do this, a significant service charge would have to be assessed—and we don’t have time to do it anyway! Although all letters are read and noted, only those of general interest are selected for publication. Please note, however, that published letters are subject to editing, particularly if they are very long or address more than one topic. All correspondents should include their name, address, and a daytime telephone number.

Temptation?
Editor:
In reference to the Cello ad in Stereophile (Vol.18 No.10, p.226), that’s the most delicious, mouthwatering red apple I’ve ever seen.

Maron Horonzak
Stoutsville, MO

Good taste?
Editor:
As a company producing some of the most elegant equipment in the industry, it’s a pity that Cello can’t distinguish between elegance and amateurism. Their October advertisement (p.226) is too sophomoric to be artful, too unflattering to be erotic, and too inane to be controversial. I’m glad Cello has better taste in sound reproduction than in advertising. With the success of their product line, they should be able to hire a better ad agency.

Dave Payne
Orem, UT

And the point...
Editor:
The Cello ad on p.226 of your October issue certainly stopped me cold as I buzzed through your rag. Large expansions of young female epidermis cannot but rivet the attention of any male not hormonally deprived.

A slight problem, though. No, I am not going to erupt in a fit of political correctness about the exploitation of women for profit. You knew when you accepted this ad for publication you would get enough mail bags on this subject to make the Santa in Miracle on 34th Street proud. No, it’s quite simple. I don’t “get it.”

Advertising should have a point. This was drilled into me years ago as an intern in a well-known ad agency. If you were going to spend a client’s money, you had better be damn sure it was going to benefit the client in some way—either with increased exposure (pun intended) or increased sales.

What does Mr. Levinson’s muddled Garden of Eden symbolism add up to?
Well, we see an apple. Ditto Eve. I can’t say if Mr. Levinson or the speaker is the Serpent. The speaker does look rather sinister. Hiding in the shadows, tempting everyone. But wait. I know! God threw Man (and poor Woman) out of paradise due to Man’s lusting over ridiculously expensive Cello gear. That must be what the ad is telling me? Or…

After much thought on this ad, I showed it to my wife. Half expecting a torrent of feminist rage, I awaited her meltdown. She stared at the Cello ad and passed a consumer’s judgment: “What’s the point?!” Amen.

Chris Ossanna
Hopkins, MN

Putting to one side any issues of political correctness—personally, I don’t think nudity alone can ever be a morality issue—Cello’s and Energy’s use of naked human beings in their advertising is just plain dumb. I agree with Chris Ossanna that any advertisement should make a point about the product featured, describe its features, and/or sell its benefits. According to David Ogilvy in the chapter “How to Produce Advertising That Sells” of his book Ogilvy on Advertising (Vintage Books, 1985), “The test [for the use of sex in advertising] is relevance…” He concludes that irrelevant sex doesn’t work, something borne out by the fact that the only hi-fi magazine I know of that actually combined its coverage of audio with soft-porn photography (a Swiss magazine of the late 70s) very quickly went bust. Actually, I think that for most audiophiles I know, the reaction to the Cello ad, at least, would be “Whoa—isn’t Mark Levinson starting to look old.” —JA

One person’s…

Editor:
opinion / e-pin-yec / n 1) a belief not based on absolute certainty or positive knowledge but on what one person thinks; judgment. 2) An evaluation, impression, or estimation of the quality or worth of a person or thing. 3) The formal judgment of an expert on a matter in which his opinion is sought.1

Just a term that seems to need constant explanation in Stereophile’s pages.

Andrew C. Hohenadel
Lancaster, PA

Pet peeves

Editor:
Mostly this letter is written to show off my new personalized Old English stationery. But since I actually have to say something, I’m going to bring up a pet peeve:

Around three years ago, you printed a letter from a reader who had tried to call John Atkinson up. Stereophile’s receptionist had told him that JA does not take calls from readers. Around that same time, I also tried to call JA up, but I was luckier: Your receptionist thought I was a manufacturer, and I got as far as her asking me which company I was with. When I told her I was a reader, she gave me the unceremonious dump. (What would’ve happened if I’d said I was from Conrad-Johnson or Threshold? How would John Atkinson have reacted to a call from a quick-witted reader?)

In each issue you prattle on about how the reader is more important than the manufacturer in Stereophile. Yet when it comes to phone calls, manufacturers are obviously more important than readers. JA might respond, as I think he did to that man three years ago, that if he took phone calls from readers he would not have time to do anything else. But that begs the obvious question: Why do any of you have time to respond to phone calls from manufacturers? What are the sorts of things that manufacturers would be calling you about that benefit the reader? Other readers have pointed out how they resent having manufacturers call reviewers (or having reviewers call manufacturers) so that a rep can come out and do something that isn’t available to the average person. But unless JA is actually reviewing a product, why are they calling him as editor? And why is he accepting their calls?

The invidious thing, though, is that, other than a letter to the editor to Stereophile (and possibly an e-mail reply for your “wired” readers), the only time readers can come in contact with Stereophile’s Editor is at one of the magazine’s Hi-Fi Shows. In other words, readers are asked to pay $25 for the privilege of being in John Atkinson’s company. What an ego he must have! What cheek!

He might point out that in most other magazines, the editor never has contact, other than by mail or possibly e-mail, with the readers. But in those magazines where the editors do meet with readers somehow, either over the phone or in person (and such magazines and editors do exist), they do it for free!

As it happens, I was planning to attend the ‘93 Hi-Fi Show in San Francisco (unfortunately, personal circumstances prevented me from doing so), and I was going to bring a bag full of records and CDs, specially selected for their target audience (for instance, since John Atkinson, in addition to having a near-Ph.D. in physics, as we all know, also used to be a professional bass player, I would’ve brought punk songs that had good bass lines or good bass intros).

Now, in reality, I know how our meeting, if it happened, would’ve gone: “Hi, John. I’m Paul Mendelowitz.” “Hi. Pleased to meet you.”

But ideally, in an ideal world, our conversation would’ve gone like this:

“Hi, John. I’m Paul Mendelowitz.”

“You’re the one punk (that we know of) who reads Stereophile.”

“Yeah, and I brought some records and CDs you might want to listen to.”

“Great, we have a Cello system sitting right here.”

“Yuck, yuck, I mean Lewis Lipnick didn’t listen to any hardcore punk on his Cello system.”

So I would’ve been stupid enough to bring my records and CDs in the hope of that conversation happening. And who knows, even if we’d just said “Hi,” I still might’ve been satisfied just meeting you (but it would’ve been nice to have name recognition: like, you recognize Paul Mendelowitz like I recognize John Atkinson).

But even in 1993, I was aware that I was paying (or going to be paying) for something that should’ve been free. And especially because you won’t take phone calls from readers (which would’ve been relatively free for me, or at least cheaper than the cost of admission to the Show). So how exactly is Stereophile the magazine of the reader? The manufacturers send products to be reviewed, they place ads (which, of course, as we all know, does not affect editorial), and they call John Atkinson about God knows what. The reader does (and gets) jack shit.

Paul Mendelowitz
Redwood City, CA

P.S. I bet (almost) that you don’t have the guts to print this letter. And say “hi” to lovable Kristen Weitz for me.

Sadly, Mr. Mendelowitz, it is quite true that I do not take telephone calls from Stereophile readers because if I did so, I would have no time left to produce my magazine. And while Mr. Mendelowitz would, I am sure, be quite happy if I just took his calls and ignored the rest, that doesn’t strike me as fair. Regarding manufacturers, if you talk to anyone in the high-end audio industry, you will find that they also find it difficult to get hold of me at times. This is one reason Equipment Reports Editor Wes Phillips has joined the magazine: Wes’s job is to organize the reviews and therefore to be there for the manufacturers of products we are in the process of reviewing.

The digital dilemma answered at last.

Digital separates really do provide superlative sound. The only problem is that most of them begin by separating you from the contents of your wallet. That's hardly an enticing prospect for those of us who constantly balance our quest for musical excellence with minor annoyances like rent and the IRS.

Fortunately, Rotel has the answer. Our new RDD-980 Compact Disc Transport and RDP-980 Digital Processor combine exceptional sound, unique convenience, and affordability. How affordable? Let's just say that you'll have enough money left over for some wonderful concert tickets...or that CD buying binge you've been putting off!

Synergy.

The RDD-980 CD Transport and RDP-980 Digital Processor boast circuit sophistication and sound quality far beyond their modest prices. They're a perfect match. But, they'll also work spectacularly on their own in your music or audio/video system.

Perhaps best of all, they're from Rotel, where dependable excellence is a tradition. See and hear them both at your local Rotel dealer. And be prepared to believe...

RDP-980 Digital Processor

The RDP-980 reveals musical nuances with a faithfulness formerly reserved for only the most expensive processors.

That's not the end of the RDP-980's capabilities. It switches up to 5 digital sources using either coaxial or optical links. It handles sampling frequencies from 25 to 58 kHz for compatibility with any digital source. And, it features full remote input selection, phase inversion, and output muting.

The RDP-980's high isolation power supply includes two shielded transformers, one for the digital stages and one for the analog circuitry, and 17 individual local voltage regulator/capacitor arrays. The glass epoxy circuit board isolates signal traces and ground planes on separate sides for minimal interference.

Jitter? The RDP-980's specially selected optical input modules and high speed, wide bandwidth coaxial amplifiers minimize it. Additional circuit stages precisely synchronize all digital inputs and outputs to the RDP-980's master clock to effectively eliminate it.

Delta/Sigma modulation with 64x oversampling and fifth order noise shaping follows a high resolution 8x digital filter. A voltage-reference switched-capacitor D/A then converts the high density data stream to a constant voltage analog signal.

The analog stage features high precision metal film resistors throughout. Close tolerance polypropylene foil and epoxy-dipped ceramic capacitors complement the FET-based operational amplifiers.

The result? A spacious, detailed, and totally non-fatiguing presentation of all your digital sources.

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We didn't stop there. We suspended the mechanism in the center of the RDD-980's substantial chassis for even better damping of resonances that could cloud delicate musical information. We thoroughly isolated the motors, tracking servos, digital circuitry, and the information display with a multi-segment, dual transformer power supply. We minimized minute internal supply variations with precise voltage regulators, oversized heat sinks, and high grade capacitors. We included both coaxial and optical digital outputs, full remote control capabilities, and housed it all in well-shielded heavy gauge all-metal chassis.

Rotel of America
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tel 800-370-3741 fax 508-664-4109
But I do take Mr. Mendelowitz's point about accessibility seriously. I do read every fax and letter I receive, and if you e-mail me (my addresses are listed on p.7), I try to respond promptly—though the volume of electronic mail I receive makes it impossible to reply at any great length. And yes, you will be able to talk to me at Stereophile High-End Hi-Fi Shows, though that is not the prime reason why you pay to get in. And if you drop by our offices in Santa Fe (208 Delgado Street, three blocks from the Plaza), we all would be delighted to see you and show you around. And, Mr. Mendelowitz: The reader doesn't get "jack shit"—the reader gets Stereophile. —JA

GENESIS

Editor:

Robert Harley's January '95 review of the Genesis II.5 loudspeakers drew some critical reactions from readers ("Letters," April '95)—one going so far as to suggest that the positive review and the interview with Arnie Nudell had been orchestrated by Genesis. If I also wanted to be paranoid, I could speculate that these responses were from competing speaker manufacturers using pen names.

Actually, I doubt either situation exists. What I do know is true, after listening to the Genesis II speakers at Elliot Goldman's Front Row Center store in Florida, is that Genesis is capable of engineering and manufacturing a great product.

Unfortunately, I could not afford the IIs, and Elliot did not have the smaller and less expensive Genesis Vs for me to listen to. On a later business trip, however, I heard the Vs at a Genesis dealer in Atlanta—and this time I wrote a check.

A week later I called to confirm the shipping arrangements and found out the dealer had closed. I called Genesis to find out about my order and they indicated that they had never received it, nor had they received any money.

Uh-oh! This audio addiction is getting expensive. Just when I was about to cut off my ears—with my wife's help—I got a call from Paul McGowan at Genesis saying they would fill the order even though they had also been stiffed by the dealer.

After listening to the Genesis Vs at home for a month, I would like to commend Genesis for designing a great speaker. I would also like to thank them for being a first-rate company to deal with.

BRUCE FALLS
Rochester, MI

ALLISON ACoustics

Editor:

I found your review (September 1995) of the AR 303, an updated version of the AR-3a, to be of particular interest because the AR-3a's design was attributed to me, and the AR-LST (which I designed many years ago) was given very favorable mention.

The shape of the 303's room curve in the review (fig.1) is consistent with the power-augmentation curve derived from its placement with respect to room surfaces as specified in the review. These distances (to the woofer center) were approximately 19" to the floor, 59" from the front wall, and "well away" from the sidewalls; I assumed 6' as the side distance. Entering these numbers into the Bestplace software program produces the curve shown in fig.2, which represents the room boundaries' modifications to the anechoic power response of the AR 303. The program is a useful tool for predicting boundary augmentation for any speaker placement.

Readers can download Bestplace software from CompuServe. A dis- kette, either PC or Mac, is also available at $29.95 from RA Labs USA, 1A Business Way, Hopedale, MA 01747. Tel: (800) 651-7444.

ROY ALLISON
RA Labs USA

Robert Harley's September review of the CAD-300SEI single-ended tube amplifier (Vol.18 No.9). Did you write this to generate more controversy? You couldn't have been serious...could you?

What is an audiophile except one who loves music, one who desires more intimacy with this art form? In his review, RH made it clear that the specs on the Cary were "a joke." He's right. He also made it clear that his experience with the music was "totally involving and musically euphoric." I can't believe that you can disparage a product with the visceral tone that you wrote with, when it is obviously a musical piece of equipment. In my opinion you've demonstrated an obvious flaw in your editorial philosophy.

What is Stereophile if it does not give us insight to what products sound like? If I were to purchase a piece of equipment just because it looked good on paper, then I might as well read one of those stereo magazines. What is your mission statement, if not to make us aware of the sound as well as the measurements of the equipment? Get out of your Editor's chair, get your turntable or CD player out and, take a listen to some music!

Highest Musical Regards,
EMmanuel B. Fonte
[Address withheld]

KUDOS TO ROBERT HARLEY

Editor:

Kudos to Robert Harley on his fine review of the Cary CAD-300SEI in the September Stereophile (p.141). He takes the reader on his journey toward realizing the glory of single-ended amplification, of the rapture of a totally involving musical presentation. He even belittles the horrendous measurements, justifying his position with, "the 300SEI was so musically satisfying that I don't care what the numbers say."

Then came JA's shot from left field. In his footnote at the end of the article (p.149), he claims the Cary is not a hi-fi product but is "actually a tone control, and an unpredictable one at that."

Harley's thorough and lucid seven-page review is counteracted by this very brief single paragraph of sniping from JA. Disagreement is not necessarily bad, and in fact can be healthy in discussing audio equipment; if JA really felt that strongly about the equipment, he should have stated his opinion in a longer sidebar to help the reader assess his comment. This manner of disagreement is a disservice to the reader.

What does JA mean by the equip-
We Get Letters...

XLO Electric Company
9480 Utica Avenue, Ste. 612
Rancho Cucamonga, CA 91730

To Whom It May Concern;

I recently purchased a 4-meter run of your Reference Series Type 2 interconnect cable. Without even breaking them in, they have to be the finest cables that I have never heard. (Sounds like a new slogan – "The finest cable you have never heard"). It seems as though every other cable that I have tried invariably shines in one or two areas as one runs down the usual audiophile checklist (i.e. sound staging, tonal balance, focus, etc.), but somehow always leaves one thinking that something is missing or that there is too much of something. I always thought that I had assembled a reasonably good system, but it wasn’t until I inserted the Type 2 that I realized I have never heard it the way it should sound. At times, I can actually sit back and listen to real musicians playing in real space.

I think my next move is to slowly replace all of the cable and wire in my system with XLO. The wire tangle presently includes Monster Cable, Straightwire, MIT, and OCOS. Anyway, kudos, hosannas, yippee, and thanks for making "The Best In The World."

Sincerely,

Mike Kanai

P.S.: Present system, F.Y.I.

Versa Dynamics 1.2
Immedia RPM 1
Graham 1.5t
Clavis
Genesis 2000
Vendetta Phono Section
Audio Research LS-2
Mark Levinson 23
Apogee Duetta Signatures
ment being a tone control? Why is it unpredictable? Did he live with one? What associated equipment did he run it with? What speakers did he use? Doesn't Harley's well-thought-out piece deserve a better rebuttal than this brief footnote? Does Harley inadvertently mislead the reader by claiming that "the 300SEI communicated the musical message in a way that went straight to the heart"? As it is, the reader is left with the impression that perhaps JA has been overcome by an extreme prejudice against this type of topology.

Mario Muñoz
Ardsley, NY

RESIGN!

Editor:
I think that it is time for Stereophile's Editor to resign! The specifics that prompt this suggestion are his comments in RH's review of the Cary '300SEI' in the September 1995 issue. Harley is one of the more outspoken of the numbers-tell-all school, but is at least open-minded and willing to give a product a listen, and even admit when he is wrong. He admits his biases at the front of the article and again at the end, yet gives the 300 a fair hearing. I do respect his listening skills, although I don't always agree.

On the other hand, JA's comment that the 300 can't be given a recommendation (in spite of its apparent sound) solely because of the numbers is ludicrous! This is the attitude I expect from Stereo Review, not Stereophile. JA: If you are so enamored of the numbers, then you don't belong on a journal presumably dedicated to music and its reproduction. klein@alphaloyno.edu

Via the Internet

BAD SHOW, JA!

Editor: Reading JA's footnote about the Cary CAD-300SEI amplifier on p.149 of the September issue, I interpret his comment to mean he wouldn't recommend a speaker that measured with as unflatt reaction as the Cary, regardless of how good it might sound. That statement concerns me, as I could really care less how a product measures, JA may counter that such a product might sound bad in many instances; therefore you must exclude recommendation. I would disagree—you have qualified many products in the past; I hope you'll continue to do so.

Stereophile was founded on the practice of recommending audio products based solely on their sound quality. Some of JA's recent comments seem to indicate a departure from that direction. Most dismaying of all to me is that he never mentioned whether he even listened to the Cary prior to classifying it as a non–hi-fi product. RH admitted to a change of mind after listening; perhaps JA would also (if he hasn't listened, which, of course, we don't know).

Bad show, JA!
Bob Gash
Flower Mound, TX

Thanks, everyone, for your comments. You all seem to have missed the point. I have no argument with RH's comments on the musical nature of the single-ended Cary's sound quality. I, too, found it to be a most seductive-sounding little amplifier in my own auditioning. However—and it's an unavoidable "however"—the Cary's measurements indicate that it produces distortion and frequency-response anomalies that will, without a shadow of a doubt, be audible. (These tonal and textural changes qualify it as a "tone control," Mr. Muñoz, in my humble opinion.)

The question of whether the 300SEI sounds "good" or not is therefore transformed into whether it sounds good because of its measured, audible problems, or despite them. This was what I wanted others to comment on after reading my contributions to RH's review, not to accuse me of being a meter-reading closet objectivist. (No, I don't think I'll resign just yet!) Sadly, the following letter was the only one I received that attempted the challenge. —JA

BEEN THERE, DONE THAT!

Editor: Robert Harley has said in several contexts that it is not possible to predict the sound of an amplifier from laboratory measurements. Thus I was amused to read his review of the Cary CAD-300SEI single-ended 300B triode amplifier in the September issue (Vol.18 No.9, pp.141–9). Virtually every sonic attribute of the amplifier which he discussed, favorably or unfavorably, could have been predicted and/or explained by the measurements in the article.

It seems that the design of all too many tube amplifiers on the market today has been the result of the designer's personal taste and other ancillary factors rather than engineering expertise. The desired tonality or aural "character" is established by listening to prototypes, with few if any laboratory measurements at all up until the time that a sample is in the hands of a magazine reviewer. This empirical method has taken the place of the quest for "straight-wire amplification," the classic criterion which can only be determined by scientific analysis.

The opposite approach, and a defensible one, is illustrated by that of Peter J. Walker, the founder of Quad. He has stated that the Quad tube amplifiers, though by many to be the finest of their day, were designed, put in production, and placed on the market without their ever having been listened to. Peter Baxandall, another of the outstanding British design engineers of the classic era [who sadly recently passed away—Ed.], had a similar deliberate policy. The Cary amplifier demonstrates that it can in fact be dangerous for a designer to listen to the sound of his amplifier in the process of its development. He may become enamored of it.

There are only three requirements for a power amplifier: adequate power output for its intended purpose, straightwire amplification, and low output impedance to provide a damping factor to help control extraneous excursions of the speaker mechanism. For all of these requisites, the 300B is one of the worst of all possible choices as an output tube. It is an historical curiosity, not suitable for that purpose in any "high-fidelity" context, in any circuit configuration. It never was. It has several shortcomings, but the worst of these is its need for an unusually high driving voltage that cannot be achieved without introducing distortion into the voltage amplification stages preceding the output stage. This is why the standard 9W 300B theater amplifiers of nostalgic fantasy usually drove the output stage with an interstage transformer—another inevitable, but possibly lesser, source of distortion than a tube driver stage.

The theater speaker systems of the 1930s and 1940s, typically driven by 300A and 300B amplifiers, were themselves not high-fidelity devices by any stretch of the definition. Apart from other faults, it is sufficient to mention that their frequency response was usually down as much as 15–20dB at 15kHz.

In the late 1940s, I was fortunate enough to acquire an exceptionally fine example of this class of speaker system from a large San Francisco theater. It consisted of the usual 15" low-frequency cone housed in a 40Hz "Shearer bin," crossed over at 400Hz to a multichannel horn about 30" long by 22" wide and 16" high. It had been a special production unit built for Simplex, the film projector manufacturer, for the state-of-the-art model theater built for the 1939 San Francisco World's Fair. In 1940 it was sold to the San Francisco theater and was replaced after the War only because, having been designed for a narrower house, it was decided that it
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did not have quite enough treble coverage for the outside seats in the front rows. The system was rated at only 15W and was outstandingly efficient, driven by a 9W 300B amplifier. I used it in my home for some time driven by two triode-connected beam tubes, one of the earliest Williamson amplifiers built in this country. Power was 14-15 watts, with loud operating level in the low milliwatt range. I experimented with different bass housing designs and various 15" and 18" woofers, and eventually added a 3500Hz super tweeter. To this day I have never heard more impressive reproduction of wind instruments from the bass clarinet to trombone range, but...

In the early 1950s, there was a cult of experimenters in San Francisco who were devotees of an amplifier design using a pair of 300Bs with a regulated power supply. The leader of the group would give demonstrations in his home, along with a Stephens theater-type speaker system. The climax of the presentation was with the guests listening from a doorway in the next room while a classical piano recording smoothly seeped into an actual piano played by the speaker owner's wife. As intended, the seep would usually not be detected. G.C. McProud, the then editor of Audio Engineering magazine (now Audio), was in town and invited to one of the demonstrations, with the intent of interesting him in publishing an article on the amplifier. He told me that he had some doubts about it. I had never heard the demonstration, but had a standing invitation, so I promised I would attend one and let him know my reaction. After the piano bit, I was asked what I thought. My answer was that it was quite remarkable how he had been able to make Artur Rubenstein, playing a Steinway Concert Grand piano, sound exactly like his wife playing a spinet.

I had experimented with directly heated triodes some time before this. In fact, my first amplifier used a pair of 45 tubes, quarter-power contemporaries of the 300A. The sound impressed all of my neighbors, who owned the ubiquitous and expensive postwar console radioophonographs, even after the advent of LP recordings. In the late '40s I owned one of the finest and best-selling amplifiers in the then high-end of the hi-fi market in San Francisco: the English-made Brook, which used a pair of 2A3 directly heated triodes, delivering about half the power of 300Bs. This and similar amplifiers were shortly supplanted in popularity by those using triode-connected beam tubes such as the KT66, EL34, and derivatives which again rule the High End. I predict that when the current producers of such amplifiers get their act together, the 300B and other directly heated triodes will again fade away.

The "miracle" elements which have recently made so many converts to 300B amplifiers, and especially to the single-ended versions, are, first, the high level of second- and third-harmonic distortion, which produces artificial middle and upper bass and appears to enrich the midrange and treble. Some listeners may fancy this sound, especially the enhanced bass, but it is not faithful reproduction of the sound of live musical instruments. Second, in common with push-pull tube amplifiers operating in class-A, they can drive low-level and natural harmonic definition to which habitual listeners to solid-state, or even to most high-powered tube amplifiers, are not accustomed.

The laboratory curve of total harmonic distortion vs power of a state-of-the-art amplifier should continue to drop at the bottom end until it disappears into the amplifier's residual noise. This is effectively zero distortion; but if you scan back issues of Stereophile you will find that most amplifier measurements show such curves which, instead of sinking to near zero at low level, are on the rise as they go off the plot, even though that point is usually at only 0.1W. See, for example, the curves for the VAC Renaissance Seventy/Seventy (December 1994, p.182), the Conrad-Johnson Premier Eight (same issue, p.167), the Arcam Alpha 5 (same issue, p.175), and the Cary CAD-805 (January 1994, p.111).

In the case of the Cary amplifier in January '94, the distortion curve (fig.10) illustrates only 20dB of dynamic range between 0.1W and full overload at around 10W. At 6W, as in figs.8 and 11 of the same issue's review, the amplifier is already well into its approach to overload. We are left to assume that, at low levels, the distortion curve continues to decline toward effective zero over the rest of the dynamic range of the amplifier. This means that it should extend to below 0.000001W to cover the 90dB or so audible dynamic range of a full orchestral performance. I rather doubt if this is the case, just as it is not for the Cary CAD-805. The output triodes and their driving circuits will not be sufficiently linear.

Dennis Had, the Cary amplifier's designer, makes some revealing observations in the sidebar to RH's review and in his Manufacturer's Comment (pp. 239-40). He boasts of using zero feedback in this amplifier. Zero feedback is not a hallmark of excellence or a virtue, but it is the case that it is a virtual necessity with any 300B amplifier. To achieve the high driving voltage required by the output stage, the loop gain of the amplifier is already strained to the extent that very little or no voltage can be spared for negative feedback.

In recent years, feedback has acquired a bad name, it is true, because it has too often been used as a "Band-Aid" to correct defective design or componentry. The most frequently found inadequate component in tube amplifiers, other than a poor choice of output tubes, is the output transformer. Unfortunately, trying to correct an inadequate transformer's problems with loop feedback can cause instability unless frequency and phase modification are introduced into the feedback loop, which creates new problems. (How many amplifier manufacturers today even know the specifications of their output transformers as to core saturation point, primary inductance, and leakage inductance between the various windings?)

The finest of amplifier circuits can only be improved by the judicious use of negative voltage and current feedback. It can lower distortion, extend the flat frequency range, and help control speaker distortion. Mr. Had acknowledges that with his amplifier "a loudspeaker of from two to three times the output impedance of the single-ended amplifier has been found to yield the most favorable results." But you would have a very hard time finding a modern speaker with the 16 ohm impedance that was the norm when Western Electric designed the 300B tube, and there are today not "many" speakers, if any, that are "10, 11, and even 12 ohm loads over a great portion of the spectrum." If his amplifier had enough loop gain to permit sacrificing some of it to a little negative feedback, even if for no other reason than damping factor, the Cary would not demonstrate the symptoms of undamped speakers that result from its high output impedance.

Mr. Had boasts in the sidebar that he will "often take apart competitors' amplifiers and remove the feedback." Whether out of insouciance, arrogance, or plain ignorance, these eviscerations have undoubtedly resulted in making some of those amplifiers worse instead of better, especially as to damping factor and stability but possibly also as to distortion level and character.
In an industry where consensus is rare, the editors of eleven European audio journals elected to give the N°36 the European High End Audio of the Year Award. The N°36 is the third Mark Levinson component in the last four years to have been so honored.

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...
Mr. Had says we should "forget about the total harmonic distortion: any of the nasties that are out there are masked by the second harmonic, which isn't offensive to the ear." Wow! I could probably rest my case here because, of course, the appalling level of second-harmonic in the Cary is also masking goodies out there. And what about the amplifier's equally appalling level of third- through seventh-harmonics and the even higher-order "edge harmonics"?

He is correct that second-harmonic distortion, always abundant in single-ended power amplifiers, does not appear to be obtrusive. It is generally not recognized as distortion but is perceived merely as adding body to the music and, along with high third-harmonic distortion, artificially enhanced bass. The effect of second-harmonic also has the virtue of not becoming more noticeable with increased volume. Triodes, or triode-connected beam tubes, especially when operated in class-A, have what is called "soft overload" because they should not start to generate high-order harmonic distortion until they are in severe overload; on the upward slope of the overload curve they act mainly as dynamic compressors. The audibility of higher-order harmonic distortion, on the other hand, does increase proportionally with increased volume so that music develops progressively more rapt that becomes severe at the onset of overload. At only about 30dB below the fundamental, both second- and third-harmonic distortion are far too high in the Cary. While it is the natural second harmonic that defines the sound of stringed instruments, it is the natural third and fifth harmonics, dominant in the timbres of loudly played trumpet notes, which are the defining characteristic of that instrument. Thus third- and fifth-harmonic distortion makes violins sound harsh and brassy. Combined second, third, and fifth harmonics are particularly destructive to the character of instrumental lower bass.

The lowest notes of the four-string double bass—the very lowest being 41.2Hz—contain very little of the fundamental frequency at all, with their natural second harmonic being produced at a far higher level, and they are rich in harmonics in the next few octaves. The fundamental notes are perceived and identified almost entirely by their harmonic structure. The lowest note of the extended bottom octave of the Bösendorfer Imperial Concert Grand piano is 16Hz, with only a minute proportion of the fundamental. (It would, of course, be impossible to tune the instrument on this fundamental, so it must be tuned on its strong second harmonic by fingering at the half-point of the string.) High second- and third-harmonic distortion will obliterate the distinctive natural timbres of these instruments.

Even more undesirable in the Cary is the presence of the significant content of seventh-harmonic distortion. This harmonic is dissonant and does not occur in the musical scale. Most odd-order harmonics from the thirteenth up also do not occur in the musical scale; and virtually all high-order harmonics from the ninth up, odd or even, are dissonant and have aural significance up as far as the twenty-fifth.

Third-, fifth-, and higher-order harmonic distortions give what is called a blanketed sound to music. The higher odd harmonics, or edge harmonics, are irritating and contribute to listener fatigue and increase the apparent volume of sound. They add a spurious edge or bite to reproduction. They tend to steepen the wave front of musical attack transients and thus to overemphasize and give an artificial sharpness to such sounds, particularly exaggerating percussive effects. Again, it is granted that many people, including some equipment reviewers, and obviously some amplifier designers, enjoy this type of sound, but it is not fidelity reproduction of the program material.

I am inclined to agree with JA's conclusion on the Cary. He wrote (p.149): "I don't regard this amplifier as a hi-fi product at all. It is actually a tone control, and an unpredictable one at that." I have said that "feedback" is not a dirty word. Neither is "tone control," though I think it is sometimes considered such at the High End. Variable tone controls, operating at line level, properly designed, properly used, and capable of being totally bypassed, should not themselves contribute to sound degradation and should be a part of any high-fidelity system, especially in the CD era. It is beyond argument that uncontrollable tone modifications should not be built into a power amplifier where it imposes itself indiscriminately on whatever passes through it.

John W. McConnel
Winters, CA

1) Your journal now emphasizes the accumulation of extremely high-priced and, in some cases, high-priced and silly, equipment. There was a time when Stereophile helped to assemble a good, reasonably priced system for the enjoyment of music. That is no longer the case.

There are times when you give the impression that the music is an intrusion to your systems. It does appear most of your staff gets more enjoyment out of their systems with the power turned off—thereby giving new meaning to the musical term "unplugged."

Personally, I can enjoy a 20-year-old cassette of a Springsteen concert played back on pretty much anything. To me, the equipment is not more important than the music.

2) The insulting and smug editorial content and tone—the "non-review" of Pearl Jam's brilliant Vitalogy being just one example. Putting aside your personal musical preferences, how can you publish something so insulting? Aside from putting them down (for whatever reason), what did you hope to accomplish? You certainly did not help your readers.

While Stereophile is certainly doing its part to stimulate the economy and the revenue of your advertisers, you are doing a disservice to your readers. Maybe that's been your editorial goal all along, and I've only just realized it. Whatever.

Perhaps it's time for the Stereophile staff to stop inhaling the hazardous fumes from overheated "magic dots" and get some fresh air.

AMAZING IGNORANCE

Editor:
I am a middle-aged musician and I enjoy many forms of music. When a friend of mine gave me a copy of Stereophile, I was intrigued and asked him to give me some older copies. I read about five copies from front to back and was astonished with every article I read. The magazine is put together extremely well, and such use of the English language I have never experienced before. Your magazine must be held in great prestige among the manufacturers of the products which you review.

However, I truly believe that your organization is making a good living for itself by capitalizing on the ignorance of the general public and creating a hysteria among them.

To believe that, in this day and age, you folks are debating class-A tube amplification, and wires that connect compo-
Most speakers that call themselves multi-media don't even deserve to be called speakers; while the hi-fi speakers worthy of their name won't function or even fit in most surround sound, home theater, computer, MIDI or mini system applications. Celestion solves this dilemma elegantly with the Style Series: packaging their 70 years of loudspeaker experience in magnetically shielded, weather-resistant enclosures with universal mounting systems.

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CELESTION
The Difference is Fundamental.
nent to component, is amazing. We all know the saying “millions can’t be wrong.” In many cases they are, simply because of ignorance, not knowing the true facts, not understanding the physics behind a claim, media hype, “smoke and magic,” etc. I am surprised society allows your magazine to be printed. Your readers would be much better served by taking all the money put into their stereo systems, purchase instead a $700 stereo, and use the rest of the money to go out every weekend with friends and/or family and see live performances of their choosing. Yes, I too enjoy the finer things in life. However, the finer things do not run my life.

Allow me to cover the basics of why I think your whole platform for “high-end audio” is flawed.

I have a background in electronics and I am a studio musician. How many studios, which make most of the pop recordings you listen to, actually use these hundred-dollar interconnects which you review? Only the ones who read your magazine (not many). To suggest a cable has to be broken-in and connected in the proper direction is insanity, or stupidity, or good marketing. There are no moving parts in a copper wire, and the electron current flowing through it is alternating. Why not tell people the truth and explain to them that the only important factors in cables are size and resistance? A lesser wire will have a higher resistance, and, especially in the case of speaker wire, this will make a difference. [But see Malcolm Omar Hawkins's discussion of cable fundamentals in the October 95 Stereophile. —Ed.]

How does one expect to hear in their home what a performer or conductor heard in a recording studio or concert hall? How many musical instruments produce harmonics into and beyond 20kHz? Now, how many microphones can actually capture frequencies up to and beyond 20kHz? How many people will hear a variation of -0.5dB in frequency response at 20kHz? Absolutely no one, so why make a point of it? Yet in spite of the above liabilities, you expect an amplifier to reproduce a 10kHz squarewave and you test intermodulation with 19kHz and 20kHz simultaneous tones. Have you ever seen a 1kHz squarewave from an LP on a 'scope? It's very ugly. Likewise, a CD player can barely reproduce a true 1kHz squarewave, let alone a 10kHz squarewave. Oversampling and low-level linearity are all you need to know for a CD player.

Why is phase in a system so important? Consider this: Positive pressure on a microphone diaphragm usually produces a correspondingly positive voltage swing on the output. When a snare drum is struck, the skin is initially forced downward, causing a negative pressure on the diaphragm of the microphone, which produces a correspondingly negative voltage swing on the output. In other words, the speaker cone is moving inward first. How many recording engineers compensate for this? None that I have talked to.

Why review the equipment in your living space when no one will have a room with the same dimensions and interior as the reviewer? I have been performing in many halls for the past five years with the same sound system, and the single most important factor in the sound is the venue, not the mixer or patch cables. I recently moved into a new home after living in a smaller house for the past 11 years, so you could say I was used to the sound of my living room. After setting up my stereo in my new dwelling, I could truly say I had a different-sounding stereo. This is what people need to know: about 70% of the sound is the room, and 29.5% is the speakers. The rest — 0.5% — is the system.

If I ask a salesperson about interconnects, I am told that the interconnect is the make-or-break part of the system. If I ask about power amplifiers, I am told that the amplifier is the make-or-break part of the system. If I ask about the pre-amplifier, I am told that the preamp is the make-or-break part of the system. No one will ever say my room is the make-or-break part of the system, because there is little they can sell me to decorate my room.

The car is the best test instrument? So you say, but have you ever had to ask someone to repeat themselves during a conversation? This has more to do with your mind than your ears, because maybe you weren't paying attention to the person talking to you. Now, try to pay attention to upward of five instruments playing a tune, and tell me if you can pay attention to all of them at once (ask a CD to repeat itself). If you hear something new with amp B that you did not hear with amp A, could it be that you were just not paying attention with amp A? Have you ever received a telephone call and mistaken someone's voice for another's? Being the highly emotional creatures that we are, it's the music and our surroundings as well as other environmental cues that remind us of an emotion, not sitting alone in front of a stereo system.

I could go on, but the point is made. I equate the high-end audio industry with the fashion industry: pretentious and self-serving. I think your industry has more to do with the male ego than anything else. Being a male, I can say this. Someone once described it as a hierarchical social order where one-upmanship [say] is the name of the game. I believe this to be true since I have a good collection of old guitars and amplifiers, which puts me that little bit ahead of the other guitarists who do not have as much. Also, we all prize a sense of belonging, don't you agree? Whether it be a church group, naval regiment, or a weekend bowling league, we all have that built-in need to belong to something. If that includes "The Most Hideously Expensive Speaker-Owner Audiofool Alliance," then so be it.

I wish your magazine the best of luck. If you can thrive on the ignorance of those who cannot use their own ears (and intelligence), more power to you. Your writers should run for office.

NAME WITHHELD

Canada

POLITICS

Editor:

Your "As We See It" on the Corporation for Public Broadcasting (July '95, p.3) was right on target, but based on the negative reader responses published in Stereophile, probably didn't go far enough. The reduction in government funding for CPB, when coupled with the probable elimination of the National Endowment for the Arts and the National Endowment for the Humanities, will have an inevitable negative effect upon audiophiles like me who value attending live performances of musical works from jazz to symphonic. The NEA, in particular, has been quite active in helping music composers, individual performers, and performing groups — including underwriting the telecasts of a few of their performances on PBS. Many of us will likely have to face both a decline in the number of live performances we are currently able to attend and a deadline in the public broadcasts of such performances.

Since my audiophile priorities put attending live performances ahead of my subsequent attempts to re-create them in my home, I believe that my audiophile hobby is severely threatened by the probable NEA, CPB, and NEH funding cuts. For me, the ability to attend live performances as a point of reference is essential if I am to continue to indulge in this hobby. You are a nut if you realize that indulgence includes my subscription to Stereophile.
The great thing about KEF Home Theatre is that everyone experiences the same superb sound quality, wherever they sit.

No more scrambling for the best seat; no more being tied to a 'sweet spot' – just stunning dialogue clarity, uncannily realistic effects and action that leaps out of the screen.

The reason is simple. Unlike conventional systems, KEF’s revolutionary Uni-Q® technology creates a highly detailed sound stage over an exceptionally wide area — and with identical Uni-Q drivers on all five channels, the same high quality sound is heard throughout the room.

As you would expect from the manufacturers of some of the world’s finest loudspeakers, it’s compatible with virtually all quality receivers and hi-fi systems. The compact, discreetly stylish cabinets are flexible to position and easy to install.

Whether you’re a first time surround sound buyer or upgrading your existing system, listen to KEF Home Theatre before you decide. At the price, nothing else compares.
Please keep covering political matters of consequence to audiophiles. It's the main reason I've subscribed to Stereophile for so many years (since the CBS Copycode attempt).

Elliott Tucker
Dallas, TX

PAYING FOR IT

Editor:
I abhor hunting and fishing, but I help pay for TV shows that glorify those activities. I am not much interested in sports, but I pay to have them shown on TV. I think game shows, with contestants making fools of themselves and jumping up and down, are demeaning, but there I am with my wallet open. As a matter of fact, I either deplore, or am not much interested in, about 65% of what appears on commercial TV, but I pay for it.

So do you.

It's easy to assume that watching the programs on commercial TV is "free," without ever wondering what pays for the billions of dollars needed to get it on the air. The answer is, of course, that we pay for it.

Think about a box of your favorite cereal. The box and the cereal within it costs the manufacturer a couple of pennies, but you paid two or three dollars for it. Part of the markup went to pay for the TV programs on which cereal is advertised. Same with most of the other things you buy.

Whether we like it or not, each of us pays hundreds or thousands of dollars every year to: put programs on the air that we don't watch; make big shots rich; and help TV stations and networks buy expensive real estate, pay dividends to stockholders, and finance political lobbying that is not necessarily in our best interests.

Compared to what each of us spends to support commercial TV, what we spend on PBS, via both tax money (a few pennies) and contributions (a few dollars), is minute. A couple of bucks for PBS, major loot for commercial TV.

Know, also, that commercial TV (including cable) is among the strongest supporters of public TV: it reduces the pressure on them to air "programs in the public interest." Pre-TV, radio networks and stations were required by the government to devote a percentage of their broadcast time to "public interest" programming. The programs that filled this time were, most frequently, "sustaining" (ie, unsponsored — the broadcaster footed the bill).

Before you start feeling sorry for the poor radio broadcasters forced by evil, jack-booted government thugs to broadcast sustaining shows, consider this. The airwaves are the property of the people of the United States. We assign portions of these airwaves to radio and TV stations, rent-free, which use them to generate, for themselves, billions of dollars of profit. In addition to giving these licensees virtually free use of the "ether," we (via the government) police it for them. The policing is at their request, to save them from the chaos that reigned in the early days of radio, before the government helped maintain order. In return for this largesse, the government imposed a few regulations, including the one about public-interest programming.

Today, in commercial TV, I don't see anything that I would classify as "public interest" and/or "sustaining" broadcasting. But there isn't much outcry, because good old PBS fills the void. Which is why the commercial broadcasters love having it there: it takes the heat off them.

There are those who maintain that the popular shows now on PBS be transferred to cable. Aside from the fact that many people (including me) don't have cable, what shoots holes in this is that only those programs that could make a buck would be transferred. But not even profitability is any guarantee. There's an interesting story about that.

Years back, Firestone sponsored a program of light classical music, first on radio, then on TV. NBC decided to take it off. Firestone begged to keep it on; so did the viewers. NBC refused. Seems that a) the demographics were wrong (too many middle-aged people watched the show, not enough young buyers), and b) the show didn't deliver a high enough rating to the show that followed, thus dragging down the ratings for that evening. So, a) a good show, b) with a loyal audience, and c) a loyal sponsor, died. Also, despite his sponsors and loyal following, Captain Kangaroo was dropped by CBS.

A balanced discussion of PBS/CPB would require more information than I have and more pages than Stereophile would allow (I think I've already exceeded the permissible limit), so let me sum it up this way. PBS and CPB ain't perfect, but I'd rather have them there than not. They certainly do more good than bad, and do so at a minuscule price.

Paul A. Alter
Hyattsville, MD

TERMINALLY SELF-INDULGENT?

Editor:
Well, I finally picked up Elvis Costello's Kojak Variety, and have listened to it a couple of times. I like Elvis. I like this...
CD. In fact, I have been back from London for about a month, and while there saw him in concert with The Fairfield Four, Bill Frisell, and Steve Nieve at the Queen Elizabeth Hall on the South Bank. This was part of the “Meltdown” series that he was director of this year. I have to say up front that this man has incredible range. He was the lead vocal, with The Fairfield Four as backup on a couple of tunes, and I have never heard anything so powerful.

However, having read Allen St. John’s review (August 1995, p.229), I was a bit taken back by the fraudulent and sloppy insult to Rickie Lee Jones when Mr. St. John writes: “Just compare his version of ‘The Very Thought of You’ to Rickie Lee Jones’s on Pop Pop and you’ll understand once and for all that there is a great singer more to do with the brain than the vocal cords.”

On my CD copy of Pop Pop, there is not one song similar to those on Kojak Variety. In fact, I have all of Rickie Lee’s records and I don’t see this tune. The lyric, “The very thought of you” exists on her cover of “My One and Only Love” (from Pop Pop), but this is not the same song, and no real critique of delivery should be made.

The only tune I can find that Mr. Costello and Ms. Jones have both covered is “My Funny Valentine”. Elvis on the re-release of Armed Forces, and Rickie Lee on Girl at Her Volcano. I like them both, but would never propose that one of these fine artists’ readings was so much better that it could teach the listener that this is how it should be done.

Now this would just be an ordinary malicious mistake by your writer, but for the fact that in the January 1994 issue, Mr. Lahr had, in an otherwise positive review of Ms. Jones’s fantastic Traffic From Paradise, ridiculed Ms. Jones: “...on the terminally self-indulgent Pop Pop, which no matter how good it sounded—and it sounded great—proves that Jones shouldn’t be allowed within 10 miles of a standard.”

Such cheap shots do not suit Stereophile. Pop Pop is a great addition to Rickie Lee’s growing oeuvre. She has put out some incredible music and continues to employ powerful musicians to realize her high standards. On Pop Pop are Joe Henderson, Charlie Haden, et al, who create a wonderful soundscape for Rickie’s soulful evocation. Take it or leave it, but don’t try to pass off these under-handed and way wrong slights in reviews that are concerned with another subject.

I get the impression that Pop Pop is being passed off as “just another audio-

**Stereophile, December 1995**

**Shawn Lahr**

Lahrin@aol.com

First, Mr. Lahr, our apologies for the slipup in reference to “The Very Thought of You”—you’re right. Otherwise, I periodically return to Rickie Lee Jones’s covers of standards just to hear if I still feel the way I did when I penned the opinion that so offends you. I stand by it: as terrific an interpreter of her own songs as Jones is, in her attempts at jazz-styled interpretations of standards she falls flat on her face. Possibly the worst of these is “Lush Life,” on Girl at Her Volcano: Jones loses any sense of swing or pulse on this tune, seeming to have no idea of even where to take a breath. She seems to be having a very intense emotional catharsis while singing the song, but she’s not communicating her feelings to me, let alone whether or not she even understands how the tune is constructed—and as a singer, those are her jobs. Instead, what I hear is plenty of attitude and precious little musicality—as if she’s been listening to a lot of Betty Carter and Sarah Vaughan but has no idea how to digest it all. And for the record: I’m not an audiophile.

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**UNANSWERED QUESTIONS**

*Editor:* This letter is in response to Wes Phillips’s September review of audiophile releases (“Quarter Notes”), specifically Mobile Fidelity’s Journey to the Center of the Earth. At the end of the review, Wes states that he “could go on, but why?” I’ll tell you why. It’s his job. He is supposed to inform the readers as to whether or not it’s worth laying down the extra money for the audiophile release. I appreciate his opinion on the record in question. He’s entitled to it. But what about the subscribers who like the recorded work under review?

There are questions left unanswered. Is the new MoFi release sonically superior to the regular CD? How does the analog pressing compare to the gold CD? When I read “Quarter Notes,” these are some of the questions I need answered. These comparisons are also missing on some of his other audiophile reviews. Please make sure that Wes gives this area of the review greater attention so that your subscribers can be better informed regard-
The Authorized Richter

Editor:
Mortimer H. Frank’s latest Sviatoslav Richter review (of *The Authorized Recordings*, October 95, p.291) was admirable as always for its clarity and the benefit of a broad historical overview of recorded performances. Mort Richter knows his field thoroughly, but he never gushes; apropos, his distinctly cool tone in this piece would seem to indicate that Richter is not really a member of his personal Pantheon of revered artists.

As a pianist and long-term (sorry, *Stereophile*) Richterophile—total collector, concertgoer, acquaintance—I would agree that, yes, his playing can be maddeningly uneven, although I hasten to add that *nothing* is without interest (one hallmark of a great artist). Certainly when he is “on,” there is no higher heaven in musicmaking. Unfortunately, as his last US appearances were in 1970, a whole generation of Americans has come of age without hearing him in person, an event which carries vastly more impact than hearing his recordings.

Richter has never recorded well; such is his personal magnetism and aura.

Given the intrigue about Richter, one thing has always struck me: With all the talk about his Catholic repertoire (valid talk, to be sure), the fact remains that there are glaring omissions of musical staples, which are quite surprising in an artist of this caliber. I am not sure that Richter has publicly performed—or recorded—the concertos of Beethoven 2, 4, and 5; Brahms 1; Chopin 1; Mozart 21, 23, 25, and 26; Rachmaninoff 3; and Ravel. What about \textit{sonatas}: Beethoven’s “Waldstein” and “Moonlight”; Chopin 2 and 3; and any Scarlatti? Who knows? It was said of Horowitz, who had a notoriously skimpy public repertoire, that he had actually played the entire piano literature, and then some, at home.

By the way, I once asked Richter about this and he replied, \textit{“Ich spiele was ich will.” (“I play what I want.”)} What a summation! This paragon of Beethoven, Schubert, and Schumann performance then went on to say that his favorite composers were Chopin, Debussy, and Wagner! Go figure it all out!

Jeff Rainer
White Plains, NY

Exceptional

Editor:
I just had a post-warranty Krell KSA-250 serviced by Krell. I thought you should know the quality of service was exceptional. Their product commitment serves as a standard by which others should be judged.

Glenn Boschetto
Ketchum, ID

Service

Editor:
I would like to point out something that happened to me recently. Having bought a Meitner CD player on the used market a couple of months ago, I have had nothing but troubles with it since. The warranty being expired, I decided to contact a/d/s Inc. for service. Having shipped the defective unit back and forth a few times, M. Taylor from a/d/s has offered to replace the CD player with another one. To which I agreed. Since then, I have been a happy camper.

I would like to point out that all this was at no charge to me except for one-way freight. a/d/s was in no way obliged to warranty the unit, as it was a used CD player. This is by far the best customer service I have ever had.

Jeff Rainer
White Plains, NY
and M. Taylor should be commended for their customer service and their products. Thank you very much, M. Taylor.

R. BRUNEAU
Québec, Canada

QUESTIONS
Editor:
I thought I would write you—I’ve been a subscriber for a few years now but have read both your magazine and T&L for several more years. I get a sense from perusing the letters sent to you of something puzzling. Several writers seem genuinely upset when their favorite component either doesn’t appear in your ratings or disappears from them. I want to say that although I read your reviews and recommended component listings, they have never had any impact on any of my purchases.

I don’t understand why anyone would be angry that a component is not listed. You would think that musical enjoyment would be completely independent of your listings. In cases where I have happened to carefully compare two components that do appear in your listings, I often come to a very different opinion. You understand how this occurs and I have no problem with it.

Let me give a little information about my system and listening. I enjoy classical music and jazz. I have a Linn LP12 and Quad ESL-63s. I am immensely satisfied with these components, which bring out the essence of the music wonderfully. They are so good that I don’t really care if there is anything better. I’ve had the Linn for 14 years and the Quads for 7. I note that JA has given each of these essentially “lifetime achievement” awards.

I more recently settled on electronics, and here I have some questions concerning your methodology. For the preamp, I have an Exposure with a separate power supply which I compared with four others and was completely blown away. For fun, I conducted a blind test for a friend: I would play a piece on each preamp; he would listen and take notes, and then nod for a switch after about three minutes of listening. The Exposure was the third preamp; his reaction was to take no notes and not say a word until the music was over, 15 minutes later. The component was that obviously superior.

An aside on blind testing: As far as I am concerned, marginally better components are not interesting; it really has to be exceptional, like the Exposure, or why bother? Very-high-quality components are clearly evident, blind or no blind testing. It’s like telling fresh-squeezed orange juice from frozen. I suppose to compare various brands of frozen juice, one could use a blind test, but who really cares?

This was in 1993; six months ago I settled on a power amp. The process took about three months and involved listening to several different ones in my home. My choice was the Naim 250. Again, I felt this component to be extraordinary.

Now I am very satisfied and will likely stay with this system for over a decade. I was even jokingly going to tell you to cancel my subscription, but your magazine is entertaining and fulfills a purpose that I’ll get to later. The chosen electronics, I feel, very strongly bring out the essence and delicacy of musical nuance and expression that Linn and Quad present so well.

What I wonder about is how your publication can not have rated either of these components. My Exposure circuit boards are dated 1990, and this is 1995; how can it be that such an exceptional component can be in production for nearly five years—in a field where, ostensibly, changes occur rapidly (electronics)—and the major high-end magazines have not even mentioned it? (At the same time, you appear to follow every capacitor upgrade to other brands.) I have the same question on the Naim amplifier (which I believe has been in production even longer). You see why I don’t use magazines for selecting components.

What one needs is a local dealer or dealers that one can trust. Then, your magazine is useful in providing lots of phone numbers of other dealers and people in the trade. One must talk and listen to those in the field to find out what is out there. Before purchasing either the Exposure or the Naim piece, I made calls to dealers and current owners of these and other components. The dealers have the most experience with the equipment; there are knowledgeable ones genuinely interested in music who will tell you what they really think about a piece, and who carry more than one of the lines one is interested in.

BRUCE WINSTEIN
Bruce@uchepa.uchicago.edu
Oak Park, IL

We have favorably reviewed products from Naim and Exposure in the past and will presumably review more of them in the future. —JA

We have Affordably Elegant Cables, Too.

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WorldRadioHistory

Stereophile, December 1995
Here's a switch - speakers that change with you.

In the past, you bought a specific speaker to do a specific job. When your needs changed, typically so did your speaker. NHT introduces the future: The VT-1A. A revolutionary new speaker that goes from optimum surround sound to tight, focused audio at the flip of a switch.

Move from center aisle at the cinema, to third seat flute section, as fast as you can turn your wrist. Because we've taken home theater to a new level. Where the choice is no longer between movies and music, it's between NHT and everybody else.
**US: Wes Phillips**

Dealers promoting manufacturer and designer seminars should fax (don’t call) Wes Phillips the when, where, and who, at (305) 983-6327, at least eight weeks before the month of the event — ie, if you’re putting on something in March 1996, you should get the information to Wes no later than January 1, 1996. Mark the fax cover sheet “For the attention of Wes Phillips — Dealer Bulletin Board.” Promoters of hi-fi shows and audio societies promoting manufacturer visits should also fax Wes the details as soon as possible.

**California: Sophroyne** is proud to announce their four-year anniversary with the grand opening of The Audio Gallery (3019 D Street, Sacramento). The Audio Gallery will be demonstrating products from Balanced Audio Technology, Mesa Engineering, Audible Illusions, E.A.R., Golden Tube Audio, Krell, McCormack, Townshend, Rega, Benz, Resolution, Enlightened Audio Designs, Mike Moffat Labs, Dunlavy, Vandersteen, Reference 3A, Platinum, Gallo Acoustics, Quantum Sound, Sound Dynamics, van den Hul, Audioquest, XLO, Discovery, Knoll, Naka- michi, Sound Anchors, and ASC. Manufacturer seminars from a majority of these companies are scheduled during the next few months. Call (916) 427-2100.

**Florida: Audio Center, Inc.** (120 North Federal Highway, Deerfield Beach) announces a seminar evening, Thursday November 30. Guests will include Ernst Benz of Benz-Micro (Switzerland), Garth Leerer of Musical Surroundings, and David Davies and Max Townshend of Townshend Audio. The latest developments in analog playback and component isolation will be featured. Reserved seating; call (305) 574-9200.

**Illinois:** Sunday December 17, The Chicago Audio Society will host John Otvós, introducing his Waveform Acoustics MACH-17 loudspeakers — which, he reports, produce a true three-dimensional soundstage. Details are available at (708) 382-8433 or (708) 582-3913, or via e-mail at: sysop@nybble.com.

**Holm Audio** announces the opening of their new storefront retail location (450 Ogden Ave., Lisle; call (708) 663-1298 or fax (708) 662-1198). Lines offered include: Cary, Melos, VTL, Joule Electra, Woodside, Atma-Sphere, McCormack, Symphonic Line, Celeste, Timbre, Pink Triangle, Townshend, Audio Alchemy, SOTA, Alon, Merlin, von Schweikert Speakers, Dunitech, ELAC, System Audio, Sound Lab, Infinity Composition, Eminent Technology, Clearaudio, van den Hul, Sonoran, Synergistic Research, Discovery, Chang Lightwood, Target, Lovan, Solidsteel, Michael Green Designs, Signature Technologies, Wilson-Benesch, and Nordost Flatline.

**Louisiana:** New Orleans’ first high-end audio organization is now accepting membership applications. Send SASE to CHETA (P.O. Box 50231, New Orleans, LA 70150-0231). This is a chance for nonprofessional hobbyists to meet and exchange information.

**Michigan:** Saturday November 18, the Detroit Audio Society and the Southeastern Michigan Woofers and Tweeters Marching Society will jointly host Waveform Research’s John Otvós. As, he will demonstrate the new MACH-17 speaker system. Doors open at 2pm; demonstration begins at 4pm. Seating is limited. Call (313) 459-2161 (DAS) or (810) 544-8453 (SWTMS), or for information e-mail ad282@leo.nmc.edu (SWTMS) or detaudio@aol.com (DAS).

**New York:** Audio Den of Lake Grove is relocating to 2845 Middle Country Rd., Lake Grove, (516) 471-7003. Call for details on grand-opening specials or events.

**Ohio:** Paragon Sight & Sound (5450 Monroe St., Toledo) will be sponsoring a seminar featuring Ray Reichert, from Polyfusion Audio, on Tuesday December 5, 6—9pm. He’ll discuss Polyfusion’s technology and their proprietary circuit elements, as utilized in their newly introduced analog and digital products. In addition to manufacturing audio components, Polyfusion says that they have long been a leader in the production of high—precision electronics for science and industry. To reserve a space, or for more information, call (800) 873-6873.

**Oregon:** The Art of Audio (3625 SW Hall Blvd., Beaverton) celebrates their grand opening with a series of guest lectures from some of the most innovative high-end companies. Lines featured at the store include: Alon, Audio Research, Bryston, Magneplan, Metaphor, and Pass Labs. Call (503) 643-5754 for details.

**Virginia:** Déjà Vu announces the grand opening of a new high-end audio store (1361 Chain Bridge Rd., McLean). Déjà Vu offers Golden Tube, Music Reference, Joule Electra, Quad, Electra Print, Well Tempered Labs, Rega, J.C. Verdier, Audio Advancements (Maxxena) Morch, CAL, Speror, Jolida, Totem, Wave-length, DH Cones, and others. On December 7 at 7pm, Allen Chang from Golden Sound will demonstrate DH Cones — said to be an easy, inexpensive improvement for any system. Mike Grubb of Speror Audio and Mike Allen, president of Jolida, will also be present. Attendees will be eligible to win a single-ended tube amplifier from Gold Tube Audio. Call John Berinato or Vu Hoang at (703) 734-9391 for more information.

**Washington:** Madison Audio (909 Western Avenue, Seattle) celebrates its first year of business on Friday November 17, 5—9pm, and Saturday November 18, noon—3pm. Steve McCor—
“Another finely cut gem from the House of Thiel”
—John Atkinson, Stereophile, October 1995, Vol. 18, No. 10

The completely time and phase coherent THIEL CS.5 offers a dimension of clarity and realism that conventional speakers in its price class cannot achieve. The affordable CS.5 incorporates many of the same advanced design techniques and the construction quality used in the other award-winning, critically acclaimed THIEL speakers—all to achieve our goal of accurate sonic reproduction in all areas of performance. Suggested retail price of the CS.5 is $1,350 per pair.

For home music and video sound systems.

“If you are even considering buying a pair of speakers for $2000 or more, give this little beauty a listen first. It could save you a lot of money.”
—Dayna B., The Audio Adventure, August 1995

“THIEL speakers are priced from $1,350 to $12,300 per pair. All are carefully hand-crafted in a variety of finishes from the world’s finest woods.

“What more could you want?...I think they’re swell and provide a lot of sound for the money....I highly recommend you check them out.”
—Lonnie Brownell, Stereophile, October 1995, Vol. 18, No. 10

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mack of McCormack Audio will speak on "The Live Experience of Music." Musicians will be present to provide that experience; McCormack's well-reviewed stereo preamps and amplifiers will also be featured. Food and beverages provided. For reservations, call (206) 292-9262 or fax (206) 343-7455.

US: John Atkinson

We were saddened in October to learn of the death, from cancer, of PR consultant Roberta Thummin. Roberta represented audio companies Niles Audio, NHT, Linear Power, Acoustic Research, Advent, Phase Linear, and International Jensen. After serving as a reporter on the Middletown (NY) Times Herald Record, Roberta worked in public relations for the New York State Legislature, Consumer Reports, Planned Parenthood of NY, and the American Lung Association before founding her own firm, Thummin Communications. Roberta always represented her clients in a professional, caring, and efficient manner. We shall all miss her presence at Consumer Electronics Shows—although I knew she was very ill, it was a pleasant surprise to bump into her last June in the corridors of the Palmer House Hotel at the 1995 Chicago Show. Roberta is survived by her husband of 10 years, Ivan Berger, Technical Editor of Audio magazine. Donations in her memory may be sent to: New York Women in Communications Scholarship Fund, 355 Lexington Avenue, 17th Floor, New York, NY 10017.

US: Peter W. Mitchell

As reported briefly in this space last month, during the summer competitive tensions grew between the competing Sony/Philips (MMCD) and Toshiba/ Warner (SD) proposals for a new CD-size high-density disc. In mid-September the warring camps bowed to pressure from computer manufacturers and agreed to compromise on a single universal standard for the high-density disc. This standard will become the basis of the digital video disc (DVD), new high-capacity DVD-ROM formats for computer information storage, powerful videogame discs, and a new audio-only Super-CD.

Many details of the compromise were not immediately revealed. Engineers from both camps commenced a series of conferences in Tokyo that were expected to last for several weeks. Their aim was to work out all of the technical details of what will become, for high-density discs, the equivalent of the Sony/Philips "Red Book" standard that defines the properties of the CD. The new discs will combine some properties of the MMCD proposal and some properties of the SD proposal.

Each disc will be a sandwich of two half-thickness discs glued back to back like a laserdisc, but in the majority of discs the second side would be blank and could carry a label like today's CDs. Standard disc capacities will be either 4.7 gigabytes (the original Toshiba SD proposal) or 8.5Gb (the Matsushita compromise that I described in July's "Industry Update," marrying SD technology with the 3M/Philips concept of a single-sided two-layer disc). These discs will have two information layers that can be read from the same side, switching back and forth between layers on the fly simply by refocusing the playback laser. When still larger capacities are required, producers will have the option of making double-sided discs.

**HIGH-DENSITY DVD PLAYERS WILL BE ABLE TO PLAY NORMAL CDs.**

While engineers worked out the technical details during the fall, the compromise freed eager manufacturers to begin tooling up to deliver the first DVD players and discs to stores before Christmas 1996. My guess is that this will lock in place the choice of Dolby AC-3 as the standard audio format for DVD (at least for the North American market), driving coffin nails into the proposal that new listening tests should reevaluate alternative coders such as DTS or AT&T's MPAC. At the end of August, Toshiba set a record for the earliest Winter CES announcement when it invited audio/video journalists to preview Toshiba's DVD player (probably a hand-built prototype) on January 4 '96, the day before CES opens.

It is intended that all new high-density players will be backward-compatible, able to play normal CDs interchangeably with the new discs. (That includes DVD video players, which will also play audio CDs.) I spoke with Tony Griffiths, who until recently was Technical Director of Decca/London and is a leading member of the Acoustic Renaissance for Audio (see Stereophile, August 1995), the international group that is coordinating proposals for future Super-CD formats based on DVD technology. In the European and Japanese branches of the ARA, a consensus has already emerged that the high-density CD should also be forward-compatible: the Super CD (or HQAD, high-quality audio disc) would use dual-layer technology, and the top layer of all new high-density audio discs would conform to the Red Book standard, meaning they'll play on the universe of existing CD players.

All of the Super-CD's enhanced features, such as 20-bit resolution, 96kHz sampling rate, or 5.1 discrete channels, would be accessed by reading the second layer. The point of this rearrangement is to avoid the hated problem of dual inventory: the need to issue all new recordings in both standard and "Super" versions that retailers would need to stock and display separately.

If this ARA proposal for both backward and forward compatibility becomes a worldwide standard, record companies will be able to make a painless and gradual transition to the new high-density disc. Some new recordings might be issued only as conventional CDs; other new recordings would be issued only as high-density discs. Consumers who are content with normal CD sound will be able to buy new releases without caring whether they are "normal" or "Super" CDs, since all discs will play on existing players anyway and deliver normal CD sound. Audiophiles who crave the superior sound or multichannel playback of Super CDs will buy a new player to access both layers of the high-density disc.

The European and Japanese branches of the ARA have been working with record companies and CD manufacturers, acquainting them with the potential benefits of the HQAD, including both the heightened realism and the creative artistic potential offered by multichannel sound. Within American record companies there's scattered interest in multichannel recording, 96kHz sampling, and 20-bit resolution; but there's been no organized development to prepare for the future. Tolahun Holman (who previously led the SMPTE working group that developed the worldwide 5.1-channel standard for the sound of digital movie sound and HDTV audio) and recording engineer John Eargle (who has been archiving the individual mike feeds for all of his Delos recordings in order to be ready to release them in multichannel form as soon as a stan-
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standard format is adopted) jointly proposed that the Audio Engineering Society should establish an industry working group to develop and promote a wider understanding of multichannel recording of music.

The working group would seek feedback from record companies, recording engineers, producers, musicians, and audio critics. The aim would be to develop standards for doing surround-sound recording of music, including standards for playback systems and room acoustics (so that recording engineers will be able to monitor and evaluate their own surround recordings in a consistent way). Rather than simply adopting the movie (and Home Theater) standard of 5.1 channels, the working group will explore what arrangement of channels and speakers would be best for reproducing the experience of hearing live music. It might also sponsor tests of data-compression schemes that apply less compression than the methods used for DVD (AC-3 or whatever), and which might provide "subjectively lossless" compression for music—such as the new DTS system.

The new working group might build on the ARA's proposals, or it might develop different ideas. The Audio Engineering Society Subcommittee on Digital Audio voted to accept the Holman/Earlge proposal for a working group, and appointed them to be its co-chairmen.

US: John Atkinson

The holding company that owns Audio Alchemy and Dahlquist announced in October that it has acquired the Signet and Design Acoustics loudspeaker brand names from Audio Potentials, the company formed at the end of 1993 by Jon Kelly.

In October, Harman Industries announced that it had acquired the remaining 81% of Madrigal Audio Laboratories, manufacturer of Mark Levinson and Proceed products. In a speech given to Madrigal's employees at the company's Connecticut headquarters, Sidney Harman gave assurances that nothing would be changed in the operation of the high-end audio company's affairs. "If it ain't broke, it don't need fixing," was the gist of his remarks.

US: Thomas J. Norton

CEDIA Expo '95 (CEDIA stands for Custom Electronic Design and Installation Association) was held in September in the Dallas, Texas Infomart. CEDIA is not yet the place to evaluate the audio end of Home Theater, however, if this year's show was any indication. When every company that you know can put on a superb demonstration has serious room and/or setup problems, you cannot fairly evaluate other products you don't know well. The sound at this CEDIA, which in all but a few cases was restricted to flimsy, prefabricated sound rooms, is best forgotten. Certainly none of the products were heard at their best. More often than not, the demos came unglued by way of the Bass from Planet X.

THE VIDEO SIGNAL ON THE DVD WILL BE RECORDED AS SEPARATE RED, GREEN, AND BLUE COMPONENTS, WITH 625 LINES, PROGRESSIVELY SCANNED RATHER THAN INTERLACED.

Nevertheless, it was a fascinating show, and I picked up some very useful tidbits of information. Lexicon, for example, announced that their new DC-1 surround-sound processor will be available in three versions: basic, THX, and THX with AC-3, at prices ranging from $1995 to $4500. The two less expensive versions can be upgraded at a later date to either the THX or THX/AC-3 version. Working prototypes should be demonstrated at next month's Winter CES, with the product hitting the stores shortly thereafter.

Most intriguing news: The video signal on the upcoming Digital Video Disc will be recorded as separate red, green, and blue components, with 625 lines (for worldwide compatibility), and progressively scanned rather than interlaced. To play this signal on existing TVs, the players will have to combine the RGB components into a separate signal, throw away 100 lines of video information, and convert the progressive scan to interlaced scan. But with the right players and televisions, DVD will provide dramatically better pictures.

Will the player and set manufacturers give us high-end devices to make use of this added capability? The next time I see an industry demonstration of DVD, I'll be certain to ask whether they're showing us 525 lines/composite video/interlaced scan or 625 lines/component RGB video/progressive scan.

US: Wes Phillips

Ron Fone, formerly President of McIntosh Laboratory, was appointed President of a/d/s (Analog and Digital Systems, Inc.) on October 2. In his new position, Mr. Fone will be responsible for a/d/s' Car Audio and Home Audio, as well as Apogee Acoustics—which will continue to function as a standalone division dedicated to the High End. Distribution and representation of the two lines will remain as currently organized.

"We are fortunate to be able to attract such a well-respected and experienced executive," enthused Kurien Jacob, CEO of ADS Technologies. "We have searched for quite some time for an exceptional personality to lead our company. Mr. Fone brings with him extraordinary skills in general management, and specifically sales and marketing. He represents the type of quality individual who will ensure growth, stability, and integrity for a/d/s/".

US: Peter W. Mitchell

Eager proponents of the digital video disc (DVD) have been predicting that 10 million of the new players will be sold in just the first three years—many times more than the entire worldwide population of laserdisc players. An executive of Thomson/RCA, which intends to be a leading supplier of DVD players, predicted at an electronics show that the DVD, because of its multimedia applications, has the potential to be a bigger market success than either the Walkman or the VCR. Maybe so, but I wouldn't bet on it.

Ironically, another branch of RCA is already involved with the product that may cripple the DVD. It's D-VHS (Data VHS), a new type of VHS VCR that will play ordinary VHS rental tapes but will also record and play digital video. Twenty years ago, after Sony launched the Betamax VCR, JVC created the VHS format, and RCA persuaded the Japanese to double its playing time and add other convenience features. Result: VHS decks from RCA, JVC, and Panasonic killed the Beta format in the marketplace, and VHS (which was inferior to Beta in terms of picture quality) became the worldwide VCR standard. RCA may be about to repeat history.
play on...
for the digital age. JVC invented the D-VHS, and RCA is going to sell it in the US as a companion for its popular DSS (digital satellite system). During the past two years RCA has sold a million and a half DSS receivers in the US, and compatible DSS receivers from Sony and Toshiba are boosting the popular success of this 150-channel satellite system.

Next fall, while one branch of RCA is launching its D-VHS players (featuring studio-quality video and discrete five-channel digital sound on CD-sized discs), another branch of RCA will be introducing the digital D-VHS VCR. Remarkably, D-VHS VCRs will retail for about the same $600 price as a DVD player.

Other companies have developed digital VCRs, but first-generation models will cost thousands of dollars each and will require exotic evaporated-metal tape. The obstacle is the high cost of A/D conversion for a 6MHz video bandwidth, plus the much higher cost of real-time data compression to squeeze the broadcast-quality digital video signal (over 200 megabits/second) into a practical data rate for recording.

The key to the D-VHS's low cost is its connection to a DSS receiver. DSS signals are subjected to MPEG-1 (1.5 megabits/second) or MPEG-2 (6 megabits/second) encoding, including 50:1 data compression in either case, before the signal is transmitted to the satellite. Thus signals received from the satellite are already in a compressed form suitable for recording. The D-VHS VCR simply records that compressed signal on a standard S-VHS tape, and feeds it back to the DSS receiver for decoding when desired. You can view one DSS channel while recording a program on another channel; eg, watch a football game while recording a movie.

There is no need for A/D conversion or costly MPEG encoding in the VCR; that processing is done before the signal is uploaded to the Hughes DSS satellite. And there's no need for MPEG decoding or D/A conversion in the VCR, since those circuits are already included in the DSS receiver. The D-VHS VCR simply records the data from the selected channel and eventually feeds it back to the receiver for decoding. Unlike analog VHS VCRs, which compromise picture quality, the D-VHS VCR reproduces the compressed digital video code exactly, and MPEG-2 decoding provides a high-resolution picture.

When HDTV broadcasts begin around 1997 or 1998 on a few DSS channels, they, too, will be recordable in compressed form on the D-VHS deck for playback and decoding through the DSS receiver. Recorded D-VHS movies also may be produced for sale or rental.

Since the DVD and D-VHS systems both rely on MPEG-2 coding, their picture and sound quality may be substantially identical. If the small-dish DSS satellite system continues to grow in mass appeal, there may be a large market for the D-VHS, combining the easy familiarity of the VHS system with the sharp MPEG-2 picture. Realistically, the relative appeal of DVD and D-VHS may depend on the software's cost and availability. So the recent compromise on a single worldwide standard for the DVD may not ensure its immediate success. Whether that will have any effect on the development or acceptance of the Super-CD, based on DVD technology, remains to be seen.

UK: Sam Tellig
Mission has bought Quad.

The Verity Group PLC, the publicly traded British-based parent of Mission Electronics and Wharfedale International, announced September 28 that it has acquired the share capital of Quad Electroacoustics. Quad was privately owned by the Walker family, including the company founder, Peter J. Walker, and his son, Ross. Rumors that the company was looking for a buyer had been circulating through the British hi-fi industry for several years.

"They'll sell to the Japanese," one well-known British hi-fi writer predicted.

Well... no.

Verity Group's Chief Executive is Farad Azima, founder of Mission Electronics, which is based in Huntingdon, England, the same Cambridgeshire town as Quad. Azima appears to have... well, a Mission. Mission came out of nowhere in 1976 to capture 12.9% of the UK speaker market, according to sales data compiled by GFK, an independent British auditing firm. (According to the same data, Linn, KEF, and Tannoy each have market shares of around 5%, and B&W has 4%; Quad's own share of the UK speaker market is so small it's lumped with "other brands.")

Quad was founded by Peter Walker in 1936. The name was originally an acronym—Quality Unit Amplifier, Domestic—after the company's first product, an amplifier used in public address systems. Quad introduced its first electrostatic speaker, the ESL, in 1957; and its second, the ESL-63, in 1981. The '63 is still in production.

At least for the time being, the facilities and distribution networks of Quad and Mission will "continue to operate as separate and distinct entities," as stated in a press release from Mission. Quad Managing Director Ross Walker said that "this alliance will help both the Mission and Quad brands grow and prosper." [Ross, who I believe owned 83% of Quad Electroacoustics, has a three-year contract with the new company. The UK press reported that the purchase price for the company was £2.3 million (approximately $3.5 million), made up from a combination of cash and Verity shares.—Ed]

Quad products will continue to be distributed in North America by May Audio Marketing, Inc. No immediate changes are contemplated in the product line. This includes the new Quad 77 series of electronics, and the new box speaker jointly developed by Quad and Spendor Audio Systems.

The legendary ESL-63, too, will continue in production. While sales of the speaker may be small in the UK consumer market, and in North America too, for that matter, sales around the world continue to hold steady. There are no plans to discontinue either the Quad ESL-63 or the North American version, the ESL-63 USA Monitor. In fact, production will be increased.

Even more exciting is news that research and development will proceed on a new electrostatic model which will be in addition to, not a replacement for, the ESL-63.

Rumor has it that as soon as the buyout was completed, several Mission executives rushed to order ESL-63s. I wonder if Farad ordered a pair.

US: Wes Phillips
TDK announced September 28 that it had established a World Wide Web site (http://www.tdk.com), claiming to be the first "media specialist" company to do so. The site's purpose is to provide detailed information, product specifications, applications notes, and answers to frequently asked questions (FAQs, in cyberspeak) about its full range of recording media, including TDK's recordable CDs.
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Tim Sullivan, TDK’s Vice President of Marketing, commented, “The World Wide Web is the most exciting information and communications tool since the invention of the telephone....In the future, we will include hypertext links to important hardware manufacturers, so users can find out about the latest recording equipment, as well as a dealer location system.”

The Web site includes an e-mail feature for consumers to ask specific questions and receive rapid responses.

US: Lonnie Brownell

It’s Thursday, September 28, and here I am in the El Rey Theatre in Los Angeles with the folks from Entertainment Tonight, at a party thrown by Movieline magazine featuring a performance by nouveau lounge swingers Love Jones.

No, you haven’t picked up Variety or The Hollywood Reporter by mistake; this is Stereophile, and the reason I’m here is to report on another first by those dedicated vinyl pressers, Classic Records. First, they offered reissues of unsurpassed quality of the RCA classical Living Stereo LPs, then gave the Verve jazz and RCA Living Stereo popular catalogs the same treatment. Realizing that more current fare also deserved to be issued on high-quality LPs, they started Rock The House, a sub-label that features current and not-so-current releases by the likes of Matthew Sweet, Elton John, and Little Feat (with more to come from Brian Eno, Shaver, Sonny Landreth, Graham Parker, and Dar Williams). By the way, the titles on Rock The House will be pressed on 150gm premium vinyl, and will sell for the reasonable MSRP of $18 each.

Earlier this year they produced their first all-Classic recording, a jazz album by Art Davis for their other new sub-label, Jazz Planet. Not content to rest on their overfilled laurels, tonight they’re making their first live recording, for release on vinyl only! They’ve got a recording unit outside, with veteran engineer Rick Pekkonen manning the sliders. Needless to say, this isn’t a minimalist miking job—they’ve got two 24-track recorders ’cause they’ve got more than 24 feeds—but they’re also doing a live mixdown to two tracks, which they hope to use as the master tape. They’ll remix from the multitrack only if there’s something wrong with the two-track.

You’re probably asking yourself, “But why Love Jones?” Not exactly a household word—yet. I wondered that, too, and asked Classic’s Mary Cardas: “We wanted to do a live recording, and we’ve been working with Zoo records, Love Jones’ label, and in fact we’ll be releasing their current album, Powerful Pain Relief, as a double 10". Movieline wanted to have a party, and they’re big fans of Love Jones, so it just worked out to everyone’s mutual advantage. That, plus they’re a pretty cool band.”

**THE TITLES ON ROCK THE HOUSE WILL BE PRESSSED ON 150GM PREMIUM VINYL.**

Yeah, they’re pretty cool, all right. They’re part of the improbable lounge scene—the “Cocktail Nation,” as it’s sometimes called—who take inspiration from music their parents might have listened to: Louis Prima, Martin Denny, Les Baxter, Esquivel, and Pérez Prado. However, Jones also stirs some soul and funk into the mix, with the occasional dab of, say, Foreigner. Foreigner? Well, but it works better than you’d think. It’s fun, it’s got a good beat, and you can shimmy to it.

In case the above gives you absolutely no clue as to what Love Jones sounds like, a pal commented during their set that they reminded him of the more up-tempo tunes of the Barenaked Ladies (the band, not the concept). I’d have to agree. Look for the album just in time for Christmas. Buy it for someone you love, Jones.

One more thing. RCA released some of the best albums that serve as inspiration for bands like Love Jones, including several by that Latin one-two punch, Esquivel and Pérez Prado. There are currently two colored-vinyl releases of Esquivel’s hits—Space Age Bachelor Pad Music and Music for a Sparkling Planet (on Bar-None records, a sub-label of BMG) —but Prado is still waiting his turn. Big Hits By Prado is a wonderful-sounding, way-cool collection of mambo-mania originally issued on RCA Living Stereo. It’s just begging for that Classic treatment—wouldn’t you agree? Call Classic Records at 800-4-LSC-LPS and add your vote to get this amazing album back in vinyl circulation, where it belongs.

US: Wes Phillips

Classic Records has created a new division, Classic Music Direct, in order to permit consumers to directly order Classic’s complete range of RCA Living Stereo popular and classical, Verve jazz, and Columbia jazz recordings. Additionally, they will offer Classic’s newest sub-label, Rock the House Records—see LB’s report above—and the new series of EMI releases imported from Germany’s Alto High Fidelity.

Rick Ostop will manage CMD, which will publish The Classic Records Newsletter, a bimonthly newsletter. Orders can be placed at (800) 457-2577. Inquiries should be directed to Ostop or Mary Cardas at (213) 466-9694.

US: J. Gordon Holt

Today I received a set of white-label LP test pressings from Classic Records, unidentified except for an LSC record number. Rather than pore through their catalog to try to locate that number, I put one side on and listened. It was the Bartók Concerto for Orchestra, in what had to be the dullest, most plodding performance I’d ever heard. Then I noticed another handwritten number on the cardboard sleeves: “45.” Ahah!

I punched the 45rpm button on the SOTA Cosmos, and my jaw dropped. This was the closest I’d ever come to hearing a direct mike-to-loudspeaker hookup in my home. I thought Classic Records’ LP of the Bartók sounded great, but the 45rpm version was definitively better. By comparison, the LP sounded closed-in at the top; the 45 sounded as if the high end was going way out. Low-level detail was astonishing—why should rotational speed affect this?—and the bass sounded as much like master tape as I’ve heard from any LP. I found it hard to believe 35-year-old recordings could sound this good.

RCA was right! Long after the 33.33rpm LP won that first of the format wars, RCA maintained that the doughnut-hole 45 yielded better sound. Since the 7" 45's demise, there have been a few classical 12-inchers released, both from audiophile record companies and from the UK’s EMI, but while most of them were sonic showpieces, none ever featured a world-class performance by a world-class orchestra. I still wonder if, had they done so, the 12" 45 might have caught on. [In the UK, at least, the 12" 45 is a staple of the House and Ambient music scene. On a recent visit to London, I was astonished to see how much vinyl there was on record-store shelves com-
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—Tom Müller, The Audio Adventure

From left to right: SCS2, CS1.5, CS3.6, CS5i, CS7, CS2.2, CS5.

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UK: Martin Colloms

What Hi-Fi? is currently the UK’s most successful audio publication, with total sales comparable with Stereophile’s in the States. Undeniably and sometimes controversially influential, its editorial team seeks to appeal to those under 30 with modest budgets. Its strong advertising content, extensive product listings, and broad review coverage are also intended to appeal to the casual occasional magazine purchaser. Subscription sales are greatly overshadowed by newsstand sales, but its market power is strengthened by a wide canvas that encompasses Walkmans, Home Theater, VCRs, and laserdisc players, plus MIDI and rack systems, and extending to coverage of hi-fi separates. Low-cost products are favored largely on the grounds of value for money, and reviews are often short and/or comparatively presented in the eye-catching “winner takes all” format.

Editor Raheil Nair (“Nazi,” to the industry) openly eschews technical evaluations, believing them to be meaningless, though the reviews do in part rely on the manufacturers’ technical claims. Another idiosyncrasy is the omission of any author bylines; these were stopped a few years ago when all copywriting was brought in-house.

What Hi-Fi’s rather sensational approach certainly appeals to younger readers, but those who follow a number of issues are sometimes confused when a product previously awarded the (highest) five-star accolade has been reduced to just three stars in as many months. The result of this editorial inconsistency is often said to be otherwise unsaleable stock remaindered at a discount house. For manufacturers competing in the What Hi-Fi? arena, five stars can make a product, and four stars can break it.

The magazine’s editorial team quickly encountered complications in devising an annual awards scheme. They set the deadline too early in the season; manufacturers scrambled wildly to build plausible, production-lookalike prototypes, which in some cases were prematurely submitted for possible inclusion in the Awards. Having assessed this, the team began to impose certain conditions—for example, product had to be on sale at a certain number of shops by the awards-listings deadline.

1995 What Hi-Fi? Award Winners

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<th>Best Buys</th>
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<td>Amplifiers</td>
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<td>Marantz PM-55SE (£250), Audiolab 8000A (£500), Audiolab 8000C/P (£1220)</td>
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<td>Loudspeakers</td>
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<td>Mission 733 (£300), TDL RTL3 (£400), Castle Severn (£500), Monitor Audio Studio 20SE (£2500)</td>
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<td>All-in-One Systems</td>
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<td>Cinema Video Sources</td>
<td>Aiwa HV-FX1500 (£350), Pioneer CLD-2950 (£700)</td>
<td>Akai VS-G815 (£480), Panasonic NV-HD600B (£430), Sony SLV-E700 (£500)</td>
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<td>Cinema (Home Theater)</td>
<td>Yamaha DSP-A590 (£350), Pioneer VSX-804RDS (£400), Denon AVC-2800 (£800), Yamaha DSP-A2070 (£1110), Kenwood KR-X1000 (£1300)</td>
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<tr>
<td>Systems</td>
<td>Denon D-90 (£700), Sony La Scala 2 (£900), Onkyo L-909 (£1199)</td>
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<tr>
<td>Cinema Amplifiers/Receivers</td>
<td>Yamaha DSP-E390 (£250), Pioneer VSX-804RDS (£400), Denon AVC-2800 (£800), Yamaha DSP-A2070 (£1110), Kenwood KR-X1000 (£1300)</td>
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<tr>
<td>Cinema Processors</td>
<td>Yamaha DSP-E390 (£250), Pioneer VSX-804RDS (£400), Denon AVC-2800 (£800), Yamaha DSP-A2070 (£1110), Kenwood KR-X1000 (£1300)</td>
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<td>Cinema Loudspeakers</td>
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StereoPhile, December 1995
For over twenty years, Threshold has been breaking new ground in the design and manufacture of reference quality audio components.

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Look for the T 3 at select dealer locations.
For manufacturers competing in the What Hi-Fi? arena, five stars can make a product, four stars can break it.

US: John Atkinson & Ben Duncan

NYC-based location-sound recordist Rolf Pardula recently won an award from the Cinema Audio Society for the sound on the Hollywood Follies special of the Young Indiana Jones Chronicles. Rolf has previously recorded location sound for Spike Lee's Malcolm X and Crooklyn and has recently completed sound for Flirting With Disaster.

Rolf attributes much of his success in capturing location sound with good quality to his battery-powered microphone mixer. This was originally made for him by Roger Meyer, but since 1993 it has been upgraded by his colleague Ilya Vaks with audiophile-grade components, following the recommendations of Ben Duncan in the UK. Rolf stresses that reworking the mixer has resulted in differences to the presentation of sonic nuances and cues that, far from being subtle, are immense (his italics).

US: Wes Phillips

Sometimes we get delightful news to share. Paul and Marianne Hales (he of Hales Design Group loudspeaker fame) have a new daughter, Alexandra ("Alex") Nicole Hales—born October 2, 1995 and weighing in at 8 lbs, 8 oz. Mother and daughter are doing well. Paul seemed stunned at his good fortune.

US: Peter W. Mitchell

The usual way to put together a Home Theater system is to base it on an audio/video surround receiver or a surround-sound processor that has inputs for multiple audio/video sources. Few of us have the luxury of putting our Home Theater in a separate room from our serious stereo gear—especially now that everyone except the most backward-looking diehards agrees that properly subtle surround processing enhances the realism of stereo sound.

The challenge is to add a video screen, surround channels, and the required additional inputs for laserdisc and other A/V sources, while preserving as much as possible of your existing stereo system's signal path. If you just need to add inputs and switching for more sources, with simultaneous switching of video signals with their associated audio, Radio Shack has a good low-cost answer.

Beware of video selectors that switch only RF signals. The RF output from a laserdisc player or VCR (usually on Channel 3 or 4) often degrades the picture. And while it may provide a pass-through stereo signal from broadcast or cable, it provides only mono sound in playback, with absolutely no surround information at all. To preserve stereo sound (with encoded surround) together with maximum picture quality, A/V switching must be done at line-level.

Radio Shack's $40 solution is No.15-1951 on p.107 of their '96 catalog. Don't let its description as an "amplified" stereo A/V selector deter you. There's no active circuitry in the audio signal path, just the same elements that are in the line-level inputs of most preamps—a set of switch contacts and an isolating resistor in each channel, which will have no audible effect if you're driving only a few feet of cable to reach your preamp or surround processor. The "amplified" part is a single-buffer transistor at each video output, providing the low output impedance needed to drive any reasonable length of video cable. I'm using it to drive 20' of cable to my Proton monitor's line-level video input, with no visible loss of resolution or fine detail.

This selector has four sets of A/V input—for signals from a laserdisc player, a hi-fi VCR, a video tuner, and a fourth A/V source—all via RCA phono jacks, with two banks of switchers and two sets of output jacks, so you can view and hear one A/V signal while feeding a different A/V signal to another room or recording it on a VCR. Depending on your needs, you could feed the selected audio output to a spare input on your preamp, or feed an output (tape or line) from your preamp to one of the selector's four inputs, which then would feed a surround processor.

The selector's box is plastic, but it won't leak transformer hum into adjacent products; it gets its power from a remote DC "wall wart" on a long cable. I can't swear that this Radio Shack product is absolutely "transparent" to the A/V signals going through it, but it's pretty close. I'm delighted with it. If this box has any effect on video or audio quality, the change is too small for me to care about and may be due to the connecting cables from the various sources. Try it and decide for yourself. If you don't agree with me, Radio Shack will refund your 40 bucks.
The Sonic Frontiers preamplifiers -
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with the SFP-1 Signature
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**SFL-2 PREAMPLIFIER AND POWER SUPPLY**

Class A Rated, Stereophile, April 1995, Vol.18 No.4

"...the $3795 SFL-2 is a terrific bargain... (and)... represents a genuine advancement in preamp design."

*Robert Harley & Russ Novak, Stereophile, November 1994, Vol.17 No.11*

The SFL-2 is a 55-pound, two-chassis unit that is built around some truly innovative circuitry and features. Not only is the power supply housed in its own separate chassis, it offers a level of performance and regulation unseen at this price point. A few of the preamplification features include: fully balanced circuitry; zero feedback design; dual mono construction; all-tube processing; and a discrete attenuator volume control.

**SFL-1 PREAMPLIFIER AND SFL-1 SIGNATURE PREAMPLIFIER**

Class A Rated, Stereophile, April 1995, Vol.18 No.4

"Kudos is due Sonic Frontiers for offering the audiophile a line-level preamp competitive with any price-no-object unit I've heard to date... Wake up, excited residents of Class A Towers—the SFL-1 is knocking on the door!"

*Dick Olsher, Stereophile, February 1993, Vol.16 No.2*

The SFL-1 has been a favorite choice among audiophiles for the past four years. This unit makes use of an innovative hybrid tube/FET circuit that rivals many other units in substantially higher price categories; offering outstanding musical performance. The Signature version shares the same basic circuit topology but is built with higher quality and tighter tolerance electronic parts - including film capacitor power supply, better-grade MIT capacitors, Caddock and Vishay resistors, Kimber RCA jacks, a ceramic silver tube socket and a higher quality vacuum tube.

**SFP-1 PHONO STAGE AND SFP-1 SIGNATURE PHONO STAGE**

Class A Rated, Stereophile, April 1995, Vol.18 No.4

"I rank the SFP-1 as very high Class A, bordering on Class A."

*Robert Harley, Stereophile, October 1993, Vol.16 No.10*

For the audiophile who recognizes analog as the most revealing and musically satisfying signal source, the SFP-1 delivers the goods. The SFP-1 skillfully amplifies the delicate and low level signals that are produced from both MM and MC phono cartridges. These signals may then be accepted by a line level amplification component such as the SFL-1, SFL-1 Signature or the SFL-2. A Signature version of the SFP-1 is also available; like the SFL-1 Signature, the SFP-1 Signature is built around higher quality and tighter tolerance electronic parts.

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What? Seven and a half watts a channel?
If you want to give certain speaker manufacturers fits, mention low-powered, single-ended triode tube amplifiers. For years, they've been producing speakers to be driven with solid-state and tube amps putting out 60, 70 watts per channel or more.
If these small amps catch on, horn speakers might be back in a big way—there are already signs this might happen. Box speakers might become 92dB efficient or better, with kinder impedances and simpler crossovers.
You know the best-sounding Krell amp?" a friend whispered to me, a while back.
"No, what?"
"The Krell KSA-Five."
"The Five?" I asked, incredulously.
"Yes, it's their 5Wpc headphone amplifier, but you know Krell, you can use it to drive speakers! I've got it in my Klipschorn and I can't believe how good it sounds."
Speaker manufacturers aren't the only ones to get fits over this single-ended triode phenomenon—or fad, as some of them call it. Editors get upset, too.
"I don't regard this amplifier as a hi-fi product at all," wrote John Atkinson in the September 1995 issue of Stereophile about the Cary CAD 300B SEI. "It is actually a tone control, and an unpredictable one at that." [See this month's "Letters."—Ed.]
Not a hi-fi product, eh? Well, gee golly gosh, John. I didn't know. Thanks for telling me. I'll have to send back all these 300B-based amplifiers—at least the ones that don't measure flat. We can't have reviewers—or readers for that matter—listening for pleasure, can we?
Of course, I didn't say that to Atkinson—I'm only telling you. I want to keep my job at Stereophile. (I just got it back!) This month, I'll stick to some proper hi-fi products.
Ah, um—I'm sort of split on this myself.
There are times when I thrill to a big, powerful amplifier, tube or solid-state. You know, the sense of dynamic ease you get when you have plenty of power in reserve. Hell, I even liked the 750Wpc Crown Macro Reference.
Just one problem: the little triode buggers sound so convincing when it comes to harmonics...and palpable presence. And some of these single-ended triode amps, with the right speakers, even sound dynamic—up to a point, and in their own way.
Schizophrenic as ever, I run single-ended triode amps in my living room, and more powerful, JA-approved amps with my Quad ESL-63 USA Monitors in my listening room. In one room, music; in the other, proper hi-fi products. A way to keep one's job with Stereophile, no? [Yeah, like I could tell you guys what to write, even if I wanted to!—Ed.]
Here's what I have in my living room (subject to change, of course): The Quad ESL-63 USA Monitors just mentioned, with an Audio Synthesis Passion passive preamp. My phono stage is the Tim De Paravicini–designed EAR 834P. I stick with my AR ES-1 'table with SME 309 tonearm. Infuriating some of my phellow 'philes, I continue to use the long-discontinued Shure Ultra 500 cartridge, now a collector's item. Too bad I'm too lazy to turn over records at the end of each side; my phono sounds great. CD players have included a Meridian 508 and a Krell KPS-20i.
Amps? Mainly, I've had the big Quickies on the Quads—the flagship Quicksilver M-135 monos that retail for $6500/pair. I've also been listening to the solid-state McCormack DNA 0.5 Deluxe Edition. These amps, so different-sounding, perform superbly with the Quad ESL-63 USA Monitors. I've also had a Krell KSA-50S on hand.

WHY NO REVIEW?
Most manufacturers fall all over themselves to send review samples to this and other magazines. Not Mike Sanders of Quicksilver. He doesn't send out review samples. When he shows up for the Winter CES in Vegas, he rents the smallest room he can get and runs a silent display. Talk about low-key.
"Well, Mike, if I review these, I guess you'll sell a lot more of them."
"I guess not."
"What do you mean?"
"We can't produce more than 25 pairs a year. We sell all the ones we make. Sometimes customers have to wait two months, sometimes more."
It's true. I had to wait two months in line, like everyone else.
It seems that the amplifiers are wired by a guy in Santa Barbara who takes his
digital surround sound for

music & film

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own sweet time. "It's a difficult job and he can only do so many," said Sanders, who believes that the lack of transistors and point-to-point wiring are the keys to good sound.

"All of our amplifiers are hand-wired, point to point," said Sanders. "We use integrated circuit boards only in our line-stage, where point-to-point wiring is not so critical.

"Actually," said Sanders. "I am surprised people buy these M-135s. They're awfully expensive. Are you sure you want a pair?"

Since there won't likely be a formal review of the Quicksilver M-135 elsewhere in this rag, you may want to know something about them. The amps are rated to put out 135W into 4 or 8 ohms from 20Hz to 20kHz. This is a wide-bandwidth tube design: 10Hz-100kHz.

The amps are handsomely designed, with a cyclopean bias meter built into the faceplate — reminiscent of the classic Marantz Model 9, a pair of which, used, in mint condition, will cost you far more than a pair of these Quicksilver M-135s. Besides, the Quicksies are new.

You can bias each of the six output tubes by accessing the bias pots, hidden behind a door built into the faceplate. The bias pots are marked. Just push in with a slot-head screwdriver, this will engage the meter and you can set your bias.

**If the Engineers Zoom in on a Soloist, or Otherwise Muck Up the Sound, the Quicksilvers Let You Hear Exactly What's Happening.**

Here's the twist. The M-135s can use a wide variety of output tubes — EL34, KT88, KT77, 6L6, you name it. KT90, KT99, 5881, KT66. The only rule is, you can't mix tube types. So if you're not tickled with the sound of the M-135s with EL34s, you can switch to other tubes and tinker away.

Sanders says that the high-frequency characteristics of the output transformer are such that all these different types of output tubes can be used without the need for circuit changes or compensa-

Quicksilver M-135 monoblock power amplifier

tion adjustments. There's also a very wide range of bias adjustment. (Hint: When installing new tubes, turn down the bias pots all the way, then bring up the bias slowly. It's very easy to fry an output tube with too much bias — all it takes is a few seconds.)

...how do different tubes affect the sound?

I got a set of Golden Dragon KT88s from Tubes by Design and found that they sound brighter and more dynamic than the supplied Golden Dragon EL34s. Bass was subjectively more extended and tighter with the KT88s, too. I haven't had a chance to try GE 6650s, which produce just under 200Wpc.

**LOVE THAT EL34NESS**

Like Sanders, I prefer EL34s. The sound is more relaxed, less brightly lit, more dimensional and (for lack of a better word) palpable than it is with the KT88s. The sound has more bloom, less glare — not that there's much glare when using the KT88s, but still more than there is with EL34s.

Instead of the Golden Dragon EL34s, I decided to try the stock of stock Tesla EL34s I had on hand. I marginally prefer the Teslas — they have even more EL34ness: that smooth, sweet, dimensional, slightly soft-focused sound for which the EL34 tube is famous. I'm not sure I'd run out and buy a set of the Tesla tubes, however. The supplied Golden Dragon EL34s were quite close in sound — and the tubes have been carefully checked out by Mike Sanders.1

Sanders has customers who prefer the Teslas, and he himself has good words to say about the tubes. He's also keen on the Russian 6L6 GWC, sometimes known as the 5881, a so-called "military-grade" tube distributed by New Sensor Corp.

"These Russian tubes are no great movers and shakers in the bass," Sanders told me, "and you do sacrifice some power, taking the amps down to around 120Wpc. But they have lots of air, ambience, bloom."

Cheapness prevented me from buying a set of the Russky 6L6s.

I've had the M-135s for over a year. Aside from one KT88 that failed (a tube not supplied by Sanders), I had no problems whatever with the amps. Even with the faulty KT88, I simply replaced the tube and rebaised. The failed tube did not take out the amp.

**Classic Tube**

The sound of the Quicksilver M-135s?

Well, I've already alluded to the sound. You can guess it by now. It's classic tube: smooth, sweet, dimensional, and powerful as hell. As with other big tube amps, the M-135s have dynamics combined with a degree of weight — a fullness that distinguishes powerful tube amps from powerful transistor amps. I'll put it another way: the Quicksilvers sound powerful and liquid at the same time.

1 I bias my Teslas hot at 50 milliamps, 5mA higher than Sanders recommends. This results in a slightly sweeter sound, but of course the tubes will probably wear out faster.
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No Preamp: Due to TheaterMaster's 6 analog inputs, 6 digital inputs, and remote volume and switching capabilities, no preamp is required. Nothing to veil the sound—or thin the wallet.
The soundstage, as you might guess from all this dynamic weight, is wide and deep. (The soundstage is helped by the fact that these are mono amps.) How wide? How deep? I don’t know — just wide and deep.

Soloists and their instruments are precisely placed within this soundstage — or imprecisely placed, if the recording happens to be a multimiked mess. If recording engineers zoom in on this soloist or that soloist, or otherwise muck up the sound, you can hear exactly what's happening. (This is assuming the rest of your system is up to snuff.)

Delicacy? Resolution? All there. Listening to the little 300B-based triode tube amps makes me very critical of amps that sound coarse or grainy or hard. The Quicksilver M-135s come very, very close to the sweet, grainless sound of the triode 300B-based amps. And there's a practical amount of power, don't forget.

If there's a weakness with the M-135s, it's where you usually find a weakness with tube amps: in the bass. The bass has weight, it has fullness, it has character (or flavor, if you will) — but it's not tight, not by solid-state standards, and certainly not by the extraordinary solid-state standards set by the McCormack DNA 0.5. I wouldn't call the bass flabby, by any means — I've heard far worse bass from other tube amplifiers. But I don't think the bass would win any awards. It doesn't have sock. It ain't Krell bass, if you know what I mean — balls to the wall.

Too bad about the bottom end, because the Quads can use gutsy, tight bass to sound...well, American and gutsy instead of British and wimpy. With the Quicksilvers, the Quads didn't sound as quick as they might. Perhaps because of the bass performance, the music was slowed down a bit — it lacked some of the excitement, the rhythmic drive I heard produced so well from the McCormack DNA 0.5.

What about 300Bs? Listening to the Quicksilvers after a session with any one of the 300B-based amps in-house (at least a half-dozen amps over the past year), I notice a slight fuzziness, a hint of graininess that I don't hear with the 300B babies. This is particularly noticeable with strings. But woodwinds, too, seem less liquid than with the triode amps. Even brass sounds more alive with 300Bs — more presence, more bite. (The 300Bs don't always sound polite.) What's more, 300B-based amps can have bass that's surprisingly tight, if not always particularly powerful.

Mike Sanders doesn't seem ready to climb aboard the 300B bandwagon. (I talked with him about it at the '95 WCES in Las Vegas.) He believes the 300B-based designs offer too little power for too much money, and with too little tube reliability. Like all good designers, Sanders builds what he believes and believes in what he builds. Don't look for a Quicksilver single-ended triode amp anytime soon.

Quibbles? While I like the classic styling of the M-135s, I'm not crazy about the sharp edges of the aluminum faceplate. If you put the amps on the floor, or on low stands, it would be very easy to gouge your leg against a corner of one of the faceplates. I know — I did it, and I still have a scar to show for it...a battle wound from the trenches of audio reviewing.

**Compared to the McCormack DNA 0.5's**

**KICK-BUTT BASS, SPEED, AND DYNAMIC DRIVE, OTHER amps CAN SOUND SLOW, CONFUSED, AND VEILED.

Actually, I regard this as a very serious problem, and one that should be and could be easily fixed. Just round off the corners, Mike. As it is, I would be very concerned about having these amps on or close to the floor with young kids crawling or toddling around.

I also think Mike Sanders might supply a couple of extra output tubes — say one per amp — just in case. Mike responds quickly to customer needs, and still, it would be good to have a couple of spare tubes on hand.

All in all, the Quicksilver M-135s get a strong recommendation from me. They're the best pentode tube amps I've had in my system. They can drive almost any speaker (they're said to drive Apogee Stages and Martin-Logan CLSes with no sweat), and they can be tuned with virtually any pentode output tube, offering unique opportunities to tailor the sound. (This can also cut the cost of re-tubing the amp, since you can shop around for tubes.) Having a bias control for each tube should help prolong tube life. If the bass ain't a killer in terms of impact, oomph, punch, well, that's the way it is with other tube amps, too. I'd still put these amps in Class A.

Add to the good sound and flexibility the apparent reliability of this amp, their hand-built construction, their classic looks, and their relatively affordable price, and you have a very good value. If you want a pair of big, powerful tube amps, do yourself a favor and audition these — before you blow even bigger bucks elsewhere. You could spend $10k or more for such a pair of amps, and I'm not sure you'd do better.

**Solid**

So why not leave well enough alone? Because I'm a reviewer, that's why. Reviewers are supposed to switch gear. Besides, there are speakers with which I feel I oughta try a solid-state amp.

I first received a McCormack DNA 0.5 Special Edition shortly before I suspended my scribbling for Stereophile. (Suspended is the right word, no?) For various reasons I wasn't able to review it for *Audio*, and eventually had to send it back to Steve McCormack.

Funny. I began to miss the amp.

There were times when I wanted to plug in a clean-sounding, straight-ahead solid-state amplifier with tight bass, and the McCormack DNA 0.5, which I'd taken for granted over a period of six months, was no longer there to be pressed into service. So I bought one.

The first sample stuck me as very clean, exceptionally quick, but slightly hard in the upper midrange and treble — maybe just a little cold-sounding. The slight hardness didn't bother me much, because I expect transistor amps to sound that way, compared to tubes. What I liked about the DNA 0.5 was the kick-butt bass, the speed, the dynamic drive.

Other amps can sound slow, confused, and veiled compared to the McCormack. For instance, I had on hand, briefly, an Electrocompaniet AW-100 Anniversary Edition rated at 100Wpc into 8 ohms (close to the McCormack's 120Wpc into 8 ohms). Subjectively, the McCormack scored over the Electrocompaniet in terms of clarity, speed, and bass articulation; the McCormack resolved more detail. The Electrocompaniet sounded warmer, richer, fuller, however, and sweeter in the treble — but nowhere near as taut, tight, and rhythmic in the bass.
Why is it always so different at the movie-theater? Does the popcorn taste better in the dark? Is it the People? 

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*Stereophile, December 1995*
Warming up

My second sample of the McCormack DNA 0.5 arrived about eight months after the first. In the meantime I had switched to Nordost Flatline interconnects and speaker cables: Blue Angel interconnects and Blue Heaven speaker cables. This change could be the reason why the second sample of the McCormack DNA 0.5 sounded somewhat warmer, less cold than I remembered the first sounding. (Or could it be that I've changed — become somewhat warmer, less cold, thanks to Marina, my Russian-born wife of the last nearly three years?)

Midrange and treble? I still think you can improve on the McCormack — but you may have to spend a lot more moo- lah for that midrange magic. I have a Krell KSA-505 on hand. The Krell has a ripe, luscious midrange. Instruments — violins, woodwinds, in particular — can sound extraordinarily liquid and full, as with a great tube amp. I miss some of that beauty with the McCormack: it's leaner, less liquid.

I heard a similarly lush, beautiful tonality with the Ayre V-3 amplifier as well, in an all-too-brief listening session with a borrowed unit. String tones with the Ayre were sweeter than with the McCormack. I also heard more — more Ayre there, more sense of space around the musicians and their instruments, more palpable presence. Note, however, that the Ayre lists for more than twice the price of the Deluxe DNA 0.5.

I can't help wondering whether the slightly, well, "transistory" sound of the McCormack is due to the fact that the amp uses bipolar output transistors instead of the often sweeter, more atmospheric, more tubelike MOSFETs. The Ayre uses MOSFETs in the output stage. But hell, the Krell doesn't, and it sounds tubelike as all get-out. Still, the Krell is not the quickest-sounding amp I've ever heard. Subjectively, the McCormack beats it in terms of crispness, speed, and apparent (although I am not sure real) clarity.

Steve McCormack uses FETs or MOSFETs for the input and driver stages, but prefers bipolar transistors for the output stage — this, he says, for better current delivery into load impedance and better bass performance overall. Considering the bass performance of this amp, maybe he's right. In amplifier output stages, MOSFETs can be misfits when it comes to bass balls, timing, ultimate clarity, and speed. On the other hand, MOSFETs can sound smooth, sweet, harmonically pure, atmospheric, and dimensional.

Overall, the McCormack scores high, especially in terms of clarity, speed, bass articulation, and resolution. The sound quality of the McCormack is bracing; the amp has a turn-on-a-dime quality about it that even the Krell can't match. It's particularly bracing to hear the McCormack on the Quads — the clarity, the quickness, combined with the Quad's own electrostatic speed.

The resolution of the McCormack DNA 0.5 is extraordinary. For example, when I switched from the Meridian 508 to the Krell KPS-20R CD player, I heard a tremendous improvement — in bass, drive, resolution, analog-like ease — provided by having so much information there, as opposed to the brain's having to go search for it.

If you want a more tubelike sound from the McCormack, you could try a tubed line-stage or preamp. (I've been using a passive Audio Synthesis Passion preamp, if you can call it a preamp.) I hear the Melos SHA helps impart some of that tube sweetness and harmonic richness that might be a tad missing from the McCormack. The DNA 0.5 wouldn't be the first solid-state amp to benefit from a touch of glass.

I remember at a CES a while back hearing a pair of McCormack DNA 0.5s driving Vandersteen 3 speakers. The amps weren't bridged (there's no provision for bridging); rather, one amp drove the bass units of the two speakers, and the other drove the midrange and treble. This is what is known as horizontal bi-amping (as opposed to vertical bi-amping, in which one channel of one amp drives one speaker's bass unit and the other channel drives its midrange and treble). I recall thinking that the sound was extraordinarily quick, clear, and clean — rhythmically alive. To put it another way, the point was jumping.

(Sorry, Lars.) True, the Vandersteen speakers have a certain smoothness, warmth, and maybe even sweetness built in, as it were (it may be one reason Vandersteen speakers are so popular), so they likely work as a particularly synergistic combo with the McCormack DNA 0.5.

The $1565 Special Edition gets you a package of upgrades over the standard edition, which retails for $1295. Your $270 premium buys you Cardas RCA input jacks and speaker binding posts, Vishay and Caddock resistors in critical circuit areas; high-speed, soft-recovery diodes (after all, no one wants a hard recovery); and van den Hul output wire. All politically correct. The extra bucks get you a fancier faceplate, too. Since I haven't auditioned the standard edition in my system, I can't comment on the improvement, if any.

While I wish the DNA 0.5 had a little more harmonic fullness, harmonic presence, and sheer tonal beauty, I highly recommend this amp. And who knows — over time, more of that harmonic fullness may develop as the amp continues to break in. (There are already signs this is happening.) Compared to more expensive solid-state amps — the big-muscle boys — you do lose a little in the way of sheer bass weight (this thing ain't a Krell). But clarity? Resolution? Speed? It would be hard to surpass the McCormack. And I, for one, would not wish to trade it for a slower, less clear, less resolving solid-state job.

"An Aladdin among amplifiers," as Tom Norton hails it! You bet!

STOP PRESS!
The McCormack DNA 0.5 continues to sound better and better as break-in continues and the unit stays on 24 hours

---

2 TJN favorably reviewed the standard DNA 0.5 last February (Vol.18 No.2, p.115), with a Follow-Up in May (Vol.18 No.5, p.113).
It's bracing to hear the combination of the McCormack's clarity and quickness and the Quad's electrostatic speed.

period. Especially impressive are the detail and speed — unsurpassed, in my experience. When you consider the power and the price, the McCormack DNA 0.5 is an incredible achievement.

At the risk of repeating myself, you should definitely audition this amp before you spend bigger bucks elsewhere — try borrowing a dealer's well-broken-in unit and auditioning it in your own system.

Impressive, too, is the fact that the customer does not shell out for extravagant cosmetics and overkill construction. This is a totally honest, no-bullshit product, both in its sound and in the way it's built. For some time, I am sure, it will remain one of my reference amps.

Back to Leningrad!

Oops, Saint Petersburg. (Sankt Petersbourg, if you want to pronounce it properly in Russian.)

I'm organizing another trip to the Motherland — this one in fall 1996, probably during the last week of September or first week of October. We'll go just to Saint Petersburg and its immediate surroundings, and the tour should last 8—10 days. Cost? Figure three thou per head, more or less — including round-trip air from JFK, hotel, some meals, and museum tickets.

Here's the kicker. Or korkher.

Leo Korkhin, Permanent Guest Conductor of the St. Petersburg Philharmonic, and a fixture on the Leningrad — oops, St. Petersburg music scene for decades — has agreed to conduct the music portion of the tour! He'll make sure we have at least one, and maybe two, killer concert(s) with the St. Petersburg Philharmonic in Philharmonic Hall.

Plus, we'll have one ballet or opera at the Mariinsky Theater (formerly the Kirov); one ballet or opera at the Maly Theater; and one other performance, which might (keep your fingers crossed) be a chamber music concert at the Smolny Institute.
Plus, if we can squeeze it in, we’ll attend the St. Petersburg Circus (I have a special fondness for the trained hippopotamus) and/or the Holiday on Ice, Russia’s answer to the Ice Capades. I’m pals with Mischa Kamenov, former championship figure skater and director of this organization.

In addition [blare of trumpets], the trip will include: a guided tour of the Hermitage; a tour of the recently renovated Russian State (Art) Museum; a visit to the Tsar’s palace at Pushkin (Tsarskoye Selo); St. Isaac’s Cathedral, St. Peter and St. Paul Fortress, and the Alexander Nevsky Monastery; Dostoyevsky’s apartment and Alexander Pushkin’s house. Time permitting, we’ll retrace Raskolnikov’s steps after the murder...

If we find any free time on our hands after all this, I’ll take you to the Natural History Museum, located in the old stock exchange. Depending on how many nerds sign up for the tour, we’ll also visit Svetlana, where many of the best Russian toobs are produced. (Yup, I got an “in” there, too.)

Also, we’ll have one dinner (or lunch, if we’re so busy with performances) at the famed Literary Cafe restaurant, on Nevsky Prospekt, to the accompaniment of live chamber music. The food may not be the greatest — stroganoff and stuff — but this is one of the world’s most elegant restaurants. Why we don’t have something similar in New York or Boston is a mystery.

The music portion of the tour will be under the personal direction and supervision of Maestro Korkhin (who speaks English). The art museum portion of the tour may be under the supervision of Ms. Vlada Bankovich, an art historian who knows every nook and cranny of the Hermitage and the Russian Museum.

Shopping will be under the personal supervision of the former Marina Mikhailovna Volokhonskaya, native of St. Petersburg and wife of Sam Tellig. (She knows the best places to buy souvenirs, paintings, and porcelain.) My daughter Amy, a former student at Leningrad State University, may come along, as youth advisor, auxiliary interpreter, and jester. Air arrangements will be by Finnair, and the trip may include an evening’s stopover in Helsinki, with either a dinner at one of Helsinki’s fabulous Russian restaurants (better than Russian restaurants in Russia) and/or a performance at Helsinki’s new opera house. I like stopping over in Helsinki — it’s well worth spending an extra night. Hotel will be either the Hotel Moskva, on Nevsky Prospekt, or the St. Petersburg Hotel. (Wasting money on expensive hotels is akin to dropping thousands of dollars on expensive cable.)

Interested? I have no budget for flogging this tour by way of ads or direct mail, and all I’m looking for is 15 to 18 souls — not even that many new people, since some folks from my last tour will be repeaters. I’ll try to keep the final price as cheap as possible — going off-season and my direct “in” with Finnair will help, but the final price may not be known until we get to St. Petersburg and see how much Leo has forked over for tickets. If you think you might be interested, please write me now c/o Stereophile. No obligation — I’ll put you on my mailing list. (I don’t have the old P.O. box.)

Don’t miss this. I’ve been to St. Petersburg eight times and never cease to enjoy the city. Marina will provide expertise and wife support. And who knows — if time permits, we may take you all to Uncle Valentin’s dacha in Rachina, deep within the Russian countryside. Write: Sam’s Tour, Stereophile, 208 Delgado Street, Santa Fe, New Mexico 87501.

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LAST SUMMER I WORKED AT AN OUTDOOR RECORD STALL RIGHT NEXT TO A PHOTO POSTCARD STAND.

THE POSTCARD PLACE ATTRACTED BOATLOADS OF MODEL-GORGEOUS WOMEN, WHILE THE USED VINYL AURA OF OUR SIDE REPULLED THEM LIKE A FORCE FIELD (AS IT EXERTED A MAGNETIC PULL ON HOMELY GUYS).

I TRIED NOT TO Dwell on the Implications of This.

I WAS TOO BUSY OBSERVING THE WAYS OF RECORD COLLECTORS:

Verbatim:

OF COURSE I DON'T LISTEN TO THEM! I wrap 'em in onionskin and store them in a vault!

1st Pressings

...AND WHILE IT WOULD BE a STRETCH to Say I Came to LOVE them, I did GROW to APPRECIATE THEIR Place in the grand scheme.

IF Everyone was LIKE that Woman, all of Robert Johnson's records would HAVE Moulder away in attics by now.

...But every one would have a nice ass.

So now when I hear some fascinating OLD TUNE on the radio, I silently thank the obsessive guy who RESCUED it FROM YARD SALE OBSESSION.

...And thank God I don't have to wait on him.

I TRied NOT TO dwell on the Implications of THIS.

Hey, wait! I'm Over Here!

...And I own 400 DIFFERENT VERSIONS of "Wooly Bully."
stop with analog already. You're writing yourself out of a career." This is what some industry types used to whisper in my ear during the dark days of digital domination. To which I would reply, only somewhat facetiously, "What career?"

"If I can't write about what I really believe in, what I really enjoy, then I'll find something else to do," I'd continue defiantly. "I'm resourceful. I don't really like digital sound, and I can't fake it."

I still feel that way. I respect digital sound, and have high hopes for its improvement, especially with DVD's potential. But given a choice, I go for analog recordings and vinyl playback every time. I'm glad I didn't concede defeat or change my tune to fit the fashion of the time.

I never gave up hope that there were enough people around who heard what I heard to keep the old technology alive. It had happened with tubes and it could happen with vinyl, bleak as the situation was just a few years ago.

Now look: I've got my own "Corner," with +80,000 passersby to cajole. More important, analog has reestablished itself as the preferred recording medium for jazz (two-track analog, no less) and for much rock. There has been an explosion of vinyl from audiophiles and major labels: both reissues and new productions. The truth is, records are back and records are hip. But hip means fashion, and fashion can be fleeting.

What this phenomenon needs is "legs." Unfortunately, while many music lovers—audiophile and non-audiophile alike—are paying lip service to vinyl, the number actually plunging down the cold, hard cash right now is not high enough to make the enterprise much more than a break-even or money-losing one for many of the companies involved. There's a lot of new vinyl out there, but for how long?

I can't think of a more committed vinyl fan than AudioQuest's Joe Harley. He's there at the recording sessions; he hears the pure analog master tapes and the final records and CDs. He'd prefer you to hear the music sounding as close to the master tape as possible. In other words, on vinyl. He just sent me two new outstanding AudioQuest titles—Terry Evans' Puttin' It Down with Ry Cooder and Jim Keltner, and west-coast string-bender Lloyd Jones' Trouble Monkey—with a note that read, in part, "Alas, only Terry is available on LP. (I swear—if people will only buy them—I will put LPs out. If they don't—I can't)"

The idea that so-called audiophiles are opting for CDs of Doug MacLeod and Mighty Sam McClain instead of the much better-sounding vinyl is pathetic. Can't get new music on vinyl? Baloney.

See? I'm not afraid of the truth—I just wish some others with whom I've dealt lately felt likewise. Guess what happened after my September "Analog Corner" column—the one criticizing the EIA's coverage of analog (and high-end in general) in its 1995 edition of US Consumer Electronics Industry in Review—hit the newsstand? I got a voicemail message from an EIA official telling me that the industry seminar I was scheduled to host at the January 1996 Consumer Electronics Show in Las Vegas had been canceled.

Understand: I've conducted well-received seminars at both winter and summer CESes for the past few years, including one at last June's Palmer House Specialty Audio gathering. Shortly thereafter an EIA representative called to praise my work and invite me to run one this January.

EIA had already approved my seminar topic of "Home Theater: Hobby or Appliance?" when the seminar was canceled. I called EIA to ask about the cancellation and was assured that it had nothing whatsoever to do with my column.

"Oh, really? So why was the seminar canceled?" I was told that EIA was "refurbishing" its seminar mix because the segment of the consumer electronics industry I cover (high-end audio/Home Theater) isn't that important anymore. Kind of what you were thinking, eh?

I said that, had the seminar topic been vinyl or analog or tube gear, I could perhaps see the point. But the subject was Home Theater, a hot segment of the consumer electronics market—or so I thought. Not so, I was told: Home Theater sales are flat. Gee, if Home Theater sales are flat, high-end must be in the abyss. The future is in plastics, Benjamin. (Oops, wrong fiction.)

Anyway, it seems the seminars will be skewed toward computers and interactive electronics, and away from high-end audio and video. Oh, there would be some of that too, though not with me at the helm—but that was just by coincidence.

The discussion did eventually turn to my September column. I was told that, though I might love records and turnta-
bles, they comprise a minuscule market, hardly worth gathering and publishing
statistics about. “Do you know how
many turntables were sold last year?” I
was asked.

“No. How could I? You don’t bother
to publish the numbers,” I shot back.

“Fewer than 300,000,” I was told.

“That’s compared to millions of CD
players.”

Later in the discussion I brought up
the number of times the Digital Com-
 pact Cassette and MiniDisc formats
were lauded in the yearly booklet.

“Those are two basically dead formats,
so why was so much attention paid to
them?” I asked.

“Dead!” came the indignant re-
response. “Do you know how many Mini-
Disc players were sold last year? Over
300,000!”

I’m not making this up.

Just before deadline I received a letter
from Gary Shapiro, Group Vice-Presi-
 dent, Consumer Electronics Group, con-
taining slightly more conciliatory lan-
guage: “You’re right when you point
out that we didn’t include statistics on
 turntable sales in the 1995 edition of
In Review—this is important information,
which we’ll be sure to include next
year....” Score one for analog.

Shapiro continues, stating the obvi-
ous: “Clearly, for better or worse, we
live in an increasingly digital, not analog,
world.” True enough, and for the most
part it is for the better. I don’t like using
an abacus. But let’s at least have the
numbers. Shapiro writes: “Home CD-
player sales, while down slightly in 1994,
still managed to reach 2,771,000 units
and $443 million. Turntable sales, on
the other hand, were down for the third
straight year: 264,191 and $276 million.”

Of course, as others have pointed out,
high-end companies, being private, are
not obliged to give numbers, and I
doubt that SOTA, VPI, and the other
high-end turntable manufacturers have
supplied EIA with numbers. From what
I gather, their sales are up.

KEEP THOSE CARDS &
LETTERS COMING!
I appreciate the letters to the editor
(October ’95, pp.21-23) this column has
generated — especially the negative
ones. I mean it. I love the fact that a
reader found my first column so threat-
ening he thought it an “irrational rant.”
I can rant with the best of them, and
that one wasn’t a rant, nor was it irra-
tional. It’s just not pleasant having your
well-ordered belief system shaken (not
stirred).

I also enjoyed the one from the guy
who said that he loves records too, but
as more and more CDs and fewer and
fewer records are issued, the vinyl’s
value would finally decrease to the
point where he wouldn’t play records
anymore and his turntable would end
up on a closet shelf. You know, I don’t
get that. If I prefer the new DCC LP of
Pet Sounds, for example, to the compa-
y’s gold CD, which I do, would it be
any different 10,000 CDs, 100 records,
and 10 years later? No. I’d still play the
vinyl when I wanted to hear Pet Sounds.
Woudn’t you?

ACCORDING TO THE
EIA, HIGH-END AUDIO
AND HOME THEATER
AREN’T THAT IMPORTANT
ANYMORE.

I even enjoyed the letter from the
guy who discovered that LPs ain’t as per-
fact as I said they’d be. Mainly because
I never said they were perfect, and also
because, he says, playing records is “...a
gigantic pain in the ass.” So is piping,
but it’s worth it!

His comments about unwrapping all
the “crap” LPs come packed in had me
on the floor. LPs are a breeze compared to
new CDs: first you’ve got to remove the
cellophane-like outer layer. I say
“like” because it’s obviously made out of
some new space-age material that can-
ot be torn with the fingers or teeth. It
requires a razor blade. Once you’ve
torn rid of that, you’re faced with one of
those laser tabs that you have to pick like
a scab to remove, and even then it leaves
an ugly, dust-attracting glob of glue.
Then you have to peel the white bar-
coded tape that seals the jewelbox
closed. It’s designed to come off in one
piece, but you usually end up with five
or more sections that are impossible to
get started. By the time you get the
jewelbox opened the music is passe.

I do appreciate his setting the record
straight about “Perfect Sound Forever”
being an advertising slogan and not a
claim by the inventors of CD. In fact, it
wasn’t even an ad for Sony. It was Tech-

nics, I believe.

To the reader who predicted that my
comments about the less-than-stellar tal-
ent recording for some audiophile labels
would piss off some audiophile labels:
you got it, bub. There are some folks at

some audiophile labels mighty ticked
off. But you know what? I wasn’t saying
that all talent recording for all audi-
ophile labels is third-rate. Only some, and
they and their labels know who they are.
So do you.

I’m not in this business to make
friends, nor am I in it to lose friends. But
as I said recently to a manufacturer with
whom I’m friendly, “When I sit down
to review a piece of gear, whether it’s
yours or someone else’s, my only friend
is the reader. If you can’t accept that, I’d
rather not review the equipment
because I value our friendship more
than I value writing a review.”

And it’s nice to know that another
reader thinks my contributions to
Stereophile “almost” make up for the loss
of Corey Greenberg, whose friendship I
lost because I dared poke a little fun at
him earlier this year when I gave him
the “Hans Fental in a Leather Jacket”
Mikey Award for some anti—high-end
statements he made in Home Theater
Technology. Proving that he can dish it
out, but he can’t take it.

CARTRIDGE HYGIENE
An advice columnist for another audio
magazine (which I shan’t capitalize)
recently received a query from a reader
about the need to demagnetize his car-
tridge. “Why would you want to do
that?” the expert queried. “The output
of most cartridges is low to begin with.
If you demagnetize it, there’ll be even
less, or no output whatsoever.” I’m par-
aphrasing, but that was his gist.

Most of us know that moving-coil
cartridges require periodic demagneti-
zation. The magnet isn’t demagnetized
—the coil is, to remove residual mag-
netization, which can interfere with the
clean generation of signal and color the
sound. At least that’s the theory.

In practice, I don’t know of any seri-
ous vinyl enthusiast who hasn’t heard an
improvement after demagnetizing his/
her moving-coil cartridge. The sound
takes on an openness and purity that
slowly, imperceptibly diminishes as the
magnetization builds up over time. Is
this phenomenon in doubt?

A few years ago Sumiko introduced
the Fluxbuster, a fast, effective cartridge-
demagnetization device that, sadly, is no
longer available. Immedia is currently
importing a new Audio Physic demag-

2 Moving-magnet cartridges also benefit from demag-
netizating—as long as you remove the removable sty-
lus/magnet assembly. In fact, industry folklore has it
that Shure introduced a new version of their V15
phono cartridge just about the time the previous ver-
sion was suffering from magnetic malaise.

JA
LISTEN TO THE UNEXPECTED.

“...Regardless of where we stood, the presentation of voices and instruments remained stable and the tonal balance correct... (with the SS-M7ES, Sony) has achieved an unqualified success...”

Barry Willis, Stereophile*  
*Vol. 17, No. 8, Aug. 1994
netizer that works even more effectively (rather than starting and stopping “cold,” it ramps up and down at the beginning and end of the demagnetization cycle), and of course costs more ($349.95). Housed in an attractive wooden case, the unit is equipped with a pair of RCA jacks into which you plug your pickup arm leads, an on/off button, and a pair of LEDs, one red, one green.

Shortly after you plug the unit into the wall, the red LED goes off, indicating that the unit is ready. After plugging your arm leads into the unit, you push the button to begin the demagnetization process. The red light goes on, and about 30 seconds later it goes off again, signaling completion. The process can be repeated up to three times.

One helpful hint included in the instructions: put the stylus down onto a record (turntable not spinning) while demagnetizing, so the coils are centered in the magnetic field. The specs list the demagnetization frequency at 33kHz.

Cardas offers cartridge demagnetization in a much lower-tech and lower-cost form: The Cardas Sweep Record, for $16, attacks the problem from the other end. The record contains an already-versatile-high-frequency sweep tone, which you increase by playing the disc at 45rpm.

According to the instructions, leaving your system on at low to normal volume means the cartridge and the entire audio system get degaussed and the stylus and cantilever get ultrasonically cleaned at the same time. The record also slices, dices, chops, grinds, peels, gives your children a great haircut, and contains a built-in pocket fisherman. The record actually does offer one other feature: blank, flat areas for adjusting anti-skating on pivoted arms, and level on linear trackers.

Does this disc deliver the demagnetization goods? Yes, but for how long I don’t know. Ultra-ultra-high frequencies are the first to get sheared off by the stylus. If you play too many albums you get before the benefits are lost I’m not certain, but Cardas gives you four sweep grooves on each side, so you should get reasonably effective demagnetizing for quite some time. Certainly for 16 bucks’ worth!

Obviously the expensive Audio Physic electronic demagnetizer offers more consistent demagnetizing, but if you can’t afford the one that might cost as much as or more than your cartridge, at least you’ve got a low-cost alternative.

I’m always surprised at the degree to which demagnetizing improves a moving-coil cartridge’s sound (following an extended period of use): it sounds more open overall, and smoother and sweeter on top, with less grain and grunge.

Brusha! Brusha! Brusha! Stylus cleaning is tricky. If you’ve ever seen how the cantilever/coil assembly is attached at the back end of most cartridge innards, you think twice before dragging one of those densely packed bristle brushes across the stylus (back to front only, of course!). But you do it anyway because it’s the only way. Nonetheless, doing so should never be considered a casual operation. “Gently” is the operative word.

Because of the intense heat generated by the stylus coursing through the grooves, dirt clinging to the tip literally bakes on. It takes more than a brush to get it off. I apply LAST stylus cleaner (System Formula 4) with the built-in applicator brush, followed by a light pass with a bristle brush, and I do it before every side. The cleaner your records, the less this procedure has to accomplish.

What about StyLast? StyLast is a stylus-treatment fluid that The LAST Factory created to cut down on friction and thus heat, as the stylus travels through the groove. I used to use it religiously every play, and over the years I found that I never wore out a stylus: the cartridge damping material gave way first.

But a number of cartridge designers, manufacturers, and importers have cautioned against its use: they claim the substance “migrates” up the cantilever and finds its way into the motor assembly, where it gums up the works and attracts dust, which clogs things up even more. The result is a dulling and slowing down of the sound.

The migration of undocumented and possibly illegal dust (depending on what you smoke while listening to music) is a serious problem that should concern all Americans. It concerns me, so I rarely use StyLast anymore, though I’ll bet if you use it sparingly and carefully, just touching the very tip of the cantilever with the applicator brush, you’ll avoid messy migration. Analog lovers: What’s your experience with StyLast? Write and let us know.

So while some complain about the hassles of analog playback, I don’t find it difficult at all: a quick application of LAST stylus cleaner, followed by a careful swipe with a stylus bristle brush, takes but a few seconds before each play. If that’s too much work for you, I guess cooking is, too. You deserve TV dinners!
If Santa were an audiophile, he’d give *Stereophile*!

Hold on — YOU’RE Santa. You’re an audiophile. Have we got a deal for you!

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This is the fourth year *Stereophile* has named a select few components as “Products of the Year.” By doing so, we intend to give recognition to those components that have proved capable of giving pleasure beyond the formal review period.

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

The two most important categories, however, are the “Component of the Year”—the Best of the Best—and the “Budget Component of the Year”—the Best Sound for the Buck. There’s also an “Editor’s Choice” award, which JA reserves to himself to single out one superb-sounding product that has impressed him the most. Usually, to be eligible for “Editor’s Choice,” a component must have been continuously available for at least a decade, but this year the sheer performance of the chosen component allows such rules to be broken with impunity, he argues.

The formal voting procedure consisted of two steps: First, *Stereophile’s* hardware reviewers were asked to nominate up to six components in each of the eight categories. To be a contender, a product had to have been reported on in *Stereophile* between the November 1994 and October 1995 issues, either in a full review or in a Follow-Up. Most important, only those components for which a writer had put his opinion on the line for public scrutiny could be nominated. We then put together a ballot form that included all components that had been nominated by three or more writers and/or editors. This process ensured that most of the nominees in most of the categories would have been auditioned by most of the reviewers.

Twenty of the magazine’s editors and reviewers gave three votes for their first choice in each category, two votes for their second choice, and one vote for their third choice (if they had a third choice). JA tallied the votes; address your compliments and complaints to him.

**Only those components for which a writer had put his opinion on the line for public scrutiny could be nominated.**
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There was never any doubt that the Wilson Audio Specialties X-1/Grand SLAMM was the speaker to beat for 1995's Loudspeaker of the Year. In a field of commendable contenders, ranging all over the price map, it ran away with the category, amassing four times the votes of the second-place entry: over half of the respondents voted for it, with all but one according it their highest rating.

X-1 stands for the “First eXperimental” system, and SLAMM for “Super Linear Adjustable Modular Monitor.” Can any speaker really be that impressive? Stereophile's writers came away from Miami's 1994 Hi-End Hi-Fi Show (where the X-1 debuted) talking of little else, and Martin Colloms—normally the most unflappable of reviewers—positively gushed with admiration, claiming, "Until I heard the X-1, I simply didn't know that it was possible to hear certain qualities in recorded music. The X-1 appeared to achieve the impossible on many occasions."

MC did express some qualsms about the upper-bass/middle-C region, as well as the slightest "leaness" in the upper midrange—as did several of the other writers who voted for it—but concluded that this no-holds-barred design had a rare ability to unmask the unfamiliar in his most frequently played reference recordings. Of one favorite, he exclaimed, "I thought I knew how this band played and how the track sounded, but I was wrong."

Priced in the mid-$60k price range, the X-1 is not a speaker that will ever dominate the market in terms of numbers sold, but every audiophile should hear it at least once in order to experience the amazing slam and dynamics that the Wilson brings to the party, not to mention its remarkable rhythm and timing, preternatural clarity, and virtually nonexistent distortion at any conceivable listening level. The Grand SLAMM gives new meaning to the term "Reference Loudspeaker."

**Pass Labs Aleph 0**

**MONOBLOCK POWER AMPLIFIER**

($7000/pair; reviewed by Dick Olsher, Vol.18 No.3, March 1995)

Runners-Up (in alphabetical order):
- Cary Audio Design CAD-300SE1 integrated amplifier ($3395; reviewed by Robert Harley, Vol.18 No.9, September 1995)
- Conrad-Johnson Premier Eight monoblock power amplifier ($15,990/pair; reviewed by Jack English, Vol.17 No.12, December 1994)
- Mark Levinson No.38S line preamplifier ($6495; reviewed by John Atkinson, Vol.18 No.7, July 1995)

The nominations for Amplifier of 1995 were many and varied, ranging from a single-ended tube design, through big, traditional push-pull tube amps, to two very different line-level preamplifiers.

The single-ended Aleph 0 monoblock was another runaway winner, however, this time by a three-to-one margin.
The Proceed PAV answered the dreams of many for a single control center that could do it all: music and movies, at the touch of a button. Having solved that problem, the next question is obvious. Which power amplifiers will convey the musical realism of the PAV to the loudspeakers?

**Dual Monaural or Triple Monaural?**
The AMP 2 and AMP 3 power amplifiers complement the PAV sonically and aesthetically. As found in the finest high end power amplifiers, each channel in either the two-channel or the three-channel configuration operates from its own dedicated power supply. Engineered by the Madrigal design team, the combination of power, finesse and realism found in these amplifiers is remarkable.

**Upgrading Your System**
Many people prefer to upgrade their existing stereo systems one or two components at a time. If you have a fine stereo power amplifier you wish to keep for your main left and right speakers, an AMP 3 can handle center and surrounds in a single chassis. Better yet, use the AMP 3 for the three front channels and retire your stereo amp to the surrounds. Later, you might consider adding an AMP 2 for your subwoofers, or to drive the remote zone of the PAV. With sonically identical two and three channel amplifiers available, any system configuration is easily accommodated.

**Finally...**
You can have it all. Discover the difference outstanding design and advanced engineering can make at your local Proceed dealer. If you would like to add your name to our mailing list, please write or fax us at the address at right.*

* A donation to support AIDS research will be made for every name added to our mailing list. Mark Levinson® and Proceed® products are designed and manufactured by MADRIGAL AUDIO LABORATORIES P.O. Box 781, Middletown, CT 06457 FAX (203) 346-1340
Tightly contested, with strong showings both from the inexpensive Muse unit and from the latest versions of two previous winners, this strong field did yield a dominant winner in the Spectral SDR-2000, a two-chassis unit that separates the power supply from the D/A processor itself. "The unit is a tour de force in digital design," raved Bob Harley, adding, "This is the state of the art." Indeed, it may redefine listeners' expectations of what digital can accomplish. Pan- elists commented on its superlative resolution of inner detail, unequaled spatial presentation, and its lack of glare and edginess. The SDR-2000 may not reveal all of its glories to those lacking Spectral systems, since the firm takes a holistic approach to audio design: careful audition in the system that the unit will reside in is necessary, as is utmost attention to setup and cable routing.

Yet, along with JA's reference system, which features the more costly Levinson No.30.5, the full-blown Spectral/Avalon/MIT system that Goodwin's Hi-Fi demoed at Hi-Fi '95 in Los Angeles has been one of the very few hi-fis that's caused WP to forget about digits, grooves, or lunar phases, and just merge with the music. To paraphrase RH: regardless of the cost, what more can one say?

GRAHAM 1.5-T/C TONEARM

Runners-Up (in alphabetical order):
Kuzma Stabi turntable and Stogi tonearm ($3150; reviewed by Gray Lemon, Vol.18 No.5, May 1995)
van den Hul Grasshopper IV phono cartridge ($5000; reviewed by Jonathan Scull, Vol.18 No.7, July 1995)
VPI TNT Jr. turntable ($2800—$2900; reviewed by Steven Stone, Vol.18 No.1 & 11, January & November 1995)
Wheaton Triplanar IV Ultimate tonearm ($2375—$2550; reviewed by Steven Stone, Vol.18 No.2, 1995)
The Graham tonearm was voted best by a two-to-one margin, although one contributing editor confided that no choice caused him more surprise than this one, given the embarrassment of riches among the candidates. Like last year's winner, the Lingood/Cherrys/Trampoline veteran Linn LP12, this year's is a refinement of a basic idea that was already superbly thought-out and implemented. A unipivot design featuring interchangeable armtubes—the "T/C" refers to the latest ceramic tube—the Graham just may offer the last word in adjustability, and not at the cost of user convenience either: the tonearm must rank among the simplest to successfully set up and calibrate. It strikes a rare sonic balance, neither leaning-out the sound nor adding warmth-inducing colorations. SS felt that cartridges sounded more like themselves through the Graham, attributing this to its overall freedom from unwanted resonances. Certainly, for any analog fancier, to see it is to covet it.

Audio Research SDP1 Multichannel Music Processor
($2995; reviewed by J. Gordon Holt and John Atkinson, Vol.18 No.8, August 1995)

Meridian Digital Home Theatre

Runners-Up (in alphabetical order):
Infinity Composition Prelude surround speaker system ($4448/system; reviewed by Robert Harley, Vol.18 No.9, and Stereophile Guide to Home Theater, Vol.1 No.2, both September 1995)
Meridian 565 digital surround-sound processor ($3595; reviewed by J. Gordon Holt and Thomas J. Norton, Vol.18 No.6, June 1995)

Audio Power Industries Power Wedge 112 & 116 AC-line conditioners
($389 & $639, respectively; reviewed by Dick Olsher, Vol.17 No.12, December 1994)

STAX SR-Omega headphones

Runners-Up (in alphabetical order):
Dynaclear Postman Binding-Post Wrench ($795; reviewed by John Atkinson, Vol.17 No.11, November 1994)
Etymotic Research ER-4S headphones ($330; reviewed by Wes Phillips, Vol.18 No.7, July 1993)
HeadRoom Traveler Bag ($129; reviewed by Wes Phillips, Vol.18 No.10, October 1995)
Sennheiser HD580 Precision headphones ($349; reviewed by Wes Phillips, Vol.17 No.12, December 1994; and Steven Stone, Vol.18 No.10, October 1995)

A tie. Audio Power Industries' 112 and 116 Power Wedges feature RF-filtering and isolation transformers with dual sec-
IF YOU THINK YOU NEED A NEW PREAMP OR RECEIVER TO GET REMOTE CONTROL

LISTEN TO THIS.

New wireless preamp adds the convenience of remote control to any system.
Audition it now without obligation in your own home!

If you own an older preamp, receiver, or powered subwoofer, and are tired of jumping up and down every five minutes to fine tune the balance or adjust the volume, the award winning Chase Technologies' RLC-1 can make your listening enjoyment more convenient than you ever dreamed possible.

PERFECT FOR HOME THEATER
In most movies as the drama unfolds from scene to scene, the loud sounds are often too loud and the soft passages can barely be heard. With its patent-pending wireless remote control system, the RLC-1 puts instantaneous home theater control right at your fingertips. Now you can easily control volume and contour output, from left to right as well as from front to rear, without interrupting the action or leaving your easy chair.

CLEAN NOISE-FREE OPERATION
More than the undeniable appeal of retrofitting your older components with the convenience of remote control, the RLC-1 is a meticulously engineered stereo preamplifier that won't dilute or degrade sound quality. It accepts 4 line level inputs, provides 2 main outputs and all terminals are gold-plated to minimize signal loss.

THoughtful Innovative Design
In addition to volume, balance, mute, and input selection, the RLC-1 also enables you to fine tune bass and treble via remote. The 5-segment LED indicator provides an easy-to-read reminder of all key operating modes. All settings are held in memory and recalled once power to the RLC-1 is activated. Even the mute function has been thoughtfully engineered. Once it has been de-selected, volume ramps back up gently. This protects your sensitive components from a sudden surge while providing a smooth transition back to original listening levels.

Skeptical audiophiles will appreciate the way the RLC-1 works via a conventional tape-monitor loop - engage it for movies, defeat it for critical listening. What could be simpler?

RISK-FREE FACTORY DIRECT OFFER
We're so sure you're going to enjoy the convenience and versatility of this remarkable preamp that we invite you to audition the RLC-1 in your home for 30 days. If for any reason you're not completely delighted simply return it to us for a full refund.

WHAT THE EXPERTS ARE SAYING
ABOUT THE RLC-1:
The RLC-1 is such a simple, efficient breakthrough in audio signal processing that it already has many of today's most critical reviewers scrambling for superlatives.

"Ingenious and Inexpensive..." It could even be used very effectively as the main preamplifier in a simple audio or AV system."
Julian Hirsch Stereo Review - Jan. '95

"Anybody who is without remote control should definitely consider the purchase of an RLC-1. Its very low price coupled with its ease of use make this a product I can easily recommend. Get it!"
Shane Tenace, HPR - Sept. '95

A SATISFIED CUSTOMER SAYS:
"I used the RLC-1 in place of my preamp, a Sony TA-1000ES, then I used it in place of a Denon AVR-2500, then an Adcom GPF-1A, then a Conrad-Johnson. Each time I was shocked at the results. How can it be possible that for a mere $119 or so, this unit was making my expensive equipment sound less expensive and in some cases really bad? This little black box just sounds that good. Bravo, what a bargain! And what sound - such a nice soundstage, warm and rich, nice tight bass, spatially superior to many 'high dollar' preamps."
Steve Lawrey, Collinsville, VA

*Please refer to key code STP 313 when ordering.

RLC-1 Remote Line Controller.....$119 $10 S&H
1-800-531-0631

"or, pay by check right over the phone" Please allow 21 days for delivery.

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WorldRadioHistory
The ARC SDP1 is a non-Dolby system that handles movie soundtracks amazingly well, for a system that lacks steering, but JGH, WP, and SS — among others — were even more impressed by its impact on two-channel music recordings. The SDP1 can put the ambient space of a recording around you rather than in front of you, an effect that also enhances the perceived “realness” of the instruments within that acoustic. In J. Gordon Holt’s opinion, this processor should dispel any misgivings that music-listening audiophiles have concerning surround-sound.

The Meridian Digital Theatre may well be the most versatile surround-sound unit on the planet: every parameter is adjustable — and in the digital domain to boot! Yet the unit is fabulously transparent, musically. JA, the magazine’s token two-channel hard-liner, has been heard to mutter that even he could be persuaded to go multi-if the results are this involving. Palpability, stage-depth, and a beguilingly attractive tonal response all earned praise from our reviewers.

On the other hand, TJN and JGH both felt that the MDT was better suited for music playback than Home Theater use, citing the sweetness of the sound as a softening of detail. Even so, JGH concluded that he could be persuaded to succumb to its charms, asserting, “It sounds so damned good in so many respects.”

The cost for the 565’s total flexibility is a bafflingly complex control system that is anything but intuitive. Listening to its lush, spacious, involving presentation, one is tempted to forgive it much more than that. The 565 may offer a glimpse of the possibilities awaiting us in digital, multichannel musical enjoyment. A cheering thought, and a job well-done.

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Clear, naturally detailed sound with outstanding dynamics from superbly styled cabinets. These exceptional floor standing loudspeakers continue Spendor's adherence to neutrality - our hallmark for 25 years.

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ny's team of listeners spends most evenings optimizing Mark Levinson and Proceed designs. Here the Grand SLAMMs were driven by the Mark Levinson Reference No.33 monoblocks, a No.385 preamplifier, and No.31/30.5 Reference transport/processor combination. Interconnect was Transparent speaker cable was Kimber 4AG silver.

As might be expected from its daily use, the Wilson system was optimized for the presentation of detail. (Designers need to be able to quickly zero-in on things like the effects of passive component changes.) Tiny little things, such as the different distances from the microphones of the various audience shouts and whistles in the “Old Love” track from Clapton’s consummate live album 24 Nights (Reprise 26420-2), could be perceived without any feeling of them being pushed forward at the listener. The little intricacies of attack that bassist Nathan East uses in his solo on this cut were almost fetishistically revealed, as was the purr of his deep, low-B-string notes. Unfortunately, so was the brassy upper-midrange coloration that the recording engineers had deemed appropriate to lay over EC’s axe. Again, the X-1 appeared to be remaining true to the sound of the recording. But when the recording was up to it, as with the José Carreras Misa Criolla CD (Philips 420 995-2) I also auditioned, you just found yourself floating into the recorded acoustic, virtual-reality style.

Editor’s Choice? You betcha! (Other than one small detail: How the heck do I get hold of $67,500?)

**JOINT BUDGET COMPONENTS OF 1995**

**Audio Alchemy VAC-in-the-Box Phono Preamplifier**

($259; reviewed by Michael Fremer, Vol.18 No.8, August 1995; and Steven Stone, Vol.18 No.9, September 1995)

**Dunlavy Audio Labs SC-I Loudspeaker**

($995–$1195/pair; reviewed by John Atkinson, Vol.17 No.12, December 1994)

**The Parts Connection Assemblage DAC-1 D/A Processor**

($449; reviewed by Wes Phillips, Vol.18 No.4, April 1995)

**Runners-Up (in alphabetical order):**

**Audio Alchemy DDE v3.0 HDCD D/A processor** ($799; reviewed by Robert Harley, Vol.18 No.7 & 8, July & September 1995)

**Audio Alchemy Digital Line Controller** ($495–$754, depending on power supply; reviewed by Wes Phillips, Vol.18 No.8, August 1995; and Jack English, Vol.18 No.11, November 1995)

**Dyneal Postman Binding-Post Wrench** ($7.95; reviewed by John Atkinson, Vol.17 No.11, November 1994)

**Epos ES 14 Loudspeaker** ($1695/pair; reviewed by John Atkinson, Vol.18 No.1, January 1995)


**Spica TC-60 Loudspeaker** ($795/pair–$895/pair; reviewed by John Atkinson, Vol.17 No.12, December 1994)

**Thiel CS.5 Loudspeaker** ($1350/pair–$1380/pair; reviewed by Lonnie Brownell, Vol.18 No.10, October 1995)

A three-way tie that runs the gamut from phono preamplifier to DAC to transducer. The Audio Alchemy VAC-in-the-Box "represents a giant step forward in entry-level phono..."
gear," sez SS. Well-constructed and employing topnotch passive componentry, it offers user adjustability as well as an upgrade path, through AA's selection of interchangeable power supplies. Some have criticized it for lacking palpability and low-level detail compared to the best out there, but that seems to miss the point of an entry-level offering. This unit offers "newbies" a taste of the magic. We approve.

Much the same could be said of the Parts Connection/Assemblage DAC-1, a kit-built D/A processor. Easy assembly is a plus, and the unit's bench test was rated "excellent for any processor, let alone one costing $449" by no less an authority than RH. WP pontificated that it had a "perfect blend of relaxation and precision," finding it propulsive but never forced. JA's a fan too, but feels it necessary to add that his megabux Mark Levinson 30.5 does sound better. Even so, The Parts Connection deserves congratulations all around for getting it so right their first time out. (And for those intimidated by the thought of hands-on hi-fi, Sonic Frontiers offers the same product as the ready-assembled and tested TransDAC-1, for $599.)

The Dunlavy SC-1 is a $1000/pair two-way stand-mounted speaker that conforms to John Dunlavy's basic design philosophy—which is to say, the drive-units are a vertically symmetrical array above and below a central silk-domed tweeter, the shallower drivers are recessed into the cabinet face, and a first-order crossover ensures flat, time-coherent amplitude response on the intended listening axis. JA found the littlest Dunlavy to sound on the lean side, with a brightish mid-treble, but praised its clear midrange, grain-free high frequencies, high transparency, and excellent image definition. Many respondents commented upon the near-palpable soundstaging and the SC-1's ability to deliver impressive amounts of detail without ever sounding unnatural. RD is a big adherent of the SC-1 in a Home Theater setting, pointing out that it also excels as a center-channel speaker.

WILSON AUDIO SPECIALTIES
X-1/GRAND SLAMM LOUDSPEAKER
Runners-Up (in alphabetical order):
Conrad-Johnson Premier Eight monoblock power amplifier
Krell KPS-20I/L CD player/digital control center
Mark Levinson No.30.5 HDCD D/A processor
Pass Labs Aleph 0 monoblock power amplifier
Sonic Frontiers SFL-2 preamplifier
Spectral SDR-2000 Professional HDCD D/A processor

The Wilson Audio Specialties X-1/Grand SLAMM dominated this category almost as resoundingly as it did the loudspeaker voting. There were some powerful contenders this year, but our writers were adament in their praise for these amazing loudspeakers—as well they should be. It's a rare year indeed when a speaker can redefine the realm of the possible in music reproduction.

PREVIOUS WINNERS

1994

Component of the Year, 1994: Dunlavy Audio Labs SC-IV loudspeaker
Home Theater Component of 1994: Proceed PAV audio/video preamplifier
Budget Component of 1994: Grado SR60 headphones
Joint Loudspeakers of 1994: B&W John Bowers Silver Signature Dunlavy Audio Labs SC-IV
Amplification Component of 1994: Audio Research VT150 monoblock power amplifier
Digital Source of 1994: Sonos Frontiers SFD-2 D/A processor
Analog Source of 1994: Linn Sondek LP12/Lingo turntable
Accessory of 1994: Grado SR60 headphones

Component of the Year, 1993: Convergent Audio Technology SL-1 Signature preamplifier
Budget Component of 1993: Sumiko Blue Point Special phono cartridge
Loudspeaker of 1993: Thiel CS3.6
Amplification Component of 1993: Convergent Audio Technology SL-1 Signature preamplifier
Joint Digital Sources of 1993: C.E.C. TL 1 CD transport
Analog Source of 1993: Mark Levinson No.31 CD transport
Accessory of 1993: Lexicon CP-3 THX surround-sound processor

1993

Component of the Year, 1992: Mark Levinson No.30 D/A processor
Budget Component of 1992: Spica SC-30 loudspeaker
Loudspeaker of 1992: Sonus Faber Extrema
Amplification Component of 1992: Melos SHA-1 headphone amplifier
Digital Source of 1992: Mark Levinson No.30 D/A processor
Analog Source of 1992: VPI HW19 Mk.IV turntable
Accessory of 1992: Audio Power Industries Power Wedge 1 AC-line conditioner

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Stereophile, December 1995
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The world’s first total system burn-in treatment, System Enhancer improves the whole system. “Everyone I know who’s tried the disc say they heard a big difference,” reports Sam Yeh, P&D System Enhancer Director. 3-D $19.49.

**Tune Up Your Ears With Chowsky’s Ultimate Demo Disc.**
Chowsky’s Ultimate Demo Disc will improve your listening skills. Used by the announcer, you’ll discover what everyone means by tranquility, depth, resolution, and more. **Chowsky Ultimate Demo CD** $14.95.

**Save $90 On ‘Alchemy’s’ DST Digital Transmission Cable**
Alchemy’s new DST is an active digital transmission line (CD monitor-to-D/A converter cable with zero digital “jack”! Works with coax, AES/EBU, or AES/EBU connections. Output to coax, AES/EBU or AES/EBU Audio Alchemy DST 5.0 DB digital cable, reg. $179.99, now only $89.95.

**Stop Cable Distortion With Digital Noise Blockers**
Reduce digital noise and RF interference with Blackwood noise absorbers. For audio environments, digital cables, & power cords. **Regular Blackwoods**: 12”/$25; 24”/$45: Blackwoods for power cords, up to 1/2” diameter, $25.95.

**“Way Recommended” Grado Headphone**
The Grado Sr-80e present at this price range is just totally unheard of in this price range. Grado is the best of the best. **Grado SR-80e headphones with 9ft cord & mini-plug adapter, only $99.99.**

**Best Selling Grado SR80 Headphone**
Grado SR80 headphones feature a larger, more comfortable ear piece, than the Sr-80 for the same smooth overall sound. Great for both portable or in stereo use applications. **Grado SR-80 headphones with 9ft cord, only $59.95.**

**“Class B” Rated Senheisser HD650s**
“Ultra smooth, ultra-deep bass on back drum heads, full width, extended low frequenices, requires no break-in, ‘they’re John Alchemy’s refer- ence.” **Senheisser HD650 headphones, reg. $499, now only $299.95.”**

**Monster X-Terminal Locking Banana Jacks**
Great locking banana jack with geometry, with Monster Lab’s 3-Dimensional locking, locking speaker cable banana connectors. Monster X-Terminals: box pair $29.95; two pairs $55.95. Box pairs $99.90.

**Michael Green AudioPoint Cone Isolators**
Solid rubber bases with geometry to enhance energy transfer characteristics. Points come with special disc to protect wood or the surfaces. **AudioPoints for Electronics**: $49.95 set of 8, box set $99.00. **AudioPoints for Loudspeakers**: 99.95/set of 8, 2 boxes set $149.90.

**Our “Big Problem” Electronic Connection Cleaner/Enhancer.**
Produced classic & modern wood varieties, wood & paper, are easy. **Proascular problem is not expressed enough for audiophiles to take seriously!** "though it’s probably the best clean-up I ever did to the world!" Proascular $9.95. Spy $11.95.

**Demagnetize CDs With Bedin CD Clarifier—and Save $49!**
CD Clarifier removes the electromagnetic charge that builds up between the CD metal foil & polymer layers. “Does it work?” you ask, yes! reports Mike Nichols in Positive Feedback. “I find the results quite spectacular.” **Bedin CD Clarifier is $37.95. Spy $5.95.**

**Exercise Your System’s Magnetic Demons With Gryphon Existor**
Gryphon Existor system enhancer sends a 24 second pulse through the system running degrading magnetic modules. When you listen afterward, you’ll be shocked! **Gryphon Existor system enhancer $49.95.**

**New Justarack “Junior” Rack As Low As $135!**
New Junior racks have outlet type adjustable 24” wide, 16” deep, 3/4” thick. Black shelves rigged held by 1/2” diameter molded rod/rut/rod, adjustable from between shelf is 33/8” down point feet are included. Some assembly required.

**Justrack Jr. 304, 30” tall with 4 shelves, reg $169, now only 139.95.**
Justrack Jr. 364, 5 shelves, 36” tall, reg. $200, now only 169.95.

**RoomTunes’ Racks by Michael Green Designs**
Sturdy racks with 3/4” hardwoods & adjustable 23.5” wide by 23.5” deep. 24” tall, 3 shelves, model with 35” wide x 21” deep x 35” deep. **Price: $129.95.**

**Low Price/High Performance Target Stands**
New lower price target 37 stands deliver good sound at a bargain-basement price. 37 stands feature one-piece welded steel frames with two support tubes, steel top plate, 18” wide by 9” deep “U” shaped base and zero point feet. Reg. Price: $58.95 per set.

**Target SP40 stands:** 16”, 7.5” x 7.5” top plate, $39.95 each.

**Target SP50 stands:** 20”, 6.5” x 6.5” top plate, $39.95 ea.*

**Target SP60 stands:** 24”, 6” x 6” top plate, $39.95 ea.*

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*StereoFile, December 1995*
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Charge Cards Accepted- No Extra Charge!
You're a typical audiophile. You read this magazine and others like it to cover to cover, month after month, keeping up with industry trends and insider gossip.

You've ingratiated yourself with every hi-fi dealer in your area, all of whom will let you take equipment home for extended auditions, give you generous trade-in allowances, and sell to you at a small percentage above their cost. Never pay retail, you chuckle to yourself, checking the newspaper's classifieds for audio bargains.

On weekends, you chase around to garage sales and flea markets in search of collector's items. You've been buying and trading equipment for years, longer than you can remember, and in the process you've assembled some pretty good systems. Here and there you've acquired a few items that didn't quite live up to their promise, but were too good to part with. They're gathering dust in your basement. Every once in a while someone will mention that a friend is looking for something you've got. Maybe you'll strike a deal, occasionally for a satisfying profit. The reading, the talk, the chase, the acquisition, the trade: it's all part of the fun; in fact, it's probably more what this hobby's about than the music itself.

You've often dreamed about how great it would be to break away from the drudgery of your "real life" and devote yourself entirely to your hobby — you know, make your hobby your business, spend your days doing the things you really love: tweaking and talking and trading hi-fi, hanging out and listening to all those great tunes. Yeah, you're thinking, a hi-fi shop. That's the ticket.

Striking out on your own sounds mighty appealing. You could say goodbye to pain-in-the-ass clients and 8am meetings. No more product development or marketing strategy; no more sales reports, no more hitting your numbers, no more office politics, no more corporate BS. Just a nice little shop with a nice line of gear, in a nice neighborhood with nice customers. You could make a decent living, have a lot of fun. Other folks have done it. Why not you?

Well, you're right, other folks have done it and made it work. Maybe you could, too. But before you punch a hole in your golden parachute, swallow a large dose of reality. Most audio hobbyists have no idea how hard retailers must work, or the kinds of obstacles they must overcome simply to keep their doors open.

I've been in this business since the late '70s, which to me seems like several lifetimes — almost all of it technical, managerial, and custom installation work. I've even taken a stab or two at selling, for which I am congenitally maladapted. I began as a technician for Pacific Stereo, which at the time was the biggest, most successful audio chain in North America. (Pacific had dozens of stores on the west coast, and many others in Chicago, St. Louis, Houston, and Atlanta.) Then, not counting intermittent periods of freelance work, I worked for a locally owned five-store chain, a computer franchise, two high-volume repair shops, a couple of small tweak shops, an upper-mid-fi retailer, one grandiose "Ferrari" shop, and a single-brand specialty shop in a ramshackle old house — 10 in all, encompassing most variations on the theme of consumer electronics. All but one are now out of business.

That lone survivor, a mid-fi chain, sought bankruptcy protection during the early-80s recession that sank its three competitors. (The infusion of a few million dollars from a new owner, and lots of savvy business decisions, put it so firmly on its feet that it now dominates its local market.) Nine out of 10 — almost all of the audio retailers I've known, from the corporate giant to Hi-Fi Buddy's corner store — are gone. Those 10 were enterprises in which I was personally involved; I know of many others that have failed, including some that enjoyed the benevolent support of an entire Scandinavian nation. Not very good odds.

GROWTH EXPERIENCES
Some warm-fuzzy economic theorists believe that statistics are misleading, that not all business failures are really failures; rather, they are growth experiences, from which the owners gain valuable insights, which they apply to new successful ventures. I'm not so sure about that; I think businesses sail until they sink. Audio stores, like the products they sell, work until they fail. And like those products, most of them will fail; the question is when. The few that succeed do so by learning from the mistakes of others.

If you're serious about moving out of your basement and into the retail world, your first consideration is start-up cost. This includes finding and leasing a storefront, stocking and furnishing it, advertising, and paying yourself and your employees some sort of subsistence wage until the cash starts flowing in. How much? That depends on how big your vision is.

Do you want to open a little used-equipment store? That could be done for $10,000 or less. You could use your own collection as an inventory starter kit, and take in gear on consignment, keeping your costs minimal.

How about a traditional tweak shop, with a few respected lines at several price points, from entry level to moderately high-end? Now we're talking $50,000 or more.

If you want to go all the way with a "statement" store, you might need two or three million to really do it right. Got an
Surround yourself with music instead of compromise.

"Based on our time with the SDP1,环绕音响是实现家庭音乐再现的下一步。 Predictably, the two main channels pass through to the main amplifier, untouched. Execution is half the battle and ARC has applied their high standards to the SDP1. This is reflected not only in the build quality, but in the design of the digital delay circuitry and the circuits that derive the ambient and center channel information. The approach is purist...

We want to buy into the illusion that a live music event is happening in our homes... The ARC SDP1 helped me get much closer to that illusion...

Adding surround sound through the SDP1 was like switching from solid state to tubes without sacrificing the resolution...

The SDP1 weaves its most powerful spell on concert recordings...

With the SDP1, the listener cannot avoid involvement and it takes much less effort to suspend disbelief...

The SDP1 removes the wall; it restores the continuum of sound between the instruments and the listener. This effect is subtle but profound. It is a revolutionary improvement in the credibility of reproduced music."

By Tom Millar
Reprinted from THE AUDIO ADVENTURE
April 1985, Vol. 2, Issue 4

"The Audio Research SDP1 plays music with superb sonic fidelity, much better than other surround processors.

As things stand today, the Audio Research SDP1 is clearly focused at the listener who is unwilling to compromise the basic sonic fidelity and spatial imaging of the front stage space, who is unwilling to settle for less music than he hears today from his high end stereo system.

On music recordings, all the musical information is up front in this front stage space. All other surround processors degrade this vital information. Only the SDP1 does not.

In fact, the SDP1 can enhance this front stage information. The SDP1 can help the center stage space become deeper, richer, and more realistic. Enhancing the believability of the musical event on stage. It can even improve the apparent fidelity of instruments playing center stage. The natural musical nuances of each instrument can be more clearly heard when each instrument is surrounded by its own portion of believable stage space.

Congratulations to Audio Research for having the courage to uphold their tradition and stick to their guns. It's paid off with a unique surround processor that redefines the fidelity standard for music lovers interested in surround sound."

By J. Peter Moncrieff
Reprinted from IAR HOTLINE! 68-70
December 1984

"For those of us who have succumbed to the enticements of surround-sound for the SDP1. Audio Research's SDP1 is... cause for rejoicing because someone has finally done music surround right...

Audio Research is, to my knowledge, the first company to offer completely distortionless stereo channels in a surround decoder...

I wasn't surprised to find the SDP1 the best-sounding surround decoder I've ever heard--or, rather, not heard... I could hear no "sound" from the decoder whatsoever... I guarantee you won't find another surround decoder that has any less effect on the front channels than this one...

If you have any misgivings about getting into surround-sound for your music listening, the Audio Research SDP1 should dispel them. It passes the all-important front channels completely unscathed, it does as good a job as any decoder can with the surround channels..."

By J. Gordon Holt
Reprinted from STEREOPHILE
Vol. 18, No. 8, August 1985
downstairs to check on the neighbors' apartments. No damage on the second floor; it had been bypassed as the water ran through the building's frame and down to the ground-floor apartment, whose occupants came home just as we were knocking on their door. We all went in, turned on the lights, and saw a mini-waterfall rolling down the wall just inches away from a Steinway grand piano.

**Audio Stores, Like the Products They Sell, Work Until They Fail.**

Total disaster was avoided by what I interpret as divine intervention, because I'd undertaken the job on a handshake and was operating without the protection of even the most basic liability insurance. The TV producer told the building's owner that I was a friend of his who was helping him move in. Miraculously, the owner agreed to absorb the costs for all repairs.

**Dancing without a Net**

You can't afford to be either stupid or greedy. I had a meeting recently with a well-connected and very upscale Home Theater retailer who was trying to recruit me to do a huge custom installation he'd sold to a wealthy software executive and his attorney wife. We looked over many pages of blueprints for their proposed California dream home: a $5 million, multilevel, curved and cantilevered architect's statement set into a tenuomous oceanfront hillside. The drawings specified a whole-house background music system with in-wall speakers in every room, including the gym, the cigar room, and both wine cellars. It also included one stand-alone high-end music system—which could be tied into the whole-house system if desired—and two Home Theater systems, one of which was to provide entertainment for guests in the partially open upper-floor game room, where the video projector was to be mounted in the ceiling 30' above the ground-floor entrance.

The more I studied the drawings, the more reluctant I became. The dangerous architecture spooked me. I've done this sort of job before, virtually living on-site for three months as the house is being built, and for another month after completion as I debug the system, which has undergone several revisions during construction. After the owners finally move in, there are endless house calls because they've lost the remote control or can't remember which button to push, or because one of the kids has fried the motor on the projector lift by running it up and down, or has loaded the VCR with his pet hamster.

For this installation the retailer alluded to big bucks, which I sorely needed, but in the same breath he badmouthed his former in-house installer and all-around electronic genius, a brilliant, hard-working kid with whom I'd collaborated on a system for one of San Francisco's most trendy restaurants. The kid had split in a dispute over money; not a harbinger of good things coming my way.

I nodded and made sympathetic noises while my retailer friend spilled his guts. He needed to "nail" this job, which he saw as the springboard to more like it. For reasons I will never understand, he confided that he was in deep financial doo-doo, behind on the rent for his showroom, and recently had canceled his liability insurance, all of $1600 per year, because he "couldn't afford it." This is a guy who runs around in Gucci loafers and a shiny black BMW, who thinks nothing of slapping down his American Express card for a $90 dinner. His showroom is gorgeous and his sales-

man's patter convincing, and, like many people in this business, he's dancing on the high-wire without a net. I told him I had neither the time nor the temperament for any more big-scale jobs, and politely disappeared.

**Help Wanted**

If you want to get into the custom installation game and do it right, you'll need good installers. Where do you find them? That's a difficult question. Putting an ad in the newspaper will draw you an unbelievable assortment of unqualified job seekers: guys who unrolled cable in the army or kids who converted cheap pickup trucks into low-slung rolling boomboxes. The right candidates will display immediate evidence of higher intelligence, both in their sense of aesthetics and their use of language. They will have a solid knowledge of residential construction and a wide range of related skills including carpentry, electrical, plastering, and painting; a deep intuitive ability with electro-mechanical devices; a familiarity with architecture and interior design; and the ability to converse comfortably with wealthy clients. It goes without saying that they'll understand audio and video systems inside-out and be able to do their own troubleshooting.

If you can't find ideal installers any other way, you may have to train them. College-educated carpenters are your best bet; of all the construction trades, carpenters probably have the most comprehensive understanding of the building projects in which they're involved, and have to exercise the most ingenuity in order to solve problems. Bring them into your store and train them on systems there before you send them out into customers' homes. Good, reliable installers are no longer an occasional requirement for the modern audio retailer: they are the essential pivot around which your whole enterprise will revolve.

Don't be shy about charging your customers the maximum for installation work; no matter how much it is, the job will begin to be unprofitable after your third or fourth no-charge service call. When bidding installations, take your maximum markup on hardware, and figure labor at twice your hourly labor cost, per man. When I was doing lots of freelance installs, one rule of thumb that worked well for me was to "guesstimate" the amount of time a job would take, then tack on 50% for the unknown—for the rental of tools to penetrate impenetrable hidden reinforced concrete or for the necessary removal of an inexplicable cross-brace in a wall, and for countless trips to Radio Shack or the hardware store.

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Whatever highly skilled construction trades are making in your area, plus some. If journeyman carpenters are making $20 an hour, $25 is not unreasonable. If you live in a college town or near an engineering school, you might be able to recruit students for as low as $10/hour. But remember: less is not better, and engineering students are not the tool-wielding, no-challenge-too-tough types they used to be. When hiring workers, you get what you pay for, and if you can't afford to pay people what they're worth, you can't afford to be in business.

Silent Service
Another unpleasant reality, one so unpleasant it's usually passed over in silence, is the reliability, or lack of it, of the products you sell, and the necessity of repairing them. Quality control in the production of high-end audio gear ranges from exemplary to nonexistent. Problems may be minor, such as a loose jack on the back of a preamp; or major, like an entire production run of amplifiers whose output devices fail within the first 30 hours. You need an effective way to deal with such contingencies. That means a service department. In small shops, a salesman with a little technical ability can handle minor emergencies, and ship major ones back to the manufacturers. But if you're doing any real volume of business, you're going to need a service department of some kind, even if it's only one part-time technician, who in turn is going to need a space to work.

Finding good technicians is even more difficult than finding installers. There are almost no schools one can attend to learn the servicing of audio electronics. The instant tech schools that advertise on late-night TV specialize in turning poorly paid broom-pushers into poorly paid board-swappers for the computer industry. If you advertise for a technician, you'll be flooded by applications from recent graduates of such schools. If you hire one, you'll regret the day you duped yourself into turning one of these guys loose on your customers' treasured hi-fi components. The only thing worse for customer relations than selling a defective product is botching a repair.

The Only Thing Worse for Customer Relations Than Selling a Defective Product Is Botching a Repair.

lose a little bit but make your customers happy, you're way ahead of the game. If you make one of them happy, his wife may be the only one who hears about it, but he'll come back. If you make him unhappy, he'll tell everyone he knows; he'll stay away and so will they.

Manufacturers have differing attitudes and procedures for dealing with defective products. Some will go to almost any length to take care of their customers, to the point of replacing inoperable gear with new, no questions asked. Every once in a while, in Stereophile's "Letters" department, you'll read evidence of this — an audiophile raving about the new amplifier he was given absolutely free when he sent his old one in to be repaired. Such letters are not fiction. Miracles really do happen — in some obscure corners of this planet, "concern for the customer" is not a hollow slogan. Companies who go the extra distance to support their dealers and take care of their customers enjoy incredible loyalty and steady business. What a lovely world we might live in were this the rule rather than the exception.

Unfortunately, it's not. Too many manufacturers take the position that if one of their products fails, it did so because of dealer ignorance or owner abuse. This is nonsense. Any well-designed, well-made piece of modern electronics should work perfectly for thousands of hours before it develops a problem, if ever. Don't allow yourself to be bullied by a haughty attitude or the implied threat to take the line away: if you do, you'll soon find your storeroom filling up with dead equipment you can't fix, can't return, and can't sell.

Take a tough stance from the moment you sign your dealer's agreement: defective products will be returned to the vendor, freight collect. Don't let his problem become your problem. The manufacturer who has his dealers doing his warranty work has made the happy discovery that people will actually pay him to do his quality control. Sales reps will pour on the charm trying to convince you that performing warranty work will be a convenient, painless, and profitable addition to your business. Don't take the bait: just say no.

The Big Problems
The problems you encounter with financing, establishing
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From the original Bipolar explorers comes the world’s first complete line of Bipolar subwoofers, the ideal means of adding dramatic new depth to both audio and home theater systems. Track one down and explore the possibilities yourself.
and stocking your store, selling and installing equipment, turning repairs around, and keeping your employees productive and content will be formidable. You will be beset by hundreds of nitpicking little chores that you never imagined back at corporate headquarters: ads to be designed and paid for, orders to be placed, income and expenditures to be jugged, taxes to be paid, records to be kept, a building to maintain, confused and unhappy customers to be placated.

All of this, the daily fare of the audio retailer, fades to insignificance compared to one enormous problem: the structure of the industry itself. Retailers labor under an antiquated economic model of local distribution. They imagine that they’re competing against other local retailers for the loyalty of nearby customers, in the manner of gas stations and grocery stores. But high-end audio is not volatile like gasoline (with the exception of a few amplifiers whose discounting starts. A really profitable loudspeaker might sell for twice its wholesale cost — what hi-fi shops call a “50-point line.” Let’s put a hypothetical pair of Whammer Jammer loudspeakers on sale: whack 35 points off their $1000/pair list price. Now they’re selling for $650, $150 of which is good clean profit, yours to keep when they sell, right? Think again. You’ll have to pay your salesperson a commission — say, 20% of the profit, or $30. Now we’re talking $120. If you have to send your installer out to set them up, subtract another 20 bucks. Finally, take away 25% of your remaining hundred dollars for advertising, freight, warehousing, inventory taxes, and administrative costs involved in making the sale. We still haven’t subtracted income taxes from the “clear profit” of 75 big ones, the harvest of many hours of diplomacy with the purchaser while he tried everything in your shop.

Retailers imagine they’re competing against other local retailers for the loyalty of nearby customers. In reality, all high-end audio dealers everywhere are competing for the business of all audiophiles everywhere.

Names I cannot reveal), or perishable like food, and it is rarely an impulse buy.

In reality, all high-end audio dealers everywhere are competing for the business of all audiophiles everywhere. People with enough disposable income to buy expensive hi-fi tend to be well-educated, well-positioned, well-traveled, and sophisticated enough to understand that United Parcel Service goes everywhere, and that the savings on sales tax for goods purchased out of state can more than offset shipping costs. This market no longer recognizes the sovereignty or value of the local retailer any more than multinational conglomerates respect political borders. For specialized interests like high-end audio, the global village is a reality, a reality that has changed forever the notion of “community.”

But still, we forget that we no longer live in the quaint, self-sufficient small towns of Norman Rockwell’s era. Sales reps, who have the thankless task of signing up dealers like you, will promise you “an exclusive” on Alpha Omega Electronics within your city or region, glossing over the fact that although you are the only dealer in Metropolis, your customers will be price-shopping the guy in Sarasota. And the guy in Sarasota, who has agreed to support the same prices you have (ie, little or no discounts on local sales), appears to have no compunction about offering 25% off to a mail-order buyer.

Net effect: For the resourceful, deep discounts are available on almost everything, which in itself would not be problematic for dealers were it not for the fact that the margin on consumer electronics is low to begin with.

The owner of a jewelry shop or clothing store would think you insane for getting into a business where the standard markup is only 40%. That’s where the low margins, widespread discounting, desperate competition, crushing overhead, and a clientele for whom price is the only consideration make for a huge attrition rate among audio shops. Compare the dealers’ ads in the back of this magazine to one from five years ago. Few of the names are the same. Five years from now, many of the current crop will be gone. These are not happy days for the hi-fi business, or for independent retailers in general. In my experience, a store that lasts five years in prevailing conditions deserves to be called a success, even if its last act is to beg for mercy in bankruptcy court.

So...

Quite a daunting prospect, isn’t it? Daunting but not impossible. If you educate yourself, hire the right workers, pick the perfect location, sign a cheap lease, take on all the hot lines, compose glittering ads, pay everything up front, sell like a demon, and work like a dog 80 hours a week, in a couple of years you might have yourself a nice little ongoing concern. You might even take home a livable wage, possibly as much as $25,000 a year — about what you could earn flipping burgers in Omaha.

Hang in there long enough and you’ll wean yourself from your hobby and quite possibly the love of music, too. Familiarity will breed contempt: a sad, unavoidable fact of life. But in the process you’ll have moved out of your basement, sailed your little ship through churning, shark-infested waters, and learned more than would ever have been possible in the corporate cocoon. Whether you succeed or fail, at least you’ll be able to say, “I tried” — a phrase that the drones back in the office, for all their lip service to “entrepreneurship” and “risk taking” and “the pursuit of excellence,” will never be able to utter.
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STAN GETZ & CHARLIE BYRD
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The union of Stan Getz and Charlie Byrd on this recording is very special. Each musician is a superstar with great lyrical power. Neither attempted to play Latin but let the Samba rhythm carry them in their improvisations on the melodic content of the music. The entire album was recorded in one day in the acoustically warm hall of a Washington D.C. church. Selections include: Desafinado, Samba Triste, Bia and more. LPZ-2011

RAY CHARLES
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Released by popular demand, this 16 song hits package is culled from 5 critically acclaimed releases. Songs featured on this must-have collection include the legendary hit that started it all, I Can't Stop Loving You, plus You Are My Sunshine, Crying Time, Together Again, Born To Lose, Take These Chains From My Heart, You Don't Know Me and many more. LPZ-2012

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What a Difference a WIRE Makes

Ben Duncan describes how he measures meaningful differences between speaker cables

In the October 1995 issue of Stereophile (p.53), Professor Malcolm Omar Hawksford used Maxwell's Equations to develop a mathematical model describing the behavior of cables at audio frequencies. Among the predictions of this model were that for good conductors there exists an optimum size of wire for audio signal transmission, and that for a wire larger than this size an energy storage mechanism would exist. In his article Malcolm described a simple experiment, the results of which appeared to confirm his hypothesis.

Then serendipity struck. English engineer Ben Duncan, whose writings have occasionally appeared in Stereophile, sent me an article he had written for the pro-audio magazine Studio Sound. The results of a series of cable measurements he had performed seemed to confirm the Hawksford Hypothesis. We offer them here for your delight and delectation.

—John Atkinson

Even if you've only glanced at the contents of hi-fi magazines in the past decade and a half, it's likely you've seen reviews of exotic cables. The permutations of conductor and insulator qualities, constructions, and aesthetics are immense. So are some of the prices—with exotic speaker cables ranging up to $500/m, or even more! Cable purchase would be less worrying if there were evidence of progressive, price-linked merit. Instead, in any system having sufficient resolution, almost any cable change affects some aspect of sonic quality. There appears to be an almost random relationship between audio cable construction and sound quality, and few—if any—coherent, solid technical justifications exist for the different design approaches. And sometimes, long-term listening tests have ranked a low-priced speaker cable as being almost as good as a very expensive type.¹

Many manufacturers, particularly in the US, hide their apparent ignorance about what they're making behind impressive-sounding but almost meaningless phrases like "time-compensated" (try delay-compensated), "phase noise," and "phase coherence".)² Many makers evidently just copy. No doubt their products can sound better in particular ways and in particular instances, but the real innovators are few; those who really have a handle on what they're doing are even fewer.

Then, while hard-line objectivists continued to cry "fraud" (and still do so), in an open session at the UK's Institute of Acoustics' Reproduced Sound conference in 1990, Dr. Keith

1 Dick Olsher, "Cable Bound" (review of speaker cables), Stereophile, Vol.11 No.7, July 1988 (pp.103–118). See also manufacturer and reader responses, July and October 1988, and March 1989.

Fig.1 The test setup uses standard DSP-aided test equipment from Audio Precision, and the waveform is captured at both ends of the Cable Under Test.

Stereophile, December 1995

WorldRadioHistory 95
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SERIOUS LOUDSPEAKERS FOR SERIOUS LISTENERS.
Holland and Phillip Newell used a custom-designed difference amplifier to make cable losses and errors audible.3

**DEVELOPING IDEAS**

About 20 years ago, a few perceptive listeners noticed differences in the depth of bass, or resolution of vocal detail, when different cables were substituted for the zipcord and 0.75mm² PVC- or rubber-insulated mains cables—the norm for speaker wiring in homes and recording studios, respectively. This discovery that “cable does matter” led to the use of much thicker wire as an aid to loudspeaker damping or the use of Litz-wired cable. The combination of reduced inductance and increased capacitance of some of these cables, particularly with the latter, was enough to make marginally stable, badly designed, and generally flaky amplifiers “go RF” and expire. The ensuing panic and apparent total non-communication between cable experimenters and amplifier designers explains the raison d’être of low-capacitance, “spaced-eight” (i.e., “-”) speaker cables.

Over the past decade, ideas have changed regarding how loudspeaker cables should be best designed in order to accu-


**THE JENVING APPROACH**

Tommy Jenving has been making special audio cables in Sweden since 1976, beginning with a chunky speaker cable, the Supra 2.5. The idea of Supra Ply came more recently, and laterally, through developing and patenting a shielded mains cable called Supra Safe. The idea was to protect studio equipment and humans alike from 50Hz and 60Hz AC fields. Research into reducing power-line radiation indicated that low inductance was the key, and that high cable capacitance was unimportant. Realizing that the pulsating, high-peak-current-flow conditions in speaker cables are similar to AC wiring into DC power supplies, Jenving was able to ask, “Why are exotic speaker cables made with low capacitance as a main feature, and with consequent high inductance?” The answer seemed to be that such wares are of fundamentally wrong design, even if some second- and third-order details are attended to.

Unlike almost any other cable maker, Jenving has no trouble clearly outlining the logical design philosophy of Supra 2.0 in plain English. A number of other cable makers—e.g., Kimber and Goertz in the US—have converged on much the same minimum-inductance approach, but their products often use more exotic, ultra-costly materials (such as over 99.99998% pure silver), and they’re apparently unable to explain their approaches so coherently.

Jenving divides relevant parameters into the “dynamic” (stuff that varies with frequency) and “static” (stuff that doesn’t). The latter comprises, first of all, resistance. Cable resistance that’s very low relative to speaker voice-coil resistance is essential for good damping, but as the test results show, it’s only the beginning of the story. Characteristic impedance is also frequency-invariant—but its relevance in the audio range is truly negligible, even at ultrasonic frequencies.

Turning to the “dynamic” parameters—namely, capacitance and inductance—Jenving reminds us that the two work in opposition: minimize one and the other will rear up its head. The frustrations of cable design are hidden until Skin Effect (including the related Proximity Effect) is recognized. This works like extra inductance; i.e., an added, rising resistance with frequency. It occurs because locally circulating “eddy” currents in conductors cause the apparent inner-core inductance to increase with frequency, such that the skin of the conductor appears to have the least resistance to current flow. The counter-intuitive outcome is that fat, low-resistance conductors develop unexpectedly high resistance both at high audio frequencies (above 2kHz) and to transients.

Some cable makers try to overcome this by paralleling thin and fat wires, The Jenving approach is to use zoned tin plating to progressively increase the (DC) resistance of the conductor toward the outside. The higher resistivity of tin largely defeats the skin effect (so that a high-CSA conductor can be used without transient and HF losses and errors), while its relative inertness prevents oxidation of the (almost) oxygen-free copper conductors. The cable is completed with a covering of special PVC having low emission of corrosive chloride ions. Although many audio-grade cables use notionally superior insulators and conductors such as PTFE and Silver, such niceties seem irrelevant until basic details are mastered. Previous extensive testing by Martin Colloms1 certainly shows that cable sonics have had little corroboration with the mere excellence of the materials.


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AND A STABLE PLATTER MECHANISM,
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ceived by the artist. The PDR-99 also has the extraordinary
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of the disc. This ensures more accurate playback and
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IV (PC-based) simulation of loudspeaker/amplifier interfaces to demonstrate the existence of energy “tails” when a stimulus stopped. Taking this into “realspace,” the Dual Domain DSP version of the Audio Precision System One test set allows audio signals to be graphed over time. It’s analogous to using a storage oscilloscope, or performing transient analysis with a circuit simulator.

The test setup is shown in fig.1. The Audio Precision’s sample rate was set to 192kHz, with a free-running trigger. Each of the Cables Under Test (CUT) — see the “Test Group” sidebar — was 5.5m (18’) long. Note that the signal was read at both ends of the CUT and both waveforms are shown in each of the graphs. This poses a question: What cable to use for these sensing connections? They each needed to be about 1.9m long, and their own reactance — hence energy storage characteristics — would be expected to affect the results. On the other hand, as sensing cables, they’re not passing any appreciable current. This explains why the “obvious” course of using the CUT for sensing, too, wasn’t adopted — according to Jenving and others, the optimum cable characteristic for the sensing or line-level condition is the opposite of the CUT’s characteristics or condition.

Fig.1 shows how the sensing cabling was partly isolated with standoff resistors. Their value was governed by the need to: a) maintain a reasonably low source impedance in the sense of cabling, b) not unduly increase the AP analyzer’s noisefloor, and c) not unduly degrade the analyzer’s Common-Mode Rejection (CMR). To keep CMR better than –80dB, 10-year-aged (read: stable) Holco metal-film resistors were matched in each pair to better than ±0.006% at the room temperature, with a Datron 6.5-digit digital meter. For all tests, the sense cables were identical (within ±2%) lengths of identically colored Milflex cable taking off the same reel.5

Optimum cable placement in a crowded lab required some lateral thinking. First, the CUT needed to have both ends relatively near one another so that the sense cables could be the same length without coiling or folding. But the tested cable couldn’t be tied back on itself, as this would cancel some inductance, and wouldn’t represent a real condition of use. Second, a quick method was needed to make the positioning easy to replicate, without sticking everything down with gaffer tape. Third, the CUT had to be kept away from other parallel cables, EMI sources (any one of three PCs and VDUs), and any substantial areas of ferromagnetic material (such as steel test-equipment casings) to avoid warping the CUTs’ immediate electromagnetic environment. Repeat positioning would then be less critical.

The solution was to hang the cable from a wooden roof beam. The cable’s n-shaped length (2.2m up, 1.1m across, 2.2m down) was then well separated from bad influences, and was mainly orthogonal to them.

To address variations in contact resistance, reputable European and US makers of XLR connectors were soldered to both ends of most of the tested cables. All visibly tarnished pins were cleaned with alcohol. Connections were made with the test signal muted, to avoid degradation by arcing. Some cable’s cores were too thick for solid termination. Others arrived with high-quality 4mm bouch-pin plugs ready-fit. These were plugged into short (1") 4mm-XLR conversion tails, made with the same heavy PTFE wire as the Y-plots.

The loudspeaker used for the tests was a full-range, 15" dual-concentric design made in Scotland. The speaker’s high-quality two-way passive crossover was said to have been developed by designer Mark Dodd to “high-end” standards: the inductors were all air-cored types; the capacitors were specially chosen and modified polypropylene-dielectric types. The rising impedance with frequency of the modest 150Ω/8 ohms/channel lab test amplifier — it has a conventional two-pair MOSFET output stage followed by a small, 1μH air-core series output inductor — and the speaker/ crossover combination were considered typical of their genre, and invariant.

Fig.2 shows a 1kHz sinewave toneburst — two cycles on, two cycles off — in a 6-millisecond (0.006s) time window with a peak voltage swing of almost ±2V. In the following tests, this toneburst signal, and similar ones at 15kHz and 125Hz, was both the stimulus at the driving end, and the signal received at the destination end, of the CUT. The 900mV RMS test signal, while enough to develop 100dB spl at 1kHz at 0.4m from the test loudspeaker, represents a power level of just ¼W into the nominal 8 ohms. The higher excitation required by the majority of less sensitive monitor speakers would seem likely to increase any differences.

Comprehending the Pictures
For anyone who has doubted that loudspeaker cables can affect music reproduction, and equally for those who can readily perceive differences but have given up hope of measuring them, here at last are some easy-to-grasp pictures of

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what’s going on.

Fig.3 shows a typical measurement plotted to the same scale as fig.2. A very slight difference can be seen after the stop of the toneburst, but the scale here is too coarse to be meaningful. Each of the following graphs therefore shows a magnification of the voltage (by about 25 times) at the point immediately after the sinevave burst stops. A resumption of a straight, central, horizontal line would be ideal. But cables, passive crossovers, and speakers (in ascending order) are all energy-storage devices. The most immediate analogy is room reverberant decay. In theory, the stored energy should be clamped right down on and done away with, by virtue of the high negative feedback (NFB) still used in most power amplifiers.

**Test group 1**

The first series of tests (figs.4–11) used the 1kHz toneburst signal. In each graph, one of the two traces can be seen to be almost flat. This is always the more tightly controlled response, measured at the amplifier output terminals. Deviations here indicate deficiencies with the amplifier’s negative feedback control. The other, wilder, more wavy response is the imperfect damping measured at the speaker end. The different responses directly show each of the cables’ ability to aid the action of the amplifier’s NFB. The ranking (based on the distance between the first negative impulse and subsequent positive peak, in grid units and rounded to two significant figures) is:

- Supra Ply: 0.7
- Connectronics: 0.8
- Sonic Link blue: 1.0
- Sonic Link mains: 1.3
- Twisted 1mm: 1.3
- Monster Cable: 1.5
- Zipcord: 1.5
- Twisted 0.5 solid: 3.6

In the above and all subsequent tables, the top of the list indicates best performance. Notice that even at this upper-midrange frequency, the damping-in-time varies. For example, the purpose-made top two cables have clearly damped to a low level after the first three half-cycles, whereas with some of the others, a distinct gap remains well after the third half-cycle. Also, the negative peak excursion is considerably smaller than the positive in some (zipcord and solid-core), whereas the difference between successive half-cycles of damping is less pronounced for the Connectronics and Supra Ply. As these two apparently present the smallest or shortest “damping demand” on the amplifier, the difference may be the NFB needing to act less. A curious feature, considering their physical differences, is the peaking similarity between the Monster Cable and zipcord.

**Test Group**

C) **Monster Cable** is the LF section of the budget bi-wire speaker cable, sold for installation in 1991. The measured conductors comprise at least 100 thin strands of Oxygen Free Copper (OFC), totaling about 2.5mm² CSA, cast in transparent and soft circular PVC with a black, rippable, circular PVC sheath. The unused HP conductors are thin solid-core, not unlike cable E. They are inside the sheath but were wholly unconnected during tests.

D) *Jenning’s Supra Ply 2.0* comprises 240 tin-plated strands totaling 2.0mm² CSA that are better than 99.9% OFC, in a rectangular, maximum-capacitance profile. The quite thin, “Ice Blue” colored PVC insulation is stabilized; ie, emission of chlorine is low. The overall transparent sheath is ordinary PVC.

E) Twisted 0.5mm² CSA solid-core cable, PVC-insulated with no sheath, and twisted about 1 twist (or turn) per inch. The diameter follows a theoretical optimum for low-dispersion audio transmission developed by Dr. Malcolm Omar Hawksford, as originally published in Hi-Fi News & Record Review.

F) Twisted 1mm² CSA cable, comprising 32 strands of plain 0.2mm PVC-insulated and loosely twisted about half a turn per inch, with no sheath.

G) **Sonic Link** AST-150. Comprises 30 strands of 0.25mm tinned copper, insulated and sheathed in silicone rubber. Sample was blue. Similar physical characteristics to any arctic-grade two-core, 1.5mm² AC cable; ie, dressability is a notch above common PVC.

H) **Sonic Link**, three-core “audio-grade” AC cable. The third core was not connected at all. A two-core version is usually available. Each core comprises 19 thick strands of 0.25mm silver-plated copper with PTFE insulation—including a thin but extremely rugged sheath. Doing much stripping would be taxing without special PTFE strippers.

—Ben Duncan

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1 Wire is usually circular, and a 1mm-diameter circle has a CSA of only 0.799mm². CSA (not the diameter) defines current capacity for a given temperature rise.

2 PVC is the common plastic polyvinylchloride. Nobody makes conductors from PVC because its dielectric losses are so high; ie, it steals energy. Yet all cables are, in part, elongated capacitors. PVC (like most plastics) also emits chemically reactive substances (eg, plasticizers and chloride ions) that can oxidize conductor skins, making them semi-conducting and dielectric.

3 Raw copper contains oxygen and has random crystallinity. Successive annealing and related processes remove impurities, including oxygen. When oxygen levels are below about 1 ppm (one part per million), the copper is considered free of oxygen, hence the designation OFC. In reality, at least the surface will eventually re-oxidize. Yet it is reported (at least with silver) that tarnishability ceases when purity exceeds 99.9999%.

Fig. 12 Zipcord at 15kHz.

Fig. 13 Connectronics at 15kHz.

Fig. 14 Monster Cable (LF section only) at 15kHz.

Fig. 15 Supra Ply at 15kHz.

Fig. 16 Twisted 1mm² at 15kHz.

Fig. 17 Twisted 0.5mm² at 15kHz.

Fig. 18 Sonic Link blue at 15kHz.

Fig. 19 Sonic Link mains at 15kHz.
Test group 2
HF testing was carried out at 15kHz (figs.12–19). In all cases the signal shows a quite large but well-enough-damped ringing at the driven end. This is a common enough power-amplifier imperfection. Notice how much the peak amplitude of the larger of the two plots—which is always the signal at the speaker end—varies. Again, ranking is based on the difference in grid units between the first and second half-cycles. Surprisingly at such a high frequency, some of the fat, low-resistance cables are damping best—if not in the order one would predict from their CSA:

<table>
<thead>
<tr>
<th>Cable Type</th>
<th>Grid Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supra Ply</td>
<td>5.7</td>
</tr>
<tr>
<td>Sonic Link blue</td>
<td>5.8</td>
</tr>
<tr>
<td>Connectronics</td>
<td>5.8</td>
</tr>
<tr>
<td>Twisted 1mm</td>
<td>6.0</td>
</tr>
<tr>
<td>Sonic Link mains</td>
<td>6.1</td>
</tr>
<tr>
<td>Monster Cable</td>
<td>6.2</td>
</tr>
<tr>
<td>Zipcord</td>
<td>6.2</td>
</tr>
<tr>
<td>Twisted 0.5mm</td>
<td>7.0</td>
</tr>
</tbody>
</table>

The ranking method is ad hoc. What happens if it’s changed? The ranking below is the difference between the Send and Receive waveforms, with the cable having the least overall difference first. Again, the difference is in grid units:

<table>
<thead>
<tr>
<th>Cable Type</th>
<th>Grid Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supra Ply</td>
<td>1.0</td>
</tr>
<tr>
<td>Connectronics</td>
<td>1.3</td>
</tr>
<tr>
<td>Sonic Link blue</td>
<td>1.6</td>
</tr>
<tr>
<td>Sonic Link mains</td>
<td>1.7</td>
</tr>
<tr>
<td>Zipcord</td>
<td>1.8</td>
</tr>
<tr>
<td>Monster Cable</td>
<td>2.0</td>
</tr>
<tr>
<td>1mm twist</td>
<td>2.0</td>
</tr>
<tr>
<td>Solid 0.5mm twist</td>
<td>2.1</td>
</tr>
</tbody>
</table>

Test group 3
Testing next at an upper-bass frequency, 125Hz (figs.20–27), the spread is similar and no less interesting. The best damped ranking, again based on the vertical grid units between the first two half-cycles, is:

<table>
<thead>
<tr>
<th>Cable Type</th>
<th>Grid Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supra Ply</td>
<td>0.4</td>
</tr>
<tr>
<td>Connectronics</td>
<td>0.6</td>
</tr>
<tr>
<td>Sonic Link blue</td>
<td>0.8</td>
</tr>
<tr>
<td>Sonic Link mains</td>
<td>1.4</td>
</tr>
<tr>
<td>Twisted 1mm</td>
<td>1.4</td>
</tr>
<tr>
<td>Monster Cable</td>
<td>1.7</td>
</tr>
<tr>
<td>Zipcord</td>
<td>1.8</td>
</tr>
<tr>
<td>Solid 0.5mm twist</td>
<td>4.8</td>
</tr>
</tbody>
</table>

Notice that at the point where the sinewave starts again, the destination signals in the zipcord and the 0.5mm solid-core cables have not wholly reconverged on the drive signal (look for the tiny gap), demonstrating not just poorer damping, but also excess dispersion or sluggish settling—this is likely to be different at other frequencies.

Controls
A natural follow-up question is: “How much are these results due to the cable’s own characteristics, as opposed to the speakers?” In figs.28 and 29, the worst- and best-performing cables were connected to an 8 ohm, 1kW-rated test load that is almost purely resistive. Now the differences are smaller, but still clearly discernible on this scale. So we may conclude that cables do exhibit measurable energy storage, but that a speaker’s own energy storage usually swamps this.

Next, a control was run: The best-performing cable was reconnected the next day and replotted. Repeatability was very close. Small differences were due to the finite certainty of the Audio Precision’s sampling and the display screen pixels, and to variations in contact resistance in both the XLR connections and the AP’s relays.

Summary
For the first time, large differences have been demonstrated between different cables connecting a loudspeaker driven with a discontinuous signal (that represents a music transient) using industry-standard test equipment, and without recourse to exotic techniques. At 45mV relative to 13V RMS peak drive, alias -29dB down—or just 1 part in 28—the size of the largest measured perturbations is surprising. With the best-performing cables, perturbations are reduced to about 1/50 of this, or -50dB down. Hence the measurements show how cables expressly designed for audio, and in particular for speakers, can improve damping perturbations by at least 20dB.

Better cables also shorten settling time. The results clearly demonstrate the limitations (at least with a full-range speaker) of the conventional, simplistic approach of using the fattest wire, as well as the futility of using a thin solid core. The results also illustrate the logic of making special cables for AC power purposes—considering that mains current into any DC power supply is a burst waveform, much as is simulated here.

These tests make clear that Supra Ply is indeed a star performer, as claimed. Against a wider range of audio-grade cables, it would not be surprising if one or two of the other low-inductance types were strong competitors. But the point of this article is simply to show that cables do differ measurably in ways that relate to music. The measurements provide a way of short-listing serious contenders and eliminating spaced-eight cables from serious consideration, after which readers must make their own decisions based on cost and relative sonics in the context of their monitoring system(s).

Caveats
Even without advertising hype and misinformation, determining the “best” speaker cable for a given real-world situation is a complex issue. If your power amplifier turns into an RF oscillator because it can’t handle high or even modest capacitance (and some otherwise reputable designs can easily fail under these conditions), you’d likely find the sonic better with a lesser (but less capacitive) cable. If no one bothers to check for RF, using suitable equipment (at least a 35MHz scope), entirely wrong sonic decisions can be made. If RF occurs, then to use the low-inductance cable that speakers need, you should consider a) having the amplifier re-engineered for proper stability, using parts costing as little as $20; or b), less drastic than the first two options, moving the amplifier(s) next to (or much nearer to) the loudspeakers, so the cable capacitance (always a product of length) is slashed.

Another pitfall is with tube amplifiers, and transistor amplifiers with zero or low overall negative feedback. Their damping

can be so poor (far worse than the situation seen in figs.12-19) that the cable’s damping differences documented here may be swamped, again leading to a different optimum.

FURTHER READING

ACKNOWLEDGMENTS
This article was made possible by the kind assistance of David Heaton of Audio Synthesis. Thanks also to Dr. Keith Holland at ISYR, Southampton University, UK; Patrik Lagerstedt; Mark Dodd; Matt Dobson; Richard Black; and Phillip Newell.
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Technobabble.
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Nowadays you hear a lot of talk about technology. But only the new M Series® by Monster Cable® is specifically designed for advanced systems that require higher performance cables to bring out the best sound and picture from your components. Monster Cable has developed new products, in addition to the acclaimed M1300® Mk. III and M Silver Video to complete its renowned M Series line of advanced audio and video cables — ensuring you get all the system performance you paid for.

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Eeverybody knows Branford. He's toured with Sting. He did The Tonight Show with Jay Leno. He makes exquisite jazz records.

Branford's rig consists of his Linn LP12/Ittok LVII/Asaka, PS Audio moving-coil Amplifier Two, California Audio Labs kon Mk.II CD player, Revox B215-S cassette deck and B250-S pre-amplifier, Hafler Pro 2400 power amplifier, and Revox Emporioan B loudspeakers, all connected with Monster Cable on Sound Organisation tables.

Yes — Branford's a Linnie. He spins his LPs on that modern audiophile classic, the LP12.

"Yeah, I love that stuff. I have to upgrade the cartridge, though. I bought this years ago and I haven't been really settled. Not 'til I have a permanent house. Sometime next year."

"Do you listen a lot when you're home?"

"All the time, Rick. All the time."

"You have it on as background when you're doing stuff around the house?"

"Yes, but it's never background for me... that's the problem. It's ruined most of my relationships with women, and a lot of my other relationships, because music serves as background to most people. I wish it could be for me. I can put music on and have a conversation with you now, but when it really gets to, for instance in Beethoven's... maybe it's the 4th — there's one part in the second movement when the clarinet comes in and it goes, da da da da da da da da, and whatever I'm doing, if I'm talking to people or if I'm working on something, I stop, 'cause I have to hear it. It's only 15 seconds, but I have to hear it. I have to have those 15 seconds."

"You're always like this?"

"Yeah. I complain about the Muzak in department stores... women go crazy. My ex used to be like, 'Could you just be normal, for a little while?... Can..."
we not have to talk about this? I'll be standing in the escalator saying, 'You know, they could've done that a lot better than they did.' It's tough for me to put music in the background. I try, though."

"I know what you mean, Branford. I've set up systems for friends, and they complain they can no longer read while listening, because the music demands full attention."

"It does. It's some hardcore shit. It's not what people think it is at all. That's the joy of it... and that's the despair of it at the same time. [laughs] Ever since I was a kid, I've always been a weirdo, and I had no aspirations of being a professional musician then. I just had a love affair with music."

"How did listening to music fit in at the Marsalis household while you were growing up?"

"We all had our times for listening. I listened to music that nobody in the family wanted to listen to. I would play Led Zeppelin or Yes. Whenever I'd play Sly Stone, my dad wanted to hear it. Or Rufus. He loved Rufus. Whatever he really liked, he'd tape it on his Revox reel-to-reel. It used to kill me. By then they were starting to make those sophisticated cassette players. Technics made this little portable, which I loved. The sound was amazing."

"Was that your first piece of audio equipment?"

"The first stereo I had was a cheesy all-purpose thing, you know, with the record player on the top and an 8-track. I bought this Technics, and I didn't have an amp to play it through. So I dismantled the turntable — it was killing my records anyway. I put a piece of plywood on top, drilled a hole, ran it through, hooked it in, and that was my power amp. I would make all kinds of tapes. I'd drive all the way to Alabama to tape Parliament Funkadelic concerts. I'd come back home and patch 'em through and EQ 'em, filter out all the unwanted noise. I was really into it. My dad was really into his reel-to-reel, and I'd say what I was willing to spend, and I said, 'Oh, five grand.' "Oh," he said, 'come back here... ' He let me in this door, and it was like angels were singing. He opened the door and aaaaAaaaAhhhh [sound of angels singing], 'Oh my God!' He started playing records. I was sold. I was 16.

"After that, when I would go on the road, I would always make it a point to visit audio stores. Just hang out and listen to records and talk to these guys. I've had the bug since I was 15."

"Are musician friends impressed by your system?"

"Not really. They can't hear. I know it's a weird thing to say, but they can't. It doesn't matter to them."

"So they don't have high-end systems?"

"Most musicians won't even spend the money. They're just cheesy."

"I don't have the right speakers yet. I've just been waiting, because the last five years I've been in transit. The first thing I do when I get my new house is go speaker hunting. I'm probably gonna change the whole system.

**My Father Taught Me a Trick: If You Wanna See Some Real Equipment, Tell Them You Want to Spend $5000.**

'Dad, get with it. That reel shit is finished, get you one of these cassettes.'

"'No.' He'd stay with his little hip reel-to-reel."

"Branford, I feel I should admit that my dad had an 8-track that recorded."

[laughs] "Oh God, that's funny. We didn't have one of those, I'm happy to say."

"How did you end up with a high-end system?"

"When I bought that Technics, it was 400 bucks. I was 15 years old."

"So you had the bug back then..."

"Yeah. Once I went to a store. My father taught me a trick. He said, 'if you wanna see some real equipment, tell them you want to spend $5000.' So the gentleman asked me

"At The Tonight Show, I had them get me a total Exposure system, and that was amazing. It was just a delight to go to work. I still didn't get the right speakers. For most classical music it was great — it just didn't have enough low end for me, but that Exposure stuff really spoiled my ass."

"What's on the platter now?"

"It's stuff from the next Buckshot record. I can play you a cut."

"Cool."

The song is "Reality Check." It's a high-energy, high-speed hip-hop rap. A horn section trades off with a DJ, and a real drummer backs it up. The piece is well served by the LP12 turntable's technical and musical features, particularly in the image and

1 Buckshot Lefonque is Branford's most recent record, as well as the name of his current band.
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soundstage departments, would probably benefit from a less haphazard speaker setup—both are in one corner of the living room, next to a window and glass door. Considering that Branford is moving in and unpacking boxes as we speak, the situation's understandable. Nonetheless, the sound is involving and nicely detailed down to the upper bass.

"That's a killer song, Branford. It's easy to see why people seem to have a hard time putting a name on Buckshot's music."

"There's a lot of stuff mixed in there. I've been waiting to make that first Buckshot record my whole life. I first decided I was gonna do the Elton John song, 'Monica Lisa (And Mad Hatters),' when I was 10 years old. I've been thinking about it since I was a kid, making a record like that."

"I'm happy to notice you seem to release everything on LP..."

"I have an old recording contract, and when they added the addendum for CD, they didn't remove the LP clause. So legally, they have to do it. Once, a friend called and said, 'Hey man, your record's not out on vinyl.' I called the product manager and I said, 'You motherfuckers...I just went crazy. Two weeks later they released the LP."

"It's important to a lot of people."

"It's important to me. A lot of people understand that the quality is superior on vinyl."

"Branford, are you aware that *The Jeepy* is quite a sought-after audiophile item, particularly on LP?"

"I heard that. I found that really amusing because critics hated that album. I love it. We did that one in Queens, at Astoria Studios. It was a battle with the house engineer. That record is like a résumé record for him. So when I would experiment—like I would walk away from the mike in certain parts—he's freaking out because the only thing he's thinking about is his résumé. So he comes in the studio, and he sticks up an omnidirectional mike. I just lost it. I said, 'Man, take that mike down, get out of this room, and do not speak to me for the rest of the time I'm here.' We're trying to make a certain kind of artistic statement and he's thinking about his goddam résumé."

"That experimenting's what makes *The Jeepy* great. One of our writers, Jonathan Scull, often uses it while reviewing equipment. His favorite part is when you turn around with the saxophone. You can almost see it."

"Something I always notice is with those outtake records, like there's one Miles Davis record where they stop, and Coltrane asks for a beer. If you think about it, when you listen to a record of any kind, you never get an image of anyone being in the studio. It's as though there's this miraculous spiritual process that just created itself out of thin air, until you hear them stop or hear them talk. It suspends the surrealism of the moment and pops you into reality."

"It sounds like live musicians playing together. Very natural. Do you belong to the 'less is more' school of recording?"

"I don't necessarily agree that simpler is better. Sometimes it is. You hear those Miles recordings from the '50s, or an Art Blakey recording, or old Son House or Louis Armstrong from the '30s—those are great sessions, and those are pure sessions. I got a record I listen to now, Duke Ellington from 1936, it's the pure shit. I don't want my records to sound like that. This is not 1936.""

"The *Buckshot LeFonque* idea is obviously very different."

"It's not the same kind of reference to a live trio playing. I'm a studio-head. I'm an audio junkie. We spent more time with the mix on *Buckshot* than the performances. We just sit in the studio all day and try things. Particularly when you're dealing with black music, they don't do that. They just go in, they make it. Fuck it."

"I'm like Hendrix with that shit, man. Try things, y'know? I grew up listening to Hendrix and Pink Floyd, and you could tell they lived in the studio. Beatles records are phenomenal. George Martin was incredible. That man...that man, I'm on his dick. He's just the man. Yeah, they were all great songs, but he is the man."

"You listen to their solo records and they just don't have the same kind of impact. He didn't produce those. Beatles records, with the French horns and the strings...man, it's great. Bringing all types of instruments, like that little keyboard thing, the sound on 'Lucy In the Sky With Diamonds'...I could go on and on about him. Just the stuff that he came up with off the top of his head—he was willing to try anything. It's more than just the songs with the Beatles records. The production is just...man! It's a damn shame that he doesn't do more production. I think it would be folly for him to do rock'n'roll production, but it's a drag he doesn't produce more classical, 'cause the man is just a phenomenal cat. I love his dirty drawers, man. I'd love to produce something with him. For the time, he was the perfect thing. Way ahead of his time."

While we're talking, Branford puts on an opera CD. It's Puccini—La Fanciulla del West, with Zubin Mehta, Deutsche Grammophon 419 640-2. The magic of his analog front end is missing, but the sound remains musical.
“I've had this stereo since '89. Time for a new one. The kitchen's so far away from the living room, you gotta blast this stuff just to hear it, so I'm gonna buy some cheapo speakers, like in my bedroom. Come on up... See these things? 150 bucks for the pair.”

Branford points down to the floor at the cute little Solid HCM2s by Rock Solid Sounds. They're being fed by a Sony D321 CD player, Klyne SK6 preamplifier, B&K Pro-600 power amp, and more Monster Cable. He puts on Miles Davis's Circle in the Round and it sounds great! It's open, smooth, and clean—'with, predictably, not a lot of bottom end. I'm surprised that the cheap portable CD player with these diminutive speakers can produce such music. Granted, the Klyne is a world-class component, but still...

When you listen to a record of any kind, it's as though this miraculous spiritual process created itself out of thin air.

True to form, in the middle of conversation, Branford stops abruptly. He's become possessed by “Love for Sale.”

“I wait..."

“I need a new CD player up here.”

“You mentioned it's time to change your main system...”

“They all sound different. It's just time for a change. It's a good system. It's not an ideal system. I would change the power amp, get more juice. Hafler's good and steady; the CAL is a good CD player, I like it. I should get something like that Klyne.”

“Have you considered tube components?”

“Not since my dad. My dad had all tube equipment. It was great stuff, but we had a nasty little piece of harmonic distortion that we just couldn't get out of the system. We tried everything. It's always prejudiced me. I always blamed the tubes. I just like the idea of turning it on and it comes on. The whole tube thing, that's going back further than I want to go. I remember when those things would blow, and he'd drive all over New Orleans, and they'd say, 'Well, we can order them for you.'

“It's like tube mikes. I wouldn't buy one. I'd use it in the studio, if it were available, but we get the same sounds out of the Neumann TL170-I as we get out of the U87 tube mikes—they sound damn near identical... It was designed as an ambient mike. They'd use it in orchestras to pick up the ambient sounds, and they'd use it in movies. I use one all the time now. Delfayo² saw it and said, ‘What is that thing up there?' He stuck it on the saxophone for the hell of it, and the sound was amazing. The TLM170-I and the TLM170-J, I love those microphones.'

“Sounds like something George Martin might have tried...”

“Hey, I never thought of that.”

² Delfeayo Marsalis is Branford's younger brother; a trombonist, he also produces most of Branford's and brother Wynton's recordings.

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—Ken Kesey
Funeral for Jerry Garcia, 8/11/95

"That which is non-existent can never come into being, and that which is can never cease to be. Those who have known the inmost Reality know also the nature of is and is not..."

"That Reality which pervades the Universe is indestructible. No one has power to change the changeless.

"Bodies are said to die, but That which possesses the body is eternal. It cannot be limited, or destroyed. Therefore you must fight."

—Bhagavad Gita
as read by E. Cohen
Funeral for Jerry Garcia, 8/11/95

We were on a small airplane flying out of Madison, Wisconsin, snow and wind buffeting our craft, when Jerry Garcia came up with Drumming on the Edge of Magic as the title of Grateful Dead drummer Mickey Hart's autobiography. The Edge: that's where, on a good night, the Grateful Dead's music allowed you to go.

The Dead's music is about the way your heart opens when you truly have the courage to listen and see. As I listen back through the years, their albums remind me how the role of recorded music in the Grateful Dead has always served to get me into the moment—kick me, so to speak, "out of the door and onto the street all alone." That's why creating the "taping" section at Grateful Dead concerts, for the use of amateur tapers, was one of the best examples of marketing in the information age. It was also a simple acknowledgement of reality—give 'em a taste; give 'em virtual reality, and they'll want the real thing.

I've been wondering why it's been so hard for me to write this piece. Perhaps the frantic pace of early autumn has served as a balm to soothe the loss of Garcia, and a reminder of the abundance of life and its drive to move on. Change defined the suppleness of the Grateful Dead's music; each concert was an invitation to the muse, and at times a convolution of mind, body, and spirit: the dance of life, an open system, not very well behaved, where there were always partners in adventure, explorers on the edge.

At this point in time the Dead's music is associative; it's difficult to separate thought from feeling. Thoughts fall apart and regroup just like a Grateful Dead composition: a wedding, births attended, Grandma 'Tessels' raggalah and Hammentashen, the Carnegie Deli at dawn, long runs on Mt. Tam, roaming the archives of the Smithsonian in asbestos-protection spacesuits, Sandhill Cranes at the Dead's Bar Cross Ranch, learning how to drive a tractor, college graduations—family values in its truest sense. And then it becomes clear for a moment: the Grateful Dead were always about letting life in, inviting it to your door, and joy—trust and fun with an attitude of grace.

So now what? What can a library of Grateful Dead music do, when the essence was what happened live? A library of Grateful Dead recordings will serve as a catalyst for bold ideas and a reminder to those possessed by the inevitable moments of confusion that they "Gotta make it somehow on the dreams you still believe." Or, as Lao Tzu said,

Breathe harmony. Become tranquility.

As the ten thousand things rise and fall, rise and fall, just witness their return to the root. Everything that flourishes dissolves again into the source. To dissolve back into the source is to find peace. To find peace is to recover your true nature....

Insight opens your mind.

The library of Dead recordings bears witness to this rise and fall, to the search for the groove. It's an historical record of those who had the courage to explore and were not afraid to wander in public. In the liner notes for Grayfolded, which splices together fragments of "Dark Star" from scores of different concerts recorded over 25 years, ethnomusicologist Rob Bowman quotes composer Jon Oswald as saying, "part of their music that interested me was the segues between tunes, the transformations between one piece into another piece, those tenuous sections where they are looking for the groove which will be either an improvisation or another song."

A Grateful Dead library captures these ten thousand searches, the amusement, the simplicity, the grace, the stumbling. A Grateful Dead CD library possesses the record of the elements that make the music "gel." The CDs provoke thought and deliver emotional content. Nowhere is this more apparent than in the quintessential recording of "Dark Star" on Live/Dead, or on Grayfolded. The Live/Dead "Dark Star" is one of the most powerful compositions of 20th-century music; in concert, the song could ignite a musical conversation that could last half the night—or, as in Grayfolded, over many years. When people think of seminal electronic music composition, the rock world tends to be overlooked. But "Dark Star" successfully transcends the constraints of traditional metered western music and succeeds in opening up the beat and the tonality instead of being anchored to them; it ranges like hungry cattle, yet finds its way home.

An open mind leads to an open heart. Building a Grateful Dead library is stringing that necklace together with a flawed bead so as not to insult the gods. There are

3 "Comes A Time," by Garcia-Hunter, from Hundred Year Hall.
TRANSPARENT CABLE
CLOSEST TO THE MUSIC
hours of dawdling confusion in every-
thing from CDs to board masters, but
when the Dead are “flying in forma-
tion,”5 the music is an expression of the
divine. In concert or on disc, one may
wade through muddy jams, but

Clarity is learned by being patient in the
presence of chaos.
Tolerating disarray, remaining at rest,
gradually one learns to allow muddy water
to settle and proper responses to reveal
themselves…6

Moments such as the space jams of
“Prelude” (Europe ’72) or “Slipknot” (Blues
for Allah, 1975) possess mysterious and
unfathomable depths. Out of all of those
voices, those multiple dialogues, come the
elegiac simplicity and the ringing clarity
of “Morning Dew” or a “Franklin’s
Tower (Roll Away the Dew)

In another time’s forgotten space
your eyes looked from your mother’s face…
God save the child who rings that bell,
It may have one good ring, baby you can’t tell.
If you get confused listen to the music play,
Some come to laugh the past away,
Some come to make it just one more day.
Whichever way your pleasure tends
If you plant ice, you’re gonna harvest wind.

Over and over again, the themes of
generation, regeneration, the inimi-
cability of lack of faith, play out both
lyrically and melodically. When you
approach those dark hours, the midnights
of the soul,7 this music reminds you to
laugh, to let go. We are all wildflower
seed. Or, as in “Crazy Fingers” (from
Blues for Allah):

Who can stop what must arrive now,
something new is waiting to be born…

Or, as in the Tao:

The world comes to you:
Comes, and isn’t harmed,
Comes, and finds contentment.

Gone are the days we stopped to decide
where we should go, we just ride.
Gone are the broken eyes we saw through
in dreams,
Gone, both dream and lie…

Perhaps in bemusement over being run
by our desires, laughing at our con-
fusion, we can remain brave and open,
which is true, tends to prevail. The
strength of Hunter’s lyrics, for instance,
is that they “subsume the happenings of
a certain time.”9 They exist as puzzles
and enigmas, brain-twisters for the soul;
they offer something different with each
new dedication of attention or listening.
It’s the same with the music overall —
the music lives, “moves well with time,”
for we are listening in on an ongoing
dialogue dealing with transgenerational
human issues.

The fabulous polyrhythms and time
changes of “King Solomon’s Marbles”
(Blues for Allah) are probably the best stu-
dio examples of the thick textures, tone
clusters, and one of the first endings of a
“space” segment that doesn’t fade or
segue into another tune. There will
always be something very disturbing
about that dead stop, for it stands in direct
contradiction to the norm: the continuity,
Conventional wisdom suggests that a small loudspeaker cannot reproduce the full width, depth, power and glory of a symphony orchestra in your living room.

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of the beast. However, Hundred Year Hall (Grateful Dead Productions GDCD 40202), the third and most recent in the series of "Vault" releases produced by John Cutler and Phil Lesh, captures the essence of the Grateful Dead's music. Here are the turn-on-a-dime tempo changes, the thick clusters of shifting tonality, the unusual harmonic structures that allow multipart conversations between the musicians. As Joseph Campbell has written, the work of the artist is "to perform the first and second functions of a mythology by recognizing through the veil of nature, as viewed by the science of their times, the radiance, terrible yet gentle, of the dark, unspeakable light beyond, and through their words and images to reveal the sense of the vast silence that is the ground of us and of all beings."10 Creating dance music is not a bad way to experience and revel in the inimitability of life.

The ostinato rhythmic line introducing "I Know You Rider" on Hundred Year Hall is the simplest way to detect the signature of the Grateful Dead: Bob Weir's punctuating rhythm guitar. Garcia may have been the articulate voice, his guitar lacing the music's textures with sweetly dancing Maypole ribbons, but the framework comes from Weir. The importance of his innovative chord structures and the assemblage of textures are unique to the Grateful Dead. Still in the "dames is poison" period of "we can share the women, we can share the wine," Weir's voice, comfortable in its Marty Robbins balladeer mode, has yet to tackle the gospel/blues shout of later years. Weir calling out the count for "Playing in the Band" is a rare moment where internal band banter is made public. This is another reason why board tapes are popular: the sparkling repartee of male camaraderie escapes live into the hall with all of its merciless, take-no-prisoners teasing. Although I've often thought of this tune as merely rollicking rock'n'roll, this rendition resonates, musically and lyrically, with Zen sentiments:

I take no action, and people transform themselves. I love tranquility, and people naturally do what is right.

From "Playing in the Band":

Some folks trust in reason, others trust in might. I don't trust in nothing, but I know it comes out right.

This leads into the meanderings or the paths, everyone finding their own way, getting there, inhabiting the moment that is music in its fullest sense.

While Rameau11 would be astounded at Weir's chord inversions, nowhere is the idea of the Fundamental bass (basse fondamentale) — "root progressions in a succession of harmonies" — better illustrated than in the playing of Phil Lesh. I happily and shamelessly repeat Rob Bowman's comments on "the boys": "the idea of bass/guitar counterpoint was intrinsic to the stylistic alchemy of the Dead...Lesh laughingly concur[s], 'Some reviewer described the way I play as being like a sandworm in heat wrapped around Garcia.'"

I would also like to add that the range of Phil Lesh's playing has singularly propelled subwoofer design over the last three decades. I look forward to full-range discrete six-track remixes, not only for the restoration of the spatial dimension of live performance, but because more people will be able to hear the walking bass and deep grooves of Lesh's matchless playing.

Mercurial in temperament, Bill Kreutzman is steady in tempo. He drives Hundred Year Hall through experiment and shenanigans, shifting gears effortlessly. Phil Lesh: "Billy played like a young god on this tour. I mean he was everywhere on the drums, just kickin' our butts every whichway, which is what drummers live to do, you know."12 Kreutzman also is a master of air and space, capable of eliciting lightness and sparkle with a touch of a cymbal, delicate pixie dust shimmering down through the years.

We forget how dominant Pig Pen was, how his blues-based storytelling kept wave after wave of white suburban/urban teenagers' backfields in motion. "Love Light," often these kids' first introduction to the rich double entendres of the blues, is also on Hundred Year Hall, in a humorous, effervescent, zippy-paced version. The tran-
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sition between “Turn On Your Love Light” and an almost “Not Fade Away” shows a delicate sheerness and a revealing exchange of themes, a signature transition, a lingering sweetness, and then the relentless drive of the backbeat—a slight ritard, a change of mind, and at last a return to the sweet richness and poignancy of “Goin’ Down the Road Feeling Bad.” Disc one closes with “One More Saturday Night,” a classic rock-'n'-roll tune.

I confess to a preference for the early LPs and the live recordings. When The Grateful Dead was released in 1967, Vietnam was a place we were just beginning to hear about. Bobby Kennedy and Martin Luther King were still alive, and word of the Summer of Love was being delivered not just by *Time* and *Life*, but in high schools and colleges around the nation by The Grateful Dead on acetate. Historically, this album shared in the spirit of the time and was subject to endless playings, whether to invite the Gods in or to keep parents out.

Repetition is inherent to music, and the LP certainly lent itself to ease of repetition. Over and over, each iteration of the blues grooves of “Good Morning Little Schoolgirl” or the pensiveness of “Morning Dew” presented a different view, led to a different interpretation, perhaps even a different reality.

In retrospect, the theme of *The Grateful Dead* is promise and faith, whether it’s “Cold Rain and Snow”’s “I’m going where those chilly winds don’t blow,” or “Sittin’ On Top of the World,” or “Cream Puff War”’s reminder to “Wait a minute, watch what you’re doing with your time, all the endless ruins of the past must stay behind.” The incredible Hammond organ sound and bass lines of “Cold Rain and Snow,” the classic fade on “Sittin’ On Top of the World” hint at how many years it would take the band to actually learn how to end a tune, and how, from the get-go, the idea of openness was key.

See that girl barefootin’ about, whistling and a-singing she’s a-carrying on, there’s laughing in her eyes and dancing in her feet
...try on your wings...

So begins “The Golden Road (To Unlimited Devotion),” the first cut on *The Grateful Dead*. It resonated with those looking to leave the mind-numbing, soul-deadening confines of a *Leave it to Beaver* universe that never quite matched the color and timbre of mid-’60s life. There had to be something more, something real, something true out there, and here was a clarion call: the initial message that life is fun.

*Athena of the Sun* (1968) was as adventurous as any piece of “classical electronic music” at the time: feedback, flanging, phasing, reverber, echo, kazoo, vibraphon, celesta, claves, harpsichord, prepared piano, and prepared tape illustrate Phil Lesh’s and keyboardist Tom Constanten’s familiarity with contemporary music. And then we get Mickey Hart, rudimental drummer, percussionist, and my fellow energy demon. Mickey would often state, “a drummer is to a band what a barnacle is to a ship”—a musical version of “can’t live with ’em, can’t live without ’em.” Hart is driven by curiosity, captured by his own passions, and always in pursuit of realizing the music in his head. With Hart’s appearance the experimental polyrhythms start (the sevens against elevens we hear later

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**ROOTS OF THE GRATEFUL DEAD**

_Here are the original versions, by the original artists, of 17 songs the Dead have covered on stage and in concert over the last 30 years. It’s such a perfect reverse tribute to the Grateful Dead that I’m surprised no one’s ever thought of it before.

At least half of these recordings are so well-known as to need no introduction: Bob Dylan’s “It’s All Over Now, Baby Blue,” Howlin’ Wolf’s “The Red Rooster,” Merle Haggard’s “Mama Tried,” the Dixie Cups’ “Iko Iko,” Jimmy Reed’s “Big Boss Man,” Chuck Berry’s “The Promised Land,” Buddy Holly’s “Not Fade Away.”


All of these tracks are available elsewhere on discs by their original performers. But having them all in one place here proves, as anyone ever doubted it, just how deep the Dead’s roots go. *The Music Never Stopped* cuts across the grain of American music: here is where Joseph Spence meets Bobby “Blue” Bland (“Turn On Your Love Light”), where Marty Robbins (“El Paso”) and Chuck Berry find common ground.

What this disc is finally most a tribute to is the generous expansiveness of the Grateful Dead’s sympathies, their willingness to embrace all of our common musical heritage and not so much claim it as their own but give it back to us revitalized and polished—by long use—to a warm, mellow glow. And this disc maps only one wing of the Dead’s musical mansion—other discs could be compiled of the Dead’s wide-ranging classical and jazz influences.

Blair Jackson’s excellent and copious liner notes place these songs not only in their own historical and cultural contexts, but also in their histories within the Dead’s set lists over the years. For instance, it’s jarring to be reminded that when the Dead released Bobby “Blue” Bland’s “Turn On Your Love Light” in their classic *Live/Dead* cover version, the song was only five years old; or that “I Bid You Good Night” was only played twice between 1975 and 1989. With original cover art by R. Crumb, *The Music Never Stopped* is a class act, and a revealing core-sample through the rich strata of American musical geology. Recommended.

—Richard Lehnert
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on); this is where the deep, stentorian grooves begin...This is also where timing can get shot to hell.

By the time of Workingman's Dead (1970), Vietnam dominated the landscape of American politics, the cusp of the Korean War boomers were entering college, the leading-edge boomers were winding their way through grad school or were mired in deltas far from home, the labor movement still possessed vast political clout, elected presidents, and legislators...and the Grateful Dead explored the root of America's soul and work-ethic mythology: What is it that keeps us on the wheel? What ladder are you climbing? What wall have you leaned it against?

Well, the first days are the hardest days, don't you worry anymore, 'cause when life looks like easy street there is danger at your door...What I want to know is, are you kind?

As Kurt Vonnegut wrote in God Bless You Mr. Rosewater, "God damnit baby, you gotta be kind." That's the thread that united all Deadheads, just as Garcia's pedal-steel guitar winds it way through the album. (I can remember him cursing all the knee levers and pedals, saying how damn hard an instrument it was to play.)

Please don't dominate the rap, Jack, if you got nothing new to say...I spent a little time on the mountain, spent a little time on the hill; I saw things getting out of hand, and I guess they always will...Keep on coming don't you stand and wait with the sun so dark and the hour so late one way or another one way or another one way or another this darkness got to give.13

In Workingman's Dead the Dead taught empathy. Perhaps that's the core of what they do, or is simply what music itself enables. It's no wonder that transportation metaphors of cars, buses, trains, and planes thread their way through the Grateful Dead repertoire, experience: When you board a bus, it ponderously wends its way through all neighborhoods, whether from suburb to city or across the country. The bus's lumbering pace allows you to see, forces you to see how others live...there are no short cuts on the bus, no darting in and out of lanes. Even the hit movie Speed shows the bus as a great equalizer.

In Workingman's Dead the bus takes you on a journey through the landscape of a blue-collar world, exposing and requiring you to think and appreciate the value of your labor. The band taps into the strength of the American Folk tale with its roots in Paul Bunyanesque largesse, its massive sense of right, endurance, and faith. American Beauty (1970) continues this exploration of Americana.

Revisiting Wake of the Flood (1973) this time 'round, I somehow see dog-eared copies of the Tao Te Ching and the Bhagavad Gita. The message here is one of letting go. With that we see the landscape of both heart and mind: the re-

13 "New Speedway Boogie," by Hunter-Garcia, from Workingman's Dead.
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the following to say in its
June 1994 issue: “With
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that, there was a degree of
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relationship to the land, American bounty, the Buddhist concept of spiritual freedom meeting the American entiment to personal liberty. This is an album of great joy and sentence. What remains in the *Wake of the Flood* is our power of observation: we look at the lay of the land, the tales of its people, and they are us. A flood is another of the great equalizers; in the wake of it there is no longer a “them” or an “us,” no tribal individualization run amuck into divisions of race, class, gender, or war—all petty in the face of God/Nature.

Musically, the Grateful Dead are the masters of the lope, even with a half-step. *Wake of the Flood* opens with that relaxed gait. It’s the looseness you need for yoga or a good golf swing—effortless and natural because there is no tension, just a smooth, liquid pace. The A-minor/D/G/G7 intro to “Mississippi Half-Step Uptown Toodeloo” has just a bit of bounce before it settles into a natural groove. Again, the philosophy: “If all you got to live for is what you left behind / Then get yourself a powder charge and seal that silver mine.” Positivity overcomes, it’s there for you. The violin solo throughout the chorus has wonderful bowing by Vassar Clements, the great bluegrass fiddle player.

“Row Jimmy” sustains the ease, with a guiro providing an edginess: “Broken heart don’t feel so bad, / you ain’t got half of what you thought you had...”

“Stella Blue” shows off Garcia’s voice. There is no reaching here; again, with backbone slipped, it illustrates the control that he sometimes possessed, and evocative tenderness, plainliness, a disarming gentleness. Its theme is letting go:

*It all rolls into one and nothing comes for free
That’s nothing you can hold, for very long
And when you hear that song come crying like the wind
It seems that all this life was just a dream.*

This is reminiscent of the *Hua Hu Ching*:

*Simply be aware of the oneness of things...
Let the fiction of life and death go.
Just remain in the center, watching.
And then forget you are there.*

The sound of the piano keys evokes the aural image of the tinkling of ice cubes in the fallen angel’s glass.

“Eyes of the World,” too, illustrates the sweetness of Garcia’s guitar playing. The E-major VII intro shows his exquisite phrasing and his lyrical ability *sine qua non*. The guitar solos punctuating the chorus and the break are also indicative of his ability to penetrate the veil. Perhaps here it was safe for him; given this task outside of the bounds of the music, it became an onerous burden.

There is a temptation, in the light of Garcia’s death, to set the meanings of certain lyrics in the light of a particular moment. But beware of pouring concrete over an interpretation. Literalism has meant the death of many powerful mythologies; it chokes spirituality from religion, and is the death-knell of a song. Similarly, it is the expansiveness, the hint of truth—or, better yet, the resonance and cognition of truth—that is the lifebreath of song. Whether Solomon, Homer, or the Song of the Goddess Inana, it is the resilience of the words over the years, long after the meter has shifted tongues. The promise of redemption, the hope of transcendence, are all uplifting and require discipline of mind, body, and soul. A Grateful Dead concert provides an environment for experiment and acceptance. A library of their recordings leaves open a window on the soul, open to interpretation for those that follow.

For years I took it for granted, like hamburgers and toilet paper—the Dead were always around. One would not have to plan to arrange elaborate “family” meetings; they were natural occurrences. In retrospect, I have been truly grasped. Bumbling, confused, and humble, with just a touch of wisdom picked up along the way, I close with a few lines from “Help on the Way” (from *Blues for Allah*):

Paradise waits on the crest of a wave,
Her angels in flame, crippled but free.
I was blind all the time,
I was learning to see.

### ABOUT THE AUTHOR

Dr. Elizabeth Cohen grew up doing her chemistry homework on the Dead’s McIntosh amplifier cases, fairly oblivious to the chemistry experiments going on around her. She credits her ability to meet professional challenges to the rigorous Socratic education received within the Greater Grateful Dead. In response to her incessant questions, Garcia was known to have responded, “It’s when she’s speechless I’ll begin to worry.” Mickey Hart, in *Drumming on the Edge of Magic*, referred to her as an energy demon...a horse who’d been penned up all winter. John Barlow simply gives the rules as “make it complicated and then she’ll really understand it.”

Although the mantra was often “Make it Happen,” one of the delights of a Grateful Dead concert was hanging out and marveling at the sheer wonder and talent of the people drawn to the scene. Sitting still at Grateful Dead HQ brought many of the gifts of the universe to one’s door. Cohen has also been known to occasionally dance with wild abandon.

Dr. Cohen directed the initial computerization of the Grateful Dead and has collaborated on numerous individual projects with bandmembers. She has been heard to mutter something about herding cats. She is currently President of Cohen Acoustical, Inc., an acoustical consulting firm specializing in room acoustics and technology assessment. She is a Consulting Professor of Electrical Engineering at Stanford University, and President-Elect of the Audio Engineering Society.
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Walking through the circus that was WCES '95 was like undergoing total neural-synaptic overload. I felt hard-pressed to just keep my head above water separating good sound from bad. Trying to piece together a coherent picture of the show, I jotted down the components in the best systems that I'd heard, and a few items popped up with astonishing regularity. One of these was Audio Research's single-chassis CD player, the CD-1.

Well, I thought, ARC probably sent a lot of them out to exhibitors—after all, it's cheaper than separates. But then I started getting feedback from totally disinterested audio insiders, folks like Casey MacKee and John Hunter, that indicated that Audio Research had a winner on its hands, and an unsung one at that. What journalist could ever resist a scoop?

The CD-1 has been in near-constant use in my system since the day I received it. I've been extremely fortunate in having had very high-quality digital gear to play around with, and I have written about it enthusiastically, but I must tell you that of all the pieces I've had in the house so far, this is the one I turn to when I listen for pleasure.

How come? First, as RH has pointed out (in his review of the Krell KPS-20i in Vol.18 No.4), a CD player has the potential of providing superior quality compared to similarly priced separates because putting the CD transport and digital processor in the same box substantially reduces clock jitter. Most clock jitter is introduced by the interface between the transport and the processor; both S/PDIF and AES/EBU interfaces are inherently flawed transmitters of digital data.

Flawed? Well, let's just say that I never achieved equivalent sound quality when using the CD-1 as a transport feeding separate DACs, even when cascading a Sonic Frontiers Ultrafiltering into an Audio Alchemy DTP-32 to clean up the signal! (Thanks to Bob Harley for pointing out the benefits of cascading. It really works.) Man, there's really something going on here.

Creating Order Out of Chaos
The CD-1 is built like a tank: it weighs 17 lbs and feels as durable as an anvil. Audio Research's heavy faceplate and massive handles serve to reinforce that effect. Though built upon a Phillips chassis, the CD-1's source is essentially unrecognizable, ARC having extensively redesigned it. Rear-panel accommodations include a removable AC cord (unusual for an ARC product, but improving the power cable offered audible benefits), balanced and unbalanced analog outputs via XLR and RCA jacks respectively, ST-Standard optical, Toslink optical, RCA S/PDIF, and AES/EBU digital outputs.

The front panel has two oblong...
cutouts: the one on the left houses the drawer mechanism, the one on the right the LED display. Under these cutouts, spanning 10", is a narrow slit with 13 soft-touch controls: Power, Scan, <<Search, Search>>, Shuffle, Repeat, Time, Stop, Pause, <Track, Track>, Play, and Open/Closed. I hated this arrangement. I found the identification difficult to read—small print and no logic to the layout that felt natural—and rarely used any of the “Chicle” buttons other than Play and Open/Closed, which were simple to find, being all the way over to the right. To this day, six months later, I can’t find Stop without searching. In fact, I refuse to; I just hit Open/Closed twice. That I can find. Or I use the remote, which features most of the commands—all like all Philips remotes, it doesn’t duplicate the <<Search>> features, which I would actually find useful when doing music reviews. Most folks probably won’t miss those commands, though, and if you stick to the remote, the CD-1 is a pleasure to use. Unless, of course, you try to program the CD-1 with the remote—it doesn’t play that.

As to the rest of the technical specs, I’ll just point you to the box above or to RH’s “Measurements” section at the tail end of the review. But I should note that ARC specifies an analog output—through the RCA’s—of 2.1V, which is pretty standard. However, my subjective impression was that the CD-1’s output was generally lower than other digital sources I have used. I found this convenient, since I got similar loudness levels from my analog and digital front-ends at the same settings. You should confirm for yourself whether this will be a problem in your system, though—I was using the sensitive WATT/Puppy Vs and an active preamp for most of my audition. Those using insensitive speakers and/or unity gain preamps may experience a problem.

**IMPOSING UNANIMITY UPON THE DIVERGENT**

I auditioned the CD-1 over a long period of time—as I’ve said, I really like listening to music through this player—so I could rattle off a long list of associated equipment. However, I focused on a core group of components that included the ARC SP-9 MK.III preamp, ARC D-200 and Pass Aleph 0 power amps, and the WATT/Puppy V loudspeaker system.

Cables of choice were Transparent Audio Music Wave Reference speaker cables and Music Wave Ultra interconnects, as well as MIT MV-770 CVTerminator Reference Speaker Cables and MIT 350 CVTerminator Reference Interconnects. I used the CD-1 as a transport utilizing the McCormack SST-I, Micromega DAC, and Theta Pro Basic III D/A converters. As I mentioned previously, I cascaded a Sonic Frontiers UltraJitterbug into an Audio Alchemy DTI-Pro 32 to experiment with jitter-reduction in this mode.

The performance of the components was enhanced through the use of the Audio Power Industries Power Wedge 112, MIT Z series power cables, Highwire Audio Power Wrap (on components with non-replaceable power cables), Shakti Stones (but not on all components), Bedini Ultra Clarifier, The Shelf by Black Diamond Racing, and Golden Sound DH Cones.

**EXPRESSION THE INEXPRESSIBLE**

Despite my reasoned arguments concerning the superior reduced-jitter performance of single-box players, and even despite my own experiences at the WCES, I was startled by the wonderfully musical sound of the Audio Research unit—after all, as a card-carrying audioweenie, I had to believe no’ boxes means mo’ better sound. Wrong again! The CD-1 ain’t nobody’s ugly sister.

From the first disc I listened to, to the one I intend to reward myself with when I finish writing this, experiencing music through the CD-1 is special. Maybe it is the intrinsically low clock jitter; maybe it’s the uncanny stability of the modified drive mechanism—I don’t really think that way. All I know is that, through this player, I relax into the music like settling back into my favorite chair: I just let myself go and sink in.

Lest you get the idea that this isn’t exactly manual labor, I’ll leave that relaxing metaphor and speak of throwing an incredibly arduous test at the player: Ornette Coleman’s Free Jazz, as incorporated into Rhino’s essential Beauty Is A Rare Thing: The Complete Atlantic Recordings (Rhino/Atlantic Jazz Gallery R2 71410, 6-CD set).1 What can I say about this piece that even begins to describe its melodic and rhythmic complexity? That 35 years later it still sounds menacingly avant-garde? That it consists of two jazz quartets, each playing in its own stereo channel, which improvise continuously for 37 minutes? No, none of that prepares you for the power of the piece—or its strange beauty. Coming out of the left channel are Ornette, Scott LaFaro, Don Cherry, and Billy Higgins blowing their guts out, while through the right, Eric Dolphy, Freddie Hubbard, Charlie Haden, and Ed Blackwell wail to the heavens.

Coleman’s music doesn’t depend on development of theme and variation, as most jazz does, but rather upon spontaneous collective interplay very loosely based on simple melodic fragments worked out in advance. The key word here is collective; you never hear Coleman as the lead instrument, with the rhythm section laying out the changes. No, the entire band—or in this case both bands—take the bit into their mouths and charge full-on, forging music totally of the moment: wild, it is true, but composed of ensemble. Free Jazz is an exhilarating record; it opens my mind to harmonic, melodic, and rhythmic possibilities that border on religious ecstasy—not unlike some third-world musics, such as that of the Master Musicians of Joujouka, or of Qawwals master Nusrat Fateh Ali Kahn. You might hear it as a lot of screaming and honking, but hey—you need to bring open ears to this party.

Even if you don’t, the CD-1 may open them for you. There’s a ton of stuff going on, but not only does the ARC manage to sort through the tonal and rhythmic complexities of the hard-playing double quartet, it presents them without adding an electronic edge, as so many other digital sources do when confronted with processing this much data. Nor does it do this by blinding-out the quirky little flourishes that distinguish this disc. LaFaro and Haden are two separate players, working on different patterns, playing distinctively different instruments. Ditto for Hubbard and Cherry on trumpets. Ed Blackwell and Billy Higgins, either one, would over-stress most front-ends—all after, they’re two of the most intelligent and subtle drummers in jazz—but together? Faughedaboudit! Yet the CD-1 easily sorts out one from the other and displays them, playing apart yet strangely together. Not to mention the intensity that Coleman on alto and Dolphy on bass-clarinet bring to the equation. Defining the earth and the sky on their instruments, they boldly play a new world into being. Or at least, that’s how I heard it on the Audio Research.

Okay, so it can sort out complex in-

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1 Ignore the Atlantic CD (3642-2), the Rhino is the superior mastering. Analog hounds should search for the original pressing of the LP (Atlantic 3646), which had a die-cut jacket that displayed a detail of Jackson Pollock’s White Light, which was revealed in full upon opening the gatefold. Later pressings did not exhibit the clarity of this one. The CD version eliminates one of the most annoying side-breaks in all of jazz—Free Jazz was a single extended 37.03 pars, and the interruption nearly 20 minutes into it is on the level of audio interruptus.
Ensemble? Chappelle interacts whether the able
I've moves the thumping, bass combination.
Audio possible EBU-based back.
Accuphase, intonation manipulated.
to everything have single-box. I forget vast,
As balance.
I'm echoing well, some—while I'm
But, I've heard—other to the relationship to the music to have it portrayed realistically. In fact, it would be far better simply not to hear these details than to hear them as artificial—
I've never been more totally there than when listening through ARC's remarkable player. The downsides? I've heard deeper, more powerful bass. What I hear from the CD-1 seems well-integrated and moves well—as does everything through this player. But I've heard players, such as the Krell KRS-20i, whose bass seemed somehow more elemental. Ditto the Theta Basic III/IIa/Dita III combination. And, of course, JA's Levinson rig always leaves me gasping with the articulation and detail of the rump-thumping region (he's a bassist—what do you expect?). Yet I cannot call the bass of the ARC weak—it seems in proportion while I'm hearing it.

As to the rest, it strikes me as a question of balance. Articulation, rhythm, and intonation are the holy trinity for me, and the CD-1 possesses them in spades. Audio Research ain't gettin' this baby back. It's my reference.

Intensifying Mystery & Eloquence & Beauty

When it comes to digital, there are a lot of choices out there these days. Superb single-box CD players from Krell, Accuphase, and now Audio Research have shown the level of sound quality possible when S/PDIF-- and AES/EBU-based distortions are eliminated and the digital domain is successfully manipulated. While I haven't heard everything available, I've heard enough to realize how special the Audio Research CD-1 is—it's good enough that I forget about hi-fi and retreat into the realm of music.

What more can I say? —Wes Phillips

Measurements from RH

The CD-1's maximum output level was 2.08V from the unbalanced jacks, 4.15V from the balanced. Output impedance measured a moderate 330 ohms (balanced) and 165 ohms (unbalanced). DC levels were unmeasurable, and the CD-1 doesn't invert absolute polarity.

Fig.1 is the CD-1's frequency response and de-emphasis error. The 0.8dB rolloff at 20kHz is greater than what we measure in most CD players and digital processors, and may be on the threshold of audibility as a slight reduction in top-octave air. The lower pair of traces in fig.1 shows a positive de-emphasis error of 1dB at 4kHz, and nearly 1.5dB at 10kHz. This will cause pre-emphasized CDs to sound brighter and livelier than normal. De-emphasis errors are usually caused by tolerances in capacitor values in the RC de-emphasis filter.

The CD-1's crosstalk performance (fig.2) was decent but not outstanding. The right-left channel leakage (dotted trace) is higher in level, and is worse than -70dB at 16kHz.

Moving next to a spectral analysis of the CD-1's output when decoding a 1kHz, -90dB dithered sinewave, we can see a linearity difference between the two channels (the right channel, or dotted, trace peaks higher than does the left-channel trace). More important, however, the overall noise level is quite high, and there's some power-supply noise present at 60Hz and 120Hz. We can also see a trace of second-harmonic distortion as the peaks in the traces at 2kHz. The noise floor's shape is also unusual, with peaks of energy apparent between 6kHz and 8kHz, and again at about 15kHz. Finally, the right channel's noise is about 3dB higher than the left's. This is far from the best performance we've seen with this test.

The same test, but with an extended measurement bandwidth and an input signal of all zeros, is shown in fig.4. Note the huge noise peak above the audio-band, a result of the Phillips noise-shaping filter used in the CD-1, which moves noise above the audio-band. Above about 85kHz the output filter begins attenuating the noise. Fig.4 also shows the unusually shaped noise floor, which is less "white" in character than that measured in most CD players and processors.

Figs.5 and 6 show the CD-1's left- and right-channel linearity, respectively. Although the left channel has pretty good linearity, the right has a positive error starting at about ~85dB. Today's high-quality multibit DACs (particularly the UltraAnalog D204000 and Burr-Brown PCM1702) now exceed the linearity performance of 1-bit DACs and need no MSB trimming.

The high noise levels seen earlier in the spectral analyses are again apparent in the CD-1's reproduction of a 1kHz, -90dB undithered sinewave (fig.7). The waveform is so overlaid with audio-band noise that it's difficult to make out the shape of the sinewave. In addition to being noisy, the waveform's negative
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**EVERYTHING ABOVE NEATLY PACKAGED $600.00**

*Photocopies*
going phases are higher in amplitude than the positive-going phases, indicating differential non-linearity in the DAC. Ironically, 1-bit DACs such as the Philips Bitstream device used in the CD-1 are supposed to have excellent linearity and low-level performance, something we haven’t seen in the CD-1.

Fig.8 is the CD-1’s output intermodulation spectrum when the unit was reproducing a full-scale mix of 19kHz and 20kHz. The 1kHz difference component is moderately high in level, nearly reaching the −80dB horizontal division. A few more IMD components rise above the −100dB level, but there aren’t many of them.

I was unable to measure the CD-1’s jitter performance; the Meitner LiM Detector wouldn’t lock to the clock on the Philips Bitstream DAC. Even if it had locked, the CD-1 wouldn’t play discs while standing on its side—which it must do to grant access to the DAC, a surface-mount device located on the underside of the main circuit board.

Overall, the CD-1 had disappointing technical performance. The high noise level was particularly worrisome. This noise is probably inherent in the Philips Bitstream DAC, and not the result of Audio Research’s implementation. The company’s engineers have a long history of producing many superb-sounding and -measuring products, some of them of true reference quality. The all-tubed LS5 Mk.II preamplifier, for example, has an unweighted S/N ratio of nearly 100dB, with distortion of less than 0.004%. I’m surprised to see Audio Research use the Philips Bitstream DAC in what appears to be an otherwise excellent design.

—Robert Harley
A QUESTION OF BALANCE

Robert Deutsch listens to Balanced Audio Technology's VK-5 tubed line preamplifier and VK-60 tubed power amplifier

How important is the use of balanced circuit topology in the design of preamplifiers and power amplifiers? Ask the top audio designers (I didn't, but just play along, okay?) and you'll get a wide variety of opinions. Some reject the balanced approach outright, arguing that it represents a needless duplication of circuit components, and that better results can be achieved if the same attention and resources are devoted to perfecting a single-ended circuit. In his provocatively titled article "Balance: Benefit or Bluff?" (Sterophile, November 1994, p.77), Martin Colloms questioned the advantages of balanced designs, suggesting that while the results may be better in certain respects (eg, noise level), the reproduced sound may suffer in other, perhaps more important ways (eg, rhythm and dynamics).

Designers who take a middle-of-the-road approach to this issue use single-ended circuitry internally, but include balanced inputs and/or outputs. This is effective from the marketing point of view, and is not expensive to implement—but it's arguably a poor compromise in that it introduces additional components in the circuit path without achieving the benefits of a fully balanced design. In a preamp, for instance, a balanced input signal is first converted to single-ended, then back to balanced via a phase splitter at the output.

There are those who feel that balanced designs, properly executed, are inherently superior to single-ended designs. There's no prize for guessing that Balanced Audio Technology (hereafter referred to as BAT) falls into this group.

In an interesting pair of white papers on the VK-5 preamp and the VK-60 power amp, BAT designer Victor Khomenko candidly admits that the theoretical benefits of balanced design (cancellation of common-mode noise, resistance to RF) don't really account for what he feels is the superiority of balanced topologies.1 Thus, he points out, there's little correlation between sound quality and Common Mode Rejection Ratio (CMRR): some excellent-sounding balanced designs have only average CMRRs. "Then, how do we know that balanced is superior? We listen."

Which was exactly what I planned to do.

DESCRIPTION

Tube electronics from a new, small company — the stuff probably looks as if it's been assembled in someone's basement by people who've just learned to solder, right? Not in this case. Victor Khomenko and his partner, Steve Bednarski, have worked at Hewlett-Packard for a number of years, and they've used their high-tech industry experience to ensure that there's nothing amateurish or homemade-looking about their first products. Examine the insides of the

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1 The VK-5 white paper makes reference to the "limitations of single-ended structure with its half-signal processing" (italics in the original). This seems misleading. Single-ended circuits process all of the original audio signal—which is, in fact, single-ended. Balanced circuits also process a polarity-inverted version of the signal. While this may have advantages, it might be more accurately referred to as double-signal processing.
VK-5 and the VK-60 and you'll see neatly-laid-out circuit boards (0.093" thick, with 3oz unplated pure copper traces), premium metal-film and foil resistors, custom oil-filled capacitors, gold-plated Neutrik XLR connectors, and high-quality parts throughout. Tubes are mounted in ceramic sockets with silver-plated contacts. The VK-60's toroidal transformers are made by Plitron, supplier to Krell, Mark Levinson, Spectral, and Bryston.

The VK-5 has a simple, uncluttered front panel, with large knobs for volume and source selection, a pair of smaller gain-trim knobs for each channel, and toggle switches that allow On/Off/Sleep selection (the Sleep mode reduces tube-filament voltage) and Play/Mute. All five inputs and the three outputs (two main and one tape) are balanced XLRs. (XLR-to-RCA adapters are available from the factory.) The VK-60 has three sets of output taps, matching speakers with high (nominally 8 ohm), medium (4-6 ohm), and low (3-4 ohm) impedances. BAT suggests experimentation to find out which of these is optimal for a given speaker.

The Dunlavy SC-IV's impedance stays within the 4-6 ohm range, dipping to 3 ohms only in the very low bass. I tried the medium- as well as the low-impedance taps; there was very little difference. The low bass sounded perhaps a little better-controlled through the low-impedance tap, so that's the connection I used for subsequent listening. The VK-5 and the VK-60 have rubber feet; any spikes or cones with standard ¼" threads may be substituted.

The most striking aspect of the VK-60 is its array of output tubes: fat, three-rippled 6C33s (two per channel). This Russian power triode, considered one of the hottest tubes around (literally and figuratively), is famed for its use in the guidance system of the MIG-25 fighter aircraft.2 I can't think of a more fitting swords-into-plowshares conversion.) BAT first used 6SN7s (also Russian-made) for the eight input tubes, later replacing them with military-spec 6HBCs. There are three potteroidal transformers, one for power and two for output. A handle runs the length of the chassis in the rear and permits use of the VK-60 for weightlifter training. The VK-60 can be configured as a 60W stereo or a 120W mono amplifier; converting a stereo amplifier to mono is a simple matter of placing a jumper on a circuit board and using jumpers to connect the left and right speaker terminals.

### TECHNICAL HIGHLIGHTS

A thorough description of the VK-5's and the VK-60's technical designs would require more than a dozen pages of text — what is BAT has provided in their white papers. Anyone seriously interested in these products should call or write to BAT for copies. (See also the accompanying interview with Victor Khomenko and Steve Bednarski.) I'll restrict my description to the features that I found particularly interesting.

The VK-5 and the VK-60 are fully balanced (differential) designs; balanced operation is maintained from input to output. However, both are said to be compatible with single-ended components, using XLR-to-RCA adapters. (Of course, if you buy BAT's argument, you'll eventually be going for a fully balanced system.)

Both the VK-5 and the VK-60 are pure tube designs, with no solid-state devices in the signal paths. Both are zero-global-feedback designs. The VK-60 white paper recounts that different amounts of global feedback were tried during product development; BAT found that as little as 3dB negative feedback was detrimental to the sound, reducing the size of the soundstage and the sense of air around the human voice. BAT claims that although the VK-60 uses zero negative feedback, this is achieved without degrading test-bench behavior.

2 The 6C33 has no equivalents, and is made only in one factory in Russia, so availability is a potential concern. However, demand for this tube is increasing (especially in Japan), and there's no reason to believe that production will cease in the foreseeable future. In any case, BAT has a good stock of 6C33s for production and replacement use.
tended to reduce signal-path restriction.

The quest for simplicity extends to the Volume Control, which features the increasingly popular shunt attenuator. (The Genesis Stealth amplifier and the most recent Melos preamp designs are among those using this method.) There's only a single Vishay resistor in the signal path at any point; gain is controlled by "bleeding" some of the signal to ground. The Left/Right gain adjustment controls, also shunt-type, are thus out of the direct signal path [at least in DC terms—Ed.]

The VK-60 is described as a balanced design that's single-ended. No, they don't just mean that it's compatible with single-ended inputs (which it is), but that within the positive and negative "legs" of the balanced circuitry, the tubes are operated in single-ended rather than push-pull manner. To achieve a more substantial output capability than normal for single-ended amplifiers, the VK-60 uses bridging, so VK-60 owners can impress and confuse their audiophile friends by saying that their amp is a "balanced bridged single-ended plate-loaded triode." (Isn't audio jargon wonderful?)

With tube amplifiers, controlling the output tubes' bias voltages is a perennial problem. Some manufacturers simply set bias voltage at the factory and hope it doesn't drift too far as tubes age; others include user-adjustable pots and meter test points or LEDs that indicate when bias has been set correctly. (The slightly compulsive among us are forever checking and tweaking bias voltages.) BAT's approach to this problem is an automatic bias circuit that compensates for mismatching or aging of tubes, as well as for fluctuations of line voltage. Less than a minute after the amp is turned on, a set of LEDs lights up, indicating that the bias on each tube has been optimized and the amp is ready to roll.

When the purely electronic aspects of design are taken care of, vibration control becomes an important consideration. For the VK-5 and the VK-60, BAT selected resistors and capacitors with low sensitivity to vibration and shock, located critical components at or near vibration nodes (where vibration is minimal), and used a chassis with a 3/8"-thick baseplate, coupling the pcb to the chassis at multiple points. The VK-5's side panels and top cover are made of fairly thin metal, but BAT's position is that this is much less important than the area of the chassis closest to the components: the bottom. This makes sense, but I'd like to see the VK-5 with a more substantial top cover, if only for aesthetic reasons.

**SYSTEM & SETUP**

Because the BAT VK-5 is line-stage-only and I didn't have a balanced phono stage on hand, I used only digital sources: PS Audio Lambda Transport (a current production sample that has faster access time and sounds better), Sonic Frontiers Ultrajitterbug, and either a Sonic Frontiers SFD-2 Mk.II or PS Audio Ultra-nilk Mk.II (both HCD®-equipped) serving as a digital processor. Most of my listening was with the SFD-2 Mk.II. The sound of the SFD-2 Mk.II improved (less upper-end grain) with a Shakti stone placed on the top of the chassis above the transformer. Interconnects, digital links (AES/EBU), and speaker and power cables were latest-generation TARA Labs RSC. I have Original Cable Jackets, grounded to a single wire, on all the power cables, which are plugged into dedicated AC lines. Speakers were a pair of the revised-version Dunlavy Audio Labs SC-IVs (see Vol.17 No.4 and Vol.18 No.3). My listening room is fairly small (14' by 16' by 7.5'), but it’s been liberally treated with assorted RoomTunes, Corner Tunes, and Tube Traps.

Like most high-end audio equipment, the VK-5 and the VK-60 proved sensitive to setup details and tweaks. I listened to each piece of equipment exactly as delivered, then set about making those small changes that might yield significant improvements. The stock rubber feet were the first to go: Michael Green's AudioPoints (the screw-in type) under both the preamp and the power amp improved the sound's focus.

In the past, I've had mostly negative results using power-line conditioners with amplifiers, finding that they tend to suppress dynamics. While doing the BAT review, I got a chance to try the Chang Lightspeed CLS 9600 ISO, which is claimed to leave the speed and dynamics of high-powered amplifiers unimpaired. It was true: with the VK-60 plugged into the Chang, there was a decrease in noise, an improvement in overall clarity, and no damping of dynamics. I tried the Chang and the Tice Series II Power Block that is normally in my system in various combinations, and eventually settled on having the digital components and the VK-60 plugged into the Chang (which isolates digital from analog components), and the VK-5 directly into the wall. (The VK-5's design includes AC shunt regulation, which might account for the fact that it performed best with "raw" AC.)

A fairly simple tweak I've found useful with preamps is stopping the unused inputs with shorting plugs. I tried this with the VK-5 (BAT supplied me with XLRs that had all three pins connected to each other), but darned if I could hear a difference.

I wanted to compare the effects of balanced vs single-ended connections between the VK-5 and the VK-60. As it turned out, the comparison led to another tweak. The VK-60 was a bit noisy in balanced mode, but no more so than other tube amps that I've had experience with, and not to a bothersome degree. (Substituting the Rowland Model 2 showed that source of the noise was the VK-60, not the VK-5 or something else in the system.) However, changing to the single-ended connection resulted in a fairly serious case of buzz/hum. Lifting the AC ground on the VK-60 (I dismantled the plug of the TARA Labs power cord and disconnected the ground wire) got rid of most of this noise. I repeated my listening to the amp in the balanced mode with the AC ground lifted and—whaddaya know—the sound was a bit cleaner, with depth more precisely layered. To my surprise, I couldn’t hear, or detect with a voltmeter at the amplifier terminals, any change in noise level when the ground was lifted with the amp in the balanced mode. Anyway, for the rest of my listening, the AC ground on the VK-60 stayed disconnected. (Try this tweak at your own risk; without a separate AC ground, if there's a malfunction that results in AC appearing on the chassis, you could end up being the ground path, a potentially painful—even lethal—experience. But then, no one ever said that being an audiophile was going to be easy.)

BAT's product literature stresses the importance of reliable operation: parts have been selected from sources known for their reliability, and all components are being operated well below their maximum ratings. The VK-5 functioned flawlessly throughout the review period, except for a bit of noise that developed in one channel—which cleared up when I replaced one of the tubes. However, the first pair of VK-60s, part of an early production run, had more than their share of difficulties. Both were fine when delivered, and I proceeded to use just one of them, in the stereo configuration, planning to later change over to the bridged monoblock setup. Before I could get around to doing that, however, the amp I was using started to blow its AC line fuse and trip the line's circuit breaker. Something was clearly amiss.

I shipped the amp back to BAT, and they sent me a replacement. The new amp had a revised chassis (more ventilation), a modified circuit-board layout,
and a blue (rather than green) LED indicator. I thought the new amp actually sounded slightly better than the old one—for a few weeks, at least—and then its power transformer developed a noticeable mechanical buzz. BAT's Steve Bednarski admitted that they were having a problem with the transformers; the transformer in the amplifier that I shipped back to them turned out to have an internal short.

Pitron, the transformers' manufacturer, is only a 20-minute drive from where I live; they picked up the amplifier and returned it a few days later, having replaced the buzzing transformer with one that was much quieter. However, while the amplifier was away being repaired, the other amp developed an electrical hum. I was sent a new set of input tubes (the mil-spec 6HHCs that are currently being fitted); substituting these fixed the problem. For the rest of the review period, both amplifiers were completely reliable, with no buzzes, snaps, crackles, or pops.

The last part of the Transformer Saga came to pass just as the review process concluded. Steve Bednarski called to say that, as a result of the problems that some other users and I were having with the VK-60's transformers, the mechanical design of the transformers had been modified to make its performance more consistently reliable and noise-free. They wanted to send me a new pair of VK-60's containing the new transformers. (The redesign involved the power as well as the output transformers.) "Why not?" I said, especially given that Steve and Victor were going to come by to help me pack up the old amps and install the new ones. (At nearly 90 lbs, these amplifiers are no fun to move around.)

The new transformers have the same basic electrical specifications, but the changes in construction are fairly substantial. The new ones use a thicker wire in the windings, they're heavily epoxypotted, additional magnetic shielding has been used, and they sport attractive metal caps instead of the original plastic ones. The appearance has been enhanced considerably, and so, I believe, has the performance. First of all, the new transformers are now dead quiet mechanically. More important, the latest production amplifiers sounded significantly better; the extreme highs have greater purity.3

LISTENING
The sound of a really good audio system

3 Customers who own VK-60s that have the old power transformer should contact BAT for a free update.

is difficult to describe. Oh, we can use terms like imaging, tonal balance, and bass extension, but ultimately it comes down to a feeling, a general sense that what you're listening to is much like live music. The best audio systems are those that allow you to forget—at least momentarily—that you're listening to electromechanical devices, and make you believe that this could be the real thing. Systems and components that make it relatively easy to suspend disbelief are the audiophile's Holy Grail. The BAT VK-5 and the VK-60 fall into this rare category of components.

As might be expected, the VK-5 and the VK-60 were at their best when used as a matched pair in balanced mode with a balanced source. (Like the VK-5 and the VK-60, the Sonic Frontiers SFD-2 Mk.II digital processor is a fully balanced design.) With the preamp and power amp thoroughly burned-in and warmed up,4 well-recorded CDs sounded open, smooth, transparent, detailed, and dynamic. Listening to the HDCD-encoded Big Band Basic CD (Reference Recordings RR-63CD), I was simply knocked out by the clarity and power of the sound—especially the massed trumpets, which are notoriously difficult to reproduce. Played at a realistic level (i.e., loud), these had tremendous punch, with the kind of screaming quality that trumpets evoke in real life, without harshness or edginess but also without sounding tamed or softened. Of course, the recording itself and the rest of the system (especially the Dunlavy SC-1Vs) had a lot to do with producing the effect, but the VK-5 and the VK-60 more than held their own in the partnership.

The VK-5/VK-60 combination's strongest suit was probably harmonic accuracy—or, as Sam Tellig calls it, "truth of timbre." Musical instruments and voices sounded more like themselves and less like electronic reproductions. I think this, more than any other attribute, is what attracts people to tube equipment. With many tube amplifiers, especially the low-powered single-ended triode variety, this impression of timbral verisimilitude comes at a cost of high measured harmonic distortion; arguably, we're dealing with harmonic enhancement rather than accuracy. As I write this, I haven't seen any of the measurements on the VK-5 or the VK-60, but to my ears the traditional tube virtues seem to have been obtained without the equipment acting like a harmonic enhancer.

Voices, male and female, had what was at times a startling degree of realism. This was true even with some recordings that are far from the state of the art. Listening late at night to a CD of a 1980 live concert by Luciano Pavarotti and Mirrella Freni (London 421 862-2), I found it easy to imagine that I was momentarily transported to Modena, listening to two of the greatest singers of our time at the tops of their forms.5 Sylvia McNair's voice on Sure Thing: The Jerome Kern Songbook (Philips 442 129-2) had a presence that was quite spooky. Part of this effect is a function of the equipment's ability to preserve the spatial cues, but I think the major reason is the preservation of the harmonics that define a voice as human and distinctive. No, we're not talking about produced sound that's indistinguishable from the original—we still have a good distance to go in that direction—but the VK-5 and the VK-60 added so little in the way of an "electronic" character that it was easier to maintain the illusion that this was real.

In listening to the VK-5 and the VK-60, I was mindful of Martin Colloms's suggestion that balanced components tend to be less involving, with losses in dynamic contrast and rhythm. Colloms is a highly respected reviewer who combines technical expertise with an audiophile orientation. I can't comment on the specific pieces of equipment he refers to in criticizing balanced designs—I simply haven't listened to that equipment under familiar conditions. What I can say is that nothing I heard during my VK-5 and VK-60 auditioning made me question the validity of the balanced approach as implemented by BAT. Given the right source material, I had no trouble following every detail of dynamic expression; the music was anything but laid-back or boring.

One of the CDs I brought home from HI-FI '95, the Los Angeles Stereophile show, was the Red One sampler from PopeMusic. At the show, a lot of people were playing PopeMusic's Lori Lieberman CD, which I thought sounded like an extremely good recording of something I didn't particularly want to hear. It's excerpted on the sampler, and listen-

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4 The VK-5 seemed to need very little burn-in, perhaps because it was listened to at some length before I received it. The latest pair of VK-60's had only a minimal amount of burn-in time on them, and they did seem to "relax" after having been on and used for three or four days, with further minor improvements over a couple of weeks. Once burned-in, the VK-5 and the VK-60 sounded pretty good right after being turned on (the VK-60's autobias circuit must be very effective). The sound continued to improve for about an hour.

5 Interestingly, a similar concert recorded in Modena 13 years later (London 443 260-2) finds Pavarotti in nearly as good voice, but the sound is harsh and artificial. This is progress?

(Continued on page 142)
BATmen: Robert Deutsch talks with Balanced Audio Technology's Victor Khomenko & Steve Bednarski

Victor Khomenko, the "VK" of Balanced Audio Technology's VK-5 preamp and VK-60 amplifier, was born in St. Petersburg (then Leningrad), and grew up two blocks from the Swetlana tube factory. He attended the prestigious Leningrad Polytechnic Institute and received an M.S. in physics and electronics, specializing in electronic emissions. He spent his early working life in the Russian electronics industry, then immigrated to the US in 1979 — with $400, a family, no home, and no job.

His expertise didn't go unrecognized for long. Since 1981 he has been with Hewlett-Packard, working on digital and analog processing and electronic instrumentation for laboratory applications. (He was involved in the design of the aeronautical equipment that led to astronaut Bill Johnson's disqualification at the 1988 Olympics.)

Steve Bednarski, Victor's partner, has a B.S. in engineering from Cornell University and an MBA from Harvard. Since joining Hewlett-Packard in 1979 he has held a variety of technical and management positions in manufacturing, marketing, and research and development. His role with Balanced Audio Technology is in marketing and general management.

Victor and Steve are both longtime audiophiles. Victor built a crystal radio receiver when he was eight, and built several open-reel tape recorders while still in high school, using components that he scavenged on the black market or from the dump where the Swetlana factory got rid of their out-of-spec, but still useful, parts. Steve's audio hobby started when he saved up enough money from his paper route to buy a Lafayette L.R-1000 receiver, a Garrard Zeno 100 recordable (the one with the pivoted arm), and Lafayette Criterion 100 speakers.

My first question for Victor and Steve was how they found that they had a common interest in audio...

Steve Bednarski: Victor and I knew each other at Hewlett-Packard for many years, and I had been playing around with tubes and had some older Fisher and Scott equipment. I mentioned to Victor, because I knew of his background with tubes, that I had an old Fisher amplifier that had bad tubes in it, and I needed to replace them. He said, don't replace them, just bring them in. And so I did. Victor proceeded to hook them up to his equipment at the bench and resuscitated them.

Victor Khomenko: It's actually very simple. I spent my years at university studying electronic emission. We made our own cathodes, and part of it is a process of activation. As a tube wears out, you can go through the same process again, and reactivate the tube by applying particular voltages.

Robert Deutsch: When did you get the idea of going into the audio business?

Khomenko: Steve and I started having discussions about the audiophile industry, and I started thinking more and more about getting involved in my old hobby. One day, Steve came to me and told me he'd bought a preamp that sounded really good, and featured something very unusual: a balanced circuit. My immediate response was, "But that's the only right way to build a circuit."

Bednarski: As I described that preamp to him, Victor got more and more intrigued, and he set out to design his own fully balanced preamp, never having seen the one that I had. We still have the preamp he designed; it's a 26-tube, fully balanced differential line and phono stage that looks more like a power amplifier than a preamp. I went over to his place and compared the preamp that I had with the one that he had built. I've never been so embarrassed by the performance of something that I had been quite proud of as when I compared my preamp with Victor's. And that, for both of us, was the starting point of conceiving this as a business.

That preamp was the prototype of what was to become the Khomenko-5, which is a more production-oriented design at a reasonable price point. The original prototype would have cost about $14,000.

Deutsch: Is that when you decided on "balanced" being the focus of your design and marketing approach?

Khomenko: Yes, I was quite excited that some people in audio were doing balanced circuits, even though they were not doing it in the way I would like it to be done. In instrumentation design, I used a balanced design all the time. It's a way of life in instrumentation, the best way of doing circuits. Steve, based on his experience with the audio industry, also felt that balanced circuits typically sounded better. There were a couple of companies with balanced products, but nobody was doing it very seriously. There were also a lot of negative opinions expressed, saying that balanced is totally unnecessary, that it's not good, that it's going to be tremendously expensive. I felt that was wrong. It doesn't have to be substantially more expensive than a well-designed product of any other type.

Deutsch: Isn't it the case that you're going to end up with roughly twice the parts cost?

Khomenko: Even that's not necessarily true. If you look at the parts cost of the Khomenko-5, a fully balanced differential design, it's not substantially higher than many single-ended designs. There are many different ways of building balanced circuits. The word "balanced" is interpreted in so many ways. Recording engineers talk about one type of balanced interface. If you talk to instrumentation designers, they mean something different. I saw one article in which there was a very clean, simple representation of a single-ended circuit, and there was a half-page drawing of something very ugly, which was the representation of the balanced circuit.

It doesn't have to be that way. You certainly can design that way, but you can apply the rule of simplicity to...
either circuit. You can make a very simple and elegant design in balanced. The design philosophies overlap tremendously. Balanced differential stages are commonly used in single-ended components as well. Our approach has always been of utmost simplicity. I was taught very early in my career that a good engineer is a lazy engineer — you can’t be a good engineer if you make something very complicated; it probably won’t work very well or be very reliable.

Bednarski: If you just took a single-ended circuit and doubled it to make it balanced, you would end up with twice the cost. However, what Victor has done is to take a clean sheet of paper to design a balanced circuit that could be brought to the market with a high degree of performance, minimizing the number of stages and eliminating buffers between stages, without a price premium over single-ended designs.

Deutsch: Which was more difficult to design and produce — the preamp or the power amp?

Khomenko: The power amp is much heavier! Your back really hurts carrying the prototypes around. The power amp probably is more difficult to design, simply because you have more potential danger, failure in many cases is catastrophic. You have to pay substantially more attention to reliability. In terms of designing for good sound, they’re similar, but the power amp may be more difficult still because of the output transformer design. Output transformers have received a lot of bad press — and justly so — because there are many mediocre transformer designs, so that they’re often the limiting factor in overall performance. I think it’s important to identify ways — as I think we’ve done in the Khomenko-60 — to eliminate those difficulties in transformer design. We made the transformer’s design very easy, and achieved. I think, tremendous performance.

Deutsch: How would you describe your design process?

Khomenko: I was taught to approach every problem from an analytical perspective. Analyze what you’re trying to do and know your ways of achieving it, then take your best shot. You have to do a lot of forward thinking, forward analysis. Only then do you jump into building something.

We try to implement the same approach with every product we design. We don’t just take something that kind of works and just tinker with it. Every circuit we’ve designed so far played well on paper before the first prototype was built. We do extensive computer circuit analysis. The results are very rewarding, because usually the first prototype already sounds very good. You then start tweaking and modifications, but you can’t do successful tweaking and modifications unless you have an almost perfect vehicle to begin with.

Deutsch: How much of the performance of a given product is determined by the basic design as opposed to parts selection and tweaks?

Bednarski: I can’t put a percentage on it, but I can tell you about a comparison I’ve made. I have a Dynaco Stereo 70 that has been modified to the hilt: custom output transformers, beefed-up power supply, KT90 tubes, custom oil capacitors. It’s the nicest-sounding Stereo 70 I’ve heard, but it doesn’t come close to the sonic performance of a Khomenko-60. I could spend from now until eternity tweaking the fundamental Stereo 70 circuit, but I don’t think I could do anything that would allow it to attain the performance of the Khomenko-60.

Having said that, parts selection certainly has its rewards.

Khomenko: I believe that basic circuit topology is paramount. Parts selection and tweaks are important, but unless your platform is very good, it won’t give you access to great performance. It’s like modifying a Chevette as opposed to modifying a stock Porsche.

Bednarski: Something that I’ve noticed among friends is that when they start tweaking products that they’ve purchased, the results are often far from satisfactory. Supposedly better capacitors may be put in a crossover, and what was a finely balanced speaker is all of a sudden harsh and irritating.

Deutsch: So you probably wouldn’t advise audiophiles to tweak Balanced Audio Technology products...

Khomenko: I don’t really have a problem with it. If somebody wants to play around with the Khomenko-5 and the Khomenko-60, they can do it, but I doubt very much that they’ll improve the sound, because most of that is determined by the basic topology — maybe 90%. Also, we’ve selected the components very carefully. Is there room for some improvement? Maybe very minor, but I agree with Steve that in most cases tweaking will be a step backward.2

Bednarski: I would have to differentiate between a “hard” tweak as something less invasive. We firmly believe, and have found in show environments, that the use of an isolation platform, cones — even things that people think are unusual, such as the Shakti devices — can have a positive effect on the sound. These tweaks are ones where you can listen to the effect of the device, and it’s easily reversible. People should evaluate these, and they should have an open mind, because even though some of them don’t seem to have the best fundamental science behind them, they often seem to work.

However, changing, let’s say, the output caps, the volume pot, or the shunt resistors to another brand, is not advisable. In the case of the Khomenko-5, a prototype was set up such that we were able to plug in different capacitors. We evaluated 14 different capacitors. We had five volume-pot implementations that were evaluated.

Deutsch: Was the selection made through listening tests?

Bednarski: Absolutely. In the case of the Khomenko-60, we evaluated the difference between toroidal and EI output transformers; the toroids made a huge difference in the listening evaluation, even though the circuit is the same.

Deutsch: Who does the listening?

Bednarski: We both listen extensively before making a final selection.

Deutsch: Do you do any blind tests?

Bednarski: No. Actually, I shouldn’t say “no.” We had a friend with very good hearing over when we were doing the capacitor selection, and in a blind test the three of us were able to choose the top two capacitors. However, in the blind testing, under pressure, we were not able to choose between the top two capacitors. That required longer listening evaluation. Philosophically, we’re not believers in blind listening panels. When you get very close, the best approach is to listen for a longer period and then make a decision after you’ve had some reflection.

2 Those inclined to make internal tweaks/ modifications should keep in mind that it may void the warranty.
Deutsch: What's your view of the whole measurement vs listening issue?
Khomenko: The role of measurement in design is tremendous. You can't produce a good circuit without a very long and substantial series of measurements. The designer must be measuring as much as possible, and we do. You must know your circuit completely, and that's accomplished through measurements. Measurements are not as important in terms of published specs.
Bednarski: Our philosophy is that when we have to make a tradeoff between published specs vs sound, we'll go with what our ears tell us. A very good example of that is not having switch-selectable feedback on the Khomenko-60. We simply couldn't find an instance where we preferred the sound with feedback, even though, in bench testing, there's some benefit to feedback.
Khomenko: Also, although measurement is very important for designers, the usual measurements in typical reviews are not as meaningful for the average consumer. I think magazines like Stereophile should be reducing the number of measurements, not increasing them. For the average person, it's very difficult, even impossible, to predict sound quality on the basis of measurements. Except for some very specific measurements, like noise level in a preamp.
Deutsch: What other measurements do you think are useful to the consumer?
Khomenko: For a power amp, output power, distortion level, and distortion profile are also important. They give you some idea of what to expect. Some people see a very tight connection between these performance specs and sound; I see it as much looser, but still important.
I'm hesitant to suggest particular measurements, because there are so many techniques to measure each parameter. For example, you can measure output impedance under different conditions with different techniques. Sometimes those techniques produce different results.
Bednarski: I think I understand what Stereophile readers look for from the measurements: a sense of any technical flaws inherent in the design. For example, you see some products that have a very difficult time reproducing a semblance of a square wave. You would tend to think that an amplifier should do that credibly. If it does not, then you begin to question the fundamental design.
Deutsch: I'll ask the other perennial audiophile question: what's your take on the digital vs analog issue? Do you still listen to LPs?
Khomenko: I have a turntable in my system, and I have a very good record collection, but most of my listening lately has been to CD, because I need a repeatable reference. However, I have strong opinions about the general issue: I think analog is the way of the future. Not analog in the form that we have today, which is a continuation of decades-old technology. But provision of ultimate performance is not going to be digital.
My vision is new media for analog recording; they may be optical or magnetic. There are some things that are fundamentally wrong with the digital approach to sound recording. Increasing the number of bits and the sampling rate is not going to get us very far. People are saying that digital with 20 or 24 bits will finally equal the quality of analog. Analog LP as we have it today, maybe. But I think ultimate performance is only achievable in analog.
Digital is an artificial form of signal processing. I like the analogy where you take a live snake and chop it into 10 pieces, and you have a dead snake that's been chopped into 10 pieces. You can now chop it into a thousand pieces, and you still end up with a dead snake, but it's now more finely chopped. The life is gone. In the same way, once you convert the signal...
has very little noise by tube amplifier standards: in a quiet environment, without music playing, I could just hear a bit of hum/buzz from the speakers when sitting in my listening chair. The noise was low enough that it was masked even by music played very softly, so I wasn’t really concerned, but it was there. However, the bridged VK-60s were so quiet that I had to put my ear within inches of the tweeter and the midrange to hear any noise at all. (Of course, this means that the VK-5 must also be very quiet. In fact, muting the VK-5 — which shorts its outputs — had no audible effect on the noise level.) Apparently, this is one of the benefits of the type of bridging used by BAT: much of the noise “cancels out.”

A power increase is expected to bring with it a greater potential for high-level dynamics, and it did. For me, a single VK-60 has more than enough power to drive the 91 dB-sensitive Dunlavy SC-1Vs to higher-than-comfortable levels — most of the time. At let’s-see-how-loud-she’ll-play level, a single VK-60 does start to run out of steam, and the extra 3 dB of headroom makes a difference. Even at levels below clipping, the monoblocked VK-60s had a little more, well, authority. The low bass seemed just a bit firmer and more extended. There was no increase in grain or any other untoward sonic effect.

Using a pair of VK-60s also has a potentially problematic side effect: heat. Each amplifier dissipates a lot of heat; spend time with a pair of them in a small room without air conditioning during the summer (which describes my situation), and pretty soon you may be yearning for a class-AI solid-state amp. Other than that — and the cost — there’s no downside.

**Comparo Time**

Up to now, my description of the VK-5 and VK-60’s sonic characteristics involved implicit comparisons with live music (or, to be precise, my memory thereof) in the context of a general knowledge of what’s available in high-end audio. Now it’s time to make some explicit comparisons with other equipment.6

To compare with the VK-5, I had on hand two preamps considered to be among the best: the Sonic Frontiers SFL-2 and the Convergent Audio Technology SL-1 Signature. The SFL-2, given a rave review by Russ Novak [Vol. 17 No. 11], is a fully balanced line-stage tube preamp that Dick Olsher, Bob Harley, and I have used as a reference. I’ve used it while reviewing several amps and have found it to be an excellent preamp, deserving of the praise it has received.

**Sonic Frontiers:** As good as the SFL-2 was, I felt that, in matched-level comparisons as well as in long-term listening, it was bettered by the VK-5. Listened to on from analog into digital, you destroy the signal to some degree, and you can never recover it fully.

Digital came along not as a good way of handling the signal, but as a convenient way of handling the signal. I’ve done a lot of work with digital signal processing. I know why it’s done; there are many reasons, but performance is not one of them.

**Bednarski:** I’m also in the analog camp, but I find myself — partly because of the convenience factor — increasingly listening to digital, and digital has improved substantially in the last few years. I do think we’re at the point of diminishing returns in current digital. What the new DVD format should do, with the right implementation, is to rejuvenate the marketplace. It raises the stakes.

**Deutsch:** So the future could be good? **Khomenko:** The future could be tremendously good. We’re not even close to approaching the end of what’s possible in audio. There is so much that can still be done. One way of improving the performance of audio systems today is to change from a voltage to a current interface. High-voltage/low-current circuits are not the right way to go. In instrumentation we routinely achieve 108 dynamic range, using a current rather than a voltage interface between components. The possibilities are endless. Unfortunately, we have to break the audio industry practice of using a voltage interface.

**Deutsch:** What would a current interface be like? **Khomenko:** In simple terms, you would have an input receiver with zero impedance, as opposed to the high impedance you have now, so you invert your circuits. What we’ve tried to do with the Khomenko-5 and the Khomenko-60 is to go toward having low-voltage/high-current circuits, but striking a middle ground, to ensure compatibility with other components.

**Deutsch:** How is a current interface better than a voltage interface? **Khomenko:** Much of it has to do with the limitations of a voltage interface, because of components like resistors. For example, in a normal environment, you can’t exceed about 10V. It would be impractical to design circuits with 1000V. At the bottom of the dynamic range, performance is limited by noise levels in resistors and semiconductors, so your dynamic range is restricted. In the current realm you can easily go from the femtoamp6 to the amp region. This gives you several orders of magnitude improvement in dynamic range. The current interface is also much more robust, less sensitive to interference from RF and magnetic fields.

**Deutsch:** What products are in the future for Balanced Audio Technology? **Khomenko:** A lot of people think of us as a tube company, but I’m certainly not a “tube designer.” I’m an electronics designer. I feel equally comfortable with semiconductors. We don’t want to lock ourselves into a narrow niche. We have a solid-state preamp and a power amp now in prototype form.

**Bednarski:** Our next product will be the Khomenko-3 line-stage preamp, offering a large measure of the performance of the $3995 Khomenko-5 for $2495.

**Deutsch:** Any plans for digital? **Khomenko:** We have wonderful ideas for digital, and someday we may have a very good product based on those ideas. It’s an important part of the market, so we’re giving it serious consideration. We’re also thinking of bringing out a phono stage, based on the phono stage of the original prototype. We have more plans than we have time!

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6 For these comparisons, voltages at the amplifier output were set to be within 20.1 dB. I still think that, except in the case of instantaneous comparisons, precise level-matching is less important than some people claim — if judgments of sound quality are primarily determined by level, then anyone wanting to improve the sound of his/her system could just turn up the level by a dB or so — but the VK-5’s continuous volume control allowed precise level-matching, so why not?
its own, the SFL-2 sounded very good indeed: smooth, wide-ranging, good sense of space, no obvious grain or harshness. However, changing to the VK-5 resulted in the music opening up in a way that was quite exciting and, I think, closer to what was on the record.

Individual images within the soundstage were more precisely defined, and tiny details that had been a bit obscure with the SFL-2 became crystal-clear. The location of tubular bells in the opening of the "Carmen" suite was slightly vague with the SFL-2; the VK-5 sharpened the focus so that I could tell exactly where they were. Mid-bass definition was significantly better with the VK-5; timpani and string bass sounded better-controlled.

Finally, the VK-5 allowed music to be more dynamically alive. "Tico-Tico" (track 4, Beachcomber, Reference RR-62CD) played through the VK-5 sounded like a joyful romp; played through the SFL-2, it sounded just a bit, well, subdued. (Remember: Gain was matched to within ±0.1dB; in this case, the VK-5 happened to be the one that was lower.)

**Convergent Audio Technology:** The SL-1 Signature, Stereophile’s 1993 Product of the Year, has served for three years as the primary reference preamp in my system; Jack English and Jonathan Scull also use it in this reference capacity. My unit has been updated twice, most recently when I was about halfway through the listening for the BAT reviews. The modifications in the latest update are fairly substantial: additional noise filtering in the power supply; provision of a new, much heavier bottom plate; a new power-supply-to-preamp cable; and some tweaks about which Ken Stevens (Mr. CAT) declines to go into detail.

The effects of the update7 were quite significant: the SL-1 Signature is now quieter (both phono and line-stage), and has even more of a "see-through" quality. CAT owners are strongly urged to get their unit updated.

Because the CAT SL-1 Signature is a single-ended design, comparison with the BAT VK-5 was not completely straightforward. Although the VK-5 can be used balanced or unbalanced, the balanced aspect is such a major part of the design that it wouldn’t seem fair to use it in the single-ended mode; ie, with a single-ended connection between the VK-5 and the power amplifier (in this case, the VK-60). But should the BAT have the potential advantage of using the Sonic Frontiers SFD-2 Mk.II’s balanced outputs? To keep the playing field level, I decided to make the comparisons using the SFD-2 Mk.II’s unbalanced output.8

So, how does the BAT VK-5 compare with the improved version of what Jack English in his original review (Vol.15 No.12) called “the finest preamplifier available today”?

The VK-5 and the SL-1 Signature differ in many design aspects, but their sonic similarities are much greater than their differences. In fact, I had a great deal of difficulty getting a handle on exactly how they differed. Several times, just as I thought I had identified a difference, switching back to the other preamp (at matched volume) made me doubt my initial conclusion. Both preamps had the kind of open, airy sound that invites listening. Both preamps were superb in the communication of dynamics, macro and micro. Harmonic accuracy was excellent with both. On some material, the VK-5’s mid-bass was very slightly fuller, which gave string bass more weight and presence. (That was in the context of my system, in my room. In some other systems and other rooms, the slightly leaner presentation of the CAT might well be preferable.)

With both preamps the soundstage was supremely wide and deep, extending with the right recordings, way past the listening-room walls. At times, I felt that the VK-5 presented voices as being somewhat more up-front, sibilants being a touch more prominent—or maybe the SL-1 Signature was a bit laid-back, soften-ing sibilants.

Overall, the results were just too close to call. CAT owners don’t have to start thinking about placing a “For Sale” ad in “Audio Mart,” but anyone considering the purchase of a preamp in this price range—especially those who need only a line-stage and are attracted by the balanced feature—must listen to the BAT VK-5. It’s that good.

**Rowland:** The VK-5 is a stellar performer, the VK-60 no less so. In my four years of doing equipment reviews for Stereophile, I’ve had in my listening room, for varying periods, tube amplifiers from Audio Research, Sonic Frontiers, Luxman, VTL, Cary, Audion, Conrad-Johnson, and Quicksilver. Some had the “magic” (tubephiles will know what I mean) but were deficient in other ways: insufficient power to drive most speakers to realistic levels, weaknesses at the frequency extremes, etc. Others had lots of power and wideband frequency response, but were missing the magic.

What is this “magic”? Simply, it’s the ability to avoid sounding like an amplifier, an absence of “electronic” sound. During the BAT review period I no longer had on hand the tube amplifiers that had provided the background of comparison with the VK-60, but my persistent impression was that there was a tube amplifier that had the magic and was free of the practical deficiencies typical of the species. Of the solid-state amplifiers I’ve listened to at any length, the one I’ve found to have the least amplifier sound was the Rowland Model 2 reviewed in Vol.18 No.8. This is the amp I used for explicit comparison with the VK-60.

Like the VK-60, the Rowland Model 2 is a fully balanced design, but it uses different XLR pin-assignment conventions (pin-3 positive for the Rowland, pin-2 positive for BAT), which means that the two amps’ absolute polarity is reversed—a problem easily corrected by use of the Sonic Frontiers digital processor’s polarity reversal feature. The Model 2’s rated 75Wpc puts its power output just 1dB higher than the VK-60, and the $5800 price is correspondingly higher.

When I started the Rowland/BAT comparison, I hadn’t listened to the Rowland Model 2 for at least a couple of months. Firing it up again, I was quickly reminded why I’d been so enthusiastic about this amplifier in the review. It is a truly excellent amplifier, worthy of Class A status. I required several back-and-forth changes between the Rowland Model 2 and the BAT VK-60 to identify their differences.

The comparison between the amplifiers confirmed that the VK-60 is quite special when it comes to harmonic accuracy. The Rowland Model 2 is no slouch in this area; in fact, its preservation of the natural timbre of instruments and voices outweighs any other solid-state amplifier of my experience. Still, whenever I switched over to the BAT VK-60 (matching levels, and remembering to reverse absolute polarity), a layer of artificiality was removed, and I came closer to feeling that I was listening to the real thing. Also, although the depth of the soundstage with the two amplifiers was comparable (with the right recordings, very deep), the VK-60 evinced superior three-dimensionality of images within

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7 My CAT was also supplied with new tubes. The old tubes had only about six months’ use, with no audible indication of aging— but, obviously, I can’t be absolutely sure about the role of the update in tube replacement in producing the sonic differences.

8 The SL-1 Signature was used without a power-line conditioner, as per Convergent Audio Technology’s recommendation.

9 If money is power, then the Rowland Model 2 can be described as 11dB (that’s decibels) more expensive than the BAT VK-60.
the soundstage. Thus the trombone solo in "Winter Wonderland" (Big Band Basic, track 13) seemed to have a more rounded physical presence, and there was greater differentiation of the individual voices that make up the Turtle Creek Chorale in Postcards (Reference RR-61CD).

Well-designed solid-state amps tend to have better bass responses than tube amps; indeed, this was an area in which the Rowland Model 2 was superior to the BAT VK-60. However, the differences weren't as great as one might expect. With my usual torture-test, Mickey Hart's Planet Drum (Rykodisc RCD 10206), the bass from the VK-60 was actually quite impressive: deep and well-controlled, with perhaps just a bit of added warmth, but a far cry from the warm-and-woolly bass that characterizes so many tube amplifiers.

Only when I switched over to the Rowland Model 2 was I reminded that the Dunlavy SC-IVs are capable of even better extreme-low-end performance. For those with speakers whose bass response doesn't go much below 30Hz, the point is academic. For those with speakers that have subwoofing capability and who like to play music that tests that capability, the Rowland Model 2 might well be a better choice.

MEASUREMENTS FROM Tjin
Balanced Audio Technology VK-60:
All of the 8 ohm measurements on the VK-60 were made using its high-impedance output tap. Two and 4 ohm measurements were made at the low tap. Bridging was performed at the low impedance tap.

Following the 1/2-power, one-hour preconditioning test, the VK-60 ran typically hot for a tube amplifier. Its input impedance was too high to measure with precision on our Audio Precision test set using normal procedures, but was clearly well above 100k ohms. The output impedance measured a very high 3.5 ohms, or marginally less at 20Hz and 1kHz, increasing to 3.9 ohms at 20kHz. In the bridged mode, the 1kHz output impedance decreased to a more tolerable 1.5 ohms. In either mode, but especially in the standard stereo configuration, the sound of the VK-60 will vary with loudspeaker impedance. An amplifier like this, to a certain extent, review-proof; the reviewer's observations will only be transportable if the reader listens over the same loudspeakers.

The voltage gain of the VK-60 measured 26dB into 8 ohms. DC offset measured 1.4mV in the left channel, 0.8mV in the right. Signal/Noise ratio (ref. 1W into 8 ohms) measured 72dB over a 22Hz-22kHz bandwidth, unweighted, and 83dB over a 10Hz-50kHz bandwidth, A-weighted. The VK-60 has pin2 of its input configured as the positive leg, pin 3 as the negative.

Fig.1 shows the frequency response of the VK-60 in both its standard and bridged configurations. The response into resistive loads is good, though the HF rolloff into a 4 ohm load will likely be marginally audible. More significant, however, is the unbridged response into our simulated real-world load (see Stereophile, August 1995, Vol.18 No.8, p.168). The deviations here, caused by the amplifier's high output impedance, will be audible. The 1kHz squarewave response in fig.2 is good, however, with only a slight rounding at the leading edge reflecting the HF rolloff. The 1kHz squarewave, not shown, is near-perfect.

The crosstalk shown in fig.3 is a very respectable result. It's about 100dB better in one direction than in the other, but even in the worst case the channel separation is better than 65dB—figure unlikely to result in any audible performance compromise.

The THD+noise vs frequency results are plotted in fig.4. The results are satisfactory above about 200Hz, but there's a notable increase in distortion at low frequencies and into lower impedance loads. The right channel is noticeably less good than the left at low frequencies. The Balanced Audio Technology's distortion waveform (fig.5) indicates primarily 3rd-harmonic content, with some additional components.

The spectrum of the VK-60's output, reproducing a 50Hz input tone at 24W into 4 ohms (5% rated power) is shown in fig.6. This is a fairly poor result relative to the best we've measured, and is indicative of the relatively high distortion at

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**Table 1**

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<th>Load ohms</th>
<th>Both Channels</th>
<th>One Channel</th>
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<td>Drive</td>
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<td></td>
<td>W (dBW)</td>
<td>W (dBW)</td>
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<tr>
<td>8</td>
<td>34 (15.3)</td>
<td>29.5 (14.7)</td>
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<tr>
<td>(line)</td>
<td>118V</td>
<td>117V</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>30 (11.8)</td>
</tr>
<tr>
<td>(line)</td>
<td>115V</td>
<td>115V</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>23.8 (7.8)</td>
</tr>
<tr>
<td>(line)</td>
<td></td>
<td>115V</td>
</tr>
</tbody>
</table>
low frequencies into lower impedances. The largest artifacts are at 100Hz (−35dB, or about 1.7%) and 150Hz (−37dB, or about 1.5%). Interestingly, the results for the same output into our simulated real-world load (fig.7) are better: −46.5dB (just under 0.5%) at 100Hz, −44.6 (about 0.6%) at 150Hz, and visibly lower at higher frequencies as well.

Fig.8 shows the VK-60’s output spectrum driving a combined 19+20kHz signal at the same indicated 24W into 4 ohms. At −37dB (about 1.3%) at 1kHz and −32dB (about 2.5%) at 18kHz and 21kHz, along with a considerable amount of noise, this is not a particularly good result.

The 1kHz, THD+noise vs output power performance for the VK-60 is shown in fig.9. This amplifier is clearly of moderate power, even in its bridged mode. The curves are typical of a tube amplifier: rising gradually to the 1% distortion point. The VK-60’s discrete clipping levels (at 1% THD+noise) are shown in Table 1.

The test-bench results of the VK-60 were not atypical for a tube amplifier. But neither were they particularly impressive, especially considering the effort expended to build a balanced design (relatively unusual in a tube amp).

**Balanced Audio Technology VK-5:**

Without any cathode follower, the VK-5’s output impedance at its line outputs measured about 11k ohms. This is relatively high for a modern preamp, and reasonable care should be exercised in matching it with a suitable power amp. I recommend that the latter have a minimum input impedance of 20k ohms — not really a difficult condition to meet.

The input impedance of the VK-5 was very difficult to measure properly, due both to its being very high, and to small fluctuations in the readings, which are fairly typical of tube electronics. The lowest value I obtained, however, was just over 200k ohms, which should not cause any problems whatsoever in system matching. The output impedance at the tape output was just over 2k ohms with a source impedance of 50 ohms, and just under 2.6k ohms with a source impedance of 600 ohms, indicating a tape output that is not actively buffered. Using a tape deck that has an unusually low input impedance could affect the preamp’s performance. (You must also consider its input impedance when turned off, if it will remain attached to the tape outputs of the preamp at all times.) Incidentally, most users will have to use balanced-to-unbalanced adapters with the VK-5’s tape outputs, as very few consumer tape decks (actually, none that I know of) have unbalanced inputs.

The DC offset at the VK-5’s outputs fluctuated wildly, reaching maximum values of nearly 200mV — though only instantaneously. Nevertheless, I don’t recommend using this preamp with a DC-coupled power amp (tube amplifiers with output transformers should present no difficulty). Pin 2 of the inputs and outputs is configured as positive, pin 3 as negative; the preamp will be non-inverting if used with associated equipment using the same convention. The preamp’s maximum gain was 18.9dB. Its S/N (ref. 1V out) measured 78.8dB over a 22Hz-22kHz bandwidth unweighted, and 81.1dB over a 10Hz-50kHz bandwidth A-weighted.

The frequency response of the VK-5 is shown in fig.10. At or below unity gain, the high-frequency response is very flat; above unity gain, an audibly insignificant rise develops at very high frequencies. Volume-control tracking was fair to good by the standards of the best preamps. Note that although the right channel remains within −0.5dB of the left in the two curves shown, it’s +0.5dB in one set of curves and −0.5dB in the other — a shift that may result in a marginally audible balance shift for listeners in the...
"sweet spot" of a well-set-up system.

The crosstalk shown in fig.11 is good, with the expected increase at high frequencies (usually the result of capacitive coupling between the channels).

The THD+noise vs frequency performance for the VK-5 is shown in fig.12. (The input level was 230mV.) The distortion is very low across the full range, overall an excellent result. Fig.13 shows the VK-5's output spectrum with the preamp reproducing 50Hz at a very high output of 5V. The largest artifact, at 100Hz, is approximately 70dB down (0.03% distortion). At a more typical 2V output (not shown), this figure improves by about 1dB.

The THD+noise vs output voltage curve is shown in fig.14. The minimum distortion occurs at 2V output, which corresponds to an input of 230mV — the latter value used for the THD+noise vs frequency and crosstalk measurements (the increase in THD+noise below this input level is primarily due to noise).

Finally, the VK-5 would accept a balanced line-level input of 3.5V before reaching 1% THD+noise (with a resulting balanced output of 30.3).

Good tube preamps tend to produce more impressive measured results than tube power amps, and the VK-5 was no exception. My only concern is the slightly high output impedance, a characteristic that can be overcome by reasonable care in system matching.

—Thomas J. Norton

![Fig.13 BAT VK-5 line stage, spectrum of 50Hz sinewave, DC-1kHz, at 5V output into 100k ohms (linear frequency scale). Note that the second harmonic at 100Hz is the highest in level, at ~70dB.](image)

RD CONCLUDES
"Excuse me, how do I get to Carnegie Hall?" goes the setup for the old joke. The punch line is, of course, "Practice." For anyone who wants to get into high-end audio design and manufacturing, desire and talent are not enough. Those who succeed in this highly competitive area really have to do their homework — which is just what Balanced Audio Technology has done. They've produced a pair of audio components that, in my opinion, are in the front rank of their respective categories. For a company no one had heard of a year ago, this is a remarkable accomplishment.

The VK-5 retains the transparency of a minimalist line-stage, but has enough facilities that make it convenient to use. The VK-60 offers the natural rendition of instrumental/vocal timbres that the best tube amplifiers are known for, but has enough power to drive most speakers to very satisfying volumes, especially when used in the monoblock configuration. In balanced or unbalanced mode, used together or with other high-quality amplifiers/preamps, the VK-5 and the VK-60 performed in a way that was always musical.

BAT out of hell? Heaven is more like it!

—Robert Deutsch

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**SILTECH CABLES**

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Siltech will outperform the competition in neutrality, resolution, warmth and overall musicality.
In this, my first equipment review for Stereophile, I'll begin by explaining my philosophy regarding reviewing inexpensive components. In my quest for products by designers who strive to establish new benchmarks for reproducing sonic realism at lower prices, I'll be looking for "value" components (a more apt term than "budget") whose designers logically fall into two camps:

"Price point" designers (Arcam, Audible Illusions, Audio Alchemy, Creek, Grado) who have built their reputations by placing all of their designs under very stringent cost constraints. The presumption is that they target serious music lovers of modest financial means.

"Trickle-down" designers (eg, Alón, Audio Research, Cary, MIT, VPI) have made their marks by designing breakthrough designs whose cost considerations take a back seat to sound quality, and, in extreme cases, may be ignored entirely. Reputations thus established, these designers seek to expand their markets by applying their fundamental design philosophies — and the magic of their price designs — within a more cost-constrained context.

Unlike most equipment reviewers, who begin by reviewing budget gear and go up in price as their experience grows, I've moved in the opposite direction. Although I play with the big-bucks boys, as a reviewer I prefer to seek out inexpensive gear that sets new standards at low price points.

This accomplishes two objectives: It locates components that enable a higher level of performance at any given cost constraint, and it brings more people into the hobby, by sending the message that this is not solely a rich man's sport.

My first experience with a Mike Creek design was with the 4140s2 integrated amplifier I reviewed in 1990 (Sounds Like... No.8). This $550 40W unit (which included a killer low-output moving-coil phono stage, no less) impressed me so much that I purchased it, and I've used it in my lowest-price reference system ever since.

For its price at the time, the 4140s2 was an incredibly detailed, dynamic, and fairly neutral unit whose sonic performance and parts'n'construction quality hinted at a much higher price. The 4140s2's magic was in the way it put the music together (rather than analyzing it or picking it apart) to convey a realistic, involving musical experience. The British mags would call this "following the tune," and the American undergounds would term it "spectral and temporal coherency." The bass extension and speed on this baby (read: lots of current produced into real speaker loads) was killer. On the minus side, images on the soundstage were rather two-dimensional, with limited stage depth, and the lower high frequencies had a slightly metallic, etched quality — this amp wasn't a good match for speak-
ers with bright tweeters.

In 1989, Creek was sold to TGI (Tannoy/Mordaunt Short); shortly thereafter, Mike Creek left the company. Roy Hall, Creek, and Creek's European distributor bought the company back from TGI in 1993, after which the entire Creek line was revamped. The 4240 integrated amplifier, which replaced the 4140/S2 in 1993, was the first Mike Creek design released under the new ownership.

When the 4240's first production unit entered the country, Wes Phillips and I visited Roy Hall's home to compare the new amplifier with the 4140/S2 and to meet the designer. During this delightful evening (wherein Roy served a 1988 Tignanello to accompany take-out pizza—the man has his priorities straight), the comparison was enlightening. Although I'm reluctant to comment on comparisons made with unfamiliar systems, this listening session convinced me that the 4240 had achieved new levels of body, palpability, and realism, which the earlier amp had lacked. It also seemed as if the lower high-frequency edge had been scotched.

**ENTER THE 4240**

The only way to be sure was to get one of those suckers into my reference system posterhaste; I was fortunate to receive one of the early review samples. My listening sessions confirmed a natural and refined quality that I normally associate with expensive tube amplifiers. Rather than the forward, etched quality of its predecessor, the 4240 eased me into the music gently and let its holographic timbres wash over me. Unfortunately, the bass was inferior to the 4140/S2's, as the midbass on down had a thick, rounded quality—not objectionable, but clearly a step backward.

All in all, however, the new amp was far superior, and the minor bass tradeoff was well worth the integrated result. As I prepared my review (The Absolute Sound, Issue 100), I wondered to what extent other reviewers would share my enthusiasm. It turned out my view was in the minority, as both Corey Greenberg (Sterophile, July 1994), and Rob Doorack (Listen!, Issue 2, Spring 1995) issued negative press on the 4240, implying that Mike Creek had taken a step backward. To paraphrase these gentlemen, the 4240 lacked the excitement and drive of the earlier unit. It was too laid-back. It was boring.

I can only scratch my head and conclude that these gentlemen like a more exciting than real presentation; one enhanced by the etched lower high frequencies of the 4140/S2. But to my ears, naturalness rules; the Creek 4240 presented a much more convincing sonic transcription of the live musical event than did its predecessor.

Which brings us to the matter at hand. Before revamping its lineup, Creek marketed a top-of-the-line integrated amp, the 6060. At nearly double the price of the 4140/S2, it basically provided a high-power option for those who liked the sound of the 4140/S2, wanted more than 40W, and didn't want to make the jump to separates. I was perplexed, and had begun to think the company was ignoring a key potential market segment, when I learned that Creek's new management had no interest in introducing a replacement for the 6060. In 1995 Creek did introduce the P42 and P42 preamp/amp combo, which offered, at 50Wpc, a higher-powered Creek option.

**DON'T YOU DESERVE SOMETHING SPECIAL?**

Creek has now finally introduced a higher-power integrated amplifier, the 4240 Special Edition, at a price of $800. Externally, the only difference between the special edition and the standard 4240 is the gold lettering on its faceplate (Creek traditionally uses green). The functions of the two units are identical: two inputs, including an auxiliary input that can be converted to phono by purchasing an additional moving-magnet ($50) or moving-coil board ($95). The simply-laid-out unit sports volume and balance controls, and a headphone jack. For those who wish to complement the amp with additional electronics in a more elaborate system, both preamp-out and amplifier-in jacks are provided.

The Special Edition also includes the most annoying feature I've seen on any piece of electronics, one shared by the entire Creek line: Deltron speaker connections in the back of the amp. These wonderful little jacks mate with Deltron males, which actually seem to provide a better connection than typical five-wire binding posts. The problem is, they're incompatible with most American connections. The Deltron jacks do accept banana plugs or "fat bananas"—which I understand Music Hall sells—but are incompatible with the spade lugs and bare wire commonly used in the US low-cost electronics market. Of course, Music Hall dealers will be happy to custom-terminate wires for customers, but then the wires will have compatibility problems with other gear.

I found all this highly annoying: I tried to hook up a new pair of speakers, and found I had three sets of speaker cable custom-terminated with these stupid plugs. They therefore could not be mated with the screw terminals and Edison Price Music Posts on the back of my Audio Research and Cary amps, respectively. You'd think Creek/Music Hall would have realized by now that their segment of the market, more than any other, is driven by convenience.

Open ze box, and the upgrades on the Special Edition are obvious. What Mike Creek has done is replace the output devices and toroidal transformer of the 4240 with those of the 50W A42 basic amplifier. In addition, some minor parts upgrades have been performed on the preamp section, including the addition of a silky high-quality ALPS pot for the volume control. The SE retains the DC-coupled pre- and power-amp sections of the original 4240, as well as the lack of capacitors in the signal path.

**SYSTEMATIC**

For most of my Special Edition Creek listening I used a core system consisting of a Thorens TD160/SME 3009 III/Grado Signature 8MZ analog front end, CAL Icon II CD player, MIT Terminator 2 interconnects, and Acurian Systems Alon Petite loudspeakers driven by bi-wired Acurian Systems Black Orpheus speaker cable. Alternately, the Alons were replaced with Celestion 5 and NHT 13 speakers connected with MIT Terminator 2 speaker wire. All speakers stood on Celestion Si stands generously loaded with sand and lead shot. The following comments apply equally to the CD and analog front-ends (the latter amplified through the Creek moving-magnet board option).

**IS THE SOUND SPECIAL ENOUGH?**

When I cranked up the Creek, I didn't expect much improvement in sound quality over the stock 4240. I was in for two big surprises. First, the Special Edition Creek transformed the performance of the system to a much higher level of sonic realism than would be indicated by the $200 price differential. But, ironically, the character of the amp remained essentially the same as the stock 4240. When I switched to the Special Edition, the sound change was akin to that of making a significant upgrade elsewhere in the system while leaving the original 4240 intact.

Normally I spend quite a bit of time in my equipment reviews discussing...
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tonal balance. Although detail resolution, soundstaging, and dynamic range are very important to me, I'm sensitive, perhaps overly sensitive, to a component's timbral distortions. If I hear a significant coloration, particularly in the critical midrange, I will be less excited about a component's other positive attributes. I have very little to say regarding the Special Edition Creek's tonal balance in that I could detect no significant colorations whatsoever over the entire frequency range. Any minor colorations I heard can be attributed to the idiosyncrasies of my front-end gear.

Vocals were particularly captivating, whether male (Mighty Sam McClain, Give It Up To Lose, AudioQuest AQ1015, LP and CD) or female (Bernard Rogers, Three Japanese Dances, Mercury 432 754-2, and Janis Ian, Breaking Silence, Morgan Creek 20023-2). But the real test of tonal balance is on a component's reconstruction of fundamentals and harmonics of woodwind and string instruments. On Messiaen's Quartet for the End of Time (EMI ASD 4270), the reproduction of the subtle dynamic shadings of the clarinet and cello throughout their extended ranges was extraordinarily realistic.

With the Special Edition, Creek has finally gotten the high frequencies right—it shared neither the metallic high frequencies of the 414002 nor the slightly soft, laid-back high-frequency presentation of the 4240. Particularly since the transient reproduction of the unit was fast and natural without being etched, percussion (of particular interest to me) was reproduced with captivating realism. The bells and upper register of the piano on Three Japanese Dances shimmied with air, sparkle, body. The four percussionists on Clarity's stunning portrayal of Stravinsky's densely orchestrated Les Nuits (Clarity CDJ1005-G), which on a lesser amplifier can sound like thick cacophony, were clear and easy to follow, and brought back memories of the live performance I witnessed in London's Royal Festival Hall in 1982.

I can't comment on the frequency extremes of the Creek because the amplifier extended beyond the frequency limitations of my associated gear. The highs extended at least to 15–18kHz, the conservative upper limit of both my analog and digital front ends, and the bass extended to at least 50Hz (in my room the Alôns are flat to 50Hz, with reduced output at 40Hz, sans PW-1 subwoofer). The Special Edition Creek had none of the bass roundness of the original 4240. Within the frequency limitations of the system the bass was clean, tight, and natural. Bass guitars were particularly realistic, and the electric bass on the Janis Ian disc was as natural as I've heard on a recording. John Atkinson's little ditty on Stereophile's Test CD 2 (STPH004-2) reminded me of John's 1964 Fender bass as heard live.

I know this sounds a bit like a rave review, but I haven't yet discussed the amp's two greatest strengths:

Exceptional Articulation of Inner Detail: The Creek is a limited-resolution budget component; I was very surprised to find the Special Edition revealed details I hadn't noticed before on some of my favorite recordings. For example, on "Uncle Meat," from Zappa's phenomenal The Yellow Shark (Barking Pumpkin R2 71600), the opening bass figure is doubled by the piano and bassoon, and the separation of the two instruments was very clear.

Robin Holcomb, despite being an excellent songwriter, is not much of a piano technician, and she tends to lean on the pedal too much. I usually use the title track from Rockabye (Elektra Musician 61289-2) as a detail-resolution test. On a high-resolution system, you can

Who is Robert J. Reina?

I'm consumed by a passion for music that began at the age of three, when I became tall enough to reach the coin slot in the jukebox of my cousin's bar to play Lloyd Price's "Personality." My record-purchasing career began in 1958 when my godfather, touched by my performance as a crow in the kindergarten Christmas play, offered to buy me any gift I desired. My response: "Santo and Johnny's first album...the one with 'Sleep Walk' on it.

I'm a 'classically trained amateur new music composer and jazz pianist.' What that means is that, during the '60s, I became totally immersed in the greatest decade rock has ever seen, while woodshedding the baroque and classical keyboard repertoire. After a few years of teaching I abandoned formal training and turned to composition, which coincided with my discovery of progressive jazz and 20th-century classical music, courtesy of Frank Zappa. Although most of my writing has been for genre-crossing electro-acoustic chamber music, I've dabbled in strict forms, including punk rock and classical (which I performed at CBGBs and Carnegie Recital Hall, respectively, in 1978 and 1987).

Although my musical interests are broad (my 8000-LP, 100-CD collection spans all forms of music except country), I get turned on by creative new music that pushes back the frontiers of music while remaining accessible. (I'm fortunate, as a New York City resident, to have multiple venues of live performance available to me, which I explore frequently.)

On the audio front, my equipment-reviewing experience spans 12 years, most of those with The Absolute Sound. My primary reference system's current estimated retail value is around $40,000, excluding accessories, spares, and home recording equipment. In my future reviews I may use up to three complete audio systems that together will cover a broad range of price categories. (No, I won't be testing 30W receivers using my Infinity RS-1Bx.) For reviews of smaller speakers, I may also use a Home Theater system.

I will review each component in what I feel is the most revealing system possible, with no regard to component price, to obtain the best measure of the unit's performance. Then I'll place the component within the context of a system with similarly priced components so the reader can get a better idea of what to expect in a real-world purchase situation. (For this Creek review, one basic system was used, but with three different speaker configurations.)

I won't place price floors or ceilings on the products I choose to review; what's important is the product's context in the marketplace. This is consistent with Stereophile's philosophy that components of all price ranges are treated with equal respect. Democracy—ain't it grand?

Anything else? Oh yes—in my spare time I am a Director, Corporate Finance, at Citicorp Securities.

—Robert J. Reina
hear Holcomb's pedal go up and down during the intro before the vocals and other instruments kick in. On the Creek Special Edition, I noticed for the first time that Holcomb depresses the pedal quickly, but brings it up much more slowly.

On "Dyslexiana," from the highly experimental KliP jazz recording (CDR copy of master tape, not yet released), the interplay between Elliot Kalen's internal piano manipulations and Garth Powell's subtle percussive interplay, which is recorded at a very low level, was captivating on a revealing system. The extensive use of space and decay on pianissimo passages can be lost on a less-than-revealing system. With the Special Edition Creek, I remained as captivated as when I played the CD on my expensive primary reference system.

This ability to resolve detail enhanced the unit's soundstaging presentation. The Creek, which had very good width, depth, and image specificity, also revealed quite a bit of air surrounding the instruments on the stage, as well as hall ambience. The Special Edition thus allowed the speakers to disappear on some very good recordings, something which the original 4240 could not do.

Explosive High-Level Dynamics and Bass Impact: The Creek reproduced triple-forces without any sense of strain. Recordings with extensive bass information were particularly convincing. Even on the tiny Petites, the bass-drum whacks during the most vibrant passages of Stravinsky's The Rite of Spring (Clarity 1005-G) were among the most realistic I've heard from any recording.

A few months ago I had the pleasure of hearing the new King Crimson band live. Unlike his previous rock ensembles, Robert Fripp's latest unit employs two guitars, two bass/Chapman Stick players, and two drummers. The compositions for this "double trio" are more akin to jazz ensemble writing, or that of a classical sextet. This angular, dense, high-energy music is all through-composed with very little soloing and, because of its complexity, is difficult to analyze on first listen.

At the concert — the finest rock performance I'd seen in a decade — it was much easier to follow the individual bass and percussion lines than on the recording (Thnax, Virgin 40313 2). With the Creek Special Edition, even at excessively loud volumes, the individual bass lines and percussion passages were as clear as they were in concert. The Creek never once ran out of steam (the original 4240 compressed a bit at very loud levels). When the 4240 was pressed to its limits (I'm talking in excess of 100dB here), it amplified without strain or distortion, but it was obvious the amp was working hard. It's as if the amp were saying, "I'm not supposed to play this loud, but, if you insist..." The Special Edition, on the other hand, would reply, "Party on — I'm not even tired."

Back to Kalen's KliP CD. On "Housewives, Students, Anyone?" the male narrator asks, "Do you need more power?" "No," I thought. As the Rolls-Royce marketing guys say, power is "sufficient."

OTHER THOUGHTS...
As I search for something negative to say about this amp, I should point out that at no time was I fooled into thinking I was listening to significantly more expensive gear. The Creek lacked the silky, effortless, grain-free liquidity of more costly separates, as became obvious when I briefly substituted the Audible Illusions Modulus 3/Audio Research Classic 60 combo. The SE sounded like a cost-constrained solid-state amplifier, although a damn impressive one.

I must admit that much of my enthusiasm for the amp is a direct result of my experience with the Alön Petite,2 which is an unusually revealing, neutral, and dynamic speaker for $1000. The Special Edition Creek and Alön share the ability to be ruthless in exposing problems in associated gear. As a pair, they sang.

MEASUREMENTS FROM tJN
Unless otherwise noted, all of the measurements on the Creek 4240 were taken from the CD line-level input to the loudspeaker outputs, with the volume control at maximum.

The Creek 4240 was hot following its one-hour, ½-power preconditioning test, but continued to function normally. The Creek's input impedance into its CD input measured 46.9k ohms, with insignificant variations at lower settings of the volume control. Maximum voltage gain into 8 ohms measured a high 35.7dB, and left/right volume control tracking was good, remaining within 0.1dB at all positions checked (9:00 to full on).

The 4240's output impedance was very low, ranging between 0.025 and 0.045 ohms depending on frequency and load impedance. This suggests a very consistent performance — at least with respect to frequency response — into real-world loudspeakers (this was later confirmed with our simulated loudspeaker load). DC offset measured 2mV in the left channel, 0.3mV in the right. Signal/Noise Ratio (ref. 1W into 8 ohms) measured 77.4dBF, over a 22Hz–22kHz bandwidth (74.2dB over 10Hz–50kHz, unweighted, and 79.3dB A-weighted). The 4240 was noninverting, with a positive impulse at the input remaining positive at the output.

The output impedance at the Creek's tape outputs was 685 ohms with a 600 ohm source impedance and 124 ohms with a 25 ohm source impedance — indicating an unbuffered tape output. The output impedance at the preamp output measured 2513 ohms; if the 4240 is used to drive an external amplifier or other device, the input impedance of that device should be relatively high. I would recommend at least 20k ohms.

Fig.1 shows the frequency response of the 4240 at 2W into 4 ohms and into a simulated loudspeaker load. There is virtually no difference between the two (the response into 8 ohms, not shown, was also a virtual overlay). Fig.2 is the amplifier's output with a 10kHz squarewave input; a very slight rounding of the leading edge reflects the response rolloff above 20kHz visible in fig.1. The 1kHz squarewave, not shown, is virtually perfect.

Fig.3 shows the 4240's crosstalk, measured at 1kHz. It is respectable, though not special — certainly adequate to ensure audibly excellent separation. The typical increase at higher frequencies is

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2 To be reviewed next month by Wes Phillips. —JA
likely the result of interchannel capacitive coupling.

The THD+noise is frequency results in fig.4 are also reasonable, without being in any way exceptional, though the rise in the treble is a little alarming-looking. The bottom trace in fig.5 shows the Creek's THD+noise waveform in response to a 1kHz input. It appears to be primarily second-harmonic plus noise. A similar result was obtained into other load impedances (curves not shown).

Fig.6 shows the spectrum of the Creek's output while it was reproducing 50Hz at an output of 46W into our simulated loudspeaker load (about 3/2 of its 1kHz power at clipping). This is a very good result; all of the artifacts are below -80dB (0.01%), with the third harmonic dominating what spurious there were. (A similar measurement taken into a 4 ohm resistive load had even lower artifacts and is not shown.)

The intermodulation spectrum caused by a combined 19+20kHz input at 31W into 4 ohms (the highest power available with this input prior to visible signs of clipping) is shown in fig.7. This is a reasonable if not notably low result; the artifacts are all below -66dB (about 0.05%)—the level of the distortion component at 18kHz. The result at 28W into 8 ohms, not shown, was cleaner, with no artifacts higher than -80dB.

Finally, fig.8 shows the THD+noise vs output power curves for the 4240, one channel driven. The power output decreases into loads of less than 4 ohms. The discrete clipping levels (by our convention, 1% THD+noise at 1kHz), to the nearest watt, are shown in Table 1.

RJR SUMS UP

Although I've had extensive experience with Creek gear over the last few years, I was unprepared for how much of an improvement the Special Edition 4240 would be over the original 4240. To be fair, the 4140k2 (a steal in the used market), the 4240, and the 4240SE are all excellent performers, but at three discrete levels of realism. I can't think of a single electronic high-end component available today that provides more value for money than the Creek 4240SE. To my ears, the 4240SE/Alon Petite combination sets a new standard for performance in an electronics/speaker combination for under $2000.

—Robert J. Reina

Table 1 Creek 4240 Clipping (1% THD+noise at 1kHz)

<table>
<thead>
<tr>
<th>Load ohms</th>
<th>Both Channels Driven</th>
<th>One Channel Driven</th>
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<tr>
<td></td>
<td>W (dBW)</td>
<td>W (dBW)</td>
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<tr>
<td>8 (line)</td>
<td>49 (16.9) 48 (16.8)</td>
<td>56 (17.5)</td>
</tr>
<tr>
<td>4 (line)</td>
<td>57 (14.6) 53 (14.2)</td>
<td>59 (14.7)</td>
</tr>
<tr>
<td>2 (line)</td>
<td>112V 112V</td>
<td>113V</td>
</tr>
<tr>
<td></td>
<td>33 (9.2)</td>
<td>112V</td>
</tr>
</tbody>
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Fig.3 Creek 4240SE, crosstalk (from top to bottom at 1kHz): L–R, R–L (10dB/vertical div.)

Fig.4 Creek 4240SE, THD+noise vs frequency at (from top to bottom at 1kHz): 2W into 4 ohms, 283V into dummy load, 4W into 2 ohms, and 1W into 8 ohms (right channel dashed).

Fig.5 Creek 4240SE, 1kHz waveform at 2W into 4 ohms (top); distortion and noise waveform with fundamental notched out (bottom, not to scale).

Fig.6 Creek 4240SE, spectrum of 50Hz sinewave, DC–1kHz, at 46W into simulated speaker load (linear frequency scale). Note that the third harmonic at 150Hz is the highest in level, at -83dB.

Fig.7 Creek 4240SE, HF intermodulation spectrum, DC–22kHz, 19+20kHz at 31W into 4 ohms (linear frequency scale).

Fig.8 Creek 4240SE, distortion (%) vs output power into (from bottom to top at 20W): 8 ohms, 4 ohms, and 2 ohms.
The Allure is a refinement of a DIY design by Stereophile's senior contributing editor Dick Olsher. Dick called his version the Poly Natalia and described it as "one of my all-time favorite dynamic loudspeakers and one which I shall return often for critical listening". With Dick's blessing, we built our own version and now offer this elegant design to those who want the best! The Allure is 93 dB efficient and works wonderfully well on both tube and transistor amplifiers.

Dick Olsher receives no royalties or other remuneration from this design.
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MONOBLOCK POWER AMPLIFIER

Jonathan Scull

All-tube monoblock power amplifier with class-A1, push-pull output stage, user-adjustable bias. Output power: 540Wpc at 1.5% THD, 8 ohm load in Tetrode mode (23.3dBW); 180Wpc at 1.5% THD, 5 ohm load in Triode mode (20.2dBW). Power consumption: 132W full power at 1.5% THD. 30W in Standby. Input impedance: 100k ohms. Load impedance: Factory-set for 5 ohms. RCA and XLR inputs. Dimensions: 19" W by 13" D by 11" H. Weight: 82 lbs shipping. Serial numbers of units tested: MANR440889/90. Price: $10,000/pair. Approximate number of dealers: factory-direct only. Manufacturer: Manley Labs, 13880 Magnolia Ave., Chino, CA 91710. Tel: (909) 627-4256. Fax: (909) 628-2482.

My reviews always begin in bizarre ways. Take David Manley...please! (Just kidding.) On the last day of Winter CES '95, I found myself towing a tuckered-out JA to a few final rooms. (This was just after the January '95 David Manley/Dick Olsher tube-rolling brouhaha regarding who should do what to whom, and with which particular tube.) So as we passed Manley's room, JA thought to stick his head in (the noose) and say hello.

Of course, David Manley had plenty to say, but as we spoke I didn't realize I was standing in one of his Manley-Clant Audio Traps. You know the kind: with a single swaak of a machete, the hunter releases the bowed sapling, bringing with it the net below as it snaps upright.

To wit: "John!" David railed, arms akimbo. "You've gotta give permission for Jonathan to review one of my new amps—the 440s with the new MAGIC Transformers!" (David, like Shun Mook's Dr. Tan, always seems to speak in exclamation points.) I looked at David. He was smiling innocently. I looked at JA. He was just smiling. Uh-oh...I thought I detected a brief odor of the veldt at high noon. [SPOING! "Well, Jonathan...go for it!"

Of course, having sprung his masterful trap, Manley Bwana didn't send the amps for months on end.

"Hey, David. It's Jonathan."

"Yeah, Jonathan, I actually had a dream about you last night." Need I say more? The Manley 440s arrived shortly thereafter.

A CURIOUS BEGINNING
They're heavy enough brutes at 82 lbs each (shipping weight). I removed the boxes, then rapped suspiciously on the top plates, and immediately removed them. Resonant—off with their heads! I opened them up to make sure the tightly packed forest of tubes were seated properly. Then I rolled them over and pulled off the rather crude-looking, heavy-gauge steel mesh bottoms and had a look around. Hmmm, solder flux all over the none-too-tidy boards. Upon further examination I was concerned to see that the cover plates over the bias-adjustment screws on both amps were cross-threaded!

I wasn't able to start listening right away, but I wired them up with the Synergistic Research cables I was using with the Symphonic Line Kraft 400s (see my review last month) and gave 'em a whirl. I chose the RCA input with a toggle-switch on the rear—an alternate flip of the switch engages the XLR input (pin two hot). Before I lit them up, I glanced at the manual regarding turn-on procedure. On the right there's a red paddle switch for choosing between Operate and Standby modes, backed by a master On/Off rocker switch on the lower-right front panel.

The blinking Standby light turned out to be green (uhhhh...huh?), and one amp's light blinked while the other only dimmed. The Power On light was...red. (David, can we talk?) Another old-fashioned chrome toggle-switch at left provided a choice between Triode and Tetrode modes. (Or, Beauty and the Beast modes...but we'll come to that.)

Soft-start is accomplished by ensuring that the amp is in Standby, clacking on the master switch, and curbing your patience for a minute or two before powering up. You're advised to mute the preamp and drop the 440s into energy-saving Standby "Ever-Warm."
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HI FI NEWS
mode between listening sessions. (David is so... retro.)

Manual: “The standby blinking LED will remind you that the amplifier is in Standby mode — where the amplifier draws only 400mA (30W at 120V AC) from the mains outlet.” At night, with the green lights blinking (and dimming) away like mad, I felt like Manley was in the room. “Hey, Jonathan [wink, nudge], is she a goer, aye?” It’s those Monty Python reruns...

Among my first impressions were a chunky bass and a lush midrange — along with warm but gruity highs, which I was certain would disappear with break-in, and which mostly did. Kathleen noticed right away that the Manleys were absolutely mepitic (or malodorous, as Jeeves would say). In fact, they stank to high heaven — a curing smell — for a good two weeks after we rotated them into the system. The closely packed tubes ran hot in the compact alloy-fused furnaces. I’m sure the chimney effect couldn’t have kept a glider aloft for the afternoon.

At 19” wide, 13” deep, and 11” high, they are compact compared to the elegant, four-chassis Jadis JA 200s. But the Manleys aren’t trying to be refined. They’re studio-bred. They seem robust, tank-like, and able to leap tall buildings in a single bound. Their hodgepodge of knobs’n dialls looks funky, but belies their intelligently dissimilar shapes: changing form for function is ergonomically correct.

IN THE MIX

The front-end was basically the same kit I’d listened to with the Kraft 400s. Digits were handled by the Forsell Air Reference D/A converter and its companion Mk.II CD transport (air in the transport, none in the D/A, thank you). Digital databanks were mostly Kimber AGDL, the new Illuminati Studio Dataflex, XLO, and the Maringo Apparition Reference (everything Cable-Jacketed), plus a Slakti Stone on the transport roof during play.

I also auditioned the 440s with an updated Jadis JS1 Symmetrical Converter driven by the elegant and suavely musical Jadis JA Drive. (Try the factory-supplied Svetek EL84 in place of the stock EL86 in the power supply for a significantly improved overall sound.) I used all the cables mentioned above, plus Aural Symphonies’ Optical prepped with their ioGoL, and balanced databanks from Illuminati, Kimber (AGDL again), and AudioTruth Diamond.

Analog was the Flywehving Forsell Air Force One, with either a Clearaudio Insider or a Symphonic Line RG-8 dancing at the totemarm’s end. (My vdH Grasshopper IV is back in the Netherlands getting the latest tweaks from Papa Stylus himself, A.J. van den Hul.)

THERMIONICS & OPERATING MODE

The Manley 440s provide a broad enough selection of operating adjustments to keep the most anal-retentive audiophile hip-deep in shrinker bills for years to come.

Output tubes are 10 “Russian uprated 6550s” per side, with no further details of their origin to be found in the manual. “We strongly emphasize that only the Russian 6550s should be used in this amplifier... they have been thoroughly optimized around this tube. Use of unapproved tube types can and will void your warrantiy.” You’ve been warned...

(tube joke). I reviewed with the tubes supplied, with nary a thought of replacing them. Really.

The input of each 440 consists of a single 12AT7 dual-triode, with the driver stage made up of a pair of 6414s (an American military version of the 12B7A — more current drive). “Replacement tubes of premium quality are always available from Manley Labs.” I could almost hear David Manley clear his throat as he added that little tidbit in the manual. Ten-four, Dave.

“We run high voltages on the plates of the output tubes and are thus able to run them at lower current, which will result in longer life for the output tubes.” In Tetrode mode, the amps “produce well over 440 watts,” per the simply turned-out manual. (I confess, I was curious to know how that kind of tube would sound in the Avalon Ascents.) In Triode mode the 440s “will produce half the power of Tetrode operation, but as fans of triodes know, nothing can match that sweet, seductive sound of triodes!” Well, it’s his manual...

Now, David... correct me if I’m wrong, but half of 440 is 220, right? Are my sums wrong, or is this simply poetic license? Actual figures expressed in the specs call for 540W (at 1.5% THD, 5 ohm load) in Tetrode, and 168W (1.5% THD, 5 ohms) in Triode. Power consumption is quoted at 1329W, full power (at an atypical 1.5% again), while pulling only 30W in quiescent mode. My electric bill thanks you, Mr. Manley. While I’m spewing the numbers, let me mention that the input impedance is 100k ohms, and the load impedance is factory-set for 5 ohms.

The manual suggests Tetrode mode for demanding, energetic music; large rooms; or power-hungry, inefficient speakers. It goes on to say that most listeners should be satisfied with Triode mode. The only caveat: get those amps in Standby or turn them off before you snap that toggle!

Given their enormous differences, choosing between Triode and Tetrode not only proved a device for matching speakers and rooms, but was effective in matching the sonic characteristics of the front-end or the recording itself.

David Manley: “I don’t compare these amps to pure triode; that’s not the intention. Pure triode amplifiers just don’t have the power we’re seeking in this model. But pure triode should only be used when there’s plenty of speaker sensitivity available. And you know, contrary to popular belief, triodes have inherently higher distortion — it’s right there in the tube manuals. Triode only sounds better when it has the headroom comparable to what you have using pentodes (or tetrodes, as it’s correct to say with these amps). I can’t understand why people demand 10-20dB headroom in a preamp, yet are totally content to run an amplifier right up to its noisrs in the water, so to speak, functioning at 99% all the time, with no headroom at all.” But how do you really feel, David? (I should talk...) Of course, EveAnna Manley says the 440s sound best... in Triode.

Manual: “We emphasize big, beefy reservoir capacitors in the high-voltage supplies, giving plenty of instant energy for dynamic performance of transient peaks and bass performance which often exceeds that of rival solid-state amplifiers.” I see...

Surprisingly, no specs are given in the manual for total capacitance. I spied two large blue caps inside the amps that David Manley says are 3300µF, 450-VD capacitors manufactured by Cornell Dubelier. David’s obviously never peered into a Symphonic Line Kraft 400.

I'M ELSA KLENSCH, AND TODAY ON CNN'S "STYLE" WE'LL BE LOOKING AT THE NEW BIAS CUT FROM CHINO, CALIFORNIA THAT'S TAKING THE FASHION WORLD BY STORM!

There’s an (old-fashioned, what else?) rotary switch near the top of the front...
We suggest that those who rely upon shiny badges to make an impression might seek a career in law enforcement.

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panel for selecting each of the 10 output tubes for re-biasing—recommended every two to three months. Just slide a pair of probes from your digital Voltmeter into the color-coded sockets above the switch, choose the tube, and fiddle with the appropriate screw behind the bias-adjust cover plate. The amps must be warmed up, with no input for about half an hour before you start, but leave the speakers connected! Each bias trim pot should be adjusted to measure 275mV to 300mV. As you’re measuring across a 10 ohm cathode resistor, by Ohm’s Law that’ll correspond to 27–30mA current draw for each tube. If you’re unable to bring the bias voltage down to at least 300mV, you’re advised to keep an eye on the offending tube, or replace it.

I’m fine with this scheme; I think “hands-on” promotes involvement and appreciation of the equipment. Mains fuses are a 10A Slo-Blo for 100–120V, with a 11/2A (250V) Slo-Blo for the B+ voltage rail. Mains-in is standard IEC. I powered the amps, and indeed the entire system, with Michael Griffin’s superb The Essence power cords (Essential Sound Products, (810) 375-5093).

DISCOVERY

After swapping cables and interconnects, we settled on the bright red, also—made-in-the-US Discovery Signature—Tel: (908) 359-0950, fax (908) 359-2170—sporting those terrific German Clearaudio connectors. Their RCAs are milled from a solid chunk of beryllium copper, then directly gold-plated. Upon soldering to the cable, they’re filled with a potting material. The male pin is a spring affair that resolves the problem of differing-diameter female receptacles, and even the ground crown is made with three springs for superior contact. This very special connector has a specified capacitance of just one picoFarad.

The cables themselves are uncoated, oxygen-free, multistrand copper (all of the same gauge) in a reverse lay that cancels out EMI and RFI. The cables are twisted together under both a foil shield (Mylar with a metallic coating) and a braided shield with PVC jacketing, and tied to ground at the source end. Joe DePhillips told me they’ve used this dual-shielding technique since the beginning; a braided shield would permit EMI and RFI to enter when the cable is bent, as it almost always is.

Specified capacitance is a mere 15pF/foot, so long runs are easily managed. The cost is $450/meter terminated, and $140 each additional meter; and you can have the cables with either the Clearaudio RCAs—did I say how superb these are?—or Neutrik gold-pin XLRs at the same price. It’s a balanced design to begin with, so there’s no additional cost to having them either way. Discovery will reterminate your cables for just the cost of the connectors—now that’s what I call reasonable!

The 1 2 3 speaker cable, so named because it’s configurable for single-, bi-, or tri-wired setup, is multistrand, uncoated, oxygen-free copper as well. The wire has a polyethylene dielectric, and it’s wrapped around a hollow polyethylene tube, then PVC-jacketed. They’re unshielded because, according to Joe, “the signal is pretty strong at that point, and we find that even in 45′ runs some of our customers use in New York City, there’s no RFI.” The cables are $320 for an 8′ pair, and bi- and tri-wired sets cost the same, with no additional cost for termination. Discovery says that a Signature speaker cable will soon be introduced.

Their attributes—excellent imaging, air, and dynamics (both micro- and macro-), great bottom-end heft and pitch definition, a clear and detailed midrange, and excellent highs (if not quite as extended as some of the multikilobuck cables)—worked perfectly in unison with the Manleys’ own sonic characteristics. Believe me, I’ve played with the best, and these interconnects and speaker cables offer unbelievably high performance for relatively low cost. Sgt. Bilko-Scull: “Get out there and audition this stuff in your system right away! Ayyy-up!”

I DIDN’T MEAN THAT KIND OF FEEDBACK!

Centered on the face plate is a pair of old-fashioned knobs with which the user can change the feedback and associated slope through Minimum, Standard, and Maximum settings. Manual: “The feedback control varies the global feedback resistor in 2dB steps. This will change the gain and slew rate of the amp. The slope control varies the feedback slope capacitor value, which changes the amplifier’s intended rolloff points at supersonic frequencies.” You’re advised to use your ears—which of course I agree with completely—and feel free to experiment.

Those still suffering from high Audiofile Rage Factor should avert their eyes, but for the rest of you, I found this set of controls very interesting indeed. They changed the sound in ways more subtle than choosing Triode or Tetrode operation. It all depended on the front-end driving the amps. For instance, the Forsell equipment is very open, bloomy, and spacious by nature, so I used Standard Feedback and Standard Slope most of the time. Maximum Feedback seemed to close the sound down slightly and fasten the bloom onto the image, as it were. With the vivid, incisive Jadis digital front-end, I usually found Minimum Feedback to work best with Standard Slope. Analog called for slightly different settings. Don’t despair, it was basically a set-it-and-forget-it affair—I didn’t find myself fiddling with it overmuch.

THE MAGIC OUTPUT TRANSFORMER

MAGIC: Multiple Arrayed Geometric Inductive Coupling transformer, featuring Basketweave Litz Interleave. Manual: “This is a truly new invention in output transformer design and manufacture, a very expensive piece as it requires that the bobbin (or coil) winding machines themselves be extensively modified because the winding procedure involves a complex shunt and helical motion. The transformer achieves extremely precise coupling between all windings, especially between primaries and secondaries, which is how we achieve virtually zero insertion or efficiency loss and a phenomenal frequency response in the very low and super high frequency spectrum areas.”

The Ever-Warm MAGIC transformers are stuffed into the Ever-Tight real estate available in the 440s in the right and left rear corners. The transformers are big, heavy lumps, and each amplifier has but a small single pair of custom-fabricated binding posts sticking out low on the rear panel. If your speaker cable isn’t as flexible as the Discovery 1 2 3, you’ll need to raise the amps on footers, or use a stand if you plan on bi- or tri-wiring them.

I experimented with a trio of Shun Mook Super Diamond Resistors and a quartet of Harmonix RF-66 Large Tuning Feet. I settled upon a trio of Michael Green AudioPoints under each amp: two at the rear under the transformers, the third centered up front.

BEAUTY & THE BEAST

These amps were the very essence of the phrase “Made in the USA.” They also suffered from multiple personality. Starting at the bottom, the bass sounded positively meaty (a word that popped up repeatedly in my notes). The
"...an astonishing amount of sound comes from these...tiny boxes."

John Atkinson, Stereophile, Vol. 18, No. 1, January 1995

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Ivor Humphrey, Gramaphone, November 1994

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Eric Braithwaite, Hi-Fi News and Record Review, October 1994

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LAMM M11s went deeper, but their bass was more lightweight and delicate than the 440s. I won’t even mention the big Symphonic Line amps—theyir bass was from a different planet, okay?—The Planet of the Tight. The midrange of the 440s was plush and warm, the Discovery Signature delivering enough detail and texture to keep the illusion up. The highs too were sweet and inviting, if not as totally extended as the Jadis 200s (at twice the price).

But really, which amp sounded that way? For the 440s were possessed of two distinct musical personalities. Snapping the toggles up into Triode resulted in a tighter, but smaller and less impactful, bass; a midrange as voluptuous as Roger Rabbit’s girlfriend; and highs as sweet as they come. The downside included a significant loss of both soundstage transparency and size, loss of dynamics (both micro- and macro-), and much less of that entertainingly vivid 3-D palpability factor.

Toggling down to Tetrode power mode for the full 440 was a whole different affair. On the Avalon Ascents (86dB sensitivity, 5.5 ohms minimum impedance), Tetrode sounded incredibly...powerful. The soundstage became huge, billowing, and so circumambient I felt like I was sitting in a Virtual Reality holo-graph of the acoustic. Tetrode bass was impressive as well: visceral, whack-ing, meaty, and totally kick-ass. (Art of Noise, Massive Attack, and Dead Can Dance, for example, sounded fantastic!) It was also somewhat more out-of-control, overripe, and voluptuous than in Triode. The midrange, too, lost some of its lusciousness, but it wasn’t so sorely missed. The soundstage ambience and transparency, coupled with the sudden-impact 440W of Ever-Grip™ tube power had on the Avalons, was astounding. The presentation was altogether faster, and thus more rhythmical and driving, in Tetrode.

But—and it’s a significant “but”—it’s the mid-to-upper midrange and the highs where Tetrode takes the hit. The problem? Grain. Tetrode is more rough-hewn than Triode. Bright pop recordings with shiny top-ends could sound pretty bad. If this grain offends, drop them into Standby, wait a sec, snap the toggle to Triode, and bring the power up again. Certainly, a few really lousy recordings still sounded like hell in Triode. The 440s did change their tune depending on the recording, and even the front-end employed. The Jadis and Forsell DACs were truly well-differentiated from one another, for example.

In spite of reflecting what’s upstream, they’re still not reviewer’s tools. And to be fair, no one implied they were. Instead, I see a hippy-dippy pony-tailed MTV-approved producer waving his arms around, exclaiming, “What?! You never heard tubes before, man? Listen to these!” And everyone would be impressed. I mean, what’s the problem? Big impressive bass, a rich and attractive midrange, illuminated and perfectly sweet highs, and imaging abilities up the wazoo. Where, exactly, is the beef? Well, they’re fun, they sound great, but they ain’t exactly neutral, see? They aren’t particularly [sniff] refined, my good man. Especially in Tetrode mode, where the sound is a bit grainy and where they possess more power, slam, and headroom than should be legal.

Let’s put it this way: the customer for a pair of Jadis JA 200s is most emphatically not the same person who’ll want these rock’em, sock’em, kick-yer-butt-into-next-Tuesday amps. But so what? Aren’t we supposed to be enjoying ourselves? Isn’t it about the music? Believe me, then: enjoying music through these things was a piece of cake.

**SOME TELLING MUSICAL MOMENTS**

Listening to Simply Red’s Stars (eastwest america 7 91773 2) in Triode, my notes tell of a superb midrange and fleshy bass coupled with lovely, refined highs. The next entry in my notes must have been jotted down after a glass or two of wine: “Listening through the Jadis front-end is like discovering that David Manley can discuss...Rimbaud and Molière. Quelle surprise. And although Tetrode’s enormous sense of spatiality and palpability is reduced, Triode still sounds enveloping and actually seems to contain more specific spatial information. It’s smaller, yet more bloomy, acoustically detailed, and nuanced.”

This last was an interesting aspect of their sound. Listening to Laurie Anderson’s fantastic new album Bright Red (Warner Bros. 45534-2), I noticed Tetrode’s huge, enveloping, 3-D acoustic seemed to define a certain specifically sized soundfield, vast though it might have been. Triode mode offered a more bloomy presentation, where harmonics seemed to take on additional importance and were allowed to develop more fully and “fuse” out into the surrounding air. I was less aware of the overall absolute soundstage size, but the music bloomed out into it in a more complete and harmonic manner.

While the highs in general were sweet and inviting, they could be a touch sissibilant at the very top, even in Triode mode. Take Paul McCartney...please. JA detests him, but aside from the sibilance, he’s ever so appealing on Unplugged (The Official Bootleg) (Capitol CDP 7 96413 2). I usually listen from track 12 (“That Would Be Something”) onward. While I noted less grain in Triode, there was a touch of glare up in the treble, a fine grain that, according to my notes, “in the final analysis doesn’t really put me off my feedbag.” (I’m very sensitive to grain.)

Check out the bass line of “Leather Cats” (track 8) on Oregon’s new Beyond Words—a classic Oregon set-piece on a perfectly terrific Chesky CD (JD130). This High Resolution Technology 128x-oversampled recording sounded super-ambient—it’s almost as if the Chesky boys made it just to show off the Manley 440s. In Tetrode mode I heard a deep and powerful bass line (especially for tubes), and a horn as well-recorded as I’ve ever experienced. The 440s rendered this recording with sparkling, incise, fast, and exciting rhythm and pace. Sharply focused, well-delineated ambient imaging made it easy to “see” the soundstage, accompanied by plenty of bloom in all the right places, topped off with those Ever-Sweet (yet not obscured) highs.

The fullness of Tseng Keng-Yuen’s violin tone on the Chaconne from Bach’s Second Partita (on Distinguished Friends of Cello, CAR 007) sounded warm, inviting, redolent with detail. Certainly in this respect, the Manleys are involving amps—the sound is so attractive you just have to like them. Or skip ahead to track 6—Guitar Gabriel (blues guitar and vocal), accompanied by Richard Parrish on piano, Tim Duffy on guitar, and Mark Levinson himself on double bass. This CD is a mindblower—totally stunning. Guitar Gabriel was set well back in a deep and atmospheric soundfield, and he sounded...old. The amps were able to bring me this nuanced sense of his advanced age and frailty, as well as the sweet essence of glory past. Importantly, the 440s didn’t glamorize everything fed to them, for “That would be wrong,” as Nixon said into his bellybutton.

Stereophile writer Rick Rosen recently turned me on to Portishead’s Dummy (UK Go Beat 828 522-1). (I don’t think there’s a message buried there...) The album is a good example of Trance/ Rave/Ambient sound. For a pop recording, it’s done amazingly well. The bass can sound a little out of control at times,
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but that's more a style thing. I mean, we're talking about a group that likes to mix in scratchy record sounds under the vocals, as in the bass-rich "Pedestal." (The first time I heard it, I went crazy checking all my connecters!)

The album came across as a bit cool and not quite metallic up top, but still very listenable. Tetrode really worked the room, giving the bass a lot more authority. The acoustic was simply enormous — this is an important aspect of these recordings, whose artificial (but typically huge) soundfields can come from all over the map. The graininess did just begin to get to me, however. A quick flip to Triode, and everything became more beautiful, although the bass was still driven wacky by the levels cut on this LP. (I'm dreaming about what the Kraft 400s would have done with Portishead's nether regions. The mind boggles.)

Everything became stunningly more separated and palpable when I flipped them back into Tetrode, where lies the Manley 440's true heart. My notes indicate it wasn't worth it, however, Triode winning out on musical terms. On the other hand, you can't take anything for granted. Classic Records' Coleman Hawkins Encounters Ben Webster reissue of Verve MG VS-6066 sounded fabulously musical and inviting in Tetrode mode... so you can never tell. At least you can snap the 440s back and forth with just a brief pause in between, and they perform without protest, never uttering a thwep or a thump when I unmounted post-change. You need that in studio gear. Hell, you need that in high-end gear too.

Next up, that beguiling Sinatra/Ellington album Francis A. & Edward K. (Reprise 1024), which has become one of my reference records for all time. Try to scour this one up — it's out there, and you'll love it! To play this album with eyelids lightly pressed together is to experience the Orgasmotron from Woody Allen's Sleeper. The recorded acoustic sounded so wide, deep, warm, and enveloping that I fell into it like I might dive into a favorite old down pillow. Ahhhhh... I'm falling... and I don't wanna get up. Sinatra's voice was so thoroughly developed by the Clearaudio Insider, and the midrange of the Manley was so utterly luscious and full-bodied, that no matter what particular things the 440s do that are not audiophile/reviewer-approved can be forgiven, because you surely get the musical message.

In this important way the 440s are involving, and of course, that's one of the major characteristics we must insist upon in genuine high-end products, especially at this lofty price and above. Quickly tipping them back to Triode mode (I'd never dream of powering the JA 200s up and down in like manner) revealed Frank sounding so present, so utterly romantic, that I sat totally captivated until side's end. Upon reflection, Sinatra sounded somehow more elegant and suave, more ambient in Triode, although the soundstage moved a good third of the way back behind the speakers, and in so doing lost some size and immediacy.

—Jonathan Scull

MEASUREMENTS FROM TJN

With any tube amplifier having varied setup capabilities, the decision must be made whether to present all possible measurement combinations or a selected cross-section. The latter is the only practical alternative. I did a complete set of measurements of the Manley 440 in the Triode configuration, unbalanced mode, at the standard (intermediate) feedback setting with a minimum response slope. Unless otherwise noted, the measurements below indicate those conditions.

Following its one-hour, 1/2-power preconditioning test, the Manley 440 was very hot to the touch. The Institute of High Fidelity (now incorporated into the EIA, I believe) devised this test primarily with solid-state amplifiers in mind — in which case 1/2 power usually corresponds to a worst-case heating situation. For tube amplifiers, it's less applicable, but we perform it primarily to maintain consistency and to warm up and stabilize the amplifier. Following this warmup, the bias setting was checked and readjusted as necessary to the manufacturer's recommended setting.

The 440's voltage gain up to 8 ohms was 30.9dB balanced (and virtually the same unbalanced). As expected, there was some gain increase at minimum feedback, and decrease at maximum feedback. Care should be exercised to compensate for this when comparing the audible impact of changing the feedback. The input impedance measured 144k ohms unbalanced, 114k ohms balanced. DC offset fluctuated widely due to the presence of very-low-frequency noise; I noted a maximum of 124mV. The 440 was non-inverting — a positive-going input emerged positive at the output. In the balanced mode, pin 2 is positive, pin 3 negative. The S/N ratio, unweighted (referred to 1W into 8 ohms), was 69dB over a 22Hz-22kHz bandwidth (66.3dB from 10Hz-50kHz, unweighted, and 78.4dB A-weighted). The output impedance of the 440 varied between 0.74 ohms and 0.88 ohms, depending on frequency and load impedance (the higher values were noted, as usual, at 20kHz). This is a reasonably low value for a tube amplifier, but I'd still anticipate some effect on the frequency response with a real load.

Fig.1 shows the Manley 440's frequency response at the conditions indicated. The simulated real-world load does affect the frequency response of the amp/speaker combination (due to the amplifier's output impedance), though the deviations are within a tolerable margin (under 1dB over the audible range). Note also the slightly flatter top end in the Tetrode configuration.

The 440's output in response to a small-signal 10kHz squarewave is shown in Fig.2. This is a very good squarewave response, with only a barely visible overshoot and no ringing, plus the usual rounded leading edge found on many amplifiers (due to ultrasonic rolloff). The near-perfect 1kHz squarewave is not shown.

Fig.3 shows the Manley's THD+ noise in Triode Mode plotted against

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frequency at low power levels into various loads. While the amplifier is clearly happier into a 4 or 8 ohm load than into 2 ohms, this is a very respectable set of results for a tube amplifier. The 1kHz THD+noise waveform at low power is shown in fig.4. It's primarily third-harmonic, with some higher-order components and noise. The results were similar to other load impedances.

The distortion spectrum resulting from a 50Hz input at 112W (7% rated power) into 4 ohms is shown in fig.5. The relatively high, but not alarming, distortion levels are –44dB (about 0.65%) at 100Hz and –37dB (about 1.5%) at 150Hz. The results into our simulated load (not shown) were similar; the artifacts were just slightly lower.

Fig.6 shows the Manley’s output spectrum resulting from an input of a combined 19+20kHz signal at 55W into 4 ohms—just below the level at which clipping is observed in the output waveform with this input signal. Even allowing for the 6dB crest factor with this demanding signal, this is considerably below the amp’s rated power; often an amplifier can’t approach more than half its rated power with this difficult combination of frequencies. Incidentally, clipping onset is quite gentle on the 440 with this input signal, visible initially as a slight rounding of the waveform. The 1kHz intermodulation artifact lies at –49dB, or about 0.35%; the distortion level at 18kHz is –32dB, or about 2.5%. The artifacts were slightly lower with the amplifier driving 8 ohms (not shown).

How the 440’s THD+noise level varies with output power can be seen in fig.7. The output is clearly higher in Tetrode operation, though not as high as the amplifier’s spec. This may have been due to our slightly low powerline voltage (under 115V) or the tube bias, which I set at the top of the recommended range.

For our purposes, discrete clipping is defined as 1% THD+noise at 1kHz. In Tetrode mode at the standard feedback setting, the Manley’s discrete clipping points were 158W (22dBW) into 8 ohms, 210W (20.2dBW) into 4 ohms, and 156W (15.9dBW) into 2 ohms, with 112–113V AC available from the powerline during these tests.

The remaining figures show the operation of the Manley 440 at various other settings. Fig.8 shows the frequency response at 1W into 8 ohms at a variety of settings of the feedback and slope control. Note particularly that, with low feedback and high slope, the top-end rolloff will be easily audible to most listeners over most systems, clearly softening the sound. When you audition the effect of the feedback control, note that three conditions provide nearly identical frequency responses (again, don’t forget the gain change at different feedback settings). These are Feedback Standard/
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Figs. 9 and 10 show the effects on THD and output power of altering feedback while keeping everything else unchanged. As expected, there are small changes, but they're not dramatic—the feedback adjustment is only 2 dB per step, so the changes are about what you'd expect.

Finally, Fig. 11 shows the THD + noise vs frequency curves for Tetrode operation. The only notable difference from the Triode results (Fig. 3) is in the slightly higher Triode distortion into 2 ohm loads across most of the frequency range. All in all, this is a very respectable set of measurements for a high-powered tube amp.

I'm not surprised when I see various glitches and malfunctions on the test bench with a tube amplifier; with the Manley, I encountered none. But I did have a concern about its shipping integrity. The amps were shipped to Santa Fe with the tubes installed; when they arrived, one tube in one amplifier and three in the other had come loose. The glass didn't break, but the locating pins had broken off on some of the tubes. The tubes need to be better secured in shipment.

—Thomas J. Norton

**Conclusion from JS**

In spite of their lighter, more beautiful Triode side, one thing is quite clear—the 440s will never have the nuance, refinement, or neutrality of the Jadis JA 200s. However, the more refined the front-end you use, the more refinedly the 440s give it to you. There's scads of warmth, but not in the negative, syrupy sense that I associate with my old and much-loved Conrad-Johnson PV5/MV50, from whence all this madness sprang.

The 440s were always juicy and dynamic, with seemingly massive power to spare in Tetrode mode. They did fine tube depth and air, and the soundstage was as well-developed as most superamps manage (they do cost 10 grand, after all). They were musically inviting and could sound positively gorgeous under the right conditions. What can I say? Get out there and listen to these things, and enjoy! —Jonathan Scull
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**SOLID STATES**

Steven Stone reviews solid-state power amplifiers from SimAudio and OCM

SimAudio Celeste W-4070 power amplifier. Specified output power: 70W into 8 ohms (18.45dBW), 40W into 8 ohms (18.45dBW) (stereo); 280W into 8 ohms (24.5dBW) (mono). Maximum output voltage: 27V RMS (equivalent to 9W into 8 ohms). Maximum output current: 40A RMS. Frequency range: 10Hz-79Hz (no limits specified). Distortion: <0.03% into 8 ohms at 1kHz, <0.04% into 8 ohms at 20kHz, <0.1% into 4 ohms, 20Hz-20kHz. SN ratio: 103dB re: full power. Input sensitivity: 750mV for 70W. Gain: 14.5dB (sic). Input impedance: 50k ohms. Dimensions: 17.75" W by 14" D by 5.6" H. Weight: 30 lbs. Warranty: 3 years parts and labor. Serial numbers of units reviewed: 701856/701857. Price: $1595. Approximate number of dealers: 25. Manufacturer: SimAudio. 3285 First St. #4, St.-Hubert, Quebec, Ontario J3T 8Y6. Canada. Tel: (514) 445-0032. Fax: (514) 445-6626.


The following system and components were used in the preparation of this amplifier review. Analog sources were a VPI TNT Jr. turntable in my large listening room, with cost-effective upgrade and out-board flywheel on a Bright Star base and Townshend Seismic Sink. Tonearms mounted on the table were the Graham 1.5 T/C, and Clearaudio/Souther TQ-1. In my small room is a VPI HW-19 Mk.IV with SAMMA sitting on a Bright Star J-7 base mounted with a Clearaudio/Souther TQ-1. Cartridges included the van den Hul MC-1 Super cartridge, Dynavector XX-11 low-output MC cartridge, Fidelity Research/vdH FR-1 cartridge, Denon 103/vdH cartridge, and a Denon DL-S1 cartridge. Digital front-ends were PS Audio Lambda and C.E.C. TL 2 CD transports, and a Sony D-7 DAT recorder connected via coaxial, AES/EBU, TosLink, and AT&T optical connectors to EAD DSP-7000 III or '9000 III D/A processors, both fitted with the HDCD decoder chip. Digital cables used were Mod Squad Wonder Link 1 and Audio Magic Sorcerer coaxial, TARA Labs RSC Master AES/EBU, AudioQuest and Sony TosLink connectors, and ST fiber optic cable from Parasound. Preamplifiers in-house were the Audio Research LS-5 Mk.II, Threshold T-2, Carver Lightstar Direct, and Boulder L5-15e line-level units, with Vendetta SCP-2C and Gold Aero dB45 out-board phono units. Comparison power amplifiers were the Boulder 500AE, Rowland Model 6, and Pass Aleph 0 monoblocks. Speakers in my large room were Dunlavy Signature Vs with JGH's Sound-Lab A-3s also spending some time, used with their SALLIE wings; in my small room I used the Avalon Eclipses. Interconnects included Straight Wire Virtuoso, Audio Magic Sorcerer, Synergistic Research Kaleidoscope (balanced termination), and Wire World "Eclipse" (both balanced and single-ended). Speaker cables used were Dunlavy Labs DAL-8Z, Audio Magic Sorcerer, AudioTruth Argent Hyperlitz (with the Sound-Labs and Dunlavys), and Synergistic Research Signature 2 and 3 (with the Avalons), all in 8" lengths.

Other accessories included Coherent Systems EAU-1 Electroclear AC-line conditioner, AudioQuest record brush, Gryphon "Exorcist" conditioning tool, Nitty Gritty record-cleaning machine, Radio Shack Sound Pressure Meter, Kleenmaster Brillanzete CD cleaner, an Apple Performa 6110, and a Lotus MarketPlace mouse pad.

**SIMAUDIO CELESTE W-4070: $1595**

Canada, contrary to what some of my countrymen might believe, is not a province of the United States, and Québec, where English is a distant second language, seems barely a part of Canada. The SimAudio Celeste amplifier hails from Québec, making it one of the most foreign amplifiers I've reviewed in some time. Luckily for me, music is a universal language.

I first heard the Celeste W-4070 amplifier driving a pair of Merlin VSM speakers at the 1994 Summer CES. I was impressed by this system's high resolution and excellent soundstaging, even under show conditions. Offering 70Wpc into 8 ohms, the model W-4070 is the smallest audio-dedicated amplifier in SimAudio's Celeste line. It can also be used as a mono amplifier, delivering 280W into 8 ohms. For single-ended RCA cable users, the switch from stereo to monoblock is fairly simple: buy a Y-adapter (SimAudio doesn't supply one) and plug the cable from your preamp into it. Then put the Y-adapter's pair of inputs into the right- and left-channel inputs on the amplifier. Now hook up your speaker cable to both red (hot) outputs from the amp. The right output becomes positive in this arrangement. If you prefer to use balanced XLR cables (which makes sense — the amplifier is a balanced differential design throughout), you can't bridge the amp for mono use without returning it to the factory for modification. 'Tint pis.
The Celeste W-4070 has somewhat unusual looks. From the front, it looks like a long black oval or metal hot dog. Instead of standard geometric fins on its flanks for heatsinks, the W-4070 has rounded sides with ridges performing heatsink duties. The front panel has an anodized finish with a small pushbutton on/off switch and a tiny blue indicator light. The rear panel has a pair of ordinary plastic five-way speaker binding posts, an IEC AC receptacle, and a pair of single-ended RCA and balanced XLR inputs.

**Design & Technology:** The W-4070 uses fully balanced differential circuits and a class-AB output stage. The input stage uses matched FETs; the next five stages use bipolar devices. The final output stage consists of critically matched bipolar transistors. The Celeste is a zero-overall-feedback design, this claimed to give maximum “speed” and minimum transient intermodulation distortion. Instead of negative feedback, the W-4070 uses what Sim calls “Re-naissance” topology to control distortion. To avoid any DC offset problems, the Celeste contains a DC servo circuit.

Also worth noting is the Celeste AC transformer. This toroidal design’s three-step manufacturing process involves impregnating the high-quality Japanese steel core with Isonel 357 before winding. Celeste has to send this part to three different facilities; they couldn’t find a single supplier to perform all the steps in one plant.

The (minimal) instruction book devotes as much space to other SimAudio products as to the Celeste itself. I guess they figure if you’re smart enough to buy it, you’re smart enough to use it. Perhaps they’re right.

**Sound:** Most under-$1500 solid-state amplifiers I’ve heard are largely unsatisfying—not because they aren’t “musical,” but because they aren’t of high enough resolution to deliver the subtle nuances of music that make it involving. The Celeste W-4070 is the first moderately priced amp I’ve heard in my home that delivers the fine details of musical events without screwing them up. Should you rush out and clear your local high-end emporium’s shelves of Celeste W-4070s? Hold off at least till you’ve finished reading the review. The Celeste isn’t perfect, and is beterred by both of the expensive Class A amplifiers I’ve got in-house. But it might be just the thing for readers on tight budgets with the right systems. Hopefully they’ll soon know who they are.

On the positive side, this little amp (only 70Wpc) unraveled even complex passages with aplomb. I listened to “Spider Web,” from Joan Osborne’s new release, Relish (Blue Gorilla/Mercury 314 526 699-2). The song begins with Joan off to the right side of the soundstage, saying, “I dreamed about Ray Charles last night and he could see just fine”—before launching into the funkiest percussion figure this side of James Brown, followed by a lascivious drum pattern, a slinky guitar riff, and finally a soaring violin obbligato on top. This is a very dense mix. Through the Celeste, each instrument nicely maintained its own individuality. “No homogenization,” I scribbled in my listening notes. I noticed this attribute again and again; whether the source was analog or digital, rock or classical, the Celeste never allowed the music’s separate parts to run together into sonic goo.

While the Celeste’s transparency and low-level detail were exemplary, it did not do everything perfectly. Its harmonic balance was on the slightly thin side. It didn’t strike me as being thin-sounding when I was listening to it in isolation, but did do so when I compared it to the Rowland 6, Pass Aleph 0, or live music. Let me emphasize that slightly thin is not the same as dangerously thin. Many solid-state amps of yesteryear had a thinness that was due to a threadbare rendition of the harmonic fabric of music. By contrast, the Celeste’s lower midrange lacked just a bit of fullness; music wasn’t quite as juicy as it should have been. Tenors such as David Gordon (Shakespeare’s Music, by the Folger Consort, Delos 25460) lacked a bit of “chest sound” and were slightly reedier than through the Rowland 6 or Pass 0. Viols were also robbed of a bit of their woodiness, sounding somewhat less full than in real life. However, the Celeste was not so thin-sounding that golden oldies like The Who’s Magic Bus (Decca DL 75064) were rendered unlistenable—“Pictures of Lily”‘s raucous French-horn solo still delivered a surge of adolescent libido.

Extension at both frequency extremes was fine. On “Walk Away Renee” from Rickie Lee Jones’s Girl at Her Volcano (Warner Bros. 23805-1B), none of the bells’ and tinkles’ delicacy or air was attenuated through the W-4070. At the other end of the spectrum, Rob Wasserman’s bass, in all its various incarnations on Thos (MCA/GRP MG1D-4021), was well-defined and convincingly rendered. On “Dustin off the Bass,” both Wasserman’s and Willie Dixon’s bass lines remained distinct through the Celeste, with no blurring or blending.

Dimensionality was good, but not great. Compared with the Pass and Rowland amps, the Celeste W-4070’s perceived soundstage width was approximately 15% smaller regardless of what speaker system I used. While depth wasn’t totally two-dimensional, it still wasn’t quite as convincing as through the Pass and Rowland. The front two-thirds of the stage had a good sense of three-dimensionality, but the rear third was rendered as a narrow plane. Fortunately there wasn’t any noticeable curvature of the soundstage, even at the outer edges. All the instruments in Mozart’s Divertimento in B-flat, K.240, for two oboes, two bassoons, and two horns (London CS 6349) were evenly arrayed across the stage.

With only 70Wpc available, the W-4070 can’t be expected to move mountains. I tried it on J. Gordon Holt’s venerable Sound-Lab A-3 electrostats during their residence in my large room. The results were okay up to slightly above moderate levels. Above about 86dB peaks, things became a wee bit smoky in the detail department.

The W-4070 did quite a bit better used as a monoblock, but still couldn’t equal the OCM 500 amplifier in terms of brawn and ease in driving the Sound-Labs. With both the Avalon Eclipses and Dunlavy Signature VIIs, however, the W-4070s had enough power for all but the most demanding material. I never experienced any rude clipping, just a sense that the amps were laboring slightly. The result: loss of transparency, detail, and control.

Overall, the W-4070 performed rather well. Celeste manufactures several bigger amps, with more juice, for situations that require additional brawn.

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1 To me, “musical” is roughly synonymous with “euphonic,” despite the ocean of ink that has been spilled in Stereophile and The Absolute Sound to establish “musical” as a completely different concept. In the *American Heritage Dictionary* “euphonic” is defined as “agreeable sound, especially in the phonetic quality of words,” while “musical” is defined as “characteristic of or resembling music; melodious.” “Melodious” is defined as “agreeable to hear.” I test my case.

2 This particular pair of Sound-Labs is about six years old. There have been many changes to A-3s in the interim, including new diaphragm material, new frame construction, and new transformers. Even with supplied wings, this pair of A-3s probably doesn’t represent the performance level of a current A-3. My descriptions of their sonic character apply only to this particular pair of speakers and may not necessarily represent the character of current production models. I used Gordon’s Sound-Lab A-3s during a two-month period after I had sold my Apogee Full-Range speakers and was waiting for Dunlavy Audio Labs to deliver a pair of Signature VI speakers.
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Measurements from TJN: Following the ³-power, one-hour preconditioning test, the SimAudio Celeste W-4070's heatsinks were warm, but not hot. Complete measurements for the Celeste were taken in the unbalanced mode, with selected measurements, as noted, repeated in the balanced mode.

The Celeste's input impedance measured 50.3k ohms unbalanced, 111.7k ohms balanced. Its output impedance varied between 0.01 ohms and 0.03 ohms, with the higher reading at 20kHz. Voltage gain into 8 ohms measured 30.5dB: more than twice the specified amount. DC offset was an insignificant 1.2mV in the left channel, 1.6mV in the right. Signal/Noise (ref. 1W into 8 ohms) measured 89.6dB across a 22Hz–22kHz bandwidth, unweighted, and 82.8dB across a 10Hz–50kHz bandwidth. (The A-weighted figure was 92dB.) The Celeste is non-inverting, a positive-going input resulting in a positive-going output.

Fig.1 shows the frequency response of the Celeste at 2W into 4 ohms; the response at low power into 8 ohms (not shown) was virtually identical, as was the balanced response and the response into our simulated real-world load. Fig.2 shows the Celeste's response to a small-signal 10kHz squarewave. The risetime is very short, with only the usual rounding apparent at the leading corners. The 1kHz squarewave, not shown, was virtually perfect.

The crosstalk in fig.3 was excellent in either the balanced or unbalanced modes.

Interestingly, the channel separation was slightly better in the balanced mode—not the first time we've seen this result. Nevertheless, the difference will be audibly insignificant.

The Celeste’s THD+noise vs frequency curves are plotted in fig.4. (The balanced results weren't significantly different.) The distortion, very consistent regardless of load, is heavily third-harmonic, with some additional components plus noise (the waveform is shown in fig.5).

The spectrum of the Celeste's output while it reproduces a 50Hz input at 93W into 4 ohms is shown in fig.6. The distortion artifacts here are very low. The highest is the third-harmonic, at ~73dB (about 0.015%), with a slightly smaller second-harmonic component. Into a simulated load (not shown) the result was quite similar, but with the second-harmonic slightly higher. Fig.7 shows the output spectrum with the amplifier reproducing a combined 19+20kHz signal at 93W into 4 ohms. (The power shown was the maximum attainable with this demanding signal prior to visible signs of clipping.) A similar result (not shown), with slightly lower artifacts, was obtained for 44W into 8 ohms. The largest artifacts are at 17kHz (~68.3dB, or about 0.04%), and 18kHz and 21kHz (~62.1dB and ~61.3dB, or about 0.08%). This is a very good result.

Curves showing how the SimAudio's 1kHz, THD+noise figure varies with output power are shown in fig.8, with the discrete clipping levels (at 1% THD+noise) shown in Table 1. The bridged output powers into 8 ohms and 4 ohms are also shown in fig.8.

This is a solid set of measurements for what appears to be a well-designed amplifier.

—Thomas J. Norton
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Table I SimAudio Celeste Clipping (1% THD+noise at 1kHz)

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<th>Load ohms</th>
<th>Both Channels Driven W (dBW)</th>
<th>One Channel Driven W (dBW)</th>
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<td>8</td>
<td>85.1 (19.3) 83.5 (19.2) 91.4 (19.6)</td>
<td>114V 113V 114.5V</td>
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<td></td>
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<td>4</td>
<td>141.6 (18.5) 140.5 (18.5) 159.4 (19)</td>
<td>112V 112V 113V</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(line)</td>
<td>169.4 (16.3)</td>
<td>113V</td>
</tr>
</tbody>
</table>

The Stone Summary: SimAudio's Celeste W-4070 is a fine little amplifier. It manages to preserve low-level information and the subtle nuances of music. Because it gets most of the details right, the Celeste makes listening an involving experience. It does, however, remove a bit of music's lower-midrange juvenility, which results in a thinner-than-neutral harmonic rendition. If your source components and transducers are already slightly thin or have a somewhat forward upper midrange, the W-4070 may push things too far in this unwanted direction. In both my systems, the Celestes' harmonic character was noticeable but not pernicious, and robbed little of my enjoyment.

The W-4070 is the kind of amplifier which, in the right system, will make many people wonder why anyone would need to spend more money to achieve musical satisfaction. —Steven Stone

OCM 500: $3095

Ten years ago, when I first began reviewing audio equipment, if you needed a high-powered amplifier that sounded good, you had to spend a great deal of money. The first reasonably priced ($1500), decent-sounding high-powered amplifier I ever heard was designed by Dave Belles. The Belles 400, a 200Wpc amp with a class-AB output stage, was quiet, reliable, and able to drive difficult loads like the Apogee Scintilla without shutting down from thermal stress or sounding like a converted arc welder. Dave Belles is still designing high-powered 'AB amplifiers, now under the trademark of OCM, which is a division of Magnum Dynalab. His most recent offering in the reasonably priced high-powered amp sweepstakes is the OCM 500. His latest design implies that Mr. Belles still knows how to make a reliable high-powered amplifier that has finesse.

The OCM 500 has a fairly standard appearance. It's a black box with a pse-
Sound with the Sound-Labs: It’s impossible to talk about an amplifier’s sound without also discussing the sound of the loudspeaker to which it’s hooked up. The first speaker system I tried with the OCM 500 was J. Gordon Holt’s pair of Sound-Lab A-3s, a speaker that demands oodles of power. Even the powerful Boulder 500 AE monoblock amplifiers (600W into 5 ohms) ran out of juice on certain sections of Gordon’s and my Boulder Philharmonic recordings (specifically, the last crescendos in Rimsky-Korsakov’s Scheherazade). Luckily I had a pair of OCM 500s, so I used them in balanced mode as monoblocks. We’re talking about 1280W into each A-3. Though the Sound-Labs needed every watt, the OCM 500s had enough power to preclude clipping even on the Scheherazade passages.

As well as some serious wattage, the Sound-Labs need an amplifier with a high damping factor to keep their large diaphragms from excess motion. The OCM 500 did an excellent job of holding the Sound-Labs’ flapping surfaces in check. My primary complaint with the sound of Gordon’s old A-3s is that while the leading edges of the sound are pristine and well-defined, the following and trailing edges of transients are somewhat murky by comparison. Because the attack is so fast and clean, the cloudiness of inner details seems exaggerated, and you just can’t hear easily into the music.

While this phenomenon was not eliminated with the OCM 500s, it was lessened somewhat by their strong control of excess diaphragm movement. In many ways the OCM 500 is an ideal amp for large, inefficient electrostatics such as the Sound-Labs, since it combines the necessary brawn with control.

The result of this OCM/Sound-Lab match-up was an overall ease to the dynamic presentation of the A-3s coupled with an excellent leading edge to transient attacks. Lateral imaging was also quite good, which is no mean feat with such large-diaphragm speakers. During a brief visit to Boulder in the summer, JA heard this combination and seemed impressed. [I was.—Ed]

The Sound-Lab A-3s have a very sweet upper-frequency presentation. With the wrong amplifiers, they can leave one wishing for a dose of insulin. The OCM 500s had an extended, almost tart treble presentation (like a fine but young white wine) that worked to balance the Sound-Labs’ top end very nicely. The final result: an upper-frequency presentation that was extended yet non-fatiguing.

The OCM/Sound-Lab combo was always pleasant and musical-sounding, but after it had resided for about a month in my large room I found myself gravitating toward my Avalon Eclipse-based system in my small listening room for a high-definition inner-detail fix. It’s not that the Sound-Labs are boring speakers—they’re not—but I need to hear the inner details, subtle nuances, and microdynamics of music to become fully involved. Much of that low-level information was still smeared by the sluggish follow-up of the Sound-Labs’ large diaphragms, even when driven by the OCMS. Time for a speaker change.

Sound with the Dunlavs: After a day in my life best titled “Adventures in Moving” or “Why Sane People Don’t Own 550-lb Speakers,” the Dunlavy Signature VI speaker system was firmly ensconced in my large listening room. After two weeks of break-in (during which time I had a hard time dragging myself out of my listening chair, all the time warning myself not to make any rash judgments), I began the serious listening.

So as not to steal too much thunder from my upcoming full review of the Signature VIIs, the 25-word description goes like this: Imagine a Dunlavy SCIV with bass down to below 25Hz. Couple this with unlimited dynamic capabilities without harmonic shifts, the imaging of a minimonitor, and no “large-speaker midbass bloom,” and you start to get an idea of how a Dunlavy Signature VI sounds. Dare I say everything else just sounds like…loudspeakers? Yes, I dare. As a reviewer’s tool the Dunlavs have one disadvantage: unlike my old Apogee Full-Ranges or Sound-Lab A-3s, they’re such an easy impedance load that many of the gross differences in amplifiers’ sounds caused by unusual loads vanish with the Sig VIIs. Hell, I’ve even tried 20W single-ended triodes on these speakers (I’ll tell you the result in the full review). I’ve been amazed at the wide variety of amps I’ve used with these speakers, with none of them sounding bad. No, all amps don’t sound the same through the Dunlavs, but it’s taken a while to lock on to how to listen for the differences; they’re much subtler than on lesser speakers.

The OCM 500s proved to be a mixed bag with the Dunlavs. At 91dB efficiency, the Sig VIIs don’t appear to need a great deal of power to be driven to reasonable levels. One would think the principal reason for using a pair of OCM 500s to drive them would be lost.

However, there are times when even a sensitive speaker like the Dunlavs can use the power offered by the OCMS. Recently a friend brought over a copy of André Previn’s After Hours CD (Telarc CD-83302), with Ray Brown on bass and Joe Pass on guitar. This may be the jazz CD equivalent of Telarc’s original LP release of the 1812 Overture. Instead of cannon being the culprit, Previn’s piano at 2:30 into “All the Things You Are” is the guilty party. Talk about a hot track; with anything other than a pair of OCM 500s, there was some audible clipping during the piano’s attack. It was as if someone had added a fur coat to the piano timbre. Rowland Model 6s and Pass Aleph 0s exhibited a bit of added pelage during this particular passage. There is definitely a place for unlimited power, even with efficient speakers.

The downside of the OCM 500s mated with the Dunlavy speaker was the slightly piquant nature of the OCM’s upper-frequency presentation as revealed through the Signature VIIs. It’s not that the OCM was analytical the way some early solid-state gear was analytical (ie, cold’n’nasty), or yielded the sound of eggs frying instead of cymbals clashing. The OCM 500 did not sound warm or dull. It was fast, clean, but just a bit hard in the upper midrange on up into its treble registers.

Examples: I’ve been attending a lot of live concerts this summer; two nights ago I pen these words, I heard a fine performance by Gil Shah of the Korgnold Violin Concerto. On the same bill was Bartók’s Concerto for Orchestra. The latter work gets loud, at times raucous. But regardless of how tumultuous the music, it never became hard or harmonically threadbare when played by a real, live orchestra. With the OCM 500, the upper frequencies of music at times became hard and slightly abrasive through the Dunlavs. Neither Rowland 6s nor Pass Aleph 0s exhibited the same phenomena at matched levels with the same program material. Do the Dunlavs suffer from an unusually peaky tweeter? Are the Rowland and Pass amps abnormally “soft” on the top end? I think not. There’s no place to lay the blame but at the feet of the OCM 500.

Back to positive attributes. The OCM 500 is one fast, high-definition amplifier. Inner detail and subtle microdynamics were illuminated clearly through its circuits. I was impressed by...
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its ability to reveal the subtle aspects of music. Differences between versions of Prokofiev's L. Kijé Suite (Reiner/CSO) were clearly delineated by the OCM/Dunlavy combination. My original RCA 23S dynafloppy pressing (RCA LSC-2150) was lacking in information at the frequency extremes and was dynamically compressed, while the Chesky reissue (Chesky RC10) had the most even soundstage balance (this is a three-channel recording mixed down to two), with far better sense of depth than the RCA. Finally, the Classic LP (Classic LSC-2150) version had the best bass extension and harmonic balance, but too little centerfill information, making the middle of the soundstage seem overly recessed.

Bass extension through the OCM 500 was excellent, rivaling that of any amplifier I've mated with the Dunlavy SIG.VIs. The bass drum in a performance of Pictures at an Exhibition ICH and I recorded last year was very accurately rendered through the OCMS. Not only was the bass drum's transient attack portrayed cleanly, but its location on stage and pitch were also faithfully reproduced. The OCM had no tendency toward "thickening" the midbass, so full-range speakers probably won't sound obtuse or slow when called upon to reproduce low-frequency information. The OCM 500 would no doubt make a superb woofer amp.

Like the vast majority of solid-state devices, the OCM amplifier does little to enhance recorded three-dimensionality or depth. Yes, you can easily tell whether a recording has natural or artificial depth, but even on recordings made in natural surroundings, dimensionality is never rendered in a way that's totally convincing. While copious paragraph-inches have been filled with arguments about whether the three-dimensional character of tube equipment is an additive artifact or the accurate rendition of existing information, I've never seen anything definitive on the subject. Since a convincing three-dimensional soundstage rendition does sound more natural than flat or bas-relief presentations, I think nearly everyone would agree that it is a desirable sonic result regardless of its source. Both the Rowland Model 6 and the Pass Aleph 0 monoblocks were more credible than the OCM 500 in their rendition of depth and dimensionality.

While the OCM 500 never became fatiguing through the Dunlavy SIG.VIs, it wasn't as musically convincing or involving as the Rowland Model 6s or Pass Aleph 0s. Both of these Class A amps are a lot more expensive (the Rowlands are $11,500, the Passes $8000), and neither can supply the kind of raw power that the OCM 500 can deliver. Compared to the high-powered $1750 Parasound HCA-2200 II, the $2695 OCM 500 is a higher-definition amplifier with a less tizzy top-end and a more transparent soundstage rendition. The OCM 500 is also several notches higher in the fit'n'finish department.

**Measurements from TJN: After its ½-power, one-hour preconditioning test, the OCM 500's heatsinks were very warm, but not too hot to touch comfortably.**

The OCM 500's input impedance measured 49.5k ohms. Its output impedance ranged from 0.02 ohms to 0.045 ohms, with the higher value at 20kHz. Its voltage gain into 8 ohms measured 28.6dB, its DC offset L3mV in the left channel, 8.4mV in the right. S/N (ref. 1W into 8 ohms) measured 84.6dB across a 22Hz-22kHz bandwidth, unweighted, 79.7dB across a 10Hz-50kHz bandwidth, and 88.4dB, A-weighted. The OCM 500 is noninverting.

Fig.9 shows the frequency response of the OCM 500 into a simulated real-world load and at 2W into 4 ohms; the response at low power into 8 ohms (not shown) was virtually identical to that at 4 ohms. Only the slightest change occurs in the response into the simulated load. The output of the OCM 500 fed a small-signal 10kHz squarewave is shown in fig.10. There's only a slight rounding of the leading edge, with no overshoot or ringing. The virtually perfect 1kHz squarewave is not shown here.

Fig.11 shows the OCM 500's crosstalk. While there is some interchannel variation, the left-to-right crosstalk being worse, neither channel's crosstalk will be a factor in the audible performance of the amplifier.

The '500's plot of THD+noise vs frequency is shown in fig.12. The balanced results weren't significantly different. The result here is good, with noticeably higher (but still satisfactorily low) distortion at low impedances and higher frequencies. It's always useful to remember that all of the harmonic distortion components for a fundamental frequency above 8-10kHz will be above 16kHz, very low in level, and inaudible to all listeners. The waveform of the distortion is shown in fig.13 — heavily second-harmonic and noise, along with higher-order components, particu-
Jacques MAHUL founded JLab/FOCAL in 1979 with one goal in mind: To continually advance the musical "state of the art" with world-class loudspeakers. Based on the respect he's earned from the most prestigious designers in the industry, he has succeeded. But Jacques and the rest of JLab/FOCAL's design team isn't easily satisfied.

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New "Sandwich W" diaphragms, spun layers of glass over a rigid foam core, grace the low frequency and midrange drivers. An entirely redesigned TiOxid tweeter, with a Telar pole piece concentrates enormous magnetic strength on the edge wound voice coil. The result? A level of efficiency and precise control unmatched by any other dynamic loudspeaker.

Already the recipient of numerous international accolades, the GRANDE UTOPIA raises the ante for those interested in the finest music reproduction. It is in all senses of the phrase, an inspired aural sculpture.
larly when the amplifier is driving low load impedances.

The OCM 500's output spectrum delivering 50Hz at 266W into 4 ohms is shown in fig.14. A second harmonic is visible at 100Hz (-72.3dB, or about 0.025%), but the highest component is actually a slightly higher power-supply component at 120Hz, and another component at 240Hz. Into our simulated load at the same output level (not shown) the result is quite similar, except for the appearance of a third-harmonic component at 150Hz at -69dB, or about 0.035%. Fig.15 shows the OCM's output spectrum driving a combined 19+20kHz signal at 248W into 4 ohms—the spectral products result from intermodulation between the two fundamentals and their harmonics. The highest artifacts are at 18kHz and 21kHz (-58.3dB and -56.2dB, respectively, or about 0.12% and 0.15%). Into an 8 ohm load (133W) the result was quite similar, with most of the artifacts marginally lower.

The way in which the OCM 500's THD-noise with a 1kHz tone varied with output power and load impedance is shown in fig.16, along with the bridged performance into 4 and 8 ohms. The distortion curves are a bit unusual, with a "knee" at fairly low output, an increase to a plateau at a still moderate level, then another knee just before clipping. The bridged results show a more typical shape, though still with an unusual hump in the distortion level at moderate power. The discrete clipping levels (at 1% THD+noise) are shown in Table 2.

With plenty of power and respectable measured performance across the board, nothing here indicates anything less than an excellent amplifier. —Thomas J. Norton

The Stone Summary: All amplifiers are tools. The trick is to pick the right one for the job. The OCM 500 amplifier is best suited to situations that require a great deal of wattage and current, and high damping capabilities. Owners of large-diaphragm speakers, or speakers with erratic impedance characteristics, may find the OCM 500 to be an excellent match for their particular transducers. This amplifier's sonic attributes include excellent transient speed, credible articulation of inner detail, and fine low-bass extension. Its sonic shortcomings are a lack of convincing threedimensionality and a slight tendency toward upper-frequency hardness.

The OCM 500 is a well-made, intelligently designed amplifier that should perform optimally for many years. It's supported by a firm that has shown a long-term commitment to quality high-end products, and represents a good value in a high-powered class-B amplifier. —Steven Stone

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Table 2  OCM 500 Clipping (1% THD+noise at 1kHz)

<table>
<thead>
<tr>
<th>Load ohms</th>
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<th>One Channel Driven W (dBW)</th>
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<td>111V 111V 473 (23.7)</td>
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<td>111V 111V 473 (23.7)</td>
</tr>
<tr>
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<td>389 (22.9) 386.3 (22.9) 473 (23.7)</td>
<td>111V 111V 473 (23.7)</td>
</tr>
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<td>111V 111V 473 (23.7)</td>
</tr>
<tr>
<td>2</td>
<td>660 (22.2) 111V</td>
<td>111V</td>
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<td>(line)</td>
<td>660 (22.2) 111V</td>
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What I most enjoy about reviewing digital processors and CD transports is discovering superb-sounding units that cost less than you expect. It's exciting to survey all the new digital products at shows, choose for review the ones that seem to offer the most sonic potential for the money, and then discover among those a few that stand out. I know will bring Stereophile readers better sound than they thought they could afford. I like nothing better than to hear from a reader who auditioned a product based on my recommendation, and was delighted at how good the component sounded for the money.

This mission is particularly rewarding in digital playback. The field continues to advance at a rapid pace, with better and better sound quality available at lower and lower prices. Moreover, a digital processor's sound quality is highly dependent on the designer's skill, offering an opportunity for well-designed, affordable products to outperform their less skillfully designed—and often more expensive—competitors.

The flip side of this situation is that the "best buy" processor in a given price category a year ago may be eclipsed in sound quality by a less expensive unit today. The frustration this creates is understandable; who wants to hear that the processor they bought six months ago has been outed by a newcomer? But this progress ends up benefiting all consumers in the long run. Without progress, we'd all be listening to early-'80s-quality CD players.

As I follow digital audio's progress, I'm constantly reminded of something Sheffield Lab co-founder and early digital critic Doug Sax said: "Every digital processor that's been raved about has been revisited a year later." While this may be an overstatement, there's an underlying reality.

In addition to the steady improvements made in digital playback in general, once in a while a processor comes along that completely redefines the level of sound quality possible at a certain price level. Such a milestone component is so far ahead of its competition that it holds its own with highly regarded units costing up to three times the price.

What, you may be asking, does all this have to do with the brand-new $3495, fully balanced, UltraAnalog-based Clasé DAC 1 reviewed here? Everything.

A CLASS ACT
Clasé's DAC 1 digital processor is the Canadian company's first digital product. Although Clasé has a solid reputation in preamp and power amplifier design, they've waited until 1995 to make their mark in the digital arena.

The DAC 1 is housed in a gorgeous rounded chassis and sports a full ½"-thick front panel. A large rotary knob selects among inputs, and a display indicates the unit's status. The doorknob-sized input selector is machined with rounded edges to match the chassis' curved look. Front-panel pushbuttons put the unit into standby mode, invert output signal polarity, and dim the display. The display shows the input selected by name (ie, "Coaxial 1"); whether the unit is locked to incoming data; the sampling frequency of that data; if the absolute polarity has been inverted; and if the recording has been pre-emphasized; if the recording has been encoded with HDCD®; and when the unit is in standby mode.

A full complement of inputs and outputs is provided on the rear panel. Five digital inputs are included: two RCA coaxial jacks, and one each of AES/EBU, ST-optical, and TosLink. Balanced analog output is via XLR jacks, and the unbalanced outputs appear on RCA jacks.

The unit's look and feel are exemplary. The gently rounded chassis, machined input selector knob, informative display, and ½"-thick front panel give the DAC 1 a feeling of solidity and refinement.

The DAC 1 is no less impressive inside. The right side is consumed by the power-supply board, power transformer, and digital input circuitry, all of which are isolated from the neighboring circuit board by a large metal shield. A beefy (88VA) custom toroidal transformer with dual secondary windings feeds the DAC 1's power supply. Five TO-220 regulators are mounted to huge heatsinks, with a sixth regulator attached to a standard-sized heatsink. A seventh regulator (in a smaller, TO-92 package), located on the DAC board, is dedicated to the low-jitter reclocking circuit. Filtering is provided by 12 2700μF electrolytic capacitors, with 30 more 470μF caps distributed around the DAC board. Every electrolytic is by-
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For the first time in over three thousand years, light has broken the darkness that has enshrouded King Tut's tomb! Here is the continuing account. After long hours of careful digging, the excavation party finally stood before the hole they had carved in the tomb barrier. Lord Carnarvon asked Mr. Carter if he saw anything, to which he replied, "Yes, wonderful things!" Carter, once his eyes had adjusted to the candlelight, was able to distinguish shapes and shadows throughout the room. Everywhere there were animals of wood, statues, and the overwhelming gleam of gold. Found in the tomb so far have been the personal belongings of the boy-pharaoh as well as an inestimable wealth of treasures placed there in accordance with Egyptian custom. The discovery has completely stunned the archeology world and without a doubt will provide scientists with valuable information about the ancient Egyptian culture's sophistication and good taste, as is seen in the exquisit craftsmanship of King Tut's belongings. (Continued on p. A-3)

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passed with a 1μF film capacitor.

Digital input switching is handled by low-capacitance relays for minimal interference between active sources. The electrical inputs (S/PDIF coaxial and AES/EBU balanced) are coupled with an UltraAnalog-designed shielded pulse transformer. The circuit provides the correct input impedance regardless of the input selected: 110 ohms for AES/EBU and 75 ohms for S/PDIF. Relays select which digital input signals are sent to a differential comparator, which cleans up the waveshape and amplifies the signal to 5V. This circuit assures that the AES21 input receiver sees the same quality of signal regardless of which input is selected (although the jitter level and spectrum in the recovered clock will be different for different interface types.)

A Pacific Microsonics PMD100 HDCD decoder provides 8x-over-sampling digital filtering and performs digital domain de-emphasis if the recording was made with pre-emphasis. Classé chose not to use the PMD100's output dither options. Interestingly, most designers working with the PMD100 don't use its dither-generating function.

The PMD100 is followed by two UltraAnalog D20400A dual 20-bit DACs for true balanced operation. Each phase of each channel (+left, −left, +right, −right) is converted to analog by its own DAC, the best approach to creating a balanced-output processor.

Rather than control the DAC timing directly with the PMD100's 352.8kHz deglitch timing clock, the DAC 1 uses a relocking circuit for lower jitter. Here's how it works: The PMD100's deglitch output (the signal that normally controls the UltraAnalog DAC's timing directly) is fed to a flip-flop's D input—a flip-flop is a bistable multivibrator circuit. The flip-flop's other input (CLK) is the 256x bit clock from the AES21 input receiver. The flip-flop's output goes high only when the D input (the deglitch signal from the PMD100) is high and the CLK signal's leading edge (from the AES21 input receiver) occurs simultaneously. The flip-flop's output is reportedly a lower-jitter clock that controls more precisely when the DACs convert their digital input words to an analog output signal. For optimum performance from this circuit, the flip-flop's DC voltage is supplied from its own regulator (located right next to the device).

The analog output stage is essentially identical to that used for years in Classé's line-stage preamplifiers. The circuit's first stage uses cascaded differential JFET pairs, which are followed by an active current source. The output drivers are power MOSFETs in high-current TO-220 packages. The fully discrete, direct-coupled circuit uses no DC servo: instead, residual DC is nulled on each unit in production with trim pots. In addition, the output drivers' bias current is individually trimmed for optimum performance. Output filtering is provided by a passive three-pole linear-phase filter. To prevent turn-on transients or noise from appearing at the analog outputs, relays disconnect the output stage until the unit is locked and stabilized. This output stage consumes a large section of the circuit board, and is packed with components: 55 parts are per phase in the analog stage, not including relays or output jacks.

Rather than attenuate non-HDCD-encoded discs by 6dB as the HDCD license calls for, Classé amplifies HDCD-encoded signals by 6dB by changing the gain in the analog output stage via a relay. This technique avoids introducing sonically degrading digital-domain attenuation for non-HDCD-encoded discs.

The unbalanced output is taken from the + phase of each channel, meaning that users of the unbalanced outputs get no benefit from the balanced topology. The other approach, not used in the DAC 1, is to combine the balanced phases with a differential amplifier to create the single-ended output.

The DAC 1's design and execution appear to be first-rate. The unit is filled with high-quality parts, including metal-film resistors throughout, film bypass caps, an UltraAnalog AES21 input receiver, the PMD100 HDCD decoder, relocking circuit, dual UltraAnalog DACs, a hefty power supply, and an impressive-looking output stage. Moreover, the DAC 1's excellent finish and full complement of inputs and outputs suggest a product much more expensive than the unit's $3495 price. In fact, I'm surprised that Classé can offer so much for the money.

System

The DAC 1 was fed from two digital sources for this review: the Mark Levinson No.31 Reference CD Transport, and the new Sonic Frontiers SFT-1 ($2295). The digital interconnect was primarily AudioQuest Diamond X3 AES/EBU, although I experimented with WireWorld Gold Starlight (coax and AES/EBU) and ST-Type optical. Other processors on hand for direct comparison were a PS Audio UltraLink Two ($2295), a Sonic Frontiers SFD-2 Mk.II ($5295), and a Mark Levinson No.30.5 ($15,950), all of which have HDCD decoding. I also had a strong memory of the Spectral SDR-2000 Pro, which I'd listened to extensively during the preceding six months and used as a sonic reference before having to send it back to Spectral.1

The DAC 1's outputs fed a Sonic Frontiers SFL-2 line-stage preamplifier, which in turn drove a pair of Audio Research VT150 tubed monoblock power amps. The VT150s drove the ribbon midrange/tweeter sections of the Genesis II.5 loudspeakers, and the II.5's 800W servo amplifier powered the system's four 12" woofers.

Interconnects were WireWorld Gold Eclipse, AudioQuest Diamond X3, and AudioQuest Lapis. The VT150s drove the Genesis II.5x through short runs of AudioQuest Dragon II.

Listening

My reaction to the DAC 1's musical performance after the first evening of listening? Stunned. The DAC 1 was extraordinarily musical overall, and had some qualities that were truly state-of-the-art. Frankly, I wasn't expecting so much from a $3500 processor, no matter how well-designed that processor appeared.

The DAC 1's ability to reveal fine detail, and present that detail clearly and as separate from the whole, was remarkable. In fact, the DAC 1's resolution was the first quality that struck me, mere seconds into the first disc. I could clearly hear everything that was going on in the music, from the simplest arrangements to dense orchestral passages. For example, the DAC 1 was just as proficient at resolving the wealth of inner detail on Doug MacLeod's guitar on Come to Find (AudioQuest AQCD1027) as it was at unraveling the complex orchestrations on Zappa's The Yellow Shark (Barking Pumpkin R2 71600). On the Doug MacLeod disc, the guitar, voice, and Charlie Musselwhite's harmonica had uncanny realism and palpability, a quality I directly attribute to the DAC 1's communication of these instruments' fine nuances. Conversely, the orchestral Yellow Shark became more vivid and alive, as I could hear so much more of what each instrument was doing. During the densest

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1 The SDR-2000 Pro is about to make a return visit to my system. In next month's Stereophile, I'll review the entire Spectral/Avalon/MIT system that sounded so good at the 1995 Los Angeles Stereophile show.
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passages, the appearance of a louder instrument or section didn't obscure what quieter instruments were playing. I could hear a greater layering of instruments and timbres as the DAC 1 clearly resolved each level of detail.

“Synthetic continuum” describes the tendency of many digital audio products to make the music sound like one big instrument rather than a collection of smaller instruments—or like a single piece of homogeneous cloth instead of a rich and diverse tapestry. The music becomes congested, congealed, and flat, with no spatial or timbral differentiation of instruments.

“Synthetic continuum” best describes what the Classé DAC 1 is not. The DAC 1 had an analog-like ability to keep instruments separate, which allowed me to hear quiet instruments far beneath louder ones—just as one experiences in live music. This difference in presentation had profound musical consequences. The music had a sense of ease; by having so much detail resolved, my brain didn't have to work as hard to hear all the music. More important, however, the ability to hear exactly what each musician was doing contributed to a greater appreciation of the composer and musicians. The DAC 1's resolution is on a par with the extraordinary Spectral SDR-2000 Pro, the processor I consider the state of the art in digital playback. That's saying a lot for a $3500 D/A converter.

I suspect, however, that some listeners may find the DAC 1 too resolving and vivid. The DAC 1’s sound was the antithesis of the soft, rounded, euphoric, laid-back kind of presentation that many music lovers enjoy. The DAC 1 was incisive and immediate, and had a sense of precision and delineation that may not suit all listening tastes.

Although I don't think a processor can ever be too resolving, the way in which it resolves detail can enhance or detract from the musical experience. Some “detailed” processors are hyped and etched, a quality that may impress for a few minutes but quickly becomes fatiguing. The DAC 1 combined resolution with a tremendous sense of ease and refinement.

In contrast with the highly resolving Mark Levinson No.30.5 and Spectral SDR-2000 Pro, the DAC 1’s sound was more up-front and immediate. The DAC 1’s overall perspective was less forward than that of the Sonic Frontiers SFD-2 Mk.II, but more incise than the Mark Levinson No.30.5's. The juxtaposition of the No.30.5 and Classé was interesting: the Levinson was gentle, sophisticated, and understated. The DAC 1 was, by contrast, bold, immediate, and lively. If I might compare these processors to pianists, the No.30.5 was to the DAC 1 what Bill Evans is to Oscar Peterson.

Another remarkable quality I heard from the DAC 1 was its transparency and palpability. The DAC 1 seemed to increase the contrast between instrumental images and the black background. The DAC 1’s crystal-clear soundstage and pitch-black background highlighted instrumental images in a way that made them more palpable and real. I felt a tremendous sense of real instruments in a real acoustic space before me when listening to music through the DAC 1. The fabulous new Oregon disc Beyond Words (Chesky JD130) was a good example of how the DAC 1 could resolve the information that creates the illusion of instruments in the listening room. This transparency and quiet background also produced a deeper silence between notes, and let me hear way down into the reverberation decay. On the opening track of Mike Garson’s The Oxnard Sessions, Volume Two (Reference RR-532CD), for example, I could hear all the subtle harmonic changes in the piano’s sound as it decayed, and the acoustic seemed to hang in space longer as it cleanly decayed into deep silence.

The DAC 1’s treble was extraordinarily well-defined, perfectly balanced to the rest of the spectrum, and free from grain or edge. The treble also contained lots of nuance and musical information, rather than just sounding like high-frequency energy. The Classé’s treble purity, however, was a notch below the SDR-2000’s and No.30.5’s liquidity. The DAC 1 lacked the last degree of refinement, ease, and pristine clarity I heard from the SDR-2000 Pro and No.30.5. The DAC 1 had a tendency to sound slightly hard on transient leading edges, particularly piano.

The DAC 1’s bass presentation, however, was absolutely stunning. The Classé processor had a “center-of-the-earth” solidity in the extreme bottom end that produced a satisfying musical foundation. I heard this extension largely as a little extra “oomph” to the bottom end of kickdrum, a quality that infused the music with a strong rhythmic underpinning. With orchestral music, big bass-drum whacks had startling power and extension. Listen, for example, to the unexpected bass drum on “Exercise #4” from The Yellow Shank; through the DAC 1, it fairly jumped out of the presentation. The DAC 1 did justice to the extraordinary bass extension and dynamic capabilities provided by the Genesis II.5s, with their four 12” servo-driven woofers powered by 800W.

Similarly, the DAC 1’s ability to convey dynamic contrast was state-of-the-art. The Classé provided a wide dynamic window for the music to express itself, and had an unusual ability to resolve fine gradations of loudness. Not only was the difference between loud and soft very wide, but musical dynamics were expressed along a continuum. Many processors seem to have discrete steps in volume, unable to convey slight dynamic changes. The DAC 1’s extraordinary dynamic agility gave the music a sense of naturalness and realism.

The Classé also beautifully resolved the music’s microdynamic structure. The very different dynamic envelopes produced by brushes on a snare drum, the sharp leading edge of a trumpet, or the more gentle attack and decay created by a bass clarinet, for example, were all reproduced with a naturalness that sounded more like live music rather than a synthetic facsimile. I also heard this quality on vocals; the singers’ phrasing and subtle dynamic nuances were clearly revealed, further heightening the DAC 1’s musical expressiveness.

The DAC 1’s overall sense of power and slam were extraordinary. Orchestral climaxes were huge, powerful, and seemingly unconstricted. The difference between the processors under audition was astounding; even with levels matched to less than 0.1dB with a steady-state signal, the Classé sounded louder on musical peaks. I greatly enjoyed the thrilling, visceral, heart-pounding impact on orchestral climaxes provided by the DAC 1. In addition to this power and impact, the music didn’t congeal with complex, high-level signals. The lack of strain on peaks gave the music an effortless quality I greatly enjoyed. In terms of wide dynamic contrast and sheer slam, the DAC 1 was the best processor I’ve heard.

The sum of these characteristics was a presentation that was musically riveting and gripping. I greatly enjoyed my time with the DAC 1.

**Measurements**

The DAC 1’s output level was significantly lower than the CD-standard 2V RMS, measuring just 3V from the balanced outputs and 1.5V from the single-ended outputs when decoding a 1kHz
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full-scale sinewave. Output impedance was a low 47 ohms from the unbalanced outputs and 95 ohms at the balanced jacks. DC levels were unmeasurable, and the unit had no trouble decoding 32kHz and 48kHz.

Fig.1 shows the DAC's frequency response and de-emphasis error. The response is predictably flat, and the de-emphasis error is negligible, as expected. (De-emphasis is performed in the digital domain by the PDM100 chip.) The DAC’s channel separation (fig.2) was excellent, measuring nearly 130dB at 1kHz (easily bettering the specification of 123dB at 1kHz), and better than 110dB even at 20kHz.

A spectral analysis of the DAC’s output when decoding a 20-bit, 1kHz, -90dB dithered sinewave (fig.3) shows an amazingly low noise floor. Note that this graph has been re-scaled to show levels down to -150dBFS, and that the noise drops below the -140dB horizontal division at some frequencies. This is the lowest noise level I’ve measured in a digital processor. As I saw this extraordinarily low noise, I wondered if there was any correlation with my impression of a “black” background, and ability to hear very low-level reverberation decay with appropriate recordings. Note, however, a very slight glitch at 2kHz in this curve, due to a small amount of second-harmonic distortion. This possibly indicates either a very slight mismatch between the positive and negative polarities of the balanced signal or a very slight linearity error.

Fig.4 shows a similar spectral analysis, made with an input signal of all zeros and a wider bandwidth. Again, we see the very quiet background, with nothing unusual happening above the audioband.

Similarly, the DAC’s linearity was superb (fig.5). The DACs are virtually perfect to -110dB, with no noise intruding on the measurement (seen as an apparent increase in “linearity error” below -100dB).

This excellent low-level performance is also apparent in the DAC’s reproduction of a 1kHz, -90dB undithered sinewave made with a 16-bit input signal (fig.6). Note the low level of audiband noise overlaying the signal, and the perfectly symmetrical steps between the three quantization steps at this level (0, +1, -1). Compare this waveform to its reproduction by the other digital products reviewed in this issue. Looking at the same signal with a 20-bit input word length (fig.7), we see a nearly perfect reconstruction of a sinewave. These are the best-looking low-level waveforms I’ve measured.

Fig.8 is the DAC’s noise-modulation plot. The trace groupings are tight and compact, indicating that the DAC’s noise level, and the spectral distribution of that noise, change very little as a function of input level. There’s some deviation below 1kHz, but it’s minimal. The DAC’s intermodulation spectrum (fig.9), made by driving the converter with a full-scale mix of 19kHz and 20kHz sinewave data, shows almost no IMD products in the audioband. We can see some sidebands around the test
tones, but the rest of the spectrum is clean. Particularly noteworthy is the absence of a 1kHz difference product (20kHz minus 19kHz).

The DAC 1's jitter performance was impressive, but not the best I've measured. With an input signal of a full-scale, 1kHz sinewave, the RMS jitter level was 40ps. This measurement was made on the 8x clock at the output of the flip-flop reclocking circuit, with the test CD played on a PS Audio Lambda transport, and with a measurement bandwidth of 400Hz–20kHz. The jitter spectrum taken under these conditions is shown in fig.10. The spectrum is less clean than the best-measuring processors, but is generally good.

With an input signal of all zeros, the RMS jitter level dropped to 70ps, and the spectrum was nearly perfectly clean (fig.11). The small spike in jitter energy between 7kHz and 8kHz is the 735kHz subcode data rate in the S/PDIF interface. With an input signal of all zeros, we're looking at the Ultra-Analog input receiver's intrinsic jitter and the reclocking circuit's effect on jitter.

Finally, I drove the DAC 1 with a 1kHz, -90dB sinewave. The RMS level rose to 135ps, and the spectrum took on some periodic jitter components at the test-signal frequency and its harmonics (fig.12). Note that jitter on such low-level signals is less likely to be audible than jitter on higher-level signals, for two reasons. First, a musical signal spends almost no time below -90dB. Second, the amplitude error at the DAC output caused by jitter—the mechanism by which jitter degrades musical quality—is much smaller at low levels than at high levels. There's still so much to learn about what kinds of jitter are most audible, and exactly what aspects of the musical presentation are affected by different kinds of jitter.

Apart from the rise in jitter with low-level test signals, the DAC 1's technical performance was outstanding. The...
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Affordable HDCD

Larry Greenhill auditions Enlightened Audio Designs' DSP-1000 Series III and Adcom's GDA-700 and compares them with Audio Alchemy's DTI v2.0 and DDE v3.0 combination


The availability of the Pacific Microscopics High Definition Compatible Digital (HDCD®) PMD100 decoder chip, manufactured by San Jose's VLSI Technology, has brought about a minor revolution in Compact Disc playback. It brings sonic improvements in imaging, soundstaging, and resolution of detail. In the past six months, Stereophile has published a number of reports on the HDCD decoder's operation, what HDCD recordings are available, and the improvements brought by the HDCD chip to specific digital audio processors. High-end manufacturers are incorporating the $40 HDCD chip in their newest decoders, including the $4695 Sonic Frontiers SFD-2 MK.II D/A processor (reviewed in Vol.18 No.3, p.127), the $15,950 Mark Levinson No.30.5 (Vol.17 No.10, p.205; Vol.18 No.3, p.133; Vol.18 No.4, p.251), and the $8195 Spectral SDR-2000 Professional HDCD D/A Processor (Vol.18 No.5, p.85).

"The difficulty is that conquering the top end of the global hi-fi market is hardly a way to get fabulously wealthy," said one observer ("Pacific Microscopics —Before the Gold Rush," The Economist, April 15, 1995). For HDCD-encoded CDs to be enjoyed by more listeners, relatively inexpensive processors need to be produced, like the $799 Audio Alchemy DDE v3.0. Similarly, the $1495 Enlightened Audio Designs (EAD) DSP-1000 and the $1000 Adcom GDA-700 are equipped with the PMD100 HDCD decoder and are considered more "affordable" D/A processors.

The good news is that, by the end of March 1995, six of the 25 manufacturers licensed to use the HDCD process were offering units selling for less than $1500 (Adcom GDA-700, Audio Alchemy DDE v3.0, Electronic Visionary Systems DAC-2, EAD's DSP-1000, Parasound's D/AC-1600 HD, PS Audio's SL Three), and three were offering price-effective upgrades (Counterpoint's D/A-10 HDCD Upgrade, Pink Triangle's DaCapo HDCD Upgrade, and Theta Digital's DS Pro Generation III HDCD Decoding Module).

Another aspect of "getting the technology downmarket," states Michael Ritter, Pacific Microscopics' President (in The Economist) is to produce more HDCD-encoded CDs. Only a limited number of HDCD CDs had been issued by late summer 1995. Pacific Microscopics' just-announced summer 1995 shipments of production versions of the HDCD professional encoder to major producers should increase the availability of encoded discs. Even if the HDCD discs are slow to appear, both RH and Lawrence B. Johnson of the New York Times have found that all CDs sound better on HDCD-based processors. Other commentators find that HDCD-encoded discs sound better when played over standard non-HDCD-equipped processors. For that reason, this review was carried out with both types of CDs.

I selected an Adcom GDA-700 for this review because it is the HDCD upgrade of the company's GDA-600, which RH praised (in Vol.17 No.3, p.112) for its "tireless bass, a great sense of pace, and open and spacious soundstage... wide dynamic expression and smooth... refined treble." Yet he found that the GDA-600 playing HDCD-encoded CDs "wasn't even close" to a price-matched HDCD-equipped Audio Alchemy DDE v3.0 (Vol.18 No.7, p.137), which "has firmly established itself as the processor to beat in the under-$1000 price category." He hinted that an HDCD-equipped GDA-600 (enter the GDA-700) could help Adcom regain its proper place in the decoder pantheon.

For comparison with a previously reviewed "affordable HDCD decoder," I used an Audio Alchemy DDE v3.0, reviewed by RH in Vol.18 No.7 (p.137), with many of the Audio Alchemy accessories also recommended by RH. (See RH's reviews in Vol.18 No.7 and Vol.18 No.9 for details about the operation of these units.) That meant setting up its remote option, and attaching the company's digital transmission interface (DTI) v2.0 jitter attenuator via its PS bus. Although the total suggested retail for this full-bore Audio Alchemy system is $1722, the DDE v2.0 and DTI v2.0 were being offered a few months back as a "summer special" for $999, bringing the cost to the audiophile down to $1148, well within the price constraints of this review.

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Stereophile, February 1995
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chassis with a brushed-aluminum front panel. The cover is made of solid, 3/16”-thick steel with a nice “powder” finish, giving the unit an expensive feel. A pushbutton standby switch sitting below a green LED indicator sits at the panel’s left. Even when set to Off, power is maintained for the decoder’s circuits, but the digital inputs and analog outputs are muted. To the right, three pushbuttons allow selection of one of the three digital input sources (TosLink, 750 ohm coaxial, or glass optical interface). Like the DSP-7000 unit reviewed by JGH and SS (Vol.18 Nos.1 & 5), the DSP-1000 accepts any of the three sampling rates: 32kHz, 44.1kHz, or 48kHz. Toward panel center is a lock light that illuminates when a digital data link is established. HDCD decoding occurs automatically whenever an HDCD disc is played, causing the front-panel HDCD indicator to light. No remote is available for this decoder.

On the rear panel, audio output is provided by a pair of single-ended RCA jacks. No balanced audio outputs are present, such as are found on the manufacturer’s top-of-the-line DSP-9000 decoder. Digital input is via a 75-ohm coaxial (“CX”) gold-plated RCA-style jack. Also available are TosLink and ST glass-optical inputs. I used the coaxial input for this review because my Krell MD-1 digital turntable has only a coaxial output. A detachable AC inlet/line cord completes the back panel.

Inside, all components reside on the main circuit board, which features solder mask and some point-to-point wiring. Two EL-core power-supply transformers are used, a small one for the digital circuitry and a larger one for the analog circuitry. Three regulators, one for the 5V rails and one each for the ±15V rails, are mounted on heatsinks. The CS8412 data receiver chip and the two PCM633P Burr-Brown D/A chips are mounted to the right side of this main board.

The HDCD assembly is mounted on a small daughterboard that contains all the Series III components, including the HDCD chip and the “Digital Flywheel” jitter-rejection components. The use of a daughterboard enables dealers to easily upgrade older EAD decoders to the Series III level. The daughterboard is attached by a 28-pin connector and supported by generous gobs of “hot melt,” a meltable plastic used to stabilize the daughterboard over the motherboard. This technique is not conventional, but EAD claims that their units so equipped function very reliably after shipment, including those sent overseas.

Also on this daughterboard, and adjacent to the HDCD chip, is a block with 12 rocker switches. These switches allow EAD to upgrade any of their previous decoders to Series III level. No information about the switch settings is provided in the manual, because the switches do such critical things as turn on/off the Digital Flywheel. An EAD spokesperson told me that fooling with the switches wouldn’t harm the decoder, but it might not produce music if set incorrectly. In fact, switch 12’s default position provides the required 6dB attenuation of non-HDCD signals when playing standard CDs (or 6dB of gain with HDCD-encoded sources). This attenuation subjectively matches levels between HDCD and standard CDs. This is because HDCD-encoded discs have a higher crest factor than conventional CDs and thus sound quieter in direct comparisons.

EAD accomplishes the required reduction in gain for regular CDs in the digital domain. As this reduces the resolution at a rate of 1 bit for every 6dB of attenuation, it should be optional, in my opinion. I agree with RH’s suggestion that Pacific Microsonics should reconsider this requirement. Even with the option to defeat non-HDCD disc attenuation, it was necessary to leave the DSP-1000 in the attenuation mode for gain matching with other decoders in this review (see below).

Components of EAD’s patented “Digital Flywheel” circuitry can be seen on the Series Three daughterboard because they are not potted, as in the Adcom unit. EAD claims that this circuit “provides the jitter suppression necessary to reproduce 20 bits of musical resolution upon playback” (see “Manufacturers’ Comments,” Vol.18 No.1, p.239). This operates a second phase-locked loop (PLL) in series with the PLL present in the Crystal Semiconductor CS8411/12 digital receiver chip. RH, in a recent review (Vol.18 No.8, p.147) of the company’s flagship DSP-9000, describes the digital flywheel as follows: “The clock recovered by the PLL in the Crystal CS8411 is followed by a second, tighter-bandwidth PLL implemented with a Voltage-Controlled Crystal Oscillator (VCXO).” The two PLL circuits are matched, and EAD claims that the jitter from the Crystal Semiconductor digital receiver is lowered by a factor of 10. The HDCD chip, the CS8412 chip, the Burr-Brown chips, and others are socketed, which is further evidence that the DSP-1000 can be field-upgraded in the future.

The manual suggests that the output voltage of the DSP-1000 can be boosted from 2V to 4V to drive a passive preamplifier by clipping out pairs of resistors and capacitors on the system’s motherboard. These gain changes are made in the analog domain, and do not affect the unit’s resolution the way digital-domain attenuation methods do in other decoders. Although cutting the resistors does not void the warranty, I feel that component clipping should not be an end-user adjustment. Not only is this approach nonreversible, but this could open the door for all sorts of home-based modifications using special audiophile capacitors. EAD claims no customers have clipped out the wrong component—at least not yet.

The EAD DSP-1000 shows evidence of last-minute additions, with the point-to-point wiring and the use of hotmelt glue to stabilize the daughterboard. These features notwithstanding, the rest of the DSP-1000 shows good build quality, with a solid chassis that

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*Image of EAD DSP-1000 Series III HDCD D/A processor*
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Adcom GDA-700: The Adcom GDA-700 is housed in a standard U-shaped chassis, with a top cover held on by Mark Levinson-style countersunk Allen screws in front and Phillips screws in back. The inside of the cover is fitted with a layer of damping material. Even so, the chassis makes a hollow sound when the front-panel switches are operated, just as RH had noticed with the now-discontinued GDA-600 (see Vol. 17 No. 3, p. 109). Although this should have no effect on the unit's signal-processing functions, it gives the impression that the Adcom is lightweight, not particularly solid. The front panel is beveled at the top and bottom. Controls include an On/Off power switch. At center panel, a rotary control selects between “Optical” (TosLink EIAJ), S/PDIF coaxial, and AES/EBU digital inputs. There is a second rotary switch that controls digital-domain polarity inversion. A row of LEDs indicates the digital signal’s sampling frequency. Also included is an HDCD indicator that lights whenever an HDCD-encoded datastream is detected.

The rear panel features a number of inputs and output connectors. From left to right are a balanced XLR jack next to an RCA jack for each channel’s output, and then an AES/EBU input on an XLR connector. The manual states that this is the unit’s “premium grade input, with significant electrical and sonic advantages over other digital inputs.” Next, two RCA-type inputs are provided, then a TosLink input comes next, and is described by the manual as the “optical equivalent of the coaxial S/PDIF inputs described earlier.” Unlike the GDA-600, the Adcom GDA-700 does not have a digital output on an RCA output jack. The detachable AC linecord jack completes this tour of the back panel.

As the GDA-700 is an HDCD upgrade of the GDA-600, its circuit layout is just as neat, organized, and efficient as its predecessor. Each unit features a large power supply contained on a separate circuit board mounted at the left edge of the inner chassis. The power-supply and signal-processing boards are separated by a 2.5" gap and connected by a 12-conductor cable that plugs into sockets on each board. The 700’s power supply features two transformers: an EI-core type for digital and a large, low-noise blue (made in India) toroidal for the analog circuits. I counted five large regulator heat sinks for the seven three-pin regulators—all TO-220 types, as in the ’600. Incoming AC is filtered with over 13,000µF of power-supply filter capacitance. RFI and EM filtering are handled by an integral AC filter/IEC inlet for the detachable three-wire AC cord. The high quality of components and the extensive regulation make this a first-class power supply for a decoder.

The digital circuit board is solder-masked and firmly suspended off the chassis floor with standoffs and supported at chassis front and rear. The input receiver has been upgraded from the GFA-600’s CS8412 to a “potted” (all internal components fixed in black epoxy) UltraAnalog AES21. The UltraAnalog chip contains as many as 60 components, including the equivalent of an ‘8412 and a second phase-locked-loop circuit. The effect of these two components would be to reduce jitter to a tenth of that found with an 8412 alone. This means that the GFA-700 has a corrective PLL circuit similar to the “Digital Flywheel” found in the EAD DSP-1000.

The decoded digital data signal is then applied to the Pacific Microsonics HDCD decoder chip, the output of which feeds a pair of 20-bit Burr-Brown PC17020 D/A chips. The Adcom’s output stage features class-A-biased, direct-coupled, proprietary op-amps that achieve low levels of noise and distortion.

All of these features add up: the Adcom GDA-700 has the best build quality of the three units in this review.

**System**

For this review, I compared the EAD DSP-1000 and the Adcom GFA-700 with the Audio Alchemy DDE v3.0 HDCD decoder fed through its 15 bus by a DTI v2.0 digital jitter-reduction unit. I installed an Intel 8751 micro-controller chip into the DDE v3.0 to enable its RW-1 Remote Wand One. At first the DDE v3.0 refused to produce music, which turned out to be a result of my error—I had plugged the DDE v3.0’s Power Station Four power supply into the wall before connecting its live DC cable in the converter. Peter Madnick, Vice President of Audio Alchemy, reminded me of the italicized statement on the DTI v2.0’s instructions: Do not plug the power supply into AC mains before making all other connections! Although no damage was done, I may have activated a protection circuit in the DDE v3.0. Wes Phillips advised me that most audio equipment owners should always connect DC cables from power supplies before plugging the piece of equipment into the AC mains. Following the manual and that rule, all the Audio Alchemy units worked perfectly.

Both standard and HDCD-encoded CDs were played on a Krell MD-1 turntable. For an overall collection of superbly recorded HDCD-encoded music, I used the HDCD Sampler Volume 2 (Reference RR-90CD), which includes classical, jazz, and a selection of three musical samples recorded with and without HDCD for comparison. A single 70 ohm digital-specific Silver Star...

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2 This follows the age-old computer instructions, RTFM (Read The Fascinating Manual). Readers may insert their own words as needed.
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light coaxial cable was run from the turntable and directly plugged into the converter under test.

All converters were plugged into the AC mains for at least 72 hours before any listening. Each decoder under test drove a Bryston BP-25MC preamplifier whose balanced outputs drove the amplifiers through a Bag End ELF-1 integrator electronic crossover set at a 90Hz high-pass frequency. Cogeleco Yellow interconnects were run from the Krell to the ELF-1, with extra Cogeleco pairs then run to the two power amplifiers. A Mark Levinson No.331 solid-state amplifier drove Quad ESL-63 USA Monitor electrostats on Arcadia stands via Sumiko OCOS speaker cables in bi-wired configuration. A Krell KSA-250 drove ELF S-18-1 subwoofers via Monster Cable. The Quad "satellite" loudspeakers were placed 4' from each side wall and 3' from the back. The ELF S-18-1s were placed in the corners of the room, behind and alongside the Quads.

There seemed to be minimal requirements for installing and setting up either the Adcom or EAD decoders, other than moving manual rotary switches to the correct positions for proper input and polarity. By contrast, setting the Audio Alchemy units involved toggling pushbuttons on either the DTT's front panel or the DDE's remote to turn on the correct LED settings on the front panels. The Audio Alchemy Remote Wand allowed me to control volume, mute, and balance without moving from my seat, some 15' away. A remote definitely helps in fine-tuning the system while remaining involved in the music.

Comparisons among the three decoders were complicated because their output voltage differed markedly. The Audio Alchemy DDE v3.0, with its remote volume adjusted to maximum for best resolution, delivered 3.6V fixed output, considerably more than the GDA-700's 2V maximum. This voltage difference favored the Audio Alchemy decoder, making it sound much more "lively and transparent," but this difference was lessened when the gains were matched (see JA's recommendations for level matching in the sidebar of his Mark Levinson No.385 preamplifier review, Vol.18 No.7, p.97). Because two of the three decoders have fixed outputs, I matched the gains for all three by adjusting the preamplifier's volume control before each listening comparison. I set the voltage output from the amplifier at the Quad loudspeaker's terminal to 3.2V AC on a Micronta Digital Multimeter when driven with the 1kHz warble tone on Stereophile's first Test CD.

Of course, the Test CD is not HDCD-encoded. Therefore, the DSP-1000's switchable attenuation for non-HDCD CDs was left in the default position (attenuation on) to match the two other decoders. Each musical selection was auditioned on all three converters, with the order of converters used switched (both input and output cables) every two selections. As a result of these time-consuming procedures, the listening comparisons took much longer than other reviews. If I'd had a preamp that "remembered" gain settings, such as the Audio Alchemy DMC or the Mark Levinson No.385, my job would have been much easier!

A few small glitches were encountered during setup of the three converters. The EAD DSP-1000 suffered from a ground loop and required a "cheater" (an adapter that converts a 3-prong AC plug into a two-prong) to remove 60Hz hum. As noted above, all power and signal connections between the Audio Alchemy chassis had to be made before applying AC power. In addition, I inadvertently moved the tiny mode switch on the Audio Alchemy RW-1's remote, and lost all remote control. This switch sets the remote for either the DDE v3.0 decoder, the Audio Alchemy DMC preamp, or for a new, not-yet-released product. Peter Madnick, in another phone call, pointed out this tiny switch and its actions.3 The manual indicates that this tiny switch has to be set "all the way back, towards the battery end of the remote" for use with the DDE v3.0 decoder. In addition, if I'd not been listening for a few days, I often had to reset all the electronic selections on the two Audio Alchemy units. After chasing away these gremlins, I was ready to listen.

LISTENING

EAD DSP-1000: All three HDCD-equipped decoders had the dynamics I'd been missing listening to conventional CDs. It was so pleasing that it seemed unfair to compare these three designs. However, after careful gain matching and long listening sessions, differences became apparent that may provide a basis for choosing one of these units for a particular system.

On first listen, the Enlightened Audio Design's DSP-1000 had a warm presentation with a strong midbass. The richness of the midbass gave male choral works a warm, rich quality. Dynamics were strong, perhaps as a result of the firm bass, and the EAD's midrange was not aggressive or harsh. These qualities were equally present in the Audio Alchemy decoder. The depth and size of the acoustic, the recovery of ambience and resolution of low-level detail, were equivalent in these two decoders.

Bass reproduction on the EAD DSP-1000 was quite good. On "Pomp & Pipes" (Reference RR-58CD), each deep pipe-organ note was clearly defined, showing the decoder's ability to distinguish pitch. The acoustic space around the bass drum was clearly heard during the final moment of the HDCD band arrangement of the Chorus Line overture (from Beachcomber with Frederick Fennell and the Dallas Wind Symphony, Reference RR-62CD). The Adcom GDA-700 and the Audio Alchemy system, on the other hand, emphasized the bass drum's solidity, slam, and dynamics.

Midrange reproduction on the EAD 1000 was smooth, with no harshness or aggression. The woodwinds in the Chorus Line selection were open, effortless, and showed no strain. The attack of the piano notes on Mike Garson's rendition of "A Song for You" (from The Oxnard Sessions, Vol.2, Reference RR-53CD) was natural, quick, and convincing with the EAD unit, although this was heard equally well with the other two HDCD-equipped decoders.

Non-HDCD CDs also did well on the EAD decoder. For example, it created a convincing sonic portrait of the warmth and three-dimensionality of Odetta's close-miked "America the Beautiful" on Strike a Deep Chord: Blues Guitars for the Homeless (Justice Records; call (800) 538-5878). It also captured the richness and naturalness of male vocal timbre on Willie Nelson's "Getting Over You" and "What Was It You Wanted" (Across the Borderline, Columbia CK 52752). The EAD DSP-1000 also did a very good job of capturing nonspecific hall ambience. I focused on this feature of
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orchestral music after attending a live concert by the New York Philharmonic. Sitting in the orchestra, I closed my eyes and was immersed in a "sea of sound," a three-dimensional mix of direct and reflected sounds that not only defined the musicians on the stage, but the hall around me. This is different from the carefully layered resolution of detail heard on finer audio systems. Rather, it is a living sonic fabric composed of instrumental blending, low-level details, and audience coughs that help the ear and brain "feel out" the acoustic. For example, the EAD could re-create the sense of the hall and the orchestral fullness heard during the brass finale of Janáček's Sinfonietta (José Serebrier, Czech State Philharmonic, Reference RR-65CD).

In summary, I was pleased by the EAD's smoothness, lack of strain, and rendering of nonspecific hall ambience. For example, it gave a sweet, effortless quality to the trumpets during the finale of the Janáček. There was no glare or harshness during peaks, nor was there a sense of congestion or hardness during orchestral climaxes. While this was a definite advantage, the Audio Alchemy and Adcom units were more transparent and more dynamic playing this selection, as well as other types of music. I found myself less involved while listening to the EAD DSP-1000.

Adcom GDA-700: The Adcom GDA-700 had different strengths. Inserted into my system, it created a deep sonic soundstage with more specific layering and clearer instrumental outlines. It was the most transparent of the three units and yielded better resolution of low-level detail. In addition, it seemed faster, with a strong sense of dynamic pace and bass impact.

Bass dynamics were the GDA-700's forte. When a solid pipe-organ note was played, the Adcom helped create a tight, pressureless, sustained bass note, as heard during John Rutter's "A Gaelic Blessing" on his Requiem and Five Anthems (Reference RR-57CD). I've heard this same "room lock" effect during a live performance of the pipe organ in the Princeton University chapel, a huge acoustic space with a 50' ceiling and stone walls, modeled on a medieval cathedral.

Other bass passages were reproduced well, especially low-level musical detail. Listening to Bruce Yeh's HDCD-encoded Ebony Concerto (Reference RR-55CD), I found the deep tom-tom slap had good, solid impact and heft on Artie Shaw's Clarinet Concerto. The Adcom was able to render the image of a large acoustic space when playing bass; it was almost the equal of the EAD, particularly on the "Lux Aeterna" selection from the Requiem CD. Yet the male chorus's words were more distinct over the Audio Alchemy system. Perhaps the DTI's jitter attenuation helps decode speech!

Transparent midrange reproduction was another asset of the Adcom GDA-700's performance. Woodwinds, particularly Bruce Yeh's clarinet on Ebony Concerto, were open and effortless; the natural timbre of each instrument was brought out. Other details sprang into relief, such as snares in the drum heads just behind the clarinet during Shaw's Clarinet Concerto when the orchestra played. The Adcom was faster reproducing musical transients. While the EAD was liquid and smooth, the Adcom was detailed and fast.

The Adcom was more involving, particularly in dynamic pieces. The cymbals and percussion section sizzled and were more alive on the Chorus Line selection. The Adcom conveyed a strong rhythmic drive in "Pepe Linue," an instrumental piece on Oregon's Beyond Words (Chesky JD130). Even greater pace and drive were realized on the "Broke, Raggedy and Hungry" selection on Strike a Deep Chord. Dr. John (vocals), Brian Stoltz on guitar, and Freddy Stubble on drums really got cooking when the Adcom GDA-700 was running in my system. Both the Adcom and Audio Alchemy created a sonic texture and dynamic pace that drew me into the music.

In his recent review of the full Audio Alchemy system connected by the PS bus (Vol.18 No.9), RH reported a "new-found sense of air and bloom around instrumental outlines." The DTI jitter filter, and HDCD-equipped DDE v3.0 unit played with considerable soundstage depth, tight bass, and natural instrumental timbres. I heard these same qualities when the Audio Alchemy system played in my listening room. The Adcom GDA-700 also rendered a good sense of the musical acoustic, and, at times, matched the EAD DSP-1000—the two decoders were that close. But it went beyond the EAD unit, for it could resolve musical textures. For example, the horn and violin could be placed in space in front of the chorus in Rutter's Lux Aeterna, and were discernible as separate. I could hear the reflections from the walls as the sound of the struck cymbal fades away in the Chorus Line overture on Beachbums. The Adcom GDA-700 was particularly good at resolving low-level detail.

Measurements from RH

**Adcom GDA-700:** The Adcom GDA-700 had a maximum output level of 4.44V from the balanced outputs and 2.1V from the single-ended jacks. The output impedance was a low 78 ohms (unbalanced) and 156 ohms (balanced). DC levels were low (2.9mV left channel, 1.3mV right channel), and the unit doesn't invert absolute polarity. The GDA-700 also had no trouble decoding 32kHz and 48kHz sampling frequencies.

Fig.1 shows the GDA-700's flat frequency response and perfect de-emphasis tracking. The rolloff of 0.5dB at 20kHz is slightly steeper than in many processors, but should be inaudible. The perfect de-emphasis tracking is the result of the digital-domain de-emphasis performed in the PMD100 digital filter and HDCD decoder.

The GDA-700's crosstalk performance (fig.2) was exceptional, with nearly 120dB of channel separation at 1kHz, and greater than 100dB separation...
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tion at 20kHz. Performing a spectral analysis on the GDA-700’s output when decoding a 1kHz, -90dB dithered 20-bit sinewave (fig.3) revealed exceptionally low noise and complete lack of powersupply noise in the audio output. (Power-supply noise is seen as peaks in the trace at 60Hz and/or its harmonics). The GDA-700’s plot is completely clean.4 Note the expanded scale (down to -140dB) needed to show the extremely low noise of this design. The slight trace of second-harmonic distortion (the small peak at 2kHz) is commonly seen in 20-bit processors when driven with 20-bit input words, I have found.

The same measurement, but with an input of all zeros and a 20kHz bandwidth (fig.4), again shows the GDA-700’s low noise and good out-of-band behavior. Moving next to the GDA-700’s linearity (fig.5), we can see the unit’s superb linearity and lack of noise (the trace doesn’t skyrocket below -100dB). The left channel has a minuscule (a small fraction of a dB) negative error starting at -65dB, but this is so small you may not be able to see it on the reproduced graph. The GDA-700’s DACs are virtually perfect to below -15dB, implying nearly true 20-bit performance.

The GDA-700 also performed well on the noise-modulation test, shown in fig.6. The traces are so close together they appear almost as a single line. This indicates that the GDA-700’s noise floor doesn’t shift in level or change its spectral balance as the input signal amplitude changes. This is among the best noise-modulation plots I’ve seen.

Fig.7 is the GDA-700’s reproduction of a 1kHz, -90dB undithered sinewave with 16-bit resolution. The step sizes are uniform, and the wave-shape is good. Fig.8 is the same waveform with a 20-bit input precision.

An FFT-derived spectral analysis of the GDA-700’s output when decoding a full-scale mix of 1kHz and 20kHz is shown in fig.9. The trace is relatively free from intermodulation components created by the 19+20kHz twin tone.

Looking next at the GDA-700’s jitter performance, fig.10 shows the jitter spectrum with a 1kHz full-scale sinewave input. The plot shows some periodic jitter components spaced 1kHz apart in the upper part of the band. The RMS jitter level, measured over a 400Hz-20kHz bandwidth, was a low 45 picoseconds.

With an input signal of all zeros, the jitter spectrum was perfectly clean (fig.11), and the RMS level was 35ps. The RMS level rose to 90ps with a

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4 Although the AC power-line frequency from a wall outlet is 60Hz, we most often see power-supply noise at 120Hz. The power-supply job is to convert the 60Hz Alternating Current (AC) from the wall outlet into Direct Current (DC) that supplies the component’s circuits. Converting AC to DC is called “rectification.” An arrangement of diodes called a “full-wave bridge rectifier” essentially inverts one phase of the AC line, the result being 120 pulses per second of the same polarity. Leakage of the rectified 120Hz noise into the analog signal path pollutes the audio signal in some audio components.

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Fig.4 Adcom GDA-700, spectrum of digital silence (20-bit data, 1/2-octave analysis, right channel dashed).

Fig.5 Adcom GDA-700, departure from linearity (right channel dashed, 2dB/vertical div).

Fig.6 Adcom GDA-700, noise modulation, -60 to -100dBFS (10dB/vertical div).

Fig.7 Adcom GDA-700, waveform of undithered 1kHz sinewave at -90.31 dBFS (16-bit data).

Fig.8 Adcom GDA-700, waveform of undithered 1kHz sinewave at -90.31 dBFS (20-bit data).

Fig.9 Adcom GDA-700, HF intermodulation spectrum, DC-24kHz, 19+20kHz at 0dBFS (linear frequency scale, 20dB/vertical div).

Fig.10 Adcom GDA-700, word-clock jitter spectrum, DC-20kHz, when processing 1kHz sinewave at 0dBFS, PS Audio Lambda transport (linear frequency scale, 10dB/vertical div, 0dB=1ns).

Fig.11 Adcom GDA-700, word-clock jitter spectrum, DC-20kHz, when processing digital silence, PS Audio Lambda transport (linear frequency scale, 10dB/vertical div, 0dB=1ns).

Fig.12 Adcom GDA-700, word-clock jitter spectrum, DC-20kHz, when processing digital silence, PS Audio Lambda transport (linear frequency scale, 10dB/vertical div, 0dB=1ns).
1kHz, -90dB sinewave input, and the spectrum shows some periodic components related to the test-signal frequency (fig.12).

Overall, the GDA-700 had superlative technical performance. The high channel separation, terrific linearity, excellent noise modulation, and good jitter performance are impressive for a $1000 processor.

—Robert Harley

EAD DSP-1000: The DSP-1000’s maximum output level when decoding a full-scale, 1kHz sinewave was a low 0.93V, more than 6dB below the standard output level of 2V. Because the DSP-1000 had been retrofitted with the PMD100 digital filter/HDCD decoder chip, I suspect that EAD left the analog stage gain alone and attenuated the signal 6dB in the digital domain with the PMD100 and accepted the low output level. This won’t be a problem with most preamps, since 1V is still plenty of signal to drive a preamplifier. When comparing the DSP-1000 to other processors, however, be sure to match levels or the DSP-1000 will be at a disadvantage.

Output impedance measured a low 50 ohms across the band, and DC levels were negligible. The unit doesn’t invert absolute polarity, and locked to 32kHz and 48kHz sampling frequencies.

Fig.13 shows the DSP-1000’s frequency response and de-emphasis error. The response is flat, and the unit has no de-emphasis mistracking. Channel separation (fig.14) was excellent, measuring 105dB at 1kHz, but decreasing to a still good 84dB at 20kHz.

The measurements were proceeding when I got a strange result from the spectral analysis of a 1kHz, -90dB dithered sinewave; the DSP-1000 had poor linearity and lots of harmonic distortion. Switching the input word length from 20-bit to 16-bit revealed the cause of the unusual measurement result: the DSP-1000 will pass 16-bit data, but not 20-bit. Consequently, the dither at the LSB of the 20-bit word was truncated along with the four LSBs, meaning the DSP-1000 was decoding an undithered 16-bit sinewave.

When the DSP-1000 was retrofitted with a daughterboard to replace the 16-bit NPC filter with the 20-bit PMD100, the motherboard apparently wasn’t changed. So although the PMD100 filter will pass up to 24-bit data, and the DACs are 20-bit, the DSP-1000 will truncate longer input word lengths down to 16 bits. The rest of the measurements are therefore made with 16-bit input signals.

This is of little consequence to most users. Unless you have professional source components with 20-bit output, or Audio Alchemy’s DTI-Pro or DTI-Pro 32 (which provide up to 20-bit output from 16-bit sources), it won’t matter that the DSP-1000 won’t pass 20-bit data. You should be aware of this condition, however, and not assume that any processor with the PMD100 and 20-bit DACs will always pass 20-bit data.

With that caveat, the spectral analysis of the DSP-1000’s output when decoding a 1kHz, -90dB sinewave with 16-bit resolution is shown in fig.15. The right channel’s noise floor (dotted trace) is about 8dB lower in level than the left channel’s. We can also see a trace of second-harmonic distortion in the left channel, along with what is probably power-supply noise at 120Hz. Although the two DACs appear to be performing identically (the traces overlap at the test-signal frequency), the unit’s analog noise floor is different in the two channels.

We can see this situation again in fig.16, a wideband spectral analysis of the DSP-1000’s output when decoding an input signal of all zeros. The 120Hz power-supply noise is confirmed, as is the disparity in noise floor between channels. Above 20kHz, you can also see what almost looks like filter ripple, with peaks apparent at 32kHz, 64kHz, and 96kHz.

The DSP-1000’s linearity (fig.17) was good, but not exceptional. Again, we see the left channel’s higher noise, which intrudes on the linearity measurement (the solid left-channel trace rises more quickly than does the dotted right-channel trace).

Fig.18 is the DSP-1000’s reproduction of a 1kHz, -90dB undithered sinewave. The DACs apparently have some differential non-linearity, seen as the greater amplitude of the -1 step compared to the +1 step. In other words, the negative-going phase of the reproduced sinewave has greater amplitude than the positive-going phase. [This asymmetry is generally associated with the production of even-order harmonic distortion.—Ed.] We
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can also see a fair amount of noise overlaying the waveform, and the waveform is not as good as is generally seen with 1995-vintage processors. (For an exemplary waveform, see the Classé DAC 1’s reproduction of this waveform elsewhere in this issue.) The DSP-1000’s noise modulation (fig.19) was good, however, with very tight trace groupings above 1kHz and small deviations below that frequency.

Looking next at the unit’s intermodulation spectrum (fig.20), the audio band is clean and free from IMD components. Unusually, however, the test signal frequencies of 19kHz and 20kHz (mixed together at full-scale) have narrowly spaced sidebands around them, a situation I haven’t seen before. These intermodulation products, however, do lie below -90dB.

Finally, the DSP-1000 had superb jitter performance. Under all input signal conditions, the spectrum was free from periodic jitter components, and the RMS level was extremely low. Specifically, the DSP-1000’s jitter spectrum taken with the unit decoding a 1kHz, full-scale sinewave (fig.21) is perfectly clean. The RMS level was 40ps, an exceptionally low level. With an input signal of all zeros, the RMS jitter level was unchanged, and the spectrum was very slightly cleaner (fig.22). With the more demanding input signal of a 1kHz, -90dB sinewave, the spectrum was again perfectly free from periodic jitter components (fig.23), and the RMS level was again unchanged at 40ps. The DSP-1000’s excellent ability to reject jitter in the incoming datastream regardless of input amplitude is exceptional, and indicates that EAD’s “Digital Flywheel” jitter-reduction circuit works well.

Overall, the DSP-1000’s mostly excellent technical performance was marred by its less-good reproduction of low-level waveforms. —Robert Harley

**LG SUMS UP**

All three of these HDCD-equipped decoders have wide dynamic range, which lends pace and impact to digital music. Now it’s possible to have large dynamic contrasts without the glare and harshness too often associated with the CD medium. These improvements are available in all three of these under-$2000 decoders — good news for audiophiles. The EAD DSP-1000 and the Adcom GDA-7000 offer HDCD decoding and excellent sonics, and should join Audio Alchemy’s DDE v3.0 and DIT v2.0 on Stereophile’s “Recommended Components” list.

Differences were apparent, however. The EAD DSP-1000 was smooth, liquid, and natural, and could never be pushed to be aggressive or hard, even during huge orchestral climaxes. Its ability to re-create non-specific hall ambience gave it a realism sometimes missing with the other units. The EAD’s defeatable attenuation on non-HDCD CDs is an asset, considering that the majority of music is available on the non-HDCD format. On the other hand, the point-to-point wiring and use of hot melt for stabilizing critical digital circuits in the DSP-1000 was a concern.

By contrast, the Adcom GDA-700 has the best build quality of the three units. Sonically, it was more dynamic, more transparent, and more adept at retrieving low-level detail, and thus more musically involving than the EAD DSP-1000.

The Audio Alchemy system had the best bass response, excellent resolution of orchestral outlines and space, the best rendering of rhythmic pace, but did not have quite the transparency of the Adcom GDA-700. Yet used with the DTI jitter filter, it yielded the clearest vocals and allowed me to follow lyrics lost on the other two decoders. The Audio Alchemy remote is terrific, and adds great value and convenience not available in the other two decoders.

So you pays your money and takes your choice. These three affordable HDCD decoders differed in subtle but meaningful ways in the areas of smoothness, transparency, and convenience. None of them was perfect, but each had its strong points. If you want smoothness, a liquid midrange, and retrieval of non-specific hall ambience, the EAD DSP-1000 should be high on your list. On the other hand, if transparency of sonics, retrieval of low-level detail, and bass slam and heft are critical, the Adcom GDA-700 may be for you. The Audio Alchemy shares the bass response, the dynamics, resolution of low-level detail, and excellent soundstaging found in the other two, but is the only one with the remote option.

Because I’m partial to any audio appliance that includes a remote, my personal favorite was the Audio Alchemy system. However, all three of these decoders yield full HDCD-decoding, bringing wide dynamic range and excellent sonics from CDs. For these reasons, I recommend you audition all three of these “affordable” D/A decoders. —Larry Greenhill
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Of all the products I’ve reviewed or auditioned, a select few jump out as “best buy” recommendations. Almost universally, such products are liked by a wide range of audiophiles, and seem to match well sonically to many systems. Moreover, these products all have outstanding value; they offer a higher level of musical performance than you’d expect from the price.

It’s nice to have a short list of such solid recommendations when asked for advice. The products that most readily come to mind include the McCormack DNA-1 and DNA 0.5 power amplifiers, Thiel CS3.6 and CS1.5 loudspeakers, the Theta Data Basic CD transport, and the Audio Research LS3 preamplifier — to name a few.

In digital/analog converters, the overwhelming favorite in midpriced processors had been the $2000 PS Audio UltraLink. The UltraLink brought UltraAnalog’s sophisticated DAC technology to a moderate price point, and quickly established itself as the processor to beat in this competitive price category. The UltraLink’s sound also brought it worldwide critical acclaim and great commercial success.

But the digital processor arena has changed considerably since the UltraLink was introduced in early 1992. Four and half years is an eternity in digital design. For example, the UltraLink used the Yamaha input receiver chip (now known to have high intrinsic jitter), an NPC digital filter (which is significantly inferior to the new Pacific Microsystems PMD100 filter), and the UltraAnalog D20400 DAC (replaced by the D20400 A). Also, since the UltraLink’s heyday, designers have become more skillful in crafting a collection of parts into a more musically satisfying component.

PS Audio’s new UltraLink Two processor is a complete redesign of this classic product. The Two features all new parts, a redesigned analog output stage, and more attractive cosmetics. Although the UltraLink Two seems to offer the potential of sounding better than its predecessor, today’s standards of sound quality in a $2000 processor are considerably higher than when the original UltraLink reigned supreme. We’ll see if the new UltraLink Two is up to the challenge.

TECHNOLOGY

The UltraLink Two reviewed here could be considered the third generation of the UltraLink series. The first UltraLink Two used the NPC 5803 digital filter; if you own an UltraLink Two with this filter, PS Audio will install the Pacific Microsonics PMD100 HDCC® decoder/filter chip found in the latest production as a factory upgrade for $398, which also includes testing to make sure the unit is performing to current specifications. Note that only the UltraLink Two, not the original UltraLink, can accept the PMD100.

Because the PMD100 HDCC decoder/filter was retrofitted to an existing design, the UltraLink Two cannot decode 20-bit data. I discovered this when measuring the unit. If you feed it a 20-bit signal, the UltraLink Two truncates it to 16 bits. This becomes a drawback only if you have access to 20-bit professional sources such as the Nagra D open-reel recorder or the Sonic Solutions hard-disk editing system, or if you use an Audio Alchemy DT1+Pro or DT1+Pro 32. These devices interpolate the last four bits, converting 16-bit data to 20-bit. If you don’t fit either category (professional sources or DT1+Pro user), you’ll never need the ability to pass 20-bit data.

The UltraLink Two resembles the original in chassis size and shape, but the front panel is very different. A sleeker design replaces the flat front panel and small handles, and two recessed areas contain the status-indicating LEDs. One recess has four LEDs to indicate which digital input is selected; the other has three LEDs to show when the unit is locked to a digital source, if the source is HDCD-encoded, and when the polarity inversion button is engaged. It’s no coincidence that the recessed areas are the same size and shape as a CD transport drawer; PS Audio uses the same frontpanel layout for their Lambda transport. Another change is the replacement of touch-sensitive buttons on the original UltraLink to the more reliable mechanical switches.

The rear panel holds four digital inputs, one each of coaxial (RCA jack), AES/EBU, ST-Type optical, and TosLink. An additional RCA jack provides digital output. Analog output is via XLR jacks (balanced) and RCA jacks (unbalanced). All digital input types are included as standard in the $2295 price. ST-Type optical was a $200 option on the original $2000 UltraLink, meaning that the UltraLink’s price has risen by only $95.
There's been another big change at PS Audio since the UltraLink was introduced: the company is now 90% owned by Threshold. Randy Patron, a principal at PS Audio, acquired Threshold, then bought the remaining equity in PS Audio. The remaining 10% of PS Audio is retained by the former owners, including designer Bob Odell (who contributed his design talents and ears to the UltraLink Two).

Although the parts and design of the UltraLink Two are different from the original UltraLink, the two units look surprisingly similar inside. This is no doubt the result of PS Audio's emphasis on the power supply. The UltraLink Two features a large custom transformer with dual secondary windings, seven power-supply regulation stages, and lots of filter capacitors. Each regulation stage has more than 4000μF of capacitance associated with it, for a total capacitance of nearly 30,000μF—as much capacitance as found in a small power amplifier. The seven regulators are all three-pin IC types.

The digital input stage uses an UltraAnalog-designed pulse transformer and UltraAnalog AES21 input receiver. The UltraLink series went straight from the older Yamaha YM3623 input receiver to the AES21, leapfrogging the popular Crystal CS8412 chip. Digital input signals are buffered with a Schmitt-triggered inverter (which cleans up the square-wave), and buffered with a differential comparator. Relays select which input feeds the input receiver. A second pulse transformer couples the digital output signal to a rear-panel RCA jack for driving a digital recorder (a seldom-used feature).

A small daughterboard holding the PMD100 HDCD decoder/filter is mounted above the main board, evidence of the UltraLink Two's switch from the NPC 5803 digital filter to the PMD100 HDCD chip. The PMD100 performs HDCD decoding as well as 8x-oversampling digital filtering. In the UltraLink Two, the PMD100 also emphasizes the signal in the digital domain if the source data carries the emphasis flag. The PMD100's output dither options are unused in the Two. When decoding non-HDCD discs, the 6dB of attenuation called for by the HDCD license is performed in the digital domain by the PMD100. This technique throws away one bit of resolution, which could have been avoided by attenuating the signal by 6dB in the analog output stage, as is done in some other HDCD processors. Analog-domain main attenuation is a trickier proposition than merely setting a pin on the PMD100, but doesn't introduce the potential sonic degradation imposed by digital-domain attenuation.1

The DAC is an UltraAnalog D20400A, a slightly modified version of the D20400 used in the first UltraLink. The dual 20-bit DAC feeds an unusual hybrid output filter and buffer amplifier that is part IC op-amp, part discrete circuit. The filter is a modified third-order Bessel type based on a design called a Frequency Dependent Negative Resistor (FDNR). The filter is built around a Precision Monolithics OP-275 op-amp, but the op-amp isn't in the signal path. Instead, the filtering is passive (realized with metal-film resistors and film capacitors), with the op-amp creating a complex impedance that allows the filter to function correctly. A brief mention of the FDNR filter in Arthur B. Williams' and Fred J. Taylor's Electronic Filter Design Handbook, second edition (McGraw-Hill), shows how two differential amplifiers, a capacitor, and several resistors can simulate the action of an inductor. PS Audio claims this design is better-sounding than a passive filter, but doesn't suffer from the sonic degradation created by an additional active device in the signal path. Moreover, PS Audio claims a very low phase shift of less than 3° at 23kHz from this design.

The output filter is followed by a second PMI OP-2757 that acts as an output driver and inverter to generate an opposite-polarity signal to create a balanced output. The op-amp's output stages are operated in class-A by external active current sources that "pull" significant amounts of bias current through the device. The final output driver is a discrete circuit consisting of a pair of transistors that are within the overall feedback loop. These current-driving transistors are also operated with class-A bias. A muting relay between the final output and the rear-panel XLR and RCA jacks prevents noise from appearing at the analog output. Note that the UltraLink Two's balanced output is created the inexpensive way: with a simple inverter rather than four DACs and four analog output stages. The latter method is better technically, but adds substantially to the product's cost.

Overall, the UltraLink Two's design, parts, and execution are a significant upgrade over the UltraLink. Replacing the Yamaha YM3623 input receiver with the UltraAnalog AES21 and swapping the NPC 5803 for the PMD100 are by themselves major advances. The unit's build quality is excellent for a $2295 processor, although I thought PS Audio should have provided analog-domain attenuation to meet the HDCD license rather than the easier-to-implement digital-domain attenuation in the HDCD decoder/filter.

**System**

I auditioned the UltraLink Two on its own and in comparison with the original UltraLink, the Audio Alchemy DDE v.3 (which offers terrific sound for the $799 price), the DDE v.3 with Audio Alchemy's D'TI v.2 and the PS bus interface (the DDE v.3 and D'TI v.2 are sold together for $999), the Classé DAC 1 (reviewed elsewhere in this issue), and, as an absolute reference, the Mark Levinson No.30.5 Reference Digital Processor. Transports included the Mark Levinson No.31 and new $2295 Sonic Frontiers SFT-1. The Theta Data Basic that I normally use as a reference in affordable transports is back at Theta being updated to a Data Basic II.

The processors under audition fed a Sonic Frontiers SFL-2 linestage, which drove a pair of Audio Research VT150 monoblocks. Loudspeakers were Genesis 11.5s, connected with short runs of AudioQuest Dragon II. Interconnects included the superb WireWorld Gold Eclipse (balanced and unbalanced), AudioQuest Diamond (unbalanced) and Diamond X3 (balanced), and AudioQuest Lapis. Digital interconnects were illuminati DataFlex Studio (coaxial), AudioQuest Diamond X3 (AES/EBU), and WireWorld Gold Starlight (coaxial and AES/EBU).

If you compare the UltraLink with the UltraLink Two, note that the left- and right-channel output jacks have been reversed. If the two units are stacked, it's easy to get the channels reversed by assuming that the jacks above one another are the same. I should also mention that I thought the Two sounded better from the single-ended jacks; I did most of my auditioning with unbalanced interconnects.

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1 It is possible to compare the PMI100's 6dB of digital-domain attenuation with no attenuation in the HDCD-equipped Mark Levinson No.305. Pushing a certain sequence of front-panel buttons defeats the PMI100's digital-domain attenuation. By reducing the preamplifier's volume by 6dB when the digital-domain attenuation isn't invoked, you can hear for yourself (at matched levels) the effect of throwing away one bit of resolution. I have found that the degradation is certainly audible. High-end designers shouldn't be forced to accept this compromise in sound quality; Pacific Microsonics should restrict the 6dB attenuation requirement.

2 The PMI OP-275 is also used in later production of Audio Alchemy's DAC-in-the-box.
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when the performance of your system comes down to the wire

212 WorldRadioHistory Stereophile, December 1995
LISTENING
The UltraLink Two sounded vastly better than the UltraLink in every respect. It didn't take lots of back-and-forth comparisons; the differences were immediately obvious. Listening to the original UltraLink again highlighted how much digital playback has improved over the past four years. Specifically, the UltraLink Two was less forward in the mids and had a more relaxed character. The original UltraLink's main liability was a forwardness to the sound that could become imposing. By contrast, the Two's perspective was more laid-back, gentle, and refined. If the UltraLink put me in Row C, the UltraLink Two was a ticket to Row M. The UltraLink Two's perspective was now more in line with what I hear from the best processors, with an immediacy but without pushiness.

The UltraLink Two also excelled in the faithful reproduction of instrumental timbre. Where the UltraLink could get a little hard and grainy in the mids, the Two was softer, sweeter, and much more liquid. The Two's treble was much cleaner, with greater finesse and inner detail, and less of the white-noise-like character overlaying the top end.

Soundstage transparency was also greatly improved, as was image focus and sense of bloom around image outlines. The Two had a wonderfully transparent and spacious presentation, in contrast to the UltraLink's somewhat flatter rendering. It's ironic for me to say this now, but one of the UltraLink's great strengths at its price was its transparency and soundstage. At the time, you just couldn't find the UltraLink's level of transparency and image focus for $2000. The Two has taken a giant leap forward in these areas, throwing a deep and layered presentation within a transparent soundstage. Moreover, where the UltraLink tended to present soundstage depth in discrete layers, the Two presents depth more along a continuum. The back of the hall was much farther away with the Two, and I heard more sense of air around the soundstage's outer edges.

The Two's bass was also improved, with more dynamic contrast, greater articulation, and slightly deeper extension. Bass power, extension, and dynamics were never the UltraLink's strong suits, and neither are they the Two's. The siblings share a family resemblance of a somewhat lightweight character and lack of visceral slam. Nonetheless, the Two had a tighter and better-controlled bottom end, with a little more kick at the extreme bottom end.

As may be expected, the UltraLink Two fell between the Classé and the Audio Alchemy in performance. Although the DDE v.3/DTI v.2 pair sounded terrific for $1000, the UltraLink Two was the more musical processor. The Two had more refinement, resolution, detail, and transparency. I also heard greater image palpability through the UltraLink Two, with more air around instrumental images.

A phrase from my listening notes sums up how the UltraLink Two compared to the Classé DAC 1: “No match for Classé.” The DAC 1 was much more detailed than the UltraLink Two, resolving low-level musical information that just wasn't there through the PS Audio. The Classé's bass was also deeper and tighter, and had much more dynamic impact.

I won't dwell on this comparison; you get the idea. Although the DAC 1 is roughly one-and-a-half times the UltraLink Two's price, you should also audition the Classé and consider this superb Canadian processor if your budget can stretch that far.

Nonetheless, I enjoyed music through the UltraLink Two during the single-presentation listening. The Two had a smooth rendering of instrumental timbre that was remarkably free from grain and stridency. This was the UltraLink Two's best quality, and one that was important musically. Without the grain and etching overlaying instrumental textures, the presentation produced a sense of ease and involvement. Listen, for example, to the soprano sax and oboe on Oregon's new Beyond Words CD (Chesky JD130). Through the UltraLink Two, these instruments were rendered with a natural, “unsynthetic” quality. The Two's treble was also impressive, sounding clean, pure, and free from hash.

I was also impressed by the UltraLink Two's soundstage size, layering, and transparency. The Two threw a spacious and well-defined soundstage, but didn't quite have the sense of space between instrumental images I hear from the best processors.

My main criticisms of the UltraLink Two were its tendency to obscure low-level musical detail, a slight congealing during complex passages, and lack of ultimate bass extension and impact. These criticisms were no doubt heightened by the presence of the Classé DAC 1 in my system, which I auditioned simultaneously with the UltraLink Two this past month. The DAC 1 happens to excel in resolution and dynamics, throwing into sharper relief the UltraLink Two's minor shortcomings.

MEASUREMENTS
The UltraLink Two's maximum output level from the balanced jacks was a lowish 3.15V (balanced) and 1.58V (unbalanced). These low output levels are starting to see in digital processors are caused by the 6dB of attenuation required in HCD-equipped processors when decoding standard CDs (including test discs). This is still plenty of level to drive any preamplifier.

Output impedance measured a low 160 ohms (balanced) and 78 ohms (unbalanced). DC levels were unmeasurable, and the UltraLink Two correctly decoded 32kHz and 48kHz sampling frequencies.

The UltraLink Two's frequency response was predictably flat, and the de-emphasis tracking was perfect (fig.1). In fig.2, the UltraLink Two's crosstalk, we can see excellent channel separation, but with power-supply noise intruding at 120Hz and its harmonics. I tried different grounding schemes, including a
"cheater" plug on the UltraLink Two, but this noise remained. The channel separation was, however, greater than 105dB across the band.

As with the EAD DSP-1000 reviewed elsewhere in this issue, the UltraLink Two was retrofitted with the PMD100 HDCD decoder/filter, and will not pass 20-bit data, although the PMD100 has a 24-bit-wide data path. All measurements were therefore made with 16-bit input word length. Fig.3 is a spectral analysis of the UltraLink Two when decoding a 1kHz, -90dB dithered sine-wave. The overall noise level is low, except for the power-supply noise at 120Hz.

A wideband spectral analysis made with an input signal of all zeros (fig.4) shows some odd peaks of ultrasonic energy in the left channel. I've seen this in some other processors recently, but have no explanation for it.

Fig.5 is the UltraLink Two's linearity. We can see a slight negative error starting at ~80dB. Although the error is minimal (it never exceeds 0.8dB), UltraAnalog DACs as used in the UltraLink Two usually have superb linearity. (See the measurements of the UltraAnalog-based Classé DAC 1 elsewhere in this issue for comparison.)

The UltraLink Two's noise modulation plot (fig.6) shows the unit has relatively low, and only moderately tight, trace groupings. This noise-modulation performance is good, but not superlative.

Fig.7 shows the UltraLink Two's reproduction of a 1kHz, -90dB undithered sine-wave. The waveform is relatively free from noise, and the waveform is good, although the positive-going phases have a slightly higher amplitude than the negative-going phases, indicating that the DAC's +1 and -1 steps aren't perfectly equal.

The UltraLink Two's intermodulation distortion spectrum (fig.8) shows excellent performance. Very few IMD components are generated by the full-scale test signal of 19kHz and 20kHz, and those that pop up are low in level.

I next measured the UltraLink Two's clock jitter with the Meitner LIM Detector, the UltraLink Two driven by a PS Audio Lambda transport. With a full-scale, 1kHz sine-wave, the UltraLink Two's clock produced the jitter spectrum of fig.9. We can see a few signal-correlated jitter components on the clock at 2kHz and 4kHz, but the spectrum is otherwise clean. The spike in jitter energy at 735kHz is caused by the subcode in the S/PDIF datastream, which has a frequency of 735kHz. The RMS jitter level,
measured over a 400Hz–20kHz bandwidth, was a low 45 picoseconds. For interest, the original UltraLink's RMS jitter level was 139ps with a full-scale 1kHz sinewave input, and the spectrum was littered with periodic jitter components (see Vol.16 No.1, p.137).

Fig.10 is the UltraLink Two's jitter spectrum when decoding a test signal of all zeros. The periodic jitter components are gone, except for the 7.35kHz sub-code-related component. The RMS jitter level remained at 45ps.

With an input signal likely to introduce higher levels of clock jitter (a 1kHz, ~90dB sinewave), the UltraLink Two's spectrum was much less clean (fig.11). We can see large spikes of periodic jitter energy spaced 2kHz apart, along with many more spikes overall. The RMS jitter level also increased to 155ps, nearly four times the jitter level measured with the other test signals.

The UltraLink Two's bench performance was good, but not superlative. The 120Hz power-supply noise in the audio and slight DAC misbehavior at low levels were less than impressive.

CONCLUSION

The new PS Audio UltraLink Two is a worthy successor to the UltraLink. The Two builds on the UltraLink's strengths, taking the performance of this moderately priced unit to a much higher level. There's really no comparison—the Two's sound was cleaner in the mids and treble, more transparent and open, less forward, and had a greater sense of ease and musicality.

If you own an original UltraLink, continue to enjoy it; I spent many wonderful hours with it. Don't let the existence of the UltraLink Two in any way diminish your enjoyment of music through the UltraLink.

Like the UltraLink, the Two had some leanness in the midbass, and wasn't the last word in dynamics or bass impact. The Two didn't have the visceral slam or dynamic contrast I hear in many other processors. The UltraLink Two excelled in liquidity, treble smoothness, and transparency, rather than bass extension, pace and timing, or rhythmic power. As always, you should audition the UltraLink Two carefully before buying.

Although I thought the UltraLink Two sounded terrific for the price, the unit is less of a sure-bet recommendation than was the UltraLink. The competition is more fierce now, with many processors offering great sound at this popular price level. Other units worth investigating are the Theta DS Pro Basic III ($2695), Muse Model Two ($1700), and the $2195 tubed Sonic Frontiers SFD-1 Mk.II. If your budget can stretch, the Classé DAC 1 is an absolute killer, and well worth the $1200 price difference.

All things considered, I can highly recommend the UltraLink Two. As with its predecessor, the Two may well set the standard of performance in moderately priced digital processors.
INFINITELY BAFFLED
Wes Phillips ponders music, motion, and the affordable Ruark Templar

Two-way, bi-wirable, floorstanding, infinite-baffle loudspeaker. Drive-units: 1" (25mm) treated-fabric-dome tweeter, ferrofluid-cooled and -damped; 6.5" (165mm) treated-paper-cone woofer with a pure rubber surround, cast chassis, and high-flux magnet system. Crossover frequency: 2.6kHz. Frequency response: 55Hz—20kHz, ±3dB. Sensitivity: 87dB/W/m. Nominal impedance: 8 ohms. Amplifier requirement: 20—100W. Dimensions: 8" (200mm) W by 10.5" (260mm) D (at base) by 28" (700mm) H. Weight: 26.5 lbs each. Serial numbers of units tested: 17483 A/B. Price: $1100/pair. Approximate number of dealers: 15. Manufacturer: Ruark Acoustics Ltd., 59 Tailors Court, Temple Farm Ind. Est., Southend-on-Sea, Essex, UK. S52 5TH. Tel: (44) 1702-601410. Fax: (44) 1702-601414. US distributor: Audio Influx Corp., P.O. Box 381, Highland Lakes, NJ 07422. Tel: (201) 764-8958. Fax: (201) 764-8479.

As I trundled the Watt/Puppys off to the Stereophile laboratory complex for our test procedures (see my review in the last issue), I idly wondered to myself, "Gee, what am I going to do for an encore?". Vision of exotic butterfly-like horns danced in my head (nope, J-10 Scull gets those babies). I was tantalized by the call of ambitiously designed behemoths (Major Tom gets those, he's got the room for 'em). Maybe some jewel-like, state-of-the-art minimonitors? (JA gloomed 'em — editor's prerogative, y'know.) So what does that leave me?

Oh boy, affordable two-ways — what fun.

But the Ruark Templars were fun. I don't want to oversell them or anything, but it would be awfully difficult not to like the Templars. They're cute and well-finished. At 87dB sensitivity, they can be driven by modestly priced components, even mass-market receivers. They sound sweet and full-bodied — their specified 3dB down point is 55Hz, but their infinite-baffle design should make the bass articulate and punchy. Did I mention that they're affordable? Eleven hundred bucks isn't cheap, I realize, but there's an awful lot of value in the Ruark — not all of it readily apparent.

Pounding sand up its bung

First, this little floorstanding tower doesn't require a stand. I can't tell you how many times, back when I was an audio salesman, customers would get excited about a kilobuck two-way and then balk at the cost of properly supporting it. Oh, they'd buy a great speaker and they'd mean to come back someday and buy the stand that would let it perform as the designer intended, but you just know that most of those babies are out there today, jammed in bookcases or perched atop piles of books — or worse — sounding half as good as they might.

Next, Ruark builds these speakers responsibly, when it comes to using wood. The top, bottom, side, and rear panels of the speakers are finished in a textured black lacquer, whereas the front panel — which is available in burled walnut, rosewood, natural oak, and ebony — sports a farmed poplar veneer that's dye-treated to simulate exotic woods. Quite nicely, too.

The Templar's parts'n'construction quality would put most twice-as-costly speakers to shame. It's a two-way, infinite-baffle (closed-box) design. The 6.5" SEAS bass/midrange driver has a treated-paper cone, rubber convex roll-surround, high-flux magnet system, and a cast-magnesium chassis. The Vifa 1" doped-fabric dome tweeter has a ferrofluid-damped and -cooled voice-coil.

The crossover is a six-element, second-order Linkwitz-Riley type, utilizing 12dB/octave slopes. It operates at 2.6kHz. The star-grounded crossover network features high-quality polypropylene capacitors, air-cored chokes, and specially spec'd ceramic resistors, all hard-wired to a rigid board that's attached to the back of the terminal plate. All internal wiring consists of Ruark's proprietary 56-strand cable, which is twisted to minimize stray inductance.

The speaker is bi-wirable. The speaker base has threaded inserts, allowing you to install threaded spikes — this way you can level the speakers, while mass-loading them to the floor. The drivers are attached to the baffle with gold-plated hex screws, which are threaded into the wooden cabinet — the proper way to do this, as it permits you to really torque those drivers down.1

1 Leveling the cabinets and tightening the drivers onto the baffle costs nothing, and can improve the speaker's soundstaging remarkably. The cool part is, you can do it with almost any speaker: Be careful when using a metal screwdriver around the heavy magnets employed by some loudspeakers — I've seen a screwdriver jerked out of a loose grip, piercing the driver itself. That's not an improvement.

The cabinet itself is braced internally and is asymmetrically shaped to discourage internal standing waves. The sloping front panel suggests time-alignment of the woofer/midrange driver and tweeter, but the angle is so slight that you'd have to be sitting in a pretty low chair to place your ears where this would actually work — after all, the speaker is only 28" tall.

The cabinet is divided into two compartments so that the enclosure can be damped/mass-loaded by adding sand or lead shot. Access is gained via a removable plastic bung on the rear wall, which means you have to load the sand (which I used) or shot through a one-inch opening. To make the procedure even more entertaining, Ruark's manual instructs you to take care "not to over-damp the speakers by adding too much weight. We suggest you initially half-fill the compartment and listen to the results." Great! Half-fill a compartment with an unspecified volume, and then listen to the results? That's a fat bloody help! And if my listening tells me I've overdamped the speaker, how on earth do I dig the sand out of a compartment accessible...
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only through a 1" hole — hold the whole thing over my head and wag it like a saltshaker?

I called Ruark importer Michael Zeugin and whined to him about the vagueness of it all. "Oh, you've only got this problem because you didn't buy them from one of our dealers," he explained. "They knew that the proper amount of sand is a little over one pound. In fact, many of them have one-pound Zip-lock bags filled with dry sand to give customers to take home when they purchase the Templars. That also makes filling the compartments a snap — all you do is snap off one corner of the bag and pour it down the open bung." This made sense and worked well, although I have my doubts about all those baggies of sand out there waiting for Templar customers.

Vade Retro Declamus

The Templar — at its price-point, and given its easily driven 8AB/W/in sensitivity, not to mention its 8 ohm impedance — just begged to be auditioned with unassuming components such as the NAD 304 and Arcam Alpha 6 that I had on hand. Yep, those are both great pairings. The NAD 304/502 combo drove the Templars with a lot of punchy rhythm, really bringing out the expressive drive and slam of the bass region. The Arcam Alpha 6/Alpha 5 Plus put more of an emphasis on the sweetly seductive sheen and open nature that these speakers can exhibit. The results were so promising that I moved on toward the sort of reference gear not normally paired with $1100 two-ways.

Analog playback was through the Well Tempered Reference/Sumiko SHO rig I've been auditioning recently. Digital systems were primarily the McCormack Digital Drive SST/DAC-1 combo and an Audio Research CD-1. I relied heavily on Audio Research's SP-9 Mk.III preamp and Pass's Aleph 0 amplifiers, although I did use other combinations of pre- and power amplifiers, including the Audio Alchemy DFC (Power Station Three)/VAC 80/80 combo that had kicked some serious butt at a party I'd given. I wanted to be mature and controlled during this demo, but the Templars kept egging me on toward all sorts of equipment excess. Honest, Lord, the speaker tempted me.

Remember This One? It Goes Like This...

The Templars are designed to be sited near the rear wall, but placing them too

near compromises their spaciousness and soundstaging abilities. I wound up with them about a foot from the record cabinets behind them; those with more floor-space than I may prefer them even farther into the room. Sitting only 8' away from them, I found the best compromise between tight center-fill and an expansive soundstage occurred when I angled them in slightly — but not enough to actually point the tweeters at me.

While they won't produce enough sheer bass energy to satisfy dub addicts, I found the bass they did manifest in this position to be tight, punchy, and extremely well-defined. And unlike many ported designs, they do not emphasize the port's resonant frequency, leading to that "one-note" bass signature I so deplore.

These lil' doojojiggers have no business sounding as enjoyable as they do! My first impression — one of amiable sweetness — has never been replaced by any other. The sound caresses the ear, never abrading it. Does this mean the Templars are euphonically colored? I think they can reveal a tremendous amount of detail and air, when recordings possess it, and they don't impart the same sonic signature on everything they reproduce. But the Templars do partake of that relentlessly bright "spotlight-on-the-flaws" character that exemplifies many ambitious high-end speakers, either.

I nearly wrote "it's impossible to make them sound bad," but that's untrue — as it should be. I'm a big fan of Mitch Woods and his Rocket 88's, a world-class bar-band that, propelled by Woods' rockin' boogie piano, successfully recalls the stomp and fun of classic R&B acts like Louie Jordan's Tympani Five. On a good night, these guys put out enough energy to power the Northeast Grid; however, on record, either they don't capture that vibe or else the sound is so bad you don't care whether they do or not. Mr. Boogie's Back In Town (Blind Pig 2888) gets 'em in the groove, but lordy, is it an unholy mush of clangy, harsh sound. Even on the Templars.

Run something fine through 'em and they'll delight you. Mokave, Volume 1 (AudioQuest Music AQ-CD1006) offered a superb challenge to the Ruarks' strengths. The piano sounded firmly rooted in space: big, solid, and unmoving. Glen Moore's bass was huge within the soundstage created, and lively and full of drive.

Those used to the bass signature of most ported two-way designs are in for a shock when they hear the Templars. The solidity of the bass image is impressive: punchy, articulate, and phenomically well-defined. (It did not come as a surprise to learn that Alan O'Rourke plays bass.) Glen Velez's various frame drums were filled with dynamic energy and portrayed with such precision that I could hear his fingers buzz against the membrane as they lightly brushed the slowly moving drumhead. Everything was placed within a well-defined soundstage, which in turn was obviously different acoustic from the one in which the speakers were located. However, the listener does not inhabit that soundstage, but rather observes it as a reduced-size model as from above. This effect reminded me of sitting in the upper tier of a nightclub, such as the Cellar Door in DC, and looking down on the performers from nearby — as opposed to the upper levels of, say, Carnegie Hall, where distance further reduces the apparent size (and immediacy!) of the musicians.

Hmmm. Looking down on the performers, eh? Wondering what effect the low tweeter placement had on the imaging, I sat on the floor a few inches in front of my accustomed listening position. This put my ears 31" from the floor and opened up the soundstage to a remarkable extent. Wow. Meaty, beefy, big and bouncy! Slumping backward even farther, to the point where my ears were 25" off the floor (or just below the tweeters' 25.5" placement) put me virtually inside a huge, immediate re-creation of the recorded event. This posi-
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tion, which most resembles that of an abdominal crunch, is one from which I would undoubtedly derive inestimable benefit, but is not one that I could support for extended critical listening. So I went back to a normal seated position — where I found the sound more than satisfactory, if not as impressive as that nearer the floor.

Did I say satisfactory? I mean delightful. A lot of speakers (heck, a lot of systems) dictate what music you will enjoy. Dynamic compression, emphasis, in a particular band, lack of articulation — all of these limitations, not to mention many others, can force you to ignore vast categories of music; after all, what you don't find entertaining, you won't listen to. The Templars let me explore the full range of my collection. Small-group jazz had a snap and rhythmic flexibility that left me hungry for more. I played MoFi's superb CD reissue of Cannonball Adderley's Somethin' Else (UDCD-563) — or Kind of Blue, Pt. 2, as Michael Fremer has called it — and immediately had to hear one of the CDs from Miles Davis's The Complete Live at the Plugged Nickel 1965 (Columbia CK 66953), which meant that I had to listen to all eight discs — which in turn led to a Coltrane marathon, and so on, and so on.

Putting laser to pit on Vanguard's superb reissue (SVC-3) of Earl Wild's performance of the Copland and Menotti Piano Concertos revealed a mondo hugo soundstage with a piano as solid as a boulder sitting in the middle of my room. Exhilarating! What could follow that? Hey, Analogue Productions has just released a remastered LP version (APC 029)! More bigger, more better, more va-va-va-there! Whew, what else do I have by Earl Wild? The Art of Transcription (LP, Audiofon 2008) — ah-ha! And thus I burned up another night.

It really didn't matter where the explorations started. One thing led to another; one disc reminded of one, five, or ten more; I would pursue the chain of musical thought for hours on end. This is, of course, what good audio gear should do — inflame musical passions rather than quench them with its shortcomings. But why do the Templars do it to the extent that they do?

**Change Creates Time**

I have a theory. But before we look at why musical reproduction — despite its limitations — can be satisfying, we need to look toward what music is first.

According to the musical catechism, the response to the question *What is music?* is: *Music is the progression of tones in time.* Interesting response, because we tend to think of music as *sound*, and this clearly defines music as *motion*. How can that be? Well, try to make an argument for music as sound — take your favorite tone and listen to it. What have you got? A tone, that's all; it ain't music. Okay, so it takes more than one tone to make music. Take two tones, then. Unless they're separated by time, all you've got is a chord — it still ain't music. But play those tones in sequence and you have music? So the difference between music and not-music is time, and music traveling through time is in *motion*.

For the purpose of a speaker review, it would be absurd to further parse this thought and try to separate rhythmic motion from the concept that Zuckerkandl calls the "paradox of tonal motion": the notion that, quite apart from rhythm, there's a motion inherent in the progression of tones. But I suppose that I should point out that this whole question gets pretty complex.

This most basic of all tasks — portraying music through its tonal ebb and flow as well as through its metrical organization — is exactly what the Ruarks excel. Other speakers may have wider frequency response (many do). Other speakers may have superior imaging and soundstaging. (It's not that rare.) But the Ruark places tone after tone and throws beat against beat in a way that conjures the music mightily powerfully — disc after disc, hour after hour. That's a very tangible benefit; after all, who cares how good a speaker is technically if you don't feel like listening through it?

**Words Fail, Music Begins**

Quick, design the perfect loudspeaker — No, not some gigabuck state-of-the-art monstrosity, but an affordable speaker that everybody could rush out and buy. It would be compact and unobtrusive. It would have broad frequency response, but not overwhelm the average living room. You'd be able to drive it with modestly priced gear. And it would sound good — so good that you'd never want to stop listening to music through it.

That sounds pretty close to a description of the Ruark Templar. If the Ruark deviates from the ideal of the "perfect loudspeaker," well, so does every other speaker I've ever heard — even the hideously expensive jobbies. But its ambiability, articulation, sweet tonal balance, and exceptional ability to portray music as a moving (pun intended) experience make it an easy speaker to love.

Why settle for one you merely like?

— Wes Phillips

**Measurements from JA**

This is a cute speaker. And easy to drive, too, as can be seen from its impedance curves (fig.1). Dropping to just 7 ohms in the midrange and 6.3 ohms in the high treble, with a moderate phase angle above the bass, the Templar will work with low-powered amps, as WP found. The sealed box is tuned to a highish 65Hz — the frequency of the big magnitude peak in the bass — which is about what I expected from the box size. Note the wrinkle at 325Hz, which indicates the presence of a strong cabinet resonance at this frequency. The Big Man didn't hear any-

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2 If you think you can't make music with two or at least three tones, try singing "Three Blind Mice." — doggerel though it may be, it still proves the point.
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Fig. 5 Ruark Templar anechoic response on optimal axis at 50°, averaged across 30° horizontal window and corrected for microphone response, with nearfield woofer response plotted below 300Hz.

The rolloff is 24dB/octave, with other aspects of the Templar's sound on this axis, due to the two drive-units being acoustically 180° out-of-phase in the region where their outputs overlap. I know WP quite liked some aspects of the Templar's sound on this axis, but it is an unreasonable 25° or so from the floor. (Tom Norton's research has indicated a typical ear height for seated adults of between 35° and 38° from the floor, even when their standing heights are quite different. This is on a typical sofa or easy chair; a canvas "director's chair" places the ear between 41" and 44" from the floor.)

So where is the flat response? Fig.4 shows how the Templar's response changes as the listener moves above or below the tweeter axis. (Just the differences are shown in this graph, which means that the tweeter-axis response appears as a perfect straight line. This does not mean the speaker's response is similarly flat) It should be clear from fig.4 that the crossover suckout fills in both above and below the tweeter axis. Accordingly, I repeated my measurement about 31" from what would have been the floor had I not had the speaker mounted on my loudspeaker-measuring turntable. The response on this axis (fig.5) is impressively flat, evidencing just a slight downward tilt. Nice.

As might be expected from its tiny baffle dimensions, the Templar also offers exemplary lateral dispersion. This can be seen in fig.6 — again, just the response changes are shown—the highs progressively rolling off with increased off-axis angle. The woofer at the top of its passband is slightly more directional than the tweeter at the bottom of its passband; experimenting with toe-in will allow the Templar's owner to fine-tune the speaker's balance through its woofer/tweeter transition region.

Fig. 4 Ruark Templar, vertical response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 45°–5° above tweeter axis; reference response; differences in response 5°–45° below tweeter axis.

Fig. 2 Ruark's drive-units. The woofer's output is 3dB down at 531Hz, -6dB at 44Hz, but the relatively slow roll-off due to the infinite-baffle woofer alignment will result in useful bass available in moderate-sized rooms, especially with a spot of judicious boundary reinforcement. As indeed Wes found.

Higher in frequency, the combination of a second-order electrical low-pass slope and the woofer's natural rolloff gives an acoustic crossover slope that ultimately approximates 21dB/octave. Other than a little glitch almost an octave above the crossover region, the woofer's rolloff is relatively smooth. The tweeter comes in quite sharply, with what appears to be more of a 24dB/octave, fourth-order slope rather than the specified second-order. Its output also seems a little shelved-down in the first octave of its passband.

Fig.3 reveals how these individual outputs sum on the tweeter axis. Uh-oh! While the bass and midrange balance seems quite smooth, there's a classic suckout in the treble crossover region on this axis, due to the two drive-units being acoustically 180° out-of-phase in the region where their outputs overlap. I know WP quite liked some aspects of the Templar's sound on this axis, but it is an unreasonable 25° or so from the floor. (Tom Norton's research has indicated a typical ear height for seated adults of between 35° and 38° from the floor, even when their standing heights are quite different. This is on a typical sofa or easy chair; a canvas "director's chair" places the ear between 41" and 44" from the floor.)

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both the woofer and tweeter are connected with positive acoustic polarity, the time delay between the units, due both to the tilted baffle and the crossover topology, tilts the main response lobe upward; this is desirable in such a short floorstanding design.

Finally, the Templar's cumulative spectral-decay, or waterfall, plot reveals a generally clean decay in the upper treble and midrange, though the mid-treble has a bit of energy overhang evident, this probably due to resonant modes in the paper-cone woofer.

All in all, the measurements suggest the Templar to be a well-executed piece of loudspeaker engineering.

———John Atkinson

Fig. 6 Ruark Templar, horizontal response family at 50°, normalized to response on optimal axis, from back to front; differences in response 90°–5° off-axis: reference response; differences in response 5°–90° off-axis.

Fig. 7 Ruark Templar, step response on optimal axis at 50° (5ms time window, 30kHz bandwidth).

In the time domain, the Templar's step response (fig.7) reveals that the speaker is not time-coherent, despite its use of an angled front baffle. While

Fig. 8 Ruark Templar, cumulative spectral-decay plot at 50° (0.15ms risetime).
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Tricker Tweets

Lonnie Brownell listens to Phase Technology’s PC80 Mk.II Compact Monitor & Spectrum Audio’s 108cd Monitor


Tricker tweets? I know, Halloween has already come and gone, but I just had to use that because each of these little speakers has some trick about its tweeter. In other ways, too, they’re very similar: about the same size, both two-way ported designs, neither is bi-wirable, and, in the case of the ones I got, both were dressed in basic black from head to toe-in. I can tell you right now, however, that one thing they didn’t have in common was sound.

What else they had in common

“Lonnie, how’d you like to review these two pairs of speakers?” It was JA.

“Sure, but send me some stands, too, would you? I don’t have any.”

“Not a problem.”

Stands and speakers showed up together in one massive display of sticking-together-thru-UPS solidarity. The stands were from Lovan, with four spiked feet and a column you can fill with sand, which I did. Without sand, they rang like bells when tapped; though the sound was lovely, it probably wasn’t conducive to good performance. Once sandbagged, they just went thank when rapped.

Got ‘em leveled, but the right one still wobbled a bit at the top, even though the feet were firmly in touch with our slab flooring. What? Oh, I see — the upright column doesn’t fit flush with the bottom plate; therefore, the stand can rock! This calls for... an audio file! Hmmmm... none listed in “Recommended Components,” so I guess I’m on my own. I borrowed a flat file from my neighbor, Ed, and, with a little elbow grease, made the high spots disappear so a proper fit was obtained. Ah, that’s better: solid like it oughta be. After a bit of experimenting I settled on one location for both speakers for most of the auditioning: 4’4” from the sidewalls and 5’4” from the back.

One other thing that these speakers had in common that I wish they hadn’t: no user documentation. No suggestions as to setup, placement, associated equipment, etc. I did get some promotional literature from each manufacturer, from which I gleaned the recommendation that the Phase Technology speaker grilles should be left in place. In fairness to the Phase Technology folks, there may have been some kind of user’s guide packed at the factory — the set I got came via Santa Fe, and not in the original packaging.

Here’s the rest of the cast of characters in this production of A Tale of Two Speakers: The Analog family was portrayed by Linn Axis as the ‘table, Linn Basik Plus as the tonearm, and Shure V-15 Type 5MR as the cartridge. The Digital gang was played by Magnavox CDB-560 as the transport, Audio Alchemy D71 as the anti-jitter device, Audio Alchemy DITB as the converter, with Illuminati Data/Video Flex and Data Flex Studio as the cables. The staff of Control and Amplification Inc. were played by Audible Illusions 2A as the preamp, and Audio Alchemy OM-150 Overture as the power amp. Also in supporting roles were Bright Star Audio Big Rock, Arcir Superstand, Aural Symphonics As-One and Synergistic Research Alpha Sterling and Kaleidoscope interconnects, Goertz MI-1 and Synergistic Research Signature No.2 speaker cables, Audio Power Industries Power Wedge 116 and Power Wedge VI, and Synergistic Research A/C Master Coupler power cords. Behind-the-scenes help was provided by a Nitty-Gritty Model 1 record cleaner, CD Stoplight, and a Signet SK306 stylus cleaner.

Each speaker got a couple of days of break-in time with the Sheffield/XLO CD and with that other stuff — you know, music — and also some time in our most modest “Home Theater” setup.

I auditioned these guys in tag-team fashion, using primarily the following eight recordings: “Mississippi Summer” from Freedom and Rain (LP, Cooking Vinyl Cook 031) by June Tabor and the Oyster Band; “Ballad of the Sun and the Moon” and “Try, Try, Try” from Alejandro Escovedo’s Thirteen Years (Watermelon WMCD-1017); “Ever Since the World Ended,” from Mose Allison’s album of the same name (CD, Blue Note CDP 7 48015 2); Rachmaninoff’s Cello Sonata in g, Op.19 (CD, Bainbridge BCD6272) with cellist Stephen Kates; “Falling Elevators” from MC 900 Ft Jesus’ Welcome to My Dream (CD, I.R.S. X215-13114); “One for My Baby (And One More for the Road)” from Billie Holiday’s Songs for Distingue Lovers (Classic/Verve LP MG VS-6021); and “Invitation to the Blues” from the Holly Cole Trio’s Temptation (Metro Blue CD CPS 3 16532 2).

Phase Technology PC80 Mk.II Compact Monitor: $699/pair

That’s quite a mouthful (and a lot of keystrokes), so I’ll refer to this as the PC80 II! The PC80 II has its port up toward the top on its backside, along...
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with a pair of recessed, angled, gold-plated five-way binding posts. Round front you'll find Phase Technology's proprietary RPF (Rigid Polymer Foam) flat-piston driver for the 6.5" mid/woofer. To get an idea of what this flat-piston driver is like, imagine a regular cone driver laid on its back, with the cone pointing toward the sky. Now start pouring blackened resin into the cone until it fills up to the surround. Let it dry, and you've got something that would look kinda like the RPF driver, but probably wouldn't work nearly as well. Must be more to it, especially since Phase Technology has a patent for the RPF-driver manufacturing process. Furthermore, they encapsulate the RPF driver in Kevlar; when they say this driver is bulletproof, they mean it!

The cabinet itself is solidly built (thanks when rapped), with a black oak (ie, oak stained very black) veneer; also available are dark oak and walnut. The woodwork quality is first-rate; it's a good-looking speaker. The front right and left edges are radiosized, as are those on the grille, for a layered look. Removing the grille reveals that flat-piston woofer/mid driver I was talking about—as well as the 1" soft-dome tweeter (Phase Technology invented the soft-dome tweeter), which sits in a raised island made of their proprietary Unicell acoustic treatment and is molded in the shape of home plate. Unicell is a moderately squishy, rubbery material whose purpose is to control diffraction by absorbing sound waves that would be reflected off a hard baffle. This raised island snugs up against the grille, and Phase Technology recommends strongly that you listen with the grilles in place (which I did). This arrangement would seem to put the tweeter out in front of the woofer, a definite no-no with the time-alignment crowd; however, the tweeter is set back a bit, and because the radiating surface of the woofer is flat rather than conical, this tweeter-ahead-of-the-woofer difference isn't as great as it first seems.

But I haven't gotten to what's special about this tweeter yet. Now it shall be told.

It moves.

Yes, I know, all tweeters move; that's how they make sound. No, I mean you, the user, can move this one. You can tilt the little fella up to 30° in any direction, the idea being that you could put a pair up on top of your 6'-tall bookshelves, for example, and point the tweeters down toward your listening seat. Or, if you're one of those Metropolitan Home subscribers who's noticed that they never show loudspeakers in any of their photo layouts, and have been busy putting your speakers in far-off, hidden locations, then maybe this feature will help you get some better sound out of your truly demented setup. That's the tricky aspect to these tweeters. I'll tell you what I thought of it in the next section. Speaking of which...

PC80 II Sound: I don't have any placement problems in my listening room—I can place speakers in optimal positions, unfeathered by decor constraints. Furthermore, I wasn't really crazy about trying to find crummy locations for these speakers; I just wanted to see what pointing their tweeters off in different directions would do. I did play with the moveable tweeters for a while: pointing the speakers straight ahead while toeing-in the tweeters; toeing-in the speakers while pointing the tweeters straight ahead; speakers straight ahead, tweeters to the outside; tweeters up, tweeters down, tweeters all around.

What did I think of all this? First off, it made me nervous. If you're a cautious wimp like me, there's nothing that'll give you a case of the icy sweats like poking your big fingers up against the side of a tweeter to move it. Your finger could slip and soften that soft dome before you could say "fourth-order crossover." Furthermore, it's hard to judge how far you've moved a given tweeter (in the rare event that you actually have a symmetrical setup— as I did—and you want to try to get them to match). But how did it affect the sound? HF response and imaging changed subtly with each new position, but never (to my way of thinking) for the better. Certainly, it leaves open the possibility for endless experimentation, but my time was limited, so I decided to do most of my listening to the PC80 II in the way I assume most audiophiles would: with the tweeter and the woofer pointing in the same direction. I gave 'em some moderate toe-in (I could see some of the inside side of each speaker), which gave the best combination of tonal balance and imaging.

The PC80 IIs did well with lateral placement within the soundstage, and with the precision of images. On "Ballad of the Sun and Moon," there are lots of tinkly percussive effects, each of which was firmly in its place like a star in the desert sky. However, that sky was kinda flat—I didn't seem to get much depth, with a notable and bizarre exception on the MC 900 Ft Jesus track. It opened with a sniewy synthesizer bass track (which had good power, but was imprecise pitch-wise), and then other instruments came in... or maybe I should say, out. Way out. Everything except that synth line hung on the sides, and I do mean the sides—as in outside the speaker positions, as if the band members were lining the walls of the listening room! Some were slightly behind the speaker position, and some a'fore. Snare to the left, rimshots on the right—even MC 900 Ft Jesus himself was off to the right. After a while, stuff started to migrate from the walls to the middle and across—all of which you could follow precisely.

I grabbed the CD jacket to see if there were any special-effects tricks credited... no, nothing shown. That MC-Nine-Oh-Oh is just one tricky MC! And the PC80 IIs were handy at conjuring up his tricks here at home, too.

Another special spatial moment was offered in the Billie Holiday cut. The way the trumpet sound dies away really did an outstanding job of telling me just where the walls were. The fade was smooth and continuous as it rolled around the room; I've heard similar effects seem to jump from one point to
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another with other speakers. Still, the room didn’t seem quite as deep as it had in the past.

In “Invitation to the Blues” by the Holly Cole Trio, the opening acoustic bass line was massive—my jaw dropped. However, again, as with the bass synth opening for “Falling Elevators,” it was like one big note—but what a note! As David Pitch moved down the finger board (and up the scale), the sound became less thickened and pitch differences became clear.

There seemed to be a little upper-mid emphasis with the PC80 IIIs, such that voices like Mose Allison’s, and the sax on Mose’s cut, took on a bit of a “shouty,” forward quality; a similar effect was heard on the Billie Holiday cut with her voice and the trumpet. Gotta keep this in perspective, however: this was a small emphasis; some would call it a forward presentation; and while it wasn’t offensive, neither was it neutral. On the Rachmaninoff sonata, that upper-mid emphasis would just make itself felt as Kates worked his way up into the cello’s middle range; also, it made the piano just a little clangy. But the wood-and-string sound of the cello, especially in its lower-mid registers, was heavenly!

Highs were clean and clear, without undue emphasis. Cymbals sounded like metal and not like electronic trash. The PC80 II sounded good at low and moderate volume levels, but as the volume got into the loud territory, it felt as if the tweeter kept playing louder, but the woofer wouldn’t, which resulted in a somewhat hard, aggressive sound. Hey, it’s a small box; it can only go so loud. Keep it in the safe listening range and it works well. (Your ears will last longer, too).

Measurements from JA: I did some preliminary listening to the PC80 Mk.IIs before I measured them. This is a pretty good speaker for the price: relatively neutral with a surprising amount of bass. My estimate of its B-weighted sensitivity was a little below specification at 88.2dB/2.83V/m, but this is still on the high side for a small speaker. The PC80’s impedance magnitude and phase are shown in fig.1: although it drops to 5 ohms in the lower midrange and to 6 ohms or so in the high treble, it generally approximates the specified

speaker, while the side panels vibrated strongly at 160Hz. Predicting the subjective effects of these resonances is not easy, as, being of high “Q” or Quality Factor, they have to be excited by a musical note coinciding more or less with their exact frequency. Note, however, that LB was not aware of any congestion or lack of clarity in the lower mids.

The PC80 has an impressively flat response on its tweeter axis (fig.2). Other than a slight energy excess in the upper midrange between 500Hz and 900Hz, and a slight lack in the crossover region, the balance looks pretty neutral. The woofer’s output (the trace with the notch at the port tuning frequency) rolls off below 100Hz, crossing over to the port (the sharp bandpass response centered on 45Hz). The top trace to the left of the graph is the complex sum of the woofer and port nearfield outputs, weighted in the ratio of their diameters with the distance between the woofer and the rear-mounted port taken into account. Interestingly, though designer Ken Hecht’s own ground-plane MLSSA measurements don’t feature any rise in the low frequencies, this graph does suggest that the PC80’s low frequencies appear to be a little exaggerated in level. This is something I found typical of the speaker in my own auditioning, though I suspect the one-note character of the bass that LB noted is perhaps due more to the lughish-Q port tuning. The bass extension is excellent, however, the -6dB point lying at a low 37Hz.

The PC80 is best auditioned with the grille in place, as LB found. This measurement was made with the grille in place. Without it, sharp peaks and dips of up to 3dB appeared in the speaker’s treble response.

---

2 An album consisting entirely of Tom Waits songs, which is an idea that someone (other than Tom Waits, who does ‘em all the time) should’ve had long ago.

3 I use a swept sequence of a large number of spot sinewave tones to produce my loudspeaker impedance plots. Other techniques, such as MLSSA stimulation or fast swept sinewaves, aren’t as revealing of certain problems, I’ve found.

---

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Fig. 4 Phase Technology PC80 II, horizontal response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 90°–5° off-axis; reference response; differences in response 5°–90° off-axis.

Fig. 6 Phase Technology PC80 II, cumulative spectral-decay plot at 50° (0.15 ms risetime).

Fig. 5 Phase Technology PC80 II, step response on tweeter axis at 50° (5 ms time window, 30 kHz bandwidth).

Fig. 3 shows how the Phase Technology's response changes as the listener moves up or down from the tweeter axis. As long as you sit within a ±5° window centered on the tweeter, the balance should not change appreciably. Sit much below the tweeter, or stand up, and a suckout appears in the low treble. Horizontally (fig.4), the PC80 II offers excellent dispersion, even with its tweeter in its normal position. Perhaps because of the use of a flat-diaphragm woofer, the PC80 lacks the usual beaming at the top of the woofer passband.

In the time domain, the PC80 II's step response (fig.5) shows the expected lack of time coherence, while the associated cumulative spectral-decay, or waterfall, plot (fig.6) reveals a very clean decay in the treble, marred only by a slight bit of resonant behavior at 2.2 kHz. This associated with a slight on-axis peak that appears in both Ken Hecht's and my measurements. It's possible that this contributed to LB's feeling that the PC80 had a bit of upper-midrange emphasis, though this speaker's on-axis response is also a bit forward.

All in all, the PC80 Mk.II appears to be a well-engineered loudspeaker. Yes, a couple of problem areas are revealed by the measurements; but this is, after all, a very affordable loudspeaker.

—John Atkinson

SPECTRUM AUDIO 108CD MONITOR: $399/PAR
The Spectrum Audio 108cd is constructed of ¼" MDF for the baffle and ½" MDF for the sides, with a very-high-quality black ash vinyl covering all the way around. (A brown ash finish is also available.) Rapping on the cabinet results in a hollow thump, rather than a solid thud. All the corners are squared — no radiused edges, which is probably one of the things that helps them keep the price down. The quality of workmanship isn't up to the fine furniture level of the PC80 IIs, but considering the price, it's more than acceptable — I had to ask if the covering was veneer or vinyl. The removable black grille covers the whole front of the speaker. The company name appears on a tag on the grille, but oddly enough, the model number is nowhere to be found — not even on the back.

Speaking of the back, all you'll find back there are the recessed, angled, gold-plated five-way binding posts. Inside is what Spectrum refers to as their critically aligned, phase-coherent, directional crossover. The first two parts of that description sound familiar, but "directional" didn't — so I asked. It means that they assemble each component, including hookup wire, with the optimal directionality.

Up front there's a port on top with the two drivers just below. The tweeter (a ½" dome) has its center almost directly in front of the top edge of the woofer's dustcap, the woofer itself being an 8" long-throw model. "What?" you're saying, "How can that be? You mean the tweeter is actually inside the woofer? But offset, not a coaxial design?" You're half right — it's not a coaxial design, in the usual sense of the term, but the folks at Spectrum Audio refer to it as a coaxial mounting system. The tweeter is suspended in front of the woofer by four Neoprene bands, one at each corner attached to four pegs situated around the woofer. Amazing? Strange? Unique? You bet!

Tap the tweeter, and it bobs like the head of one of those spring-necked dolls you see in the back window of the '62 Chevy in front of you at the drive-thru. Even more amazing, the leads to the tweeter come right through the woofer cone! There's a hole in the cone for each, and a dab of sealant to close up the hole. The idea here, according to Spectrum, is that this mounting effectively decouples the tweeter from the enclosure, which is desirable because cabinet vibrations can interfere directly with the tweeter's operation. Also, the near-coaxial mounting provides something very
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Stereophile, December 1995
close to a point-source; staggering the mounting, as Spectrum does, is said to prevent some of the cancellation problems that arise with true coaxial systems. Does it work? Funny you should ask...

108cd Sound: I auditioned the 108cds mostly with the stands in the same position as for the PC80 IIs, but I let the 108cds fire straight ahead—no toe-in. The one word that sums up the 108cds is “aggressive.” These aren’t polite, laid-back speakers—no, they’re brash and bold, and seem to be playing loudly at any level.

Imaging-wise, the Spectrums performed okay when there wasn’t too much happening all at once. In places during Alejandro Escovedo’s “Try, Try, Try,” where there are a handful of little things going on, those pings and dings stood out pretty well, as they should. However, as soon as the rest of the band kicked in, things thickened and blended into more of a flattened sonic blob. As with the PC80 IIs, I didn’t get much sense of depth; on a system capable of delivering it, the Billie Holiday track gives good layering of the soundstage, but things were in the 2D realm with the 108cds. That bizarre MC 900 Ft Jesus track worked well at putting most of the sound to the outside of the speakers, but they weren’t arrayed as well along the sidewalls, instead being more clumped right next to the speakers.

As long as the music stayed in a range from the upper bass through the lower midrange (for example, on some signifi-

4 No, really, I don’t use a hearing aid. That’s a little joke. Excuse me, what did you say?
little less attention to itself, thanks to the added warmth.

The 108cd will handle some power and play loud, but unless it's a particularly dark recording, that HF energy gets to be too much — for me, anyway. Its high sensitivity will allow it to mate well with low-powered amplification, too.

**Measurements from JA:** The Spectrum's plot of impedance magnitude and phase (fig.7) indicates that it is a very easy load for an amplifier to drive, only dropping below 8 ohms in the midrange and then only by a small fraction of an ohm. The 108cd is also sensitive, 2.83V raising 88.5 dB (B-weighted) at 1m.

The tuning of the 3"-diameter port is revealed by the impedance saddle at 55Hz. Note, however, the wrinkles in the traces at 180Hz and 220Hz, indicating the presence of resonances of some kind. And listening to the 108cd's panels with a stethoscope while sweeping a sinewave up and down, I could hear and feel strong vibrations at 180Hz from all the enclosure's panels, while the 220Hz resonance was most strong on the top panel. Though there was no impedance wrinkle at this frequency, the back panel also vibrated strongly at 410Hz. Abruptly stopping the swept sinewave left a hooty overhang audible as the resonances decayed. While it is unrealistic to expect a manufacturer to be able to provide a totally welldamped, rigid enclosure for a loudspeaker at the 108cd's price point, it is probable that the speaker's lively cabinet did contribute to the sense of sonic confusion detected by LB in his auditioning.

Fig.8 shows the 108cd's overall response on the tweeter axis, averaged across a 30° horizontal window and spliced to the nearfield responses of the port and woofer. The top trace in the bass is the complex sum of the woofer and port outputs, weighted in the ratio of their diameters. Peaking slightly in the upper bass, it rolls off below 100Hz, reaching a -6dB point at the port tuning frequency. The reflex alignment seems well-arranged, though, as LB found, the little Spectrum's low frequencies benefit from some boundary reinforcement. Note the slight notch in the nearfield responses at 180Hz, the frequency of the strong cabinet vibrational mode.

On the right of fig.8, a gentle downward slope from the midrange upward is broken by large peaks at 3kHz and 5.8kHz. These could be heard as a distinct whistle superimposed on the pseudo-random MLSA noise; these, I am sure, led to LB's dissatisfaction with the 108cd's treble performance rather than the slight energy excess in the very top octave. The 108cd's waterfall plot (fig.9) indicates that the 3kHz peak is associated with a resonance, perhaps from a woofer-cone breakup mode.

The 108cd's plots of lateral and vertical dispersion (figs.10 and 11, respectively) are generally similar, due to the coaxial tweeter arrangement. In both cases, the speaker maintains its response to 30° or so off-axis. (Ignore the peakiness above 20kHz in these plots, which is due to an on-axis notch filling in off-axis.)

---

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Finally, the step response (fig.12) shows that using a tweeter mounted in front of the woofer gives a non-coherent time-domain performance. The tweeter's output is the negative-going spike of energy just after the 3.5ms mark; the woofer's output is the broader, positive-going pulse at the 4ms mark, its decay broken by ringing at the 3kHz frequency.

---John Atkinson

**LONNIE WRAPS UP**

If these speakers were wines, the Phase Technology PC80 II Compact Monitor would be a good midpriced Cabernet Sauvignon: smooth, with some subtle flaws but no fatal ones. The Spectrum 108cd would be more like a rustic Barbera: earthy, assertive, with some unusual characteristics that would turn some people off, but which others might find attractive.

The PC80 II is the more expensive of the two, at almost twice the cost, but it's also a more refined, neutral speaker (except for its low- to midbass, which is surprisingly powerful but not as well defined). There is that slight emphasis in the upper mids, which may prove problematic with certain equipment combinations and rooms, but which may also mate well with other, less forward systems. Definitely worth a listen if a small monitor is in your future. A magnetically shielded version is available for Home Theater fanatics.

As for the Spectrum 108cd, if everything sounds kinda *dull* to you, you might like them. The 108cds do offer good bass definition, and some decent extension if you don't put them too far out into the room. And man, they're *cheap!* Might be perfect for the rec room, or for that low-budget Home Theater setup, but for your main setup...? I dunno. Not mine, anyway, but your tastes may differ. Give 'em a taste...I mean, *listen.*

---Lonnie Brownell

---

Fig.8  Spectrum 108cd, anechoic response on tweeter axis at 50°, averaged across 30° horizontal window and corrected for microphone response, with nearfield woofer and port responses plotted below 300Hz and 2.5kHz, respectively, and complex sum of nearfield woofer and port responses (top trace below 300Hz).

---

Fig.9  Spectrum 108cd, cumulative spectral-decay plot at 50° (0.15ms risetime).

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Fig.10  Spectrum 108cd, horizontal response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 90°-5° off-axis; reference response; differences in response 5°-90° off-axis.

---

Fig.11  Spectrum 108cd, vertical response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 45°-5° above tweeter axis; reference response; differences in response 5°-45° below tweeter axis.

---

Fig.12  Spectrum 108cd, step response on tweeter axis at 50° (5ms time window, 30kHz bandwidth).
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SONY DTC-2000ES
DAT RECORDER

When the review sample of this Super-Bit-Mapped DAT deck returned from RH's testing facility, the drawer-close spring was broken. (The unit had been used perhaps 30 hours during my tests, 3 during his.) I was able to jury-rig a repair of this, but shortly thereafter one of the pivots popped out of the tape-loading bar and disappeared into the innards of machine, making it impossible thereafter to load a tape.

Fortunately, the unit I'd purchased (yes, I decided to take the plunge, despite the SCMS barrier) had arrived by then, and Steven Stone, my co-conspirator in recording, managed to track down an early model of an inexpensive anti-jitter box which strips out the SCMS code on our tapes, allowing for unlimited copying to his Sony D-7 through as many generations as we would ever need. I've spent more hours than I'd care to estimate collating and tightening up our growing collection of concert tapes, and—except for some intractable problems interfacing with a professional D-10 portable machine—the Sony '2000 has been completely trouble-free for almost a year now (knock on wood).

The D-7/2000ES combo makes as neat a basic editing and collating system as you'll find. The fadeup/fadedown feature is a godsend for compiling collections and cleaning up live-performance tapes. Fadeups are necessary if you want to excerpt part of something and don't want it to start abruptly. Fadedowns are great for ending an excerpt or exiting gracefully from prolonged applause.

Another nice feature of this combo is that both the DTC-2000ES and the D-7 (with its remote control/digital I/O box) use the same IR codes. This allows you to put the '2000ES in Play/Pause and the D-7 in record pause, and start them simultaneously. Unfortunately, there are times when you don't want this, such as when you want to Pause the '2000 while the D-7 writes a few seconds of silence. At these times, you have to remember to use the deck's front-panel control, which isn't easy when you're accustomed to using the remote all the time (or cover the D-7's IR receiver window with a piece of electrical tape).

One minor problem has surfaced, not attributable to flaws in the D-7 or DTC-2000ES. Combining program segments that were recorded at different sampling rates often caused audible clicks at the changeover point. At least, it did when I played those tapes through any outboard D/A unit I had on hand. Interestingly, there were no clicks at all when using the D-7's or '2000's internal D/A for playback, or when converting via Steve Stone's EAD 7000. Most pro decks used by duplicators can switch seamlessly between sampling rates if the transition point isn't right at the start of a selection. This point should be somewhere near the midpoint of the space between selections. To be safe, though, 48kHz-sampled recordings should be sample-rate-converted if they're going to be combined with 44.1kHz material.

The more I used the DTC-2000ES, the more I became aware of a certain dryness in its sound, even with SBM. Many recent CDs sound more liquid than our concert tapes do, and the fact that ours still sounded dry through some very good outboard D/A processors suggested trouble at the source.

I borrowed a Meridian 607 A/D processor from the manufacturer and did a few side-by-side comparisons. The Meridian was noticeably sweeter-sounding than the '2000ES, but was also more closed-down at the top. The Sony sounded more open, but not as much so as the original material, and was marred by that slight upper-range dryness.

What did this tell me? Simply what I already knew: That while the Sony DTC-2000ES may be the best-sounding affordable DAT deck on the market, it ain't the State of the Art for 16-bit digital sound. How much of the problem is due to A/D conversion artifacts or to imperfections in the analog circuitry preceding the A/D converter is an unanswered question at this point, but as soon as my service manual for the '2000 arrives from Sony, I'll be looking into the possibility of bypassing the deck's analog input circuitry.

Meanwhile, I'm going to try to borrow some highly regarded professional outboard A/D processors. —J. Gordon Holt

1 The 20-bit, 4-channel Nagra that many perfectionist recordists favor these days costs $26,000 upward!
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Karen Summer of Transparent Audio claims we're living in a Platinum Age. She says there are more superlative performances with reference-quality sound available right now than at any other time in the stereo era. As new CDs and LPs (boy do I love the sound of that!) pile up in my listening room, I'm inclined to agree with her. A few nights ago, I was listening to an old favorite, a record I've owned for 20 years, just because I wanted to, not for an equipment review or for this column—and I actually felt guilty about it.

Not that I'm asking for pity—I devoutly hope that each and every one of you may also experience the joy of your dreams. What I am suggesting is that you take advantage of this embarrassment of riches: Buy something. Audiophiles have moaned and groaned about the abysmal sound quality of available recordings, and a lot of dedicated individuals have done something about it. Now it's time for you to prove to them that you meant it.

Especially all my fellow vinyl junkies. I keep hearing from manufacturers about their marginal LP sales; they wonder, given the extraordinary amount of trouble records are to produce, whether they're worth it. If you think they are, prove it. Remember, no matter how altruistic and noble the folks in the high-end recording business are (and all the ones I know really are on the side of the angels), none of them got in the racket to lose money.

Given the broad range available on audiophile quality CDs and LPs, anyone can find items of interest. This edition of "Quarter Notes," for example, covers a ton of vinyl, including the first offerings from MCA in a series of no-holds-barred audiophile pressings. The usual suspects make a strong showing as well. I should note that I've never heard a more consistently superb set of contenders—I actually complained to RL the other day that it might get boring to read adulatory review after adulatory review.

Wait a minute. What am I saying? That there's such a thing as too much good music? I need to get a life.

While I'm looking for one, you can read about what I've been listening to for the last 90 days.

ANALOGUE PRODUCTIONS

COUNT BASIE: Basie Jam
Count Basie, piano, organ; Eddie Davis/Zoot Sims, tenor sax; Harry Edison, trumpet; J.J. Johnson, trombone; Irving Ashby, guitar; Ray Brown, bass; Louise Bellson, drums
AP#022 (LP only). Norman Granz, prod.; Doug Sax, Gavin Lursen, Ron Lewter, remastering engs. AAA. TT: 46:24
COUNT BASIE BIG BAND: "Farmers Market Barbecue"
Count Basie, piano; Danny Turner, Bobby Plater, alto sax; Kenny King, Eric Dixon, tenor sax; Johnny Williams, baritone sax; Bob Summers, Sonny Cohn, Dale Carley, Chris Albert, trumpeter; Bill Hughes, Dennis Wilson, Grover Mitchell, Mitchell "Boozy" Wood, trombone; Freddie Green, guitar; James Leary, bass; Gregg Field, drums
AP#023 (LP only). Norman Granz, prod.; Dennis Sands, Greg Orloff, engs.; Doug Sax, Gavin Lursen, Ron Lewter, remastering engs. AAA. TT: 44:30
CHARLIE BYRD: The Guitar Artistry of Charlie Byrd
Charlie Byrd, acoustic guitar; Krer Betts, bass; Buddy Deppenschmidt, drums
AP#025 (LP only). Doug Sax, Gavin Lursen, Ron Lewter, remastering engs. AAA. TT: 46:41
DIZZY GILLESPIE: Dizzy Gillespie's Big 4
Dizzy Gillespie, trumpet; Joe Pass, guitar; Ray Brown, bass; Mickey Roker, drums
AP#024 (LP only). Norman Granz, prod.; Doug Sax, Gavin Lursen, Ron Lewter, remastering engs. AAA. TT: 44:50
DOC & MERLE WATSON: Pickin' the Blues
AP#026 (LP only). Merle Watson, Mitch Greenhill, prods.; Carl Rudisil, eng. AAA. TT: 37:40

Swinging, Swinging, SWINGING! Basie Jam is exciting, propulsive, JAM-O-LIGIOUS—small-group swing at its finest. The production is stunning, although the downside is that you can hear Basie grunting, wheezing, and moaning along under the music. But hey, that's what it really sounded like! A lot of the Norman Granz-produced Pablo discs had spectacular sound (and a lot didn't—it will be fascinating to see how successfully Analogue Productions navigates Pablo's vast catalog), and this was clearly one of the best. Remastering reveals a spectacularly quiet recording, vivid and full of texture. Ray Brown's bass is deep and as solid as an anvil; Simms and Davis, on tenor, manifest bite and soulful body; Belson's timekeeping sounds so crisply precise that "Swiss watch" is too shabby a metaphor to encompass it; and through it all, the kid from Redbank propels the ensemble with some of the most realistically delineated piano and organ I've ever heard. The sound is palpable, punchy, present. If anything, I'm underselling this record; it represents the epitome of stereo holo-raphy. Laugh, sing, be noisy, and buy this record. Otherwise, don't blame me for your pallid, joyless existence.

"Farmers Market Barbecue"—another winner originally on Pablo—presents Basie in his more familiar big-band context and affords us a huge soundstage, not to mention imaging so concrete that this recording ought to qualify as one of the plastic arts. Sit down next to Basie at the piano, it sounds solid enough. The Basie band—as always—refines the words precision and swing; as for the timekeeping of James Leary and Gregg Field, rumor has it that the Naval Observatory calibrates that clock by them.

Charlie Byrd seems to have faded from the limelight, but at one time he was among the most highly regarded artists in jazz. He studied guitar with Segovia and, with Stan Getz, launched the bossa nova craze. He also recorded a series of gentle, great-sounding Latin-tinged jazz discs on the Riverside label, on which Guitar Artistry was originally
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releases. Quiet color is the watchword here. No jazz musician has ever argued more potently for the classical guitar's ability to create orchestral textures and colors. Byrd, supported here by bassist Betts and drummer Deppenschmidt, proves that cerebral swing is not only possible, it's a gas! Clean and precise, the recording matches the performance. (Although, for my money, an even better example of Byrd on Riverside is Bossa Nova pelos Passaro, RS 9436.)

Time is not a constant—it can be compressed or stretched at the whim of a master. Dizzy Gillespie's Big 4 boasts such mastery: fluid doesn't begin to describe the ease with which Gillespie, Pass, Brown, and Roker shift tempi. Not that the Big 4 are a one-trick pony; their command of tonal color is staggering as well. Birks' trumpet leaps out of the speakers at you, as irrespressible as the man himself. And if Joe Pass is playing guitar, then what colorless, lead-footed instrument are all those other guys playing? "Jitterbug Waltz," with its serpentine melody and tricky rhythmic shifts, has become a standard; but of the thousands of versions I've heard, this may be my favorite. Muscular and lithe, Gillespie's reading caresses the tune, while the other three band members kick up a stop-time slam that makes it all seem so simple. It isn't, but that needn't concern us—enjoying it sure is.

*Pickin' the Blues* attempts to capture that late-night jam-session feeling. It's just Doc and Merle, Sam Bush on fiddle, and T. Michael Coleman on bass; evidently they were trying for a loosey-goosey run-through of some old favorites and hoping that lightning would strike. It never really does. Doc gets off some good runs, and his singing, as always, is relaxed and ingratiating, but the vibe never quite jells. Tonally the disc sounds true, but Carl Ruskil practically stuck the mikes inside the instruments. The resulting lack of ambience is annoying, and the players just line up from left speaker to right. I so wanted this to be better; it was Merle's last record (he died in a tractor accident later that year).

**Astrée**

**PURCELL: Fantasias for the Viols**

Hesperion XX: Jordi Savall, treble viol; Wieland Kuijken, bass viol; Sophie Wautluys, descant viol; Eunice Brandao, Serji Casademunt, tenor viols; Marianne Möller, Phallippe Pierlot, bass viol. E 8536 (CD only). Nicolas Bartholomeu, prod; Anne Fennig, Manuel Mohino, engs. DDD. TT: 54:16.

You could view Purcell's 1680 collection of Fantasias as an analog to Bach's 1745-50 *Art of the Fugue*. The grand English tradition of composing "fancies" had all but ended—the upstart violin was coming into vogue and, with it, the dance suite or sonata form. The French style was all the rage—soon to be followed by the Italian, then the German; English composers would not be in demand again until the 20th century. Even as Purcell wrote these 15 pieces as a kind of "master class" in the art of polyphony, the form was so out of favor that he didn't even attempt to have them published. (Peter Warlock's edition of 1927 was the first.)

Pity. These Fantasias fascinate. Sounding moody, even glum, they're in constant motion. On a technical level, they're astonishing. Twentieth-century analysts, smug about their ability to parse the music of "simpler" times, are left slack-jawed, muttering about the superimposition of lines containing two or three keys, constant modulations (up to five tonalities per bar!), the irregular resolutions, plethora of *appoggiaturas*, false relation, and such like. None of that really matters—the ear is the final arbiter, and these pieces please. You need no technical knowledge to be swayed by the constant melodic progression and rhythmic variation of the Fantasias. They never feel like a lesson; they breathe, they move—which is to say, they live.

As we've come to expect from Astrée, this disc is the very paradigm of the recording art. Articulate and warm, detailed but never etched, the disc places great focus upon the instruments themselves. This makes for a close perspective, but one fully informed by a real space. The decay of a note, or a chord, is afforded the same prominence as its leading edge. Lovely—and a revelation.

**AudioQuest Music**

CHARLES FAMBROUGH: *Keeper of the Spirit*

Charles Fambrough, bass; Grover Washington, soprano sax; Joel Levine, soprano, alto, & tenor recorders; Art Webb, flute; Ralph Bowen, tenor, soprano, & alto sax; John Swana, trumpet, FFW; Edward Simon, piano; Adam Holzman, Jason Shalinn, keyboards; Lenny White, drums; Marlous Simon, percussion, drums; Joe Gonzalez, percussion.


Fambrough's multi-rhythmic, introspective compositions receive an unbelievably *present* recording here. Deep bass, rich reeds, not to mention a startlingly "there" recorder, crisp drums, and cymbals that ride to the heavens—this one's got them all. Fambrough writes in an emphatically melodic vein, yet the songs inspire passionate performances from the musicians, such as in "Pop Pop's Song," dedicated to Fambrough's late father-in-law, where the playing transforms a lovely waltz into a deeper, richer experience.

The sonic focus of the disc is always...
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Fanbrough’s full-bodied bass and its relationship with Lenny White’s trapeze—not to slight the percussion of Marion Simmons and Joe Gonzalez. These last two end up stealing the show, never more so than on “Descarga,” where their Latin abandon is thrilling—and wrenching, the sheer presence of those timbales as they kick the groove along! My new demo track for WCES. Exhibitors be warned.

CLASSIC RECORDS

BARTOK: Music for Strings, Percussion & Celesta; Hungarian Sketches
Fritz Reiner, Chicago Symphony Orchestra
LSO-2374 (LP). Richard Mohr, prod.; Lewis Layton, eng. AAA. TT: 38:46

HARRY BELAFONTE: Belafonte at Carnegie Hall (The Complete Concert)
LSO-6006 (2 LPs). Harry Belafonte, prod.; Bob Simpson, eng. AAA. TT: 66:27

DUKE ELLINGTON & JOHNNY HODGES: Side by Side
Johnny Hodges, alto sax; Duke Ellington, Billy Strayhorn, piano; Ben Webster, tenor sax; Roy Eldridge, Harry Edison, trumpet; Lawrence Brown, trombone; Leslie Sylvain, guitar; Ben Caruso, bass; Jo Jones, drums
MG V6-8509 (LP). AAA. TT: 46:01

COLEMAN HAWKINS: Hawkins! Alive! at the Village Gate
Coleman Hawkins, tenor sax; Barney Elman, piano; Major Holley, bass; Ed Locke, drums
MG V6-8509 (LP). Creed Taylor, prod.; Tom Hidley; Frank Greenwald, eng. AAA. TT: 37:37

COLEMAN HAWKINS/BEN WEBSTER: Coleman Hawkins Meets Ben Webster
Coleman Hawkins, Ben Webster, tenor sax; Herb Ellis, guitar; Oscar Peterson, piano; Ray Brown, bass; Alvin Soltzer, drums
MG V6-6066 (LP). Bernice Grundman, reissue eng. AAA. TT: 36:35

SONNY STITT: Blue’s the Blues
Sonny Stitt, alto sax; Lou Levy, piano; Lee Young Vinneger, bass; Mel Lewis, drums
MG V6-6149 (LP). AAA. TT: 36:52

Did I allude to an embarrassment of riches? The Reiner Music for Strings, Percussion and Celesta is one of two pressings of the Bartók I’ve received recently (check under Decca for the other)—and both of them would be on anybody’s shortlist of the finest performances recorded to date. As to the Reiner, how can you argue with perfection? Layton and Mohr achieved a spacious, I mean spacious, soundstage and a dynamic range that defies “extreme.” If the string tone is somewhat (such a rearly somewhat) less sweet here than on the original shaded dogs, the sound has gained in air and extension—besides, the only real s.d. pressing I ever located was so noisy it was hard to appreciate that subtle difference. Though the 1980 Japanese Gold Seal (RCL-1045) boasts a really quiet pressing, it doesn’t begin to match the lustrous tonality of the Classic. No contest.

Reiner/CSO give the Bartók a straightforward reading with the requisite bite. The sound perfectly matches the performance, and make no mistake—this is one of the most spectacular-sounding records ever made. Yet with all that’s going on in it, the disc sounds remarkably uncluttered—especially in the intricately strange Adagio. The strong pairing of Hungarian Sketches makes this one hard to resist. So don’t.

I remember the first fabulously expensive hi-fi—about $25k of electrostatic speakers and tubed gear—I demonstrated as a salesman. I was too nervous. The guy showed up with Belafonte at Carnegie Hall on a mint blackdog and I almost didn’t let him have the sweet spot. I considered trading him straight up for the system (which would have also made it my last demo). What a show it records! Dancers, an orchestra, a small combo on stage, chorus—Belafonte even got the audience participating (at least until he called out “Now, women over 40!). And it’s mapped out for you on a soundstage as detailed and huge as any ever recorded.

The concerts preserved on these four sides were benefits for two schools, and Belafonte conceived the event as a gala celebration of his career. There’s palpable, soulful, spiritual, work songs, songs from around the world—an assortment of the material that made Belafonte an A-list entertainer. Entertain he does; as Michael Fremer would say, you’ll laugh, you’ll cry, you’ll plotz. For 35 years this disc has been acclaimed as one of the finest examples of stereophony ever made. It is all of that, and now, thanks to Classic, it’s even available.

If you ask me (and I take your reading of this as your implicit consent to be my straight man), there are no Coleman Hawkins records not worth having. But at the Village Gate, with its early stereo hard-left/hard-right/hole-in-the-middle sound, may not justify a premium price. The sound is ebulliently vibrant and immediate, with Major Holley’s bass rendered BIG and deep-sounding. Hawkins, all rough growl and sweet tone, sounds so profoundly present that you’ll want to hand him a drink. These four songs make a fun set, but ultimately it just makes you want to flag down your waitress and wait out the break for the next one.

Coleman Hawkins Encounters Ben Webster, on the other hand, inspires no caveats of any kind. It’s one of those late-night “mood” records that never disappoint. Tuneful, thoughtful, tinged with melancholy, the LP has sound that puts the Verne CD to shame—that muta’s turgid, flat, and unmoving. Both Coleman and Webster are masters of the soft, breathy tenor, and on this disc they play together—not just at the same time, mind you, but in a way that enables each to make the other sound even more sonorous. The recording is spacious and warm; it sounds intimate, drawing you in. In a just world, this disc would simply be issued to everyone when they reached majority: “Here ya go, kid. This is your birthright, don’t squander it.” As it is, feel fortunate that you can buy beauty of this caliber.

Back to Back is the companion to Play the Blues (reviewed in September’s QN); in fact, much of it was recorded at the same sessions, and evinces the same early-stereo hole-in-the-middle sound. (Rick Rosen roundly castigated me for not being more explicit about that in discussing the earlier release. “Geeze, Wes, that’s why some of us only buy mono records from that period. That sound is hard to take.” Geeze, Rick, that’s why God invented mono switches.) So be warned, this does not have holographic imaging. What it does do is sass and strut recorded in a tonally true way. Again, comparing this to Verne’s current CD shows how pallid and lifeless the silver disc sounds. It doesn’t have to, as Classic proves. This recording brims with lively, zippy energy, as these past masters of the true art of swing turn in... (Continued on page 253)
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CARL BAUGHER ON CLASSIC RECORDS' LIVING STEREO REISSUES

FINLANDIA: Music of Grieg & Sibelius
Charles Mackerras, London Philharmonic Orchestra
LSC 2536 (LP only). Michael Wilkinson, prod.; Kenneth Wilkinson, eng. AAA

BRAHMS: Piano Concerto 1
Arthur Rubinstein, piano; Fritz Reiner, Chicago Symphony
First issue in Living Stereo, LSC 1831 (LP only). Richard Mohr, prod.; Lewis Layton, eng. AAA

RACHMANINOFF: Paganini Variations
FALLA: Nights in the Gardens of Spain
Arthur Rubinstein, piano; Fritz Reiner, Chicago Symphony
LSC 2430 (LP only). Richard Mohr, prod.; Lewis Layton, eng. AAA

FRITZ REINER: Festival
Fritz Reiner, Chicago Symphony
LSC 2453 (LP only). Richard Mohr, prod.; Lewis Layton, eng. AAA

STRAUSS: Till Eulenspiegel, Death and Transfiguration
Fritz Reiner, Vienna Philharmonic
LSC 2077 (LP only). John Culshaw, prod.; James Brown, eng. AAA

The Classic reissue LPs have been appearing regularly for a while now, long enough to establish their own unique sonic personalites. For lack of a better word, let's call them Grundmanian. Certainly, all of these reissues are characterized by Bernie Grundman's ability to cut hot, dynamic records that are strong in the bass and extended on top. It can almost be taken for granted, then, that Classic's reissue LPs will be louder and more dynamic than the originals. That's certainly true of the five surveyed here, so I'll refrain from repeating that refrain in the following comparisons.

My original 3S/3S pressing of Finlandia reveals a grand and graceful recording. It seemingly has it all — depth, detail, bass, and a vibrant quality totally devoid of stridency. In particular, the massed strings are gorgeous: full, warm, and sweet. There's also a soft, palpable glow to this recording that is achieved without sacrificing dynamics. How did they do it? On the Classic reissue, the violins are brighter, crisper, and have less sheen. But the low brass grows with more authority, and the midbass, slightly over-resonant on the original, is now more integrated with the rest of the instruments. In short, a tradeoff. The reissue is excellent, but lovers of this music should keep an eye out for a clean original. It has a warmth and glow the Classic lacks.

Appearing on Classic LP for the first time as a Living Stereo issue, the Brahms Piano Concerto 1 of Rubinstein and Reiner is a huge, warm recording. Reiner's firm hand wrings every ounce of drama from this turbulent, late Romantic masterpiece, and Rubinstein plays with focused elegance. I marginally prefer Ashkenazy/Haitink on London for their greater intensity, but this is a fine reading. The piano sounds about as natural as it gets on an RCA (which is not always great). Lower strings are slightly over-resonant, but otherwise full and rich. Mids are sweetly liquid, with smooth, transparent highs. Since this is the only stereo LP issue, the choice is a no-brainer. Buy this Classic record.

Another Rubinstein/Reiner pairing that belongs in any serious classical collection is LSC 2430. On my original 4S/6S pressing the soundstage depth is excellent, the bass is tight and articulate, and the midrange is lovely. The piano also fills the center image without a trace of clanging or hardness. The music sparkles, and so do the sonics. With an open and extended top end, there's little to complain about. And yes, the strings are "doggish"; characteristically sweet.

The reissue is a veritable super dog. Surprisingly, the soundstage is actually deeper. Separation is also improved (often the case in this series), and instruments are more sharply delineated and fixed in sonic space. The reissue gives the illusion of more "life," and this is a pretty lively performance to begin with. This superb reissue may have you dancing in your listening seat. Bravo.

Reiner's Festival offers a deep, well-filled soundstage on my friend Larry Bowers' 1S/1S pressing. Percussion is lively and resonant, while brass is warm and rich, never blaring (an occasional weakness of the original dog). The sound is vivid, urgent, and driven, especially on Mussorgsky's "Bac Mountain." The Classic has downright bionic bass when compared to the original, where the bass drum is hardly noticeable. It pounds out of the loudspeakers on the Classic. String timbre is also very faithful to the original. The only drawback is the woodwinds, which approach stridency at times on this dynamic LP. Still, on balance, a very good reissue.

The 1S/1S pressing of LSC 2077 I compared (again courtesy of Mr. Bowers) offered a convincing illusion of depth on the opening "Till Eulenspiegel." Instrumental location was pinpoint, on a par with the best. The overall impression was of a very civilized recording, a sonic Jacuzzi: warm, soothing, and luxurious. The reissue is brighter, with less soundstage depth by comparison. And while the strings are never offensive, at times they're almost starchy. Bass extension, however, especially on Death and Transfiguration, is impressive. Detail is also greatly improved — the harp on side 2 is hardly noticeable on the original. Side 2 sounds almost like a different recording on the reissue test pressing I auditioned. But, sonics aside, for my money this performance of Death and Transfiguration is the best that exists. If you haven't heard it, buy this Classic LP for that reason alone.

—Carl Baughner
Announcing the latest exclusive releases from Classic Records, brought to you by Classic Music Direct.

**Strauss:** Till Eulenspiegel-Reiner, VPO
LSC 2077 ($30)

Johnny Hodges: Blues a' Plenty
MGVS 68358 ($30)

**Milhaud:** Creation-Munch, BSO
LDS 2025 ($37.50-deluxe package)

**Prokofiev:** Symphony No. 7-Martinon, PCO
LNC 2288 ($30)

Dave Brubeck Quartet: Time Out
CS 8192 ($30)

Sibelius: Symphony No. 2-Monteux, LSO
LSC 2342 ($30)

**Ravel:** Daphnis & Chloe-Munch, HSO
LSC 1893 ($30)

Dick Shory: Bang, Baaroom and Harp
LSP 1866 ($30)

The Sound of Jazz-Various
CS 8040 ($30)

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performances that are damn nigh irresistible. Such assured playing, such distinctive tone, such infectious rhythm—
I can't resist. You sure you want to, Rick?
Blues the Blues won't light Rick's wick either—more of that vacant-center sound. The liner notes mention that Sonny was about to join Miles, which happened in 1961 when he briefly replaced Coltrane in Miles's first great quartet, that seems pretty late to still have such primitive stereo sound. Other than that, Blues is a fine-sounding disc, although Stitt plays so much like Charlie Parker here that it weirds me out—all of the progressions, inversions, melodic conventions that Parker used find their way into Stitt's solos. (In fact, after jamming with him for the first time, Parker turned to Stitt and said, "Man, you sound too much like me!") Stitt also played tenor, and those records are worth seeking out—on that instrument, he sounded like no one else.

DCC Compact Classics
THE BEACH BOYS: Pet Sounds
LPZ-2006 (mono LP); Brian Wilson, prod.: Chuck Bire, eng: AAA. TT: 36:47
RAY CHARLES: Greatest Country & Western Hits
GZS-1086 (gold CD); Sid Feller, prod.; various ensembles; Ray Charles, Steve Hoffman, remastering engs. AAD. TT: 63:19
RAY CHARLES & BETTY CARTER: Ray Charles and Betty Carter
LPZ-2005 (LP); Sid Feller, prod.; Steve Hoffman, remastering eng. AAA. TT: 39:45
ELLA FITZGERALD: Sings The Cole Porter Songbook
GZS-(2)-1079 1/2 (2 gold CDs); Norman Grantz, prod.; Val Valentin, eng; Steve Hoffman, remastering eng. AAD. TT: 110:31
ELTON JOHN: Madman Across the Water
LPZ-2004 (LG); Gus Dudgeon, prod.; Robin Geoffrey Cade, eng; Steve Hoffman, remastering eng. AAA. TT: 45:19
SONNY ROLLINS: Saxophone Colossus
Sonny Rollins, tenor sax; Tommy Flanagan, piano; Doug Watkins, bass; Max Roach, drums
LPZ-2008 (mono LP); Bob Weinstock, prod.; Rudy Van Gelder, eng; Steve Hoffman, remastering eng. AAA. TT: 40:06

The big news here is that DCC now makes 180-gram virgin vinyl LPs! Based on the first batch, they've gone all-out—these are pretty special. Special being the operative word, Pet Sounds HAD to be in the inaugural release. When Brian Wilson heard Rubber Soul in December 1965, he took it as a challenge, vowing to produce a record of sophisticated music that directly expressed his feelings. Based on the result, Pet Sounds, by 1966 he was no longer possessed by the all-American dream—now his obsessions had turned toward alienation and the dilemma of aging. The haunting music, drenched in melancholy, echoed those themes. "This album is personally from me to you," Wilson writes. Who can doubt it? "I Just Wasn't Made For These Times" just may be the most revealing pop song ever crafted; it uncovers layers and levels of loneliness and alienation never hinted at in the band's standard sun-drenched paens. "I keep looking for some place to fit in...They say I've got brains / but they ain't doing me no good—I wish they could..." puts a new spin on the hits that came before it, showing them to be the idealized fantasies of an outsider.

The sound is state-of-the-art mono, which is not an oxymoron. Brian Wilson's goal—one that I submit he achieved here—was to take Phil Spector's "wall of sound" one step further (one big step). That production style only works in mono, so the record had to be mixed to full track—no stereo mixes exist. Warm, natural, vibrant—yet always intimate—the sound Wilson achieved on Pet Sounds is the perfect complement to the album's ongoing interior monolog.

Greatest Country & Western Hits is also something new for DCC; not a reissue, but an original compilation winnowed from Ray Charles's genre-bending explorations of country music between 1962 and 1966. When Charles released Modern Sounds in Country & Western Music in 1962, it was nothing less than a revolutionary act. Not because blacks didn't perform country, but rather because he performed it exactly the way he played everything else—soulfully, rocking, and hard. Of course, Charles shifted the beat, emphasizing the backbeat and eluding phrases as no other country artist had dared, which is to say he made it his. "Soul," he explains, "is when you take a song and make it a part of you—a part that's so true, so real, people think it must have happened to you." No one can question that he accomplished that. Despite the variety of engineers and venues, the sound is uniformly impressive—the strings are sweet and lush, bass is embedded into the bedrock, and articulation informs every molecule of the performance, but most especially Ray's vocals.

Ray and Betty Carter have attained near-legendary status, partly because it is righteously rocking, partly because it was only in release for 36 months. Carter doesn't seem to hold it in high regard (I once saw her refuse to autograph the disc). Like it, though; I find the oil-and-water blend of her high-art jazz vocalism and Ray's down-home sass to be a tonic—and there has never been another performance of "Baby, It's Cold Outside" that so perfectly captures its seductive tease and simultaneously—its sense of innocent flirtation. The sound is a caress, and so tonally natural it may make you swoon, but our old friend hard-left/hard-right stereo makes an appearance here. Since Charles and Carter are positioned in opposite channels (there is some vocal center-fill, I must admit), this doesn't sound as bad as it might—but the band still has a big hole in the middle. Still, I want this record, and I can't afford the 300 smackers demanded for the original—so color me happy to have this one around.

The Cole Porter Songbook is unassailably a classic—sonically, interpretatively, programatically, in every sense of the word. Our withest, most literate songwriter interpreted by our most unfailingly faithful singer: Ella may be noted for her ability to scat and improvise, but what has always impressed me is how much respect she showed her material—she respected it enough to sing it straight. All of this, and in the Songbook series Verve gave her sound of the highest quality to boot. This set is an amazingly close match to my LPs. How close? I think the records sound warmer (a smidge), but the CDs have more air (really). If you're a vinyl kind of a guy,
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you can probably find the set for about $15 used—if you’re willing to shop around for a while. But if you’re digitized, don’t even consider the PolyGram CD; despite the price advantage, it’s no bargain—not when you can have something that sounds like DCC’s set.

Madman Across the Water is a big-sounding, over-produced rock album. Hey, I can’t help myself; I’ve always considered Paul Buckmaster’s orchestrations bombastic, and the uncertain intonation he’s willing to tolerate gives me the willies. I’ve never been a Bernie Taupin fan either, because: 1) I like Elton when he’s being dumb and simple; 2) I don’t find Taupin’s lyrical opacity to be profound—I just say huh?; and 3) as RL observes, it’s sad that, in almost 30 years, Elton has found absolutely nothing to say. So I can’t understand what recommends this record for reverential reissue.

Well, there is some fine playing here. Elton is incisive and tuneful, and the disc sports some really nifty chops from Davey Johnstone, Caleb Quaye, and Chrispedding. Also noteworthy is the cover: DCC reproduces the original Uni label down to the textured paper insert booklet—a really nice touch. All in all, if you like this kind of thing, then this will definitely be the kind of thing you like.

DCC’s gold CD of Saxophone Colossus (see September’s QN for review) is about as perfect a reissue as you could demand. But what’s a vinyl maniac going to do? Buy the original pressing? Maybe you can afford it, buddy; I sure can’t. Find the Prestige twof'er reissue (Prestige 24004)? As an investment, maybe, but surely not to listen to. Nope, this is it. Don’t even think about it, just buy this one. (It’s mono, by the way.) Really big and warm, but assertive, sound—matching the straight-ahead playing on this date. The solidity of Somny’s tenor sound puts you there. Go on, you know you want it. (At least you should.)

**DECCA!**

**BARTÖK: The Miraculous Mandarin suite; Music for Strings, Percussion & Celesta**

Georg Solti, London Symphony

SXL 6111 (LP). AAA: TT: 42:17

**BORODIN: String Quartet 2**

SHOSTAKOVICH: String Quartet 8

Borodin Quartet

SXL 6036 (LP). AAA: TT: 37:24

**CARLO BERGONZI: Operatic Recital**

Arias by Verdi, Puccini, Giordano, Meyerbeer, Cilea

Carlo Bergonzi, tenor; Ginandrea Gavazzeni, Orchestra Accademia di Santa Cecilia, Rome

SXL 2048 (LP). AAA: TT: 42:19

The Miraculous Mandarin is a savage, not to say brutal, ballet, and Solti/CSO milk it for all its power and barbaric splendor—which is to say a lot, given the dynamic range of this recording. We’re talking big, big sound here, and a stage sound to match. MFSPC, with the eerie washes of sound that result from its unusual instrumental forces, also benefits from the expansive sense of the acoustic. Solti’s rhythmic drive, and the CSO’s precision, move the work along with a relentless urgency. This leads to my only quibble, and it’s a minor one: the very drive that makes this such a compelling interpretation saps some of the sustained hush, the sense of mystery, that should define the third movement’s wailing violin glissandos and string tremolos, set against the piano, celesta, and harp. A great performance overall and a sonic blockbuster. The power of the CSO is manifest throughout, and trust me—these guys can blow the roof off any hall—but what makes the recording demonstration-quality in my book is its delicate portrayal of all of the rich harmonic information from this unusual score. Even during the tutti, the chiming celesta’s harmonics linger and float with remarkable delicacy.

Everybody knows that Kismet topped all of its tunes from Borodin’s Second Quartet, but you still can’t write a review of the piece without mentioning it (union rules). So how come everybody doesn’t know what a stone delight all of those steable melodies make this eager-to-please trifling? Countering the sweetness is the pairing with Shostakovich’s Quartet 8—which has never received a finer performance.2 This is a richly textured recording, somewhat dark in balance—an effect mitigated, I think, by the directness of the interpre-

1 These Decas are pressed in Germany; Analogue Productions is the sole US distributor. Like the Classic Records RCA reissues, these use the original cover art (they even replicate the inner sleeve advertising other Decca releases), and do not substitute new matrix numbers for the originals—which I find confusing when figuring out which edition I’m talking about.

2 Much as I love the Fitzwilliam Quartet’s traversal of Shostakovich’s Quartets on Argo, I have to admit that they attain much of their power from being alternative interpretations to those of the Borodin Quartet—who defined how those works should be performed.

**DEUTSCHE GRAMMOPHON**

**CARL ORFF: Carmina Burana**

Gundula Janowitz, soprano; Gerhard Stolze, tenor; Dietrich Fischer-Dieskau, baritone; Choir & Orchestra of the German Opera, Eugen Jochum

SLPM 039062 (LP). Dr. Hans Hirsch, prod.; Klaus Schiebe, eng. AAA, TT: 56:14

Wipe that sneer off your face—despite the corporate stupidity that resulted in all of those mid-70s multimiked sonic ulcer, DG has an impressive list of great-sounding records to its credit. This one, for instance, is a real barn-burner with spectacular orchestral climaxes, primitive-sounding percussion passages, and a most appealing performance from Fischer-Dieskau (well, really, from all
Mirage Adds Muscle To Music’s Bottom Line.

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the vocal performers). The quieter passages suffer from comparison to the really dynamic ones—they seem diminished. But then, I don't listen to Carmen Burana for its subtlety; like all audiophiles, I listen for its really big bass drum. This one is HUGE. The pressing is pristine and, if your system can take it, it sounds great cranked up to 11.

Analogue Productions imports these discs. Hey, Chad! What about bringing in Friebel de Burgos’s even more spectacular HMV performance? Please?

DORIAN

DE FALLA: Master Peter’s Puppet Show, Psyché, Concerto for Harpsichord
ORBON: Himnos ad Galli Cantum, Tres cantigas del rey
Julian B. Baird, soprano; Rafael Puyana, harpsichord; Solistas de Mexico, Eduardo Mata
DOR-90214 (CD only).

JOSQUIN DES PREZ: The Early Josquin
Misa Lami baudechon, Mosaeiuit (Segovia MS), Credo Sine nomine (canonico), Crul De nou bien pleune

OCKEGHEM: Credo Sine nomine
Peter Urquhart, Capella Almaine
Discovery DIS-80333 (CD only).

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Music for Trumpet, Strings, & Continuo: Concertos 1 & 2 in D; Air de Trumpet; Sonata in D, Suite in D. Concerto in D for Trumpet, Oboes, Bassoon, Strings, & Continuo

Stephan Burns, trumpet; The American Concerto Orchestra
Discovery DIS-80432 (CD only). Gregory K. Squires, prod.; eng. DDD. TT: 56:47

COENRAAD BLOEMENDAL: The Cantorial Voice of the Cello


Discovery DIS-80308 (CD only). David H. Walters, prod.; Douglas Brown, Brian C. Peters, David H. Walters, Debbie Reynolds, eng. DDD. TT: 76:12

ENSAMBLE GURRUCHO: El Crucero — New Acoustic Music from Venezuela
Cheo Hurtado, cuatro; David Peña, double bass, guitar; Cristóbal Soto, mandolin, guitar; Luis Julio Toro, flute, bass flute, maracas

Discovery DIS-80333 (CD only). Ensamble Gurrucho, Germán Landeta, prod.; Germán Landeta, eng. DDD. TT: 56:26

Master Peter’s Puppet Show (El retablo de manse Pedro) is certainly not the best known of de Falla’s works (in fact, I’d never heard it before and was stunned to see five other versions of it in Schwan Opus), but it certainly is one of his mostSpanish. Based on a tale from Chapter XXVI, Book II of Don Quijote, it manages to blend musical theater, opera, and puppet shows—all while remaining thoroughly modern, even down to the use of theater-within-the-theater to comment upon the role of art itself. It’s delightful, cleanly recorded, and idiomatically performed. I found its companions on the disc even more compelling, however. The harpsichord concerto is an ingratiating work, unusual in that it places the harpsichord in a small group of equal voices, concertante style, creating a dialog rather than a virtuoso showpiece. Rafael Puyana delivers a sprightly, engaging reading. Psyché showcases Juliane Baird’s magnificently expressive soprano, and is also the most French I’ve ever heard this intensely Spanish composer sound. But what really made this disc exciting for me was discovering the music of Julián Orbón. It is refined, witty, and highly literate. Orbón borrows from a variety of ancient Spanish forms, and his setting of three of King Alfonso’s Cantigas is a joy. The sound throughout this disc is exemplary; it brims with detail, limns an open, sizable acoustic, and strikes a superb balance between tonality and clarity.

The Early Josquin, a recording filed with light and luster, sets the voices of Capella Almaine afloat in the airy acoustic of St. Mary of the Annunciation in Cambridge, where they linger like dust motes in a sunbeam, unsubstantial yet glowing, dancing weightlessly. You couldn’t really ask for a more humble foundation than the cantus firmus that inspired Missa Lami baudechon—three notes, two pitches (think “Three Blind Mice”)—but Josquin set it to a subtly compelling triple dance rhythm and then worked wondrous changes upon it: stretching it, compressing it to a duple meter, playing it upside down until, when he finally drops it, it remains prominent by omission. What fun—but are we sure this was an early work? Usually this sort of refined simplicity is the sign of a very mature art.

Stephen Burns is a first-rank trumpet virtuoso; he’s got chops, spectacularly lovely tone, and an ingratiating way with a musical line. That he hasn’t achieved greater prominence in the 10 years since his debut recording is more an indictment of the classical music business than a reflection upon his remarkable talent. Burns has a bright, clean tone—he plays a Scherzer piccolo trumpet—but with a sweetness that truly masks the bite that the instrument can be prone to. He’s an agile soloist who hews to the clear, high regions, and producer/engineer Squires has captured the sound beautifully. The ACO performs with flair, injecting a lot of life into these jewel-like pieces. The recording venue is somewhat drier than Dorian’s Troy Savings Bank, but still capable of supporting the exposed trumpet lines with a lovely ambient bloom—whereas the TSB would have smothered the ensemble passages.

The Cantorial Voice of the Cello—what a grand theme for a collection! That the cello strongly projects a vocal identity is such a commonplace as to verge on cliché, so why not take it a step further and program pieces that depend upon that very quality? These nine compositions all invoke cantorial chant through the use of traditional Hebrew melodies and/or a recitative-like style. And what a magnificent cantor they summon! Bloemendal’s cello has a big, open-throated sound—full, chesty, and as warm as breath. Tryon’s sprightly, supple accompaniment seems the perfect foil for Bloemendal. Even without recourse to the CD booklet, it’s obvious that these two have played together extensively; the communication is assured and profound. The recording is warm without being wet—ambience doesn’t shroud

3 Taken by Burns’s debut disc, I asked a major-label executive why he hadn’t inspired a bidding frenzy. “There’s only room for one trumpet superstar at a time,” he stated bluntly. “We’ve got Maurice André; Gerry Schwartz looked like he would be next, but he got tired of playing the Hummel concerto every night and took up conducting. Now we’ve got Wynton Marsalis warming up in the wings, and he’ll crossover appeal. Field’s full.”
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detail. The perspective is closer than on most TSB recordings, but considering the intimate nature of the material, I'd say that was an appropriate choice.

*El Crucero* has such phenomenal energy it practically leaps out of your speakers and pulls you onto the dance floor. And what lively sound, all overtones and percussive attack! That's the sound of the cuatro, a four-coursed instrument that is technically in the guitar family but seems to owe more to the mandolin. This is all dance music: merengues, joropos, merimboleros—you don't know these forms? Me neither, but I'm delighted to have met them. The disc really makes you want to move, even if you're terminally afflicted with "gringo hips," as I am. In addition to the addictive energy of Cheo Hurtado's cuatro, this recording captures Luis Julio Toro's flute with great intimacy. There's also rock-solid bass and all the detailed percussion you could ask for. The songs are rhythmically complex, melodically appealing, and just too enjoyable for words. This one's going to be featured at my next party—why not buy it and throw your own?

**ECM**

**MOMPOU:** *Música Callada, Books 1-4* (1959-1967)  
Herbert Henck, piano  
1523 (78118-21523-2, CD only). Manfred Eicher, prod.; Andreas Neubronner, eng.  

If you don't know the music of Frederico Mompou, by all means take this opportunity to make the Catalan composer's acquaintance. These spare solo piano pieces share a sensibility with the piano music of Debussy and Satie—they're filled with tonal color and pithy melodies. *Música Callada* takes its name from an invocation from the mystic St. John of the Cross, who dreamed of "la Música Callada, la Soledad Sonora" (Silenced Music, Sonorous Solitude). These pieces fade into silence—many end with a pedaled note tied into ...nothingness? Mompou's grandfather owned a bell foundry, and it's difficult not to hear bell-like qualities in the legato phrasings and the extended decay of the final notes.

Engineer Neubronner captures the essence of these pieces with an open, vibrant acoustic. The piano sound is brilliant, somewhat remote—dare I say spiritual? Henck offers us a lovely reading:

**Harmonia Mundi**

**RAMEAU: Suites from Nais & Le Temple de la Gloire**  
Nicholas McGegan, Philharmonia Baroque Orchestra  
HMU 907121 (CD only). Robin G. Young, prod.; Brad Michel, eng.  
**D.D.D.** TT: 71:08

Interesting program here, suites from two relatively obscure operas that were composed to honor a great victory in, and the end of, the War for Austrian Succession. Do they make for a compelling disc? You bet. Representing some of Rameau's finest orchestral writing, they are dramatic and filled with color. Brad Michel's recording gives the orchestra weight without making it too ponderous for the sprightly score—and there's sparkle to the sound, which seems fresh and oh-so-clean. As do most of the recordings made at Skywalker Ranch (at least the ones I've heard), this has superb balance and clarity. But while it evinces a sense of space—it does have bloom and decay—it does not show us a specific space. Many listeners would trade that last bit of verisimilitude for sound as specific and tonally strong as Michel has accomplished here—I see their point, but I think performances as individual and full of personality as these deserve an acoustic with similar traits.

**Mapleshade**

**DAVE BARGERON QUARTET WITH LARRY WILLIS: Barge Burns...Slide Flies**  
Dave Bargeron, trombone; Larry Willis, piano; Steve Novoel, bass; Kenwood Dennard, drums  
02832 (CD only). Larry Willis, Dave Bargeron, prods.; Pierre Sprey, prod., eng.  
**A.A.D.** TT: 58:01

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Dave Bargeron, formerly trombonist for Blood, Sweat & Tears, turns in an intense set of originals leavened with two contributions from pianist Willis and the standard "There's No Greater Love." My favorite moment is "Holly's Song," an 8\1/2-minute love letter to his wife—the impassioned trombone anchored by an introspective piano must surely reflect the relationship itself. Sonically, it's what we've come to expect from Sprey—vibrant and realistic, with startling directness. Since this is a trombone recording, it must lapse into rude noises occasionally in order to sound authentic. It does; you'll want to turn to Bargeron periodically and demand, "Excuse yourself!"

**Barge Burns...Slide Flies**

Boy, does Young Warrior, Old Warrior sound live! Not in-your-face bright, just can't-ignore-it there. And these guys are having a rompin', stompin', honkin' good time. Me too. Rooted in space by Keter Betts' (remember him from the Charlie Byrd record on Analogue Productions?) big, blooming bass and defined in time by Jimmy Cob's (Jimmy Cobb!) trap-set, this disc sounds awesomely present. There's no sound in all of jazz like Hamiet Bluiett on bar sax—he can play everything from honks and grunts to the most soulfully expressive ballad—and I've never heard it more perfectly captured than here. Irresistible.

Recorded live at DC's Roxy rather than in Mapleshade's Maryland studio, the Sunnyland Slim disc doesn't feature the relaxed ambience of most of this...
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label's offerings. It's okay—I don't think Slim knows anything about "relaxed." This 88-year-old blues dynamo boogies, pounds on his piano, shouts out the old blues. This is the real thing: rhythmically ragged and with uncertain intonation. These ain't the parlor blues—unless the parlor belongs to a sportin' house, that is. The Roxy's no Carnegie Hall; in fact, it sounds like a real dive—don't expect an acoustic that adds any sort of bloom to the proceedings. Furthermore, Slim is such a shouter he overloads the mike periodically. But then, he's such a shouter he overloads the room periodically. The result isn't always pretty, but it sounds mighty real to me.

**MCA Heavy Vinyl**

**BUDDY GUY:** *I Was Walking Through the Woods* MCA-1165 (LP) Leonard Chess, Phil Chess, prods.; Malcolm Chisholm, eng. AAA. TT: 37:43

**BUDDY HOLLY:** *Buddy Holly* MCA-1161 (mono LP). Norman Petty, prod., eng. AAA. TT: 24:46

**DAVE MASON:** *Alone Together* MCA-1319 (LP), Bruce Botnick, Doug Botnick, engs. AAA. TT: 35:20


MCA has gone all out on their Heavy Vinyl series. To start with, they're heavy: 180-gram pressings. They have beautiful gatefold covers (even where there weren't gatefolds originally; eg, the Who record) made out of super-coated stock that really soaks up the ink. The jackets glow with rich, detailed color. Our own Michael Fremer lends his cachet by penning the inner-sleeve copy—hey, if it's good enough for Mikey, then it's gotta be pretty damn good.

They are. *I Was Walking Through the Woods* is a stone killer—searing, urgent blues by one of the form's true instrumental masters. Thissuen achieves total blossiosity as Guy's stinging, thick, distinctive guitar tone cuts through chorus after chorus. The sound is a little closed-in, kind of like being in a cramped after-hours joint, but the bass is rock-solid and the soundstage widespread. And the country roots of urban blues are never more apparent than when Guy growls, "When my left eye go to jumpin' and my flesh begin to crawl / it makes me realize another mule is kickin' in my stall..." Don't worry, Buddy, nobody's dare go to kickin' in your stall. A must-have.

Buddy Holly's debut sounds startlingly contemporary—pure, hard, and durable. Holly's music was stripped down to the essentials: speed, power, and lust. It's no wonder that everybody from the Beatles to the Clash cited him as the master of the form. The sound here, in spectacular mono, is pure, powerful, sweet, detailed...intensely present. Get this record. Rave on, Buddy.

*Alone Together* was one of the most successful of the studio-supergroup albums that sprang up everywhere in 1969 and '70. It credits an amazing lineup of musicians, and there have always been rumors of other, uncredited, performances. I think it stands as Mason's finest work, and it sports a sunny, lively sound. Don't look for U-R-There soundstaging or a realistic acoustic, but you do get clarity and an impressive tonal palette—not to mention some of the finest wah-wah effects ever recorded, on "You Wouldn't Have Took More Than You Gave." (By the way, has Mason ever recorded an "it's my fault the relationship didn't work" song, or have they all been whiny accusations?) I gotta admit that I miss the marbled vinyl and the die-cut jacket of the original, though.

It's impossible to be a vinyl junkie and a Who fan and not be excited about an audiophile pressing of *Who's Next*. Why? Because there has never been a quiet domestic pressing of this record, possibly the greatest rock album from the early '70s. I worked in record stores for ten years and never found a listenable copy—heck, one slow Friday night, I stood at the turntable with a 25-count box of *Who's Next* and never found a playable disc, much less a quiet one.

Was it worth the wait? Well, the Heavy Vinyl has all the crunch and drive needed to propel the elemental slam of the Entwistle/Moon rhythm machine, and the requisite articulation to define Townsend's flailing solos. Daltrey...well, he's more Daltrey-like than I've ever heard him. Though this is still not a natural-sounding disc, I've never heard the group better served by production. I can't help but think that a younger, thinner me would have played a lot more air-guitar to this release—the pressing that this recording has always deserved.

**Mobile Fidelity Sound Labs**


**HOWLIN' WOLF:** *The Real Folk Blues* UDCD-645 (mostly mono gold CD). Marshall Chess, prod. AAD. TT: 38:37

**B.B. KING:** *Lucille* MFSL-1-235 (LP). Bob Thiele, prod; Jim Lockert, eng. AAA. TT: 37:15

**GERRY MULLIGAN & BEN WEBSTER:** *Gerry Mulligan Meets Ben Webster* Gerry Mulligan, baritone sax; Ben Webster, tenor sax; Jimmy Rowles, piano; LeRoy Vinnegar, bass; Mel Lewis, drums. UDCD-644 (gold CD). Norman Granz, prod. AAD. TT: 43:23

**Stereophile, December 1995**

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“April In Paris”, mono or not, is a spectacular-sounding record. It really rocks. No, I mean really rocks, with the Basie band proving that massive sound, at least, isn’t ruled by the laws of inertia. So I was stunned when I heard this reissue — hard and annoyingly bright. I’m left in a quandary: I can’t afford the original, and I can’t listen to this.

No qualms about The Real Folk Blues — it’s a keeper. It sounds subtly different from my French Chess pressing, though. I kept switching back and forth between them until my wife, Joan, opined, “The LP sounds as if the band had constructed their instruments from whatever they could find — just a few minutes ago!” Well, yes, but despite sounding the teeniest bit smoother, the CD sounds just as immediate. Chess lied, though — these aren’t the folk blues, they’re the gritty, big-city, electrified ones. And the Wolf isn’t some victim singing about hard times on the Delta, he’s aggressive, in-your-face-and-won’t-take-no-guff, filled with swagger and strut. In Hubert Sumlin’s relentlessly raging electric guitar, the Wolf found the balance he needed; without its tension, he’d overwhelm almost any song just by dint of personality. The mostly mono sound is aggressive and raw, and perfectly matched to the music (although the four stereo tracks do exude a moody ambience). Besides, how can a big, hungry boy like me resist the lyricist who wrote “Hoy, hoy I’m the boy / I’ve got 300 pounds of heavenly joy / I’m so glad you understand / I’m 30 pounds of muscle and man / hit dit dit dit / hit dit dit dit / Look what you get”?

Lucille isn’t essential B.B. King, although the 10-minute title track, with B.B. telling the story of his lifelong love affair with his instrument, is endearing. I get irritated when lied to, however, and Bob Thiele’s meretricious self-aggrandizement about how that song was an off-the-cuff monologue that he had the foresight to record is obviously false — since when did didactic conversations have instrumental prefaces and charts for the accompanying sextet? The sound is located in the speakers — except for the vocals, which fill the center and are saturated with artificial reverb. For King cultists only (I count myself among them).

Mulligan Meets Webster is essential, however. There’s an ease and a relaxed sense of fun to this disc. Mulligan’s baritone and Webster’s tenor sound so soft and warm together that it’s clear the sessions were a lovefest. Vignegar, Lewis, and Rowles could make anything swing; here they set up a quiet, compelling groove and just let the big guys paint pretty sonic pictures. Deep bass, subtle sonic shadings, and a lovely acoustic make this one to die for. Ahhh...
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C
 customary as it has become to praise the Jarrett/Peacock
/DeJohnette “Standards” ensemble by invoking the classic trio of
Bill Evans, Scott LaFaro, and Paul Motian, I submit, with all due re-
spect, that we need to retire that metaphor. For one thing, although the
essence of Evans’s ensemble continued through several personnel
changes, including a version incorporating Gary Peacock, the group
was only together for three years. Jarrett, Peacock, and DeJohnette have
been working together, if not exclusively, for over 15 years. In that
time, the three have achieved a level of communion that results in an
ensemble that looks toward no other for its genesis. Here is the new tem-
plate—all who follow must suffer comparison to this ensemble.

At the Blue Note documents a three-night stand at the venue June 3–5, 1994. Each disc represents one
set, yet only three songs are repeated among the six shows: “Partners,” a
Charlie Parker/Keith Jarrett collabora-
tion (!); the standard “Things Ain’t What They Used To Be”; and
Jarrett’s own “No More Lonely Nights.” Since this band seems in-
capable of playing anything the same way twice, even the repeat perfor-
ances are revelatory.

Jarrett, Peacock, and DeJohnette eschew the typical piano-leads/
rythm-section-marked-time dynamic—not that Jarrett doesn’t point the
way, but Peacock and DeJohnette have incredible freedom to explore
the possibilities suggested by the tunes. You could say that the trio
ruminates upon these melodies more than it plays them. Showing immense
respect for the songs, they’re not
slaves to the themes or structures,
but their masters; at times they play
the tunes, at others they take them
apart before your ears and reassemble
them in ways you’ve never imagined.
“How Long Has This Been Going
On?,” nine minutes long, never even
states the theme until 8:43 into the
song—it’s like the sun suddenly
breaking through fog.

That these are collective impro-
visations is never in doubt. You
can sense the players’ excitement, not
to mention the audience’s, as they
pursue their common goal, and you
can feel them egging each other on.
For me, the high points are the
pieces that reach toward that sense
of sustained discovery that Jarrett
explored in his solo concerts through
the 70s—Jarrett originals such as
“Muezzin” and “The Fire Within,”
and Charlie Parker’s “Now’s the
Time.” These pieces build upon simple
repetition, then flower, fold in upon
themselves, and flow in different di-
rections as first one player, then an-
other nudges the song through intro-
spection, ebullience, droning propul-
sion, gospel fervor—through all the
things the songs are, or can be.

And the sound? Amazing. The au-
dience is remarkably quiet, partially, I
imagine, in awe at what was unfolding
before them, but also because Jarrett
insisted that there be no bar service,
drinks on the table, or smoking dur-
ing these sets. Peacock’s bass is deep,
authoritative, and massive. And no
drummer could be more attuned to to-
nal color than DeJohnette; his cymbal
work, always impressive, has been
captured with rare vibrancy. His use
of pitched accents is precisely revealed
—the brass shimmers and jumps out
from the speakers—and his drum
sound is massive but never over-
whelming; it’s physically embodied
and packed with punch. Jarrett’s piano
is totally present. Torrents of notes cascade in fluid articulation, sounding
sweet yet powerfully incisive.

A piano trio recorded this well
makes an impressive demonstration
disc. DeJohnette is placed near the
right speaker, Jarrett near the left, and
Peacock stands well back in the mid-
dle—hep! where’d he come from?
The instruments are prominently
featured, but there’s enough room
acoustic to convince you this really
took place somewhere. Somewhere inti-
mate—not merely small, but close
and personal. With playing of this cali-
iber at this exalted a level of commu-
nation, not to mention compelling sound,
who wouldn’t want to be there?

Thanks to ECM, you can go back
as often as you like.

—Wes Phillips

Record Reviews

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KEITH JARRETT AT THE BLUE NOTE The Complete Recordings

KEITH JARRETT: At the Blue Note: The Complete Recordings
Keith Jarrett, piano; Gary Peacock, bass; Jack DeJohnette, drums
ECM: 1575–80 (7618–21575–2, 6 CDs only).
Manfred Eicher, prod.; Jan Erik Kongshaug, eng.
DDD. TT: 7:03:37

Stereophile, December 1995

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Stereophile, December 1995

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Mikhail Kazakevich, born in Gorky 36 years ago, first attracted attention outside of Russia in 1991. The present recordings were made in 1993/94 in England, where the pianist now resides. In many ways, Kazakevich represents the post-Richter style, a kind of thinking-man’s interpreter whose indulgent romantic leanings do not always eschew the effects of exaggerated emotions, tempos, or sensitivities. One notices great clarity in articulation, wide dynamic shadings, and an almost willful desire to bring out inner voices. One becomes aware of many presumed and disparate influences—certainly Glenn Gould and Horowitz among them.

There is considerable personality (notably in the Schumann CD), fabulous technical equipment, as well as a curious blend of extravagation at moments of great dynamism and hushed withdrawal, when the music’s poetry beckons—as in the quieter passages of the Schumann or Brahms. Here, the playing is not only introverted but almost precious. I found all three discs extremely interesting (the Schumann has an additional 24-minute sampler of repertoire to come, though that does not include the quite effective Mahler transcription). That my personal reaction was almost always one of qualified appreciation rather than outright admiration has mostly to do with Kazakevich’s occasional lack of soaring expansiveness on the one hand and lack of innocent ten- derness on the other—elements that remain crucial to Schumann. Much remains on the surface as well.

Still, there is some impressive playing on this Schumann program, with the complete (ie, with the extra five variations) Symphonic Etudes giving one a good picture of the pianist’s makeup; and the Toccata is really a technical knockout, by far the best piece on the CD.

Though Kazakevich is the featured pianist on the Beethoven disc—and it must be said that he plays those solo parts very skillfully indeed, at times even ex-

hibitionistically—the major interest is the use of new editions. Beethoven authority Barry Cooper has established texts that can be described as the composer’s final thoughts on these concertos, the additions to the music not yet having been incorporated into the earlier published scores. Listening to the opening of Concerto 2, one is struck shortly after the beginning by something that sounds as though the tape editor has chopped off a tiny section. The same kind of things—minor but not entirely insignificant differences that sharp ears won’t possibly miss—keep recurring.

It is in Concerto 4, however, that the changes become really obvious (about six and a half minutes into the first movement). Because of this often startling version, I would recommend the Beethoven disc almost wholeheartedly to those listeners who already have recordings of those two works. Mackerras is efficient rather than exploratory in his accommodations, but, again, it is 4 which makes the greatest impact. If its first movement starts off somewhat sleepily, by the time nine minutes have gone by—and perhaps because of the introduction of the new, embellished keyboard passage work—the playing of both soloist and orchestra begins to catch fire. The second movement, though, I found quite unaffectionate in its rapid tempo.

So far as reproduction is concerned, the highly satisfactory solo discs are very clean, with a just slightly recessed piano. On the concerto CD, the piano appears somewhat closer than the more diffused orchestra. Imaging here is fair, and the winds and brass could have had more tangible bite. The double-disc Schumann jewelbox has a new center holder that, at least in my copy, refused to give up its first CD without a finger-splitting battle.

Igor Kipnis

The sound of the orchestra has that refinement typical of French ensembles, though minus the often vibrato-ridden brasses or plangent winds. One notices the smoothness of the phrasing, the keen dynamic scaling. If the strings lack the sheen and voluptuousness of a handful of the top orchestras of the world, the Lille ensemble is still well worth hearing in this repertoire.

Most impressive of the three works is La Mer, excitingly and atmospherically rendered here, rather than pointillistically. The other works, too, are well done, if not with quite the same atmosphere. There have been performances of the Nocturnes with more sensuousness, but I was surprised to observe that Casadesus (nephew of pianists Robert and Gaby) quite correctly dropped the tempo several notches in the middle, procession section of Fêtes—something overlooked by most conductors. The two soloists in the early Blessed Damaoisele are first-rate, as is the chorus.

If this disc does not feature quite the audiophile reproduction that some listeners would prefer—razor-sharp sonics and a wider soundstage than one finds here—the orchestra, as heard in a decent, for once not cavernous acoustic, has a veiled, homogenous sound that seems to fit the music’s atmosphere particularly well. Inner details sometimes emerge with commendable clarity, occasionally are smoothed out and partially obliterated, but the overall effect, barring some mudliness in the bass, is a pleasure to the ear weary of super-brilliance.

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Rattle's performances, do nothing to win me over here. To my mind, Zinman with the Baltimore SO (Telarc CD-80192) has a more attractive way with this work. But 

_Falsef
t is a very different matter; Rattle's meticulous attention to detail balancing the more interesting points of Elgar's textures, orchestration, and dynamics with a ready sense of wit and bonhomie.

I was equally impressed by the little-known _Grania and Diamid_ incidental music. The Funeral March is a fine piece, and is handled here with a fitting sense of dignity. The recording for this and the _Enigma Variations_ is also exceptionally detailed and well balanced, but that for _Falsestaff_, set down in the Butterworth Hall of Warwick University Arts Centre over a year earlier, lacks the body and warmth of the coupled works. So, a disc of mixed fortunes that I suggest you try before you buy.

—Barbara Jahn

_EWAZEN: Frost Fire_

*...to cast a shadow again...* _Frost Fire_ (Quintet for Trumpet & Strings), Sonata for Horn & Piano
America Brass Quintet; William Sharp, baritone; Chris Gekker, trumpet; Scott Brubaker, French horn; Colete Valentine, piano; St. Luke's Chamber Ensemble; Eric Ewazen, piano
Well-Tempered Productions WTP 5172 (CD only).
Adam Abeshouse, prod., eng. DDD. TT: 71:51

Born in 1954 in Cleveland, Eric Ewazen currently teaches at Juilliard, where he enjoys associations with the music profession's leading singers and instrumentalists. Although such illustrious names as Copland, Schuman, or Roreni do not appear on his résumé, Ewazen still managed to study with such leading figures as Samuel Adler, Milton Babbitt, Warren Benson, Gunther Schuller, and Joseph Schwantner. Schuller and Babbitt have been identified with the avant-garde, whereas Adler, Benson, and Schwantner are associated with accessible works for choir, concert band/wind ensemble, and commemorative pieces of various kinds.

In this survey of chamber and vocal works, Ewazen is established as an eclectic but original voice in his own right. Aside from a traditional, tonally centered working style that utilizes variants on the classical forms, no one would take Ewazen for a Haydn wannabe. The idiom is contemporary with fragrant whiffs of Copland—an influence as inescapable as Beethoven was for Brahms.

Each of the pieces was written for the players who perform them here. No literary or programmatic reference is given for _Frost Fire_ for brass quintet; but, interestingly, the song cycle "...to cast a shadow again..." features the poetry of Katherine Gekker—the sister of trumpeter Chris Gekker, who appears in this work, as well as in _Frost Fire_ as a member of the American Brass Quintet, and in the Quintet for Trumpet and Strings as a member of the St. Luke's Chamber Ensemble. Hornist Scott Brubaker, a prominent soloist, chamber musician, and clinician, is a member of the Metropolitan Opera Orchestra. Composer Ewazen joins Brubaker for the Horn Sonata.

Although Well-Tempered Productions is a record company with audio-philic aspirations, they work to keep these aspirations in proportion. The recording sessions took place in the Recital Hall at the State University of New York at Purchase—a popular venue in the New York area. Everything about this release highlights the music as the primary consideration, with just brief liner-note reference to the use of Apogee's UV22, which seems to be some kind of bit-mapping scheme with shades of HDCC, but which requires no additional equipment.

Each of the pieces, each for a different set of forces requiring a unique production, comes off as smoothly and naturally as anyone could wish. Most importantly, that booby-trap of digital recording, the trumpet, comes off with nary a hint of killer highs.

The full story of AV22 will require a technical report. However, no technical details need stand in the way of anyone's ability to discover for themselves a distinctive and potentially important voice in contemporary music: that of Eric Ewazen.

—Richard Schneider

_HANDEL: Messiah_

Yvonne Kennedy, soprano; Jean Rigby, contralto; Thomas Randle, tenor; Willard White, bass; Royal Choral Society; Royal Philharmonic, Owain Arwel Hughes
IME Classics DPCD 1106 (2 CDs only). Brian B. Culverhouse, prod., eng. DDD. TT: 2:29:47

_HANDEL: Messiah_

Lyne Dawson, soprano; Hilary Summers, contralto; John Mark Ainsley, tenor; Alastair Miles, bass; Choir of King's College, Cambridge; Brandenburg Consort, Stephen Cleobury
Argo 440 672-2 (2 CDs only). Chris Hazell, prod.; Simon Eadon, eng. DDD. TT: 2:22:56

These two recordings both use standard SATB soloists with no countertenors, but there the similarity pretty much ends. Hughes's version has a standard orchestra, playing at modern pitch with a good-sized "amateur" chorus, while Cleobury's has period instruments and the polished Choir from King's College.

Handel left many alternatives for the solos in _Messiah_, and the conductors differ in their choices. One version chosen by Hughes, though, has no basis in Handel's own performances. The original form of "But who may abide" was for bass, but in 1750 Handel wrote the florid "refiner's fire" section for the castrato Guadagni. After Guadagni's departure, Handel continued to use the florid version, but always assigned it to alto (e.g., Caterina Galli in 1752), never to bass, as does Hughes.

To be sure, this aria presents a problem of assignment. Choose an alto and it sounds too low, often requiring awkward transitions into chest voice (as with Hilary Summers for Cleobury). Choose a countertenor and the "refiner's fire" almost always sounds effete. Pick a bass or baritone (such as White) and the music is too florid—plus, you invoke the wrath of purists.

Both conductors have fine sopranos, able to do wonderful things with "Rejoice greatly." Lynne Dawson (for Cleobury) has the lighter instrument, which is better for Handel; besides, her rival, Yvonne Kennedy, has small imperfections of pitch in "I know," so the palm goes to Dawson. The contraltos are both strong, the weakest link coming with Summers' "But who may abide" (for Cleobury), which her counterpart Jean Rigby doesn't sing. I prefer John Mark Ainsley's tenor (for Cleobury) to that of Thomas Randle, but in truth I'm happy with both. Not so the basses, where Cleobury's Alastair Miles easily outdoes a woolly-voiced Willard White, who, while fine for pieces such as "The people that walked in darkness," is no match for the runs of "refiner's fire."

If I derived more pleasure from Cleobury's soloists, it was only by a small margin. The choruses, however, create no indecision. Cleobury's Choir of King's College may be one of the most famous in the world, but their _Messiah_,

In time for Christmas are two recent recordings of Handel's _Messiah_: Stephen Cleobury's on period instruments, Owain Arwel Hughes on modern.

Stereophile, December 1995
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while technically pure, reveals almost no involvement, enthusiasm, or inner knowledge of the music. Even the most infectious pieces (“For unto Us,” etc.) are deadpan, restrained, even prissy in a manner I could pejoratively call “British.” “Hallelujah” shows a bit of spirit, but “Worthy” has no emotional fervor.

Hughes’s Royal Choral Society, though a little less perfect in detail, is far more inspired by their conductor and by Handel’s music. Even here I would prefer a more exuberant “Hallelujah” and less quarter-note accenting in “Purify,” but Hughes’s is the chorus that kept me interested from beginning to end.

Cleobury’s orchestra, the Brandenburg Consort with concertmaster Roy Goodman, is a very fine period group—precise and beautifully in tune. Compared to the warmer yet stylish RPO, though, I couldn’t help thinking the Brandenburg’s short phrases and wheezing tone tended to complement rather than counter the prissiness noted above.

Both recordings have excellent sound with convincing choral/orchestral balances. Cleobury’s was recorded in King’s College Chapel, where engineers have to cope with a five-second reverberation; but nowhere is this a problem. In fact, it sounds like a studio—except at some ends of pieces where faint, distant echoes can be heard.

Among period-instrument versions, Cleobury’s is outclassed by Pinnock, Hickox, and the new Christie. Each of these maintains an excitement for the piece that Cleobury lacks. For a traditional version, I could be happy with Hughes, but Andrew Davis has better soloists along with a wonderfully grand conception that illuminates the piece in a very different way.

—Paul L. Althouse

TODD LEVIN: De Luxe
Todd Levin, vocally; Mary Nessinger, mezzo; David Alan Miller, London Consort, Deutsche Grammophon 445 847-2 (CD only).

It isn’t clear whether the five tracks on this CD are individual compositions or movements of a single work, but one thing is for sure: They make up 70 of the most boring minutes in music history. All that is made known about Levin in the liner notes is that he is a New Yorker in his early 30s who works at Sotheby’s. I hope for his sake the position is a secure one.

This music is a pointless collage of sitcom-style themes, disco rhythms, Marching-band kitsch, lite jazz, and easy-listening pap. Track 3 (modestly titled “Todd Levin”) includes an inane half-hour narration by the composer dealing with his hatred of atonal composers, critics, and much of the rest of the world. In it, he sets himself up as some kind of firebrand revolutionary who is shaking the music world to its roots. In reality, he is merely giving it reason to yawn.

The sound quality is very good, but who cares? This is amateur hour, folks, and if DG thinks this is the way to horn in on the contemporary field so capably covered by labels like ECM and Catalyst, they might want to hire a producer like Manfred Eicher or Tim Page, who have the ability to discern wheat from chaff.

—Robert Hsson

LISZT: A Faust Symphony
Peter Seiffert, tenor; Men’s Chorus of the Ernst-Senff-Choir; Men’s Chorus of the Prague Philharmonic; Sir Simon Rattle, Berlin Philharmonic, EMI 55220 2 (CD only). David B. Murray, prod.; Mike Clements, eng. DDD. TT: 68:42

My overriding impression of this arresting live performance, derived from mid-April 1994 concerts, is that Liszt’s large-scale score, so well rendered in the majority of past recordings, is here given an electrifying interpretation that can easily compete with such recent versions as those by Sohí and Inbal. Battle brings to the fore the impetuosity of the score, the orchestral energy, the passion and volatility—even if Faust’s inner yearning and his agony are less effectively invoked. Still, this is an exciting and invigorating performance in which the orchestral execution is singularly alert.

The soundstage of this vividly recorded disc is impressive (note the clear placement of instrumental sections in the fugue of the Mephisto movement). In the choral apothecosis, furthermore, the chorus emerges with admirable depth.

—Igor Kipnis

LISZT: Piano Concertos 1 & 2
SCHOENBERG: Piano Concerto
Emmanuel Ax, piano; Esa-Pekka Salonen, Philharmonia Orchestra
Sony SK 53289 (CD only). Charles Harbutt, eng.; Gary Schules, prod. DDD. TT: 58:19

This unusual coupling pits the two popular Liszt concertos of the mid-19th century—works advanced for their time because of their use of thematic transformation (especially the A-Major)—with the 1942 piano concerto of Arnold Schoenberg (the enfant terrible of the 12-tone row), an equally advanced work which still has not succeeded in attracting a large audience, in spite of the Advocacies of such champions as Emmanuel Ax. Ax, in fact, has been at pains to show that this Schoenberg work is really an extension of romanticism, in spite of the style of writing.

At first hearing, Schoenberg’s music—acerbic, angular—appears uncompromising. Liszt is easier. But the work, which places the piano almost as an equal with the orchestra (ie, the solo instrument appears more as an obligato at times than as a virtuoso protagonist), does have an attractive lyricism, and certainly the performance of this often energetic concerto is as sympathetic as one could wish. In both Liszt concertos, conductor and soloist display all the requisite motions, but, in spite of the extraversion, I find breadth and grandeur often missing in these tightly controlled renditions. As with the Schoenberg, there is much energy and dynamism; yet the full measure of Liszt’s romanticism seems glossed over. The sound is relatively transparent, the imaging of a slightly distant orchestral pickup fair.

—Igor Kipnis

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The chief assets of this belated adjunct to Denon's Mahler symphony cycle, appearing a good 10 years after the initial releases, are the keenly dramatic conducting and the excellent recorded quality. Eliahu Inbal vividly depicts the storm-ridden opening of In diesem Wetter, and captures the desolation of the bare opening textures of Nun will die Sonn’ and Um Mitternacht, while imparting a triumphant maestoso feeling to the coda of the latter.

In the Wayfarer cycle, Wenn mein Schatz features some well-timed, orchestral breath-pauses, and Ging heut’ Morgen goes with a nice swing. The only questionable interpretive points are the lack of relaxation in the soft coda of the latter and the gruesome upward violin portando marring the end of Ich bin der Welt abhanden gekommen. The orchestral playing is attractive and characterful, with gorgeous legato horn solos, and Denon captures it in natural, lifelike sound.

But this is a song recital, and we have the singing to contend with. Doris Soffel is clearly a sensitive singer, with a pleasant lyric mezzo timbre and a good feel for the weight and color of the texts; but the actual working condition of her voice is limited. The pretty, floating head voice she occasionally deploys (on the Ds at die Nacht and allgemein in Nun will die Sonn’, for example) could form the basis of an integrated technique, but she apparently doesn't have consistent access to it — the attempted soft rises to G-flat in Oft denke’ ich are constricted.

Generally she chooses to sing out, relying on a throaty formation of open vowels rather than risk the in-between dynamics; unfortunately, under pressure her upper midrange acquires a fearsome rapid flutter (most pervasive in the Wayfarer cycle, disturbingly so in Ging heut’ Morgen). On top of this, Soffel makes some unhelpful interpretive choices: in Ich ATM' einen Linden duft she lets the tone go white at Wie lieblich war der Linderduft, which is precisely wrong; and in Ich bin der Welt abhanden gekommen she spoils the effect of her hushed "nicht" with her portamento as the phrase descends.

Fine sound notwithstanding, the production is careless. A take was used in Oft denke’ ich that is missing the cello entry at four bars after 3; the opening of the Kindertotenlieder, where Soffel has a frog in her throat for the first few notes, should have been re-done; and there’s almost no pause between the two longest songs in the Rückert selection.

The three song collections (the Rückert songs are not, strictly speaking, a cycle) make a handy CD-length program. Among recent issues, Hampson’s (DG 431 682) is well-sung and well-considered, with an outstanding Kindertotenlieder, but Bernstein’s overwrought, messy conducting spoils the Wayfarer cycle. I haven’t heard Andreas Schmidt’s Telarc recording (CD-80269), though I suspect it’s wonderfully recorded.

EMI has collected the young Fischer-Dieskau’s monaural Wayfarer Songs and Kindertotenlieder on CDC 47567, but the (stereo) Rückert songs completing the package are piano-accompanied; and F-D had become a less direct, more precious singer by the time he made the recordings gathered on DG 415 191. Baker and Barbirilli (EMI CDC 47793), uniquely musical, may just be the best of all.

—Stephen Francis Vasta

Born in Japan in 1967, Kyoko Tabe has performed actively in Europe, mainly in Germany, and this splendid Mendelssohn collection plus a forthcoming Schubert album make up her first discs. Based on her natural, unexaggerated playing, her lyrical and graceful style, and heartfelt sentiment, I would suggest that anyone interested in a nicely varied grouping of these wonderful miniatures ought without fail to invest in her disc. Technically, her fingervork can match the very best of those who have scammed through the delightful Op.67 No.4 (the publisher added the title "Spinning Song"), and she brings a properly atmospheric and somber mood to the Op.62 No.3 Funeral March. Just very occasionally, she hesitates before important beats, thereby impeding the forward flow, but overall, this is an outstanding music release. The piano sound, warm with a nice ambience, does, however, suffer from a relatively minor but persistent defect that might annoy some listeners and needs to be noted (I checked it on two different systems): in the octave and a half above middle C, a very light resonant frequency buzz occurs which could be ascribed either to a tuning problem or, more likely, a misaligned damper.

—Igor Kipnis

HIKARI OE: Music of Hikari Ore, Vols.1 & II
Akiko Ebi, piano; Hiroshi Koizumi, flute; Tomoko Kato, violin
Denon CO-78952, CO-78953 (CDs only). Noto Okada, eng.; Hiroiyuki Okano, prod. TTS: 47.53, 62.09

These discs feature music composed by a man (his age is not specified) who has been severely retarded since birth as a result of the removal of an "abnormal growth" from his head. He evidently cannot speak, but has learned how to read (and write) musical notation and to play the piano.

Let it be said immediately that it is doubtful if anything here will generate major interest purely as music. Oe’s harmonic, melodic, and rhythmical languages are highly limited. Nothing he composes is refreshingly peculiar or animated by unexpected displacements of any kind. Indeed, there is such a sure-foot of tonic-dominant harmony and rhythmic squareness that the effect of hearing these 50 short works (almost none of which is over five minutes long) is soporific.

This said, these pieces, which more often than not sound like over-simplified Mozart or Schubert, are fascinating in the way they reveal a mentally handicapped person may respond to
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and be stimulated by music. And despite its monotony and extremely limited expressive range, Oe's output does display a peculiar consistency of tone and mood. In short, though, these releases are curios that command attention primarily for extra-musical reasons.

—Mortimer H. Frank

SCHUMANN: Symphonies 1–4
With: Overture, Scherzo, & Finale
Roy Goodman, Hanover Band
RCA 6933-2 (2 CDs only). Tony Faulkner, eng.; Andrew Keen, prod. DDD. TT: 3:25:05
SCHUMANN: Symphonies 2 & 3
Franz Welser-Möst, London Philharmonic
EMI 54898 (CD only). John Kvarlander, eng.; Simon Woods, prod. DDD. TT: 7:36
SCHUMANN: Symphonies 3 & 4
Nikolaus Harnoncourt, Chamber Orchestra of Europe
Teldec 90867-2 (CD only). Helmut Möhle, prod.; Michael Brämmann, eng. DDD. TT: 5:63:5

Anyone who doubts the importance of sound in assessing a recorded performance would do well to audition this Hanover Band set, which marks the orchestra’s RCA debut. All of the group’s previous releases that I have heard have been plagued by excessive resonance that blurred detail, and peaked highs that imposed an unpleasant shrillness on string tone. Such faults are non-existent here. Indeed, this set is another feather in the cap of engineer Tony Faulkner, demonstrating his special ability to capture a genuinely musical sound. With the echo-free ambience of London’s Abbey Road studio and the wide dynamic range of the recordings, this set boasts a clarity, impact, and richness that remain less common than they should be in this high-tech age.

Above all else, the splendors of the sound make a fine case for the orchestra itself, and for Schumann on period instruments. A discipline and technical proficiency are present that were absent from earlier Hanover Band recordings. Attacks are crisp and precise, intonation is secure, and the overall sonority is free of bleating brass and scrawny strings. Pitch, incidentally, is A = 440—a wise choice, as it was becoming the standard at the time these works were produced.

Over and beyond these cited virtues are traits that lend this release special interest. It draws upon the latest scholarly editions, revealing a few details of balance that anyone familiar with the music will recognize as unusual. Then, too, Goodman opts for Schumann’s original version of 4, which the composer never published. The differences between it and the familiar revision, if not great, are significant, the earlier one (which Brahms preferred) differing mainly in two key transitional passages, one leading to the main section of the first movement, the other preparing for the finale. In the latter movement as well, a few melodic lines differ from corresponding passages in the revision. Also, the orchestration is lighter and more transparent in this earlier version.

Of course, the use of period instruments redefines the texture of all these works, greater prominence being gained by winds and brass. Particularly impressive are the horns in 3 and all the brass in 2. As heard here, the music casts doubt on the commonly expressed notion that Schumann’s orchestrations require retouching—dubblings and even textural amplifications that ostensibly purists such as Toscanini have favored. Performances by Karajan and others, however, have shown that a judicious balancing of modern instruments can make an equally cogent case for the rightness of Schumann’s instrumentation.

In the main, Goodman leads compelling performances distinguished by strong rhythmic thrust, well-chosen tempos, and a freedom from mannerism. If the pacing in 1 seems slightly slower than is customary, its effect lends the music welcome stature and intensity. The only occasional weakness in the playing occurs where the music itself is less effective, notably in passages where Schumann falls back on excessive sequential repetition. Such writing demands a bit more inflection and suppleness than Goodman provides. In the main, though, this is a set that anyone interested in these scores should hear.

All exposition repeats are observed, and the inclusion of the Overture, Scherzo, and Finale—a major masterpiece and, in effect, a fifth symphony—is most welcome. This may not be the Schumann cycle to own, but it comprises a worthy and revealing complement to the traversals of Karajan, Levine, and two from Kubelik (an Odyssey set and a newly reissued DG bargain box).

The Harnoncourt performances, although on modern instruments, embrace period-instrument spirit in their rich color, transparent textures, and use of a relatively small orchestra. But Harnoncourt is much more of a cerebral conductor—too cerebral, in fact. Put simply, he favors an excess of effects doubtless meant to be expressive. These include breath-pauses, ritards, sighing phrases, and an affected preciousness that runs counter to the music’s character.

This last shortcoming is most apparent in the “Rhenish” Symphony (3). The notes accompanying this disc claim that Harnoncourt is attempting to convey the work’s Ländler-like spirit. Perhaps so, but its noble grandeur is lost in the process. Moreover, in trying (in both scores) to highlight countermelodies or reinforce a climax, he permits the brass to blast with a force that is occasionally crass, even ugly.

In 4, where Harnoncourt (like Goodman) favors Schumann’s original version, these faults are less evident. Still, it, too, suffers from mannered touches that should prove increasingly annoying with repeated hearings. In short, the conductor represented here is far less impressive than in his recent Beethoven and Schubert recordings, and far closer to the self-conscious Harnoncourt of years earlier.

Welser-Möst, if not so arresting as Goodman, is more musical than Harnoncourt. His orchestra is larger than either of theirs, with textures consequently less well-defined. Such an approach is thus far more traditional. In fact, the only thing his performances have in common with theirs is the absence of emendations.

What most distinguishes them—and sets them apart from Harnoncourt’s—is their unflussy directness. In his tasteful, comparatively neutral style, Welser-Möst suggests later-day Weingartner, which means his readings should stand up very well to many hearings. Admittedly, they lack the passion and gorgeous phrasing Karajan brought to this repertory, but they offer slightly more realistic sound, and the first-movement repeat in 2 that Karajan ignores.

In short, admirable performances that remain shy of the first rank.

—Mortimer H. Frank

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Of these relatively early Karol Szymanowski piano works from between 1906 and 1911, by far the best known is the Op. 4 No. 3 Etude, which has long served (to Van Cliburn, among others) as a highly attractive and sensuously nostalgic encore. The Polish composer’s technically demanding style is highly virtuosic and, especially in the works of his younger years, often seems reminiscent of Chopin, Scriabin, or even Rachmaninoff. The larger-scale pieces, such as the first sonata of 1903–4, tend to sprawl, and one might have wished that the composer on occasion had taken an eraser to his scores’ sometimes elaborate verbosity. Repeated listening, however, is very helpful, and I discovered, to my pleasure, what a really splendid piece the Op. 10 Variations on a Polish Theme can be, especially when played with such technical mastery as here. Jones, large-scaled, splashy, and most attentive to the profuse dynamics required, is without question superior to the tonally less attractive playing of his closest competition, Andrzej Stefanski, whose single-CD Volume I in another integral version (Adda 510054) contains some of the same repertoire. Nimbus’s full-bodied piano sound has the usual reverberant halo but does not stint on detail.

—Igor Kipnis

TCHAIKOVSKY: String Quartet 2, Souvenir de Florence
Franz Schubert Quartett; with Johannes Flicker, viola;
Walter Schulz, cello
Nimbus NI 5399 (CD only). DDD. TT: 76:26

TCHAIKOVSKY: String Quartet 2, Souvenir de Florence
Vermeer Quartet; with Rami Solomonov, viola; John Sharp, cello
Cedille CDR 90000 017 (CD only). Bill Maylone, eng.; James Ginsburg, prod. DDD. TT: 73:44

The swings of mood and general diversity of the Second Quartet bear more than a passing reference to Tchaikovsky’s general angst and soul-searching during the time of its composition. However, it was received with great acclaim at its premiere in 1874, and remains a totally satisfying work despite its comparative neglect.

The Franz Schubert Quartett give a warm-toned, gutsy account of the first movement, but the dramatic fantasia-like qualities of the Adagio introduction are barely given a passing glance. The Vermeer Quartet are far more convincing here, the more open acoustic afforded them enhancing the fragmentary nature of the music. I prefer their Scherzo, too, its irregular meter balletically buoyant by comparison with the oversmooth approach of the Nimbus artists. And so it continues: the Vermeer pacing the speed of the immense Andante, and lifting not only the spirits but also the notes of the Poco piu mosso from the page. The Finale, though containing fugal elements, is lively and bright in their hands—an apt conclusion to a fine performance.

My views on the Souvenir de Florence Sextet follow the same vein: the Franz Schubert Quartett lacks zest, and their overindulgent rubato in the Adagio robs the music of its momentum; the Vermeer opens in vigorous, intense mood, their Adagio a delightful display of sensitive balance—not only in antiphonal response, but also between solo and accompaniment. Although the Nimbus artists are fine in the third and fourth movements, it is the consistency and musicality of the Vermeer that wins through.

—Barbara Jahn

TIPPETT: Symphony 1, Piano Concerto
Howard Shelley, piano; Richard Hickox, Bournemouth SO
Chandos CHAN 9333 (CD only). Brian Couzens, prod.; Ralph Couzens, eng. DDD. TT: 72:27

TIPPETT: Symphony 2, Suite from New Year
Richard Hickox, Bournemouth SO
Chandos CHAN 9299 (CD only). Ralph Couzens, prod.; Ben Connell, eng. DDD. TT: 65:17

TIPPETT: Symphonies 2 & 4
Michael Tippett, BBC SO
BBC Music MM130 (Vol.I.11 No.6) (CD only). DDD. TT: 71:21
Available from BBC Music Magazine. To order, call (800) 284-0200.

TIPPETT: Choral Works
Andrew Lumsden, organ; Paul Spicer, Finzi Singers
Chandos CHAN 9265 (CD only). Richard Lee, prod.; Peter Newble, eng. DDD. TT: 55:03

A trait common to Richard Hickox’s Chandos recordings of the works of Michael Tippett is that they all sound a little too safe. Both Symphonies 1 and 2 open with some very staid—though admittedly, rhythmically neat—playing that lacks the vigor needed to fire Tippett’s complex counterpart, and certainly lacks the spontaneity and element of risk that kept Sir Colin Davis’s performance buoyant and exciting. (Davis’s Tippett cycle is available in a boxed set, London 425 646-2; Georg Solti, who commissioned and premiered the work, conducts Symphony 4.) This caution is most obvious in the string section of the Bournemouth SO, which, when it does attempt anything dynamically forceful, also tends to sound a little screechy and thin. However, momentum is maintained, Hickox’s desire to point detail never allowing the textures to become bogged down; the recording copes well with the intricacies of both scores.

Howard Shelley shapes both the long, decorative lines of the first movement of the Piano Concerto and the dynamic forces of the second with the utmost sensitivity, but he too shows just a little too much respect and too little passion to fashion an exciting performance. The orchestra, however, is excellent here. As all three recordings of this work presently available in the catalog have different strengths and weaknesses, I suggest you try before you buy.

It is always interesting to hear a composer conducting his own music, so the BBC Music Magazine recording of Symphonies 2 and 4, with Tippett at the helm, should have a place in any library collection—even if Tippett was 88 when he recorded them. Symphony 2 opens with a zest and feeling of spontaneity that belie the fact that it is actual-

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ly slower than Hickox's performance; although the second movement has, by comparison, less repose, Tippett's third and fourth movements are less pedantic, an understandable ease with the music making it a comfortable if slightly slipshod reading to settle into.

The "birth to death" thinking behind Symphony 4, with its breathing effects and "final expiration," gives it a biographical feel that summons Strauss's *Heldenleben* to mind. The work is in one movement of about 30 minutes' duration, although it falls into seven sections that adhere quite faithfully to Classical forms. The performance is full of drive, Tippett encouraging his enlarged brass section to great things. My only caveat is this disc's rather stifled sound, the recording venue of All Hallows Church in London not proving the best choice.

Although Tippett's fifth opera, *New Year*, premiered in 1989, there is still no complete recording of it. The Suite of 13 numbers coupled with Symphony 2 on Hickox's disc is, in fact, a first recording of the work in this form. This is an interesting piece; Tippett, who has never been afraid to experiment with new sounds, goes here for surprisingly well-integrated taped space effects, electric guitars, and saxophone. It is all extremely well-recorded and enthusiastically performed by the BSO and should, again, grace the shelves of any Tippett aficionado.

Finally, there is the Finzi Singers disc of all Tippett's unaccompanied choral pieces, plus the *Magnificat* and *Nunc dimittis* with organ. This choir of mixed voices performs with great skill and dexterity — compare its exuberance in the *Dance, Clarion Air* with the sensitive phrasing of the aforementioned sacred work, and the eloquence of the five spirituals from *A Child of Our Time*. All are beautifully recorded, making this another fine disc to possess. But I have never been inspired by Tippett's settings of the *Four Songs from the British Isles*, so don't take these as representative of my nation's temperament.

—Barbara Jahn

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**WAGNER: Tristan und Isolde**

*Siegfried Jerusalem, Tristan; Waltraud Meier, Isolde; Matti Salminen, King Marke; Falk Struckmann, Kurwenal; Marjane Lipovsek, Brangäne; Johan Botha, Melot; others; Berlin State Opera Chorus, Berlin Philharmonic, Daniel Barenboim*  

Daniel Barenboim turns it out, is one of the pre-eminent Wagner conductors of our time, and the Berlin Philharmonic plays divinely for him: the brass and wind are amazing, the strings swing out and cry out, the percussion punctuates, underlines, and comments — and all are helped by the superb engineering. But what's more important is his sense of ongoing drama, of the overall movement of the opera: There's an ebb and flow in the first act that mirrors both the characters' surroundings and their situations, a sense of hysteria and breathlessness (just listen to the minute or so before Tristan's entrance), as well as disconnectedness and fatality in the second act, and alternating desolation and jubilation in the third. He has the intensity of Böhm and Kleiber but is not (quite) as manic; he leaves Karajan's ego-massaging approach in the dust; he's as lyrical as Bernstein without the tics (which, while occasionally exquisite, boast his reading); and he constructs the climaxes like Pfitzngärtl, albeit without the almost overwhelming weight. In short, Barenboim's is a towering Tristan, and this recording is worth it for that alone.

In the title roles are the finest Parsifal and Kundry in the world. Siegfried Jerusalem sings every note. Even the ranting in Act III is scrupulous, proving that it can actually be done, and without the baritonal sound most Tristans tend to have. (I have a fondness for Wolfgang Windgassen over the "dark" Tristans.) And even without possessing the largest sound, Jerusalem is always authoritative, and as headstrong as Isolde in the first act. I have the feeling that he'll be criticized by some for not being quite spontaneous enough, but don't believe it: He's just far more musical than most of the Tristans we've heard, and he can add this impersonation to his Parsifal and Lohengrin as a real winner.

With Isolde we enter troubled waters. One had feared that Waltraud Meier might sound like a pushed-up mezzo, with the weight in the voice in the wrong places, but that's not the problem. Her reading of the text is so breathtakingly right, with Isolde's burning rage equaled only by her burning passion and regret, that I feel a bit guilty saying that she's not up to the role vocally. The voice never darkens sufficiently; the passage near the start of "Nicht Hörnerschall" in Act II (to name just one) entirely lacks depth and mystery for purely vocal reasons. Furthermore, the sound of the voice qua sound never ravishes the ear à la Flagstad, or overpowers it à la Nilsson, or honeys and trills it à la Frida Leider or Christa Ludwig (this last, alas, only in excerpts and dreams). Meier's very fast vibrato (which, on the plus side, can add urgency) turns wiry at forte and above the staff, and will not be to everyone's taste; and she's dangerously close to shouting at the close of Act I and on both sides of Tristan's entrance in Act II. Her sound doesn't have star quality, it's not distinctive or memorable, and while Kundry is essentially a character (and mezzo) part, Isolde requires a real diva, perhaps the greatest diva in opera besides Norma. In person, Meier would be another story — she's both beautiful and a fine actress. On discs, unfortunately, her shortcomings glare.

Marijana Lipovsek is a bit wild as Brangäne; her emotional outbursts are more in keeping with the character of Isolde. But there's no denying her role in the drama, and she sounds good. My other criticism of her isn't really fair, but must be dealt with: She sounds a bit too much like Meier, confusing the ear. I can find fault with neither Matti Salminen's King Marke nor Falk Struckmann's Kurwenal: The former is as deep as the sea, a huge man brought low by those he trusted, and all of this conveyed by a big, dark, dramatic voice; the latter simply sings with swagger and youthful verve in Act I and beautiful, warm tone in Act III. The remainder of the cast is excellent, with Johan Botha's Melot ferocious but not ugly — a rarity — and Peter Maus's Shepherd is sweet and elegant.

Just a brief note about some other conductorial felicities: The end of the Narrative and Curse is wonderfully fast and furious — this is one angry woman, and Brangäne has to restrain her. Similarly, the lovers really sound carried away at the close of the love duet, before the interruption — only Kleiber offers this same sense of unbridled passion. And at the other end of the emotional spectrum, I cannot recall being so swept...
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up in Tristan’s soft, confused reveries at the start of his first monologue in Act III. There are many other touches like these.

As mentioned above, the engineering is nothing short of miraculous—90% of the time. But Brangäne is too close in her Warning, as is the Shepherd’s happy piping. Worse—and inexcusable—is the fact that CD 2 (the first act is spread over two CDs) begins with Isolde’s “Herr Tristan retre näh,” which ends the first CD. Yipes.

The dilemma: Is this TES worth owning? For Barenboim alone, yes—but not everyone will want to spend four CDs’ worth of money for a substandard Isolde.

—Robert Levine

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ANONYMOUS 4: The Lily and the Lamb
Chant and Polyphony from Medieval England
Harmonia Mundi HMU 907125 (CD-only). Robina G. Young, prod.; Tony Faulkner, eng. DDD. TT: 66:45

The Lily and the Lamb— Album 4 from The Anonymous 4 (clockwise from upper left): Johanna Rose, Susan Hellauer, Ruth Cunningham, Marsha Genensky.

I am, I have to confess, at a loss to explain the popularity of medieval sacred music in this, the late 20th century. It’s true that there is something of a religious revival at present, but its philosophy would appear to be the polar opposite of the Middle Ages; it is extraverbal and charismatic rather than introverted and contemplative. There are tonal and structural similarities between early music and New Age, but I am similarly at a loss to explain the current vogue for the latter. Perhaps the problem is with my own desire to intellectualize a completely emotional response. At any rate, here is my theory of the week: Early choral music is popular in this time of extreme individuality precisely because it is the least individual of all musical forms.

Consider the name Anonymous 4. It is taken from the name arbitrarily given to a medieval composer in an early manuscript, but it also works on a more rarified level by reminding us that these women’s voices are themselves anonymous. There is no ensemble performing today that achieves a more perfect vocal blend than this. It is not a “natural” sound—untrained voices will usually gravitate toward just intonation, rather than the complex polyphonic shapings found here—but it appears to be entirely and fundamentally right. Words like “ethereal” only begin to describe the sound the Anons produce; whatever adjectives I choose must fail short.

Anonymous 4 have deliberately chosen to center their performances around the celebration of the Virgin Mary. This disc includes works in Latin and Middle English, the latter including a setting of the famous Jesu Crises milde moder (which I have to admit I first encountered in T.H. White). Considered purely as an exploration of Mariolatric material, this would be an important recording; its level of performance raises it well beyond that. For once, position on the Billboard charts would appear to correspond closely with the actual quality of musicianship.

Tony Faulkner gets his usual sound here: a little closer than I would consider ideal, but always remarkably transparent. Imaging is very solid and realistic — this is a very small group, and each voice should be separate and distinct within a well-defined stage. If your speakers do not disappear on this CD, you have work to do. On all grounds, this work deserves recommendation, but I think that my wife summed things up best in her usual complex and intellectual fashion. “Wonderful,” she said. “Wonderful.”

—Les Berkley

JAZZ & BLUES

CARL ALLEN: Testimonial
Carl Allen, drums; Vincent Herring, soprano, alto, tenor sax; Nicholas Payton, trumpet; Cyrus Chestnut, piano, organ; Anthony Wonsey, piano; Christian McBride, Reuben Rogers, bass; Daniel Gadownik, percussion; Mark Whitfield, guitar (three tracks); Kevin Mahogany, vocals (one track): Atlantic Jazz 82755-2 (CD only). Carl Allen, Yves Beausias, prods.; Josiah Gluck, eng. DDD. TT: 66:45

CHARLIE HADEN/HANK JONES: Steal Away

These two recordings flow from a shared heritage in the African American experience. In the liner notes to Steal Away, Abbey Lincoln calls these spirituals, field hollers, and hymns “forever songs.” (W.E.B. DuBois called them “sorrow songs.”)

The two albums approach their rich sources differently. Charlie Haden and Hank Jones stay close to the core rituals of “Abide With Me,” “Go Down, Moses,” and “Swing Low, Sweet Chariot.” Drummer/leader Carl Allen has absorbed such messages and used them as inspiration for his own compositions.

Carl Allen’s album works. He has surrounded himself with some of the strongest jazz voices of the new generation: alto saxophonist Vincent Herring (who records here on tenor for the first time), Nicholas Payton (the latest kid trumpet terror from New Orleans), pianist Cyrus Chestnut (who makes his recording debut on organ), and guitarist Mark Whitfield.

It’s hard to sit still through drummer Carl Allen’s Testimonial, his sophomore outing for Atlantic Jazz.

But it’s not the writing or even the concept that gives Testimonial its impact. It’s the soloists—and the detailed sonic immediacy with which their statements are captured. Payton summons the multiditudes to the mountaintop on the title
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track. On “The Sacrifice,” Herrin commands the ceremony in tenor-sax calls that are fierce with the power of belief. Try this one for a glimpse of how the past can be put to relevant use in the jazz of the future.

Charlie Haden is a deeply spiritual artist; Steal Away seeks the pure truth of each song by reducing it to its essence. But recordings are complex team efforts, and this one is seriously undermined by the poor recording: Charlie Haden’s bass is fat and blurred, and Hank Jones’s piano is diffused at the edges. Since we can’t hear them well, it’s impossible to say for certain that Haden and Jones never give musical expression to the emotions in this material. But Jones’s presentation of “Sometimes I Feel Like A Motherless Child” sounds passive and stiff, and Haden’s solo is more ponderous than profound. Jones’s voicings for beautiful songs like “Danny Boy” and “Steal Away” are thick where they should be spare.

In fact, considering these two albums together reveals a fundamental yet often overlooked fact about recorded music: the aesthetic attainment of a recording is not entirely separable from its audio quality. On Testimonial, the glisten and pop of Carl Allen’s brass ensemble is vividly captured by engineer Josiah Gluck. Not entirely coincidentally, the music matters. Steal Away, so promising on paper, is a sonic botch; the music never comes to life.

—Thomas Conrad

ORNETTE COLEMAN & PRIME TIME:
Tone Dialing

Ornette Coleman, saxophone, violin, trumpet; Dave Bryant, Chris Walker, keyboards; Ken Wessel, Chris Rosenberg, guitar; Al McDowell, electric bass; Bradley Jones, acoustic bass; Denardo Coleman, drums, programming; Avenda Khadjiah, Moishe Naim, vocals.
Verse 314 327 483-2 (CD), Desando Coleman, prod.; Gregg Mann, eng. DDD, TT: 66:03

In a disc full of dance rhythms, vibrant melodies, and good-humored references to popular and so-called classical music, Ornette Coleman dials all the tones he knows here, from rap to Tex-Mex (“Guadalupe”) and Bach (“Prelude”). He’s always been, in his own way, a humorist—a soft-spoken man whose music, however strange to some, is full of delightedly singsong rhythms and almost naive-sounding melodies. Of course, Coleman, whose first recordings were made almost 40 years ago, is also an invertebrate avant-gardist, strong spirit, and rugged individualist. Who else would record a rap in 1995 that recommends fidelity, responsibility, love, and social consciousness? In the tradition of “There but for fortune go you or I,” he writes of those imprisoned in body or mind, in jail or a member of a cult, gang, or church: “Remember it’s just one of your sisters or brothers that you haven’t discovered,” he says of various unfortunate. “Don’t hurt or harm,” his vocalist chants later. Be yourself, he suggests, the self you were before you discovered you were part of a creed, race, nation, or (even) gender.

“Search for Life” is the only rap on Tone Dialing. In a surprisingly laid-back style, Coleman remakes his danceable Mexican piece, “Guadalupe,” which he follows by having one of his guitarists play Bach’s “Prelude in C” over what sounds like a programmed drum solo. Eventually the whole band comes in and Coleman solos frantically over the melody. Most of the performances here are short and pointed, with Coleman soloing over the busy participation of Prime Time. The textures vary: “La Capella” brings tabla player Badal Roy to the fore, while Coleman solos fetchingly from a space that allows him considerable resonance. “When Will I See You Again” begins with a beautifully recorded acoustic bass solo that has Bradley Jones playing the role in the band that Charlie Haden used to cover.

With its occasional jumble of sounds, Prime Time has always been a difficult band to record. Tone Dialing is perhaps unique in its range of approaches, some easier to capture than others. There are tracks dominated by the rhythm section, such as “Badal” or, as in the case of “Kathell Gray”—with its lyrical solo by pianist Dave Bryant—by a solo instrument with percussion in the near background and around the edges. Those tracks allow a sense of space: those dominated by the electric instruments fudge the imaging to a greater extent.

I am impressed as always by Coleman’s lines, by his solos, and by his big-hearted approach to making his own music. I’ve already heard friends lament that there’s nothing strikingly new here. I would point out the folksy quality of “Family Reunion,” the parodic version of Bach, the rap, and the multi-percussion solos. More important, Tone Dialing sounds fresh, and no other session brings out to the same extent Coleman’s slyly comic side.

—Michael Ullman

MILES DAVIS: Cookie

Miles Davis, trumpet; John Coltrane, tenor sax; Red Garland, piano; Paul Chambers, bass; Philly Joe Jones, drums. Analogue Productions AJL 021 (LP). Rudy Van Gelder, eng.; Doug Sax, Gavin Lurisien, Ron Lewter, mastering. TT: 34:03

On October 26, 1956, in one of the most productive sessions in jazz history, the Miles Davis quintet recorded 12 numbers, including the six that comprise Cookie: The reason for this rush of recording was that Davis had already signed a contract with Columbia Records that was much more lucrative than his Prestige agreement, and was eager to fulfill his prior obligation. The reason for the astounding quality and range of the music that was recorded in this session is more complicated.

The quintet had been together well over a year, and in that time its members had grown not only together, but each in his own way as well. John Coltrane’s development in this period is often mentioned; in retrospect it seems more remarkable because he was then struggling with a drug problem he soon overcame. With his steely sound and overwhelming fluency, he had always sounded distinctive: now he seemed ready to apply that sound and technique to ballads as well as blues, and his blues choruses, as on “Blues by Five” here, were more compelling than ever.

At the same time, the rhythm section had become a flexible, exciting group of its own: Red Garland had already made the first of his trio recordings with Chambers and Philly Joe Jones. Chambers had become an interesting soloist as well as a steady accompanist. Philly Joe Jones was clearly one of the great modern jazz drummers; people
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were already talking of “Philly Joe” licks. His power might seem to contradict the delicacy of Red Garland’s spare piano style, but then Garland was never as delicate as people said: listen to Garland’s choruses on “Blues Five,” with some of his favorite repeated patterns, block chords, and clear-as-ice runs, and you will also hear his controlled but still percussive touch.

Simple as it is—an amateur can learn it in half an hour—Garland’s introduction illuminates “My Funny Valentine”; his solo on that ballad almost matches the brilliance of Davis’s. His opening phrase, carefully prepared by Davis and Philly Joe, with a hint of double time in a suddenly invigorated environment, is unforgettable. Davis’s playing on this day was lucid, directed as well as swinging. He has been justly celebrated for his ballad playing. The intimate, exposed way he plays “My Funny Valentine” is made fascinating by his timing of each phrase, so close to the original melody and yet so artfully shaped in his own image. Has there been a more effective opening to a blues solo than his three repeated notes on “Blues by Five”? The album also includes an uptempo “Airegin,” in which Philly Joe’s cymbal work shines, and a medley of “Tune Up” and “When Lights Are Low.” It might have been a last-minute decision to include “When Lights Are Low.” To my confusion as a teenager, the original cover listed “Just Squeeze Me” instead. The OJC reissue reproduces that mistake, but Analogue Productions has decided to correct it. On their gold CD, DCC has done the honorable thing and added “Just Squeeze Me,” which was recorded on November 16, 1955.

Brought out soon after it was recorded, Cookin’ has been reissued many times, in a double album, on CD as part of the Complete Miles Davis on Prestige box, as well as in the three reissues listed here. Even listening to my too-of-ten-played original issue, I was struck by how well it was recorded, albeit in mono. There were minor glitches, such as a moment, around 10 minutes into “When Lights Are Low,” when the levels abruptly change. With the possible exception of the double LP, which sounded relatively lifeless when I listened to it again, I have also been impressed by the quality of the reissues. DCC’s gold CD produced a slightly mellower sound than either of the LPs under review. The Analogue Productions LP proved to be quieter, and allowed a little more sizzle in the highs: the result was a greater feeling of intensity, along with what I might describe as a little crowding as each member of the band competes for our attention.

My rational recommendations? If you have all of Miles Davis on Prestige CDs, or if you have the original LP, sit tight. If you want to hear the 20 seconds of studio chatter that DCC includes, or want “Squeeze Me,” you’ll have to go for the gold. Largely because of its quieter surface and marginally greater range, the Analogue Productions is the choice on LP.

I’ll confess, though, that I haven’t been rational about Cookin’ since soon after it was brought out. My love of this session is such that I bought the DCC disc and will keep the OJC disc alongside the Prestige original, the double reissue, and the Analogue Productions 180-gram LP. There’s some music you just can’t afford to be without.

—Michael Ullman

In some cases, though, the music is just too familiar. “Satin Doll” is one of Ellington’s simplest compositions, which may be one reason for its original acclaim and continuing popularity in jam sessions. I find it has palled, as has the wit of Will Bill Davis’s arrangement of “April in Paris” for Count Basie, with its repeated endings. Kenton’s kitschy Spanish “Malagueña” is hard for me to pay attention to, as is Glenn Miller’s “Song of the Volga Boatman.” I prefer listening to tenor Ted Nash stretch out on “Early Autumn.”

So this disc, which will be of interest to audiophiles, gets a mixed review from me. What I’d love is for DMP to turn the band and the studio over to some of the great big-band writers still
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—Michael Ullman

BILL FRISSELL/KERMIT DRISCOLL/JOEY BARON: Live
Gramavision CDJ 79504 (CD only). Hans Wendt, prod.; Claudia Emghurt, eng. TT: 71:29
HANS WENDT: "Bill Frisell's quintet, with Joey Baron on drums and Kermit Driscoll on bass, made a delightfully casual and inspiring acoustic set at the Green Mill in Chicago in early 1994. There was no pressing for improvisation, and no fear of showing certain "bad" qualities. The band simply played the music without trying to "prove" anything. The result was a fine collection of instantlyaneously appealing performances, which included "The Moody Blues," the "Waltz," "Rags," "Goodbye," and many others.

BILL FRISSEL/ELVIS COSTELLO: Deep Dead Blue
Nonesuch 46073-2 (import CD only). Roger Mou-tenor, eng. TT: 22:47
HANS WENDT: "Elvis Costello and Bill Frisell have been known to each other for a long time. Their collaborative album, Deep Dead Blue, features Costello on vocals, bass, and guitar, with Frisell on guitar and bass. The result is an intriguing blend of Costello's love for the blues and Frisell's love for the jazz tradition. The album features Costello's classic songs such as "Veronica" and "I Can't Help Myself," as well as "Veronica" arranged in a jazz style.

BILL FRISSELL/VICTOR BRUCE GODSEY/ BRIAN ALES: American Blood/Safety in Numbers
Intuition 2064 2 (CD only). Brian Ales, Bill Frisell, Bruce Godsey, prod.; Brian Ales, eng. TT: 69:10
HANS WENDT: "Frisell, Godsey, and Ales are three of the most interesting and influential musicians around.

The Bill Frisell Trio — from left, Joey Baron, Kermit Driscoll, and Mr. Bill — on a slew of new CDs.

These five releases are bound by either the presence or the spirit of guitarist/composer Bill Frisell. By the time one wades through the all the dense but accessible offerings herein, there can be little doubt left that Frisell is one of the most interesting and influential musicians around.

Live is the performance recording Frisell–o-philes have been waiting for, as well as a perfect introduction to his enormously varied talent. The classics are here — "Rag," "Goodbye," "When We Go," "Strange Meeting" — all reinterpreted in the moment by three musicians who have known each other long and well.

It's the covers, though, that offer concise examples of the trio's talents. Kermit Driscoll covers both bass and chords on John Hiatt's "Have a Little Faith In Me," while Frisell shows why he's the master of the folk melody. Sonny Rollins's "No More" rises out of a typical Frisell sound/noise collage over-dubbed into his delay unit on the spot. Bill then punches it in and out of the air in real time while he and his cohorts deliver a fuzzed-out funk version of the be-bop standard, fired by Baron's spastic yet swinging drumming.

Beautifully and dynamically recorded, this may or may not be jazz by Wynton's standards, but it's a must-have by mine.

If Frisell meets rock from the jazz side, Elvis Costello meets jazz from the rock side. His phony punk protestations notwithstanding (he was about as punk as The Police), Costello has always been a sophisticated musician. He may have been an angry young man, but he was soon covering Bert Bacharach (see Live Stiffs). Deep Dead Blue finds him covering Lerner and Lowe's "Gigi" — how the mighty have mellowed.

Of course, it was his musician side that I've always admired. Though I often find his lyrics overly clever and excessively wordy (strange, since none of the songwriters he covers exhibit those qualities), he's always struck me as a fine singer and melodie.

His teaming with Frisell for a concert at his annual Meltdown festival in London was an inspired bit of programing: Bill plays, Elvis sings. Frisell's self guitar outlinites not just the harmony of the tunes, but manages to imply all the orchestration one could want in a minimalist style that contrasts beautifully with Costello's rococo tendencies.

To his credit, Elvis manages to bring an appropriate air of mystery to Min-gus's "Weird Nightmare," and avoids sounding like a pedophile on Lerner and Lowe's ode to a young girl's sexual awakening (no mean feat).

At under a half hour, and at import prices, DDB is a luxury. But with excellent sound and brilliant performances — go ahead, pamper yourself.

Brian Ales's sample soundscapes on Safety in Numbers allow Mr. Bill to indulge his industrial side. These 10 compositions are entirely composed of samples cut and pasted from one 27-minute Frisell solo improvisation. Ales then had the guitarist perform one live overdub on each. For all the metallic banjo plectrums and distorted string scrapings, Safety is singularly listenable. Perhaps as a result of the engineer/composer's work in writing music to accompany visuals, these vignettes conjure interesting, if bleak, pictures.

Frisell provides the empathetic music for Victor Godsey's dark poetry on the American Blood portion of the disc. When it works — "So Thin," "Circlethe results can be quite powerful. But elsewhere, though Bill brings his best to bear on relentless images of death and blood ("Trance," "Death Dance," "Highways"), Godsey's work ventures into pretension, a quality foreign to Frisell.

On his own project, Brian Ales adds his abilities as guitarist to his engineering and composing skills. Naïveté demonstrates that composing is his strength. Moving away from the industrial attitude of Safety, the tunes here reflect an interest in and knowledge of ethnic rhythms and percussion. From Salsa ("Personal Montuño") to African ("Mr. Di-balla To Me") to tango ("Tango Del Suceso Feliz"), Ales covers the world's beat waterfront.

Unfortunately, though the tunes are interesting, Ales has recorded them in the same cold, metallic fashion as he does his samples. This, combined with a kitchen-sink approach to arranging, conspires against the warmth and simplicity of the music that inspired him. Even excellent solos by the ubiquitous Frisell cannot raise this above a nice try.

Bill Frisell does not appear anywhere except in spirit on Jerry Granelli's News from the Street. In some ways this disc is a continuation of Granelli's wonderful A Song I Thought I Heard Buddy Sing, with a crew of young Germans replacing Robben Ford, Bill Frisell, and Anthony Cox.

Like that CD, News is steeped in the blues. Covers of tunes by Bill Doggett, Little Village, Bruce Hornsby, and "Gate-mouth Brown are given surprisingly soulful treatment by Granelli's foreign freshmen. Granelli's "The Swamp" recalls the odd-time funk/blues of A Song I Thought... 's "Oyster Dance."

Unlike Granelli, Guitarists Kai Bruckner and Christian Kogel work well together, displaying taste and maturity. What they lack is personality. Or maybe they're just not Robben Ford and Bill Frisell, though they're no doubt influenced by both.

What makes News from the Street worth a listen is the sensuous sonic mood set up and maintained by produc-
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Wes Phillips, Stereophile, Vol. 18, No. 4, April 1995

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er Lee Townsend. That, and Granelli himself: his drumming has taste, maturity, fire, and plenty of personality.

—Michael Ross

BILL HOLMAN BAND: A View from the Side
Bill Holman, arranger, conductor; Lanny Morgan, Bill Perkins, Pete Christlieb, Ray Herrmann, Bob Efford, reeds; Carl Saunders, Frank Szabo, Ron Stout, Bob Summers, trumpeter, flugelhorn; Jack Redmond, Bob Enevoldsen, Andy Martin, Kenny Shroyer, trombone; Doug MacDonald, electric guitar; Rich Evans, piano; Dave Carpenter; acoustic bass; Bob Leatherbarrow, drums
JVC, JVC-2050-2 (CD only). Akira Taguchi, prod.; Allen Sides, eng. TT: 61:03

This release is noteworthy for two reasons. It is a rare solo project by one of the most revered arrangers in jazz, and it is an example—almost as rare—of a well-recorded big band jazz.

A View from the Side is only the seventh album that Bill Holman has recorded under his own name in 45 years. But in the liner notes, 16 of the most important arranger/composers of the modern era—Quincy Jones, Johnny Mandel, even Artie Shaw—provide testimonials to his influence. Nearly every one of Holman’s admirers mentions his identifiable touch, which begins with formal complexity tempered by a natural elegance which sounds effortless.

His band contains many of the first-call players in Los Angeles. It is a working ensemble which rehearses weekly, and it executes the “Holman touch” with exactitude. Every arrangement is a story, with prologues and plot lines (conflicts and comminglings between trumpets and saxophones) and kaleidoscopic interlockings leading to clear resolutions. Fluent soloists like Pete Christlieb and Ron Stout seem to break free, but as Holman’s plan unfolds, their individual voices are integrated into his narrative.

The rewards of uptempo pieces like “No Joy in Mudville” and “Make My Day” are in the vast cleverness of Holman’s intricate contrapuntal techniques and his layers of countermotion. On Jimmy Rowles’s “The Peacocks,” he reaches deeper levels of feeling. Over flutes and whispering trombones, Bob Efford’s bass clarinet wafts and wanders. Even on a mood piece, Holman uses the expressive potential of the ensemble in a soft coalescence for the denouement.

JVC is growing in importance among jazz labels. It records live, direct to two-track, then employs its “20-bit K2 Super Coding” system in the digital transfer. On A View from the Side, producer Akira Taguchi and engineer Allen Sides bring the most elusive beast in the jazz jungle back alive. They are able to contain the enormous power of a 16-piece orchestra when it roars with one voice, without reducing it to a blaring flat wall, and also without the compromise of a distant perspective. The “depth of field” here is extraordinary: there is intimate foreground focus on each soloist and also subtle low-level details and differentiations among the remaining 15 instruments.

A View from the Side makes you wish Akira Taguchi and Allen Sides and K2 Super Coding had been there for Duke Ellington and Gil Evans.

—Thomas Conrad

The Return of Shaft—Isaac Hayes and his soul-symphony style are still over the top on two new albums.

PERCY SLEDGE: Blue Night
Point Blank 39871 2 (CD only). Saul Davis, Barry Goldberg, prod.; Charles Rook, eng. TT: 44:39
ISAAC HAYES: Branded
Point Blank 40335 2 (CD only). Isaac Hayes, prod.; Ron Christopher, eng. TT: 64:33
ISAAC HAYES MOVEMENT: Raw & Refined
Point Blank 40336 2 (CD only). Isaac Hayes, Benny Maunoi, prod. TT: 66:32

My ex-wife is not a musician, but she has great cars. We once went to see a purported soul band, and after one song she dismissed them with, “The horns are too in-tune.”

In a nutshell, that’s the problem with Blue Night. Certainly it’s not Percy Sledge’s fault: he sounds as good as ever—warm as a winter fire, rich as expensive chocolate. Good intentions abound here. Steve Cropper and Bobby Womack contribute guitars. The songs are either classics like “I Wish It Would Rain” and “I’ve Got Dreams to Remember,” or are trying to be. Unfortunately, only Quinton Claunch’s “These Ain’t Raindrops” reaches the mark. For all I know, it’s an obscure soul gem. It sure sounds like one.

But it’s mostly the sound that’s wrong. The band is tight without the next step of looseness that comes from making records together in the same room day after day. Ed Greene is a fine drummer, but he’s no Al Jackson or Roger Hawkins. Steve Cropper and Greg Leisz play all the right licks (Cropper should—he invented most of them), but too many. And the digital sound lacks the warmth that Sledge’s voice requires to do that woooo do so well. A nice try, but next time detune those horns.

Modern technology is not a problem for Isaac Hayes. He is, after all, the man who modernized soul music in the late ’60s with his extended cover versions of songs like “By the Time I Get to Phoenix,” and immortalized the wah wah pedal in the ’70s with Shaft. This, after helping to invent the genre in the early ’60s, composing “Hold On, I’m Coming,” “Soul Man,” and “I Thank You” for Sam and Dave, and playing piano on countless Stax hits.

Branded offers all the essential Isaac. Sting’s Fragile gets the extended soul-symphony treatment to great effect, but the Lovin’ Spoonful’s Summer in the City just isn’t funky enough at core to withstand Hayes’s over-the-top orchestrations. The heavy breathers are here—“I’ll Do Anything (To Turn You On)” and “Let Me Love You”—reminding us who begat Barry White.

Over the top—absolutely, Camp—definitely, if you’re white, and probably for most black folks in the ’60s as well. On the other hand, it doesn’t get any funkier than this, and, in the right mood, it’s great fun.

For those who want twice the funk with half the fat, Raw & Refined offers a rare treat. On an album of 13 soul instruments (Okay, 12, he had to put his voice on one of them), Hayes offers us all the elements of his sound—the wah wah abuse, the strings, the brilliant arranging.

From the Tighten Up—style groove of Memphis Trax to the make-out music of Makin’ Love at the Ocean, we’re given plenty of opportunities to groove up a storm without any preaching or heavy breathing. Raw & Refined points up Hayes’s genius for marrying church-style soul with modern sounds—country meets city, greasy meets sheen. Gentlemen, start your samplers.

—Michael Ross

POPULAR

BOY GEORGE: Cheapness and Beauty
Virgin 40492 2 (CD). Jessica Corcoran, prod. TT: 50:29

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WorldRadioHistory

Stereophile, December 1995
and Beauty is something of a tautological disappointment in the Big Message department. Big News #1: Boy George is gay! Big News #2: Heroin will kill you (and sensible people quit). Big News #3: Anger, revenge, melancholy, and joy are universal emotions.

I think many of us — since the days of Kabuki makeup and Satmar rabbinical togs —figured George might be a bit, well, that way, and —since one thing the guy is is exhibitionistic and the second is an amazingly agile conversationist (“I’ve talked enough about myself. What do you think of me?”) — I think the world knew George was hooked on smack (and coke and enemas and trash disco queens, etc.) long before he sobered up and claimed it.

Well, there’s nothing like a Witness: In his first CD in a long, long time (timed to coincide with the appearance of his autobiography, Take It Like a Man, in a Barnes & Noble window alarmingly near you), George advises the tribe to kick, tells his folks he’s made in God’s image, builds this glam-rock, full-till boogie work around a pretty good pop song that will never in a million years get any airplay whatsoever in the US (“Love in Reverse,” a pretty good exercise of the theory that you can’t judge a book by the cover, we’re all human beings under the gender politics roof, etc.), delivers contextually hilarious lines (“Father, it’s too late / To make a man out of me”), and generally plays the rock’n’roll fairy to the point where even Tinkerbell might wince.

Oh well, that’s our Boy, over the top as usual, all wrapped up like a present and looking for unconditional love. Cheapness and Beauty is well-played, tight, and rocks out fine in the glamrock tradition, but if you knew Bowie like Ziggy knows Bowie, or Eno, or Brian Ferry, or Freddy Mercury, this is a musical anachronism with po-no punk tough talk tacked on: “Max Bell, piss off. You’re ugly... To all poofs, dykes & breeders, remember to play safe, wear a sack...” (liner notes)

In my ‘umble opinion, what the world really doesn’t need is a way-too-late ultimatum about safe sex and tough love from Boy George (anyone who hasn’t gotten that message is dead by now, or torching their own particular crosses on their next-door neighbors’ lawns). What we could use is George’s beautiful, beautiful voice, interpretive genius, sinuous way with a lyric, and genuinely touching and generous soul. And, of course, his fashion sense. George, just go make “Karma Chameleon” some more—for the 21st century—and you can leave the hat on. Mostly recorded at Sarm Hook End Studios, UK.

—Beth Jacques

THE COSTELLO SHOW: King of America
RykoDisc (CD) 20281 (C1 only). T Bone Burnett, Declan Patrick, Alyous MacManus, prods.; Larry Hirsch, eng.; Roger Bechirian, remastering. AAJ. TT: 74:38

ELVIS COSTELLO & THE CONFEDERATES:
Live On Broadway, 1986
RykoDisc (CD) 20281-1 (limited edition C1 only). AAJ. TT: 23:57

ELVIS COSTELLO: Blood and Chocolate
RykoDisc (CD) 20282 (C1 only). Nick Lowe, Colin Fairley, produced by Roger Bechirian, remastering. AAJ. TT: 70:17

ELVIS COSTELLO: An Overview Disc
RykoDisc (CD) 20282-2 (limited edition C1 only). AAJ. TT: 78:30

A couple of months back, there was a Worst Sounding CD Ever thread on Compuserve’s Consumer Electronics Forum. I posted some of my favorite ear drillers — Stevie Wonder’s In Square Circle, Springsteen’s Born in the USA... and Elvis Costello’s King of America. One of my cyberpals agreed with the choices... except for King of America, which he remembered as not being all that bad.

So I listened again, and, unlike the other candidates, which were bright, brighter, and brightest, KnA had just a narrow band of upper-midrange glare, grain, and hiss. And since KnA is my favorite Costello album despite the sound, I thought of the updated Rykodisc release and smiled. Thank God for Roger Bechirian and 20-bit remastering.

In his liner notes, Elvis Costello writes, “In some ways this issue marks the first serious release of King of America.” True, but the song order is the same — the Ryko difference is in the sound. The remastered upper mids are silky smooth, the midbass is filled out, and, if anything, the overall effect now leans slightly to the yang side. But the most impressive improvement is in what Martin Collins would call the pace and rhythm department. The Columbia issue sounds as if the tape actually lunches now and again. As for the Ryko version, MC, it boo-phies.

And what wonderful playing was unearthed beneath that grunge and grain. For the first non-Attractions CD albums since My Aim Is True, producer T Bone Burnett rounded up an all-star cast including James Burton, Jerry Scheff, T Bone Walk, and Jim Keltner, and used them to great effect. Listen to legendary bassist Ray Brown move the groove on the raveup “The Eisenhower Blues,” then stretch it out to ballad pace on “The Poisoned Rose.” But the playing is as subtle as it is masterful, which leaves Costello’s amazing wordplay as far front and center as it’s ever been. The record starts with “He thought he was the King of America / Where they pour Coca-Cola just like vintage wine” and just gets better from there. Discover it for yourself.

King of America’s extended-play tracks are merely the frosting on the brownie: nice to have, but the album is sweet enough. Overtune kicks off with a couple of tunes by the “Coward Brothers” (aka Costello and Burnett): An EC rave-up called “The People’s Limousine,” and a Leon Payne/Hank Williams tearjerker, “They’ll Never Take Her Love Away From Me.” The two outtakes from the KnA sessions, “Suffering Face” and “Shoes Without Heels,” are for completists only. Much more successful is the tightly wound “King of Confu-
"I produced Lesley’s second album to set a new standard in pop recording. If you buy only one pop album this year, make it this one."

— Dick Olsher, Senior Cont. Editor

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love affairs, and narcissistic against all odds...a complete tour de force”—I personally think this is The Smiths, re-convened as a wheeze. (“Little is known about them,” notes UK rag Pop Babylon, “apart from the fact that this has been produced by Phil Vinall (The Amateurs, Elastica), they hail from London, and their singer holds his cigarette in an incredibly affected way.”) I rest my case.

Still, who cares? Whether they’re the self-described “poetry-reading, slipper-wearing fools with testosterone” or the living incarnations of David Bowie and the Divine Mr. M, they’ve got the brawny, loud guitars, the fey and fragile philosophizing, the weapons of irony and contrast, as Monty Python might say, and the grand tradition of the truly self-absorbed so apotheosized in Morrissey’s “Girlfriend in a Coma”—all down to perfection. “I was having the time of my life! So why’d you have to die?” whines “London, Can You Wait.” Delicate melody and guitar braggadocio duke it out in “Sleep Well Tonight” (“Tomorrow we fight”). For me the best track of the lot is “Haunted by You,” an alarmingly sensible bluesy bop on dead relationships that just won’t lie down and die. Great pop, whoever they are. —Beth Jacques

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2 Mitchell Froom told me that “End of the Rainbow” is worth the price of admission just to hear Elvis spit out the first line: “I feel for you, you little horrid.”

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GENE: Olympian

Fears not, fans of The Smiths—Morrissey has flitted to another astral plane and trodden lightly over the soul of Watford, UK creator of “outsider art” (read “nerd”), Gene vocalist and main composer Martin Rossiter.

Which is not to say their debut album, Olympian, is bad—indeed, it's very, very good. Indeed, it's so good—Brit music weekly Melody Maker says, and I quote, it's "eleven tracks of small-town disgust, self-consciously heroic dence," a wiry ballad as fine as anything on the very fine album itself.

One nit to pick: In his liner notes Costello refers to versions of “I Hope You’re Happy Now,” an original excluded for reasons of pride; and Eric Bogel’s “My Youngest Son,” and Richard Thompson’s "End of the Rainbow," two covers left off for reasons of space. I’m not complaining exactly, but I’d love to hear them.

The first pressing of King of America also includes a bonus CD from the 1986 “Confederates” tour which included most of the band from the KoA sessions. The five covers run from Dan Penn to Mose Allison, and the sole original is the morning-after rocker, “The Big Light.” Depending on your perspective, it’s either a document or a great party record. Or both.

Blood and Chocolate, the last album of Costello’s induction to Columbia and the last of the Ryko reissues, also benefits from the attention. Released only months after KoA, Blood was a little overlooked at the time, but now it serves as a testament that the Attractions are one of rock’s great bands. Costello hit the bart right on the head in his liner notes: “When we gave them something close to what they wanted: a pissed-off thirty-two-year-old’s version of This Year’s Model, they hated it and buried it under a stone somewhere in Utah.” But now that it’s been uncovered, sonically as well as archivally, it belongs on your shelf right next to This Year’s Model and Armed Forces. I know that I’m beginning to sound like a scratched CD...CD...CD...CD on this one, but the Ryko remastering is above reproach, and makes the Columbia version sound like the early digital doggie-doo that it is.

And Blood mines a deeper vein of buried treasure. The highlights include delicious trifles like “Seven Day Weekend” with Jimmy Cliff, the single version of “Blue Chair,” and “Baby’s Got A Brand New Hairdo,” a so-so song with a grrrrreat title. The coolest rarity is “America Without Tears, No.2,” a same-melody sequel to the war-bridge ballad on King of America. Here, our bride’s departed husband mulls over his own exile while sorting his own dirty laundry in South America. A must-hear for committed Costellettes. And finally “A Town Called Big Nothing,” from the cowpunk pic Straight to Hell, proves that if you’ve got a Spaghetti Western theme that needs writing, EC’s your man.

A series capper for us keyboard and control-room types is An Overview, Costello’s interview with Peter Doggett of Record Collector magazine. It’s clear when you hear this not-particularly-angry middle-aged man talk about his music that all those smart songs were no accident. (You get it free with a first pressing of Blood.) A brief synopsis: Thumbs up to vinyl, the Clash, George Jones, and “I’ve Got You Under My Skin.” Thumbs down to Linda Ronstadt, tabloid journalism, the Stones singing blues, record companies, pigeonholing, leather-bound reissues, and records that critics love and audiences ignore. So make Mr. MacManus happy. Buy his record.

—Allen St. John

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EMMYLOU HARRIS: Wrecking Ball
Elektra/Asylum 61854 (CD). Daniel Lanois, prod.; Malcolm Burn, eng. HDCD. TT: 53:05

Throughout most of Emmylou Harris’s recording career, two constants have held firm: her superb vocal instrument, and her complete control over the emotional and musical content of her
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records. On *Wrecking Ball*, she has surrendered the latter in an attempt to compensate for the loss of the former.

All of her previous releases feature Harris surrounded by pristinely recorded instrumental parts as important to the music as her own voice. Here, producer Daniel Lanois has created a thick sonic gumbo that blends instruments and background vocals into a mélange that harks back to Phil Spector’s “wall of sound”—a far cry from the “neo-traditionalist” acoustic sound championed by Harris on most of her earlier albums. *Wrecking Ball* is sonically closer to Lanois’s work with U2 than his more acoustically transparent efforts with Robbie Robertson or Peter Gabriel.

But Harris has always had impeccable taste in choosing songs, and *Wrecking Ball* is no exception: Her 25th release has tunes by Rodney Crowell, Lucinda Williams, Neil Young, Steve Earle, and Bob Dylan. But despite the wide range of musical contributors (including Young, Earle, and Williams), the album is unified by its generally melancholy mood; the music sounds lethargic and dreamy, as if filtered through a morose, opiated haze. Lucinda Williams’s “Sweet Old World” drags, suffused with rueful world-weariness rather than love of life. Nothing on the album is very upbeat; even Rodney Crowell’s “Waltz Across Texas Tonight” is better suited to elbow-bending than dancing.

But the sound... Harris sounds as if abandoned in a Grand Canyon-sized cavern, with nowhere to hide. Only a distant, diaphanous curtain of sound accompanies her. While the instrumental “bed” behind her is reverberant, homogenized, and very “wet,” Harris’s voice is dry, thin, and rather grainy. Unlike previous albums, where you could clearly identify each backing musician, here you’ll be hard-pressed to differentiate the individual parts, let alone the musicians.

Except for those few tracks where Lanois duets with Harris, such as Jimi Hendrix’s “Waterfall,” identifying the harmony vocalists is difficult at best. Neil Young joins Harris on a few cuts, but his familiar whine is half-buried in the murk. While the midrange is recessed and thin, the mid bass is fat and sassy, featuring all sorts of hand drums and bass pedals. The bass isn’t tight or well-defined but big, slow, diffuse—like a giant rolling cotton ball.

I recently heard Harris at E-Town,\(^3\) backed by Daniel Lanois, Brady Blades, and Daryl Johnson. Live, the sound was less horrendously processed, but Harris was still very much alone in the mix, a small voice buried in Lanois’s power-trio mix. She sounded strained, and often disappeared into raspy inaudibility. In fact, Harris seemed relegated to backup singer rather than leader during the show, the band taking all its cues from Lanois. Still, the music was evocative, and the audience response was enthusiastic.

*Wrecking Ball* is HDCD\(^*\)-encoded. Perhaps this CD (I haven’t heard the vinyl) is closer to the analog master tape than a non-HDCD-encoded disk. The overall sound is so unnatural and hyper-processed that I’d be surprised if anyone could infer anything about the “sound” of HDCD from this CD.

A perplexing release: beautifully dreamy, morose, sonically odd, and, in the end, strangely appealing. —Steven Stone

Besides, Randy Newman is a lifelong atheist, so what’s his point in setting up this straw god? If he’d been even an agnostic, there might have been more at stake here. But *Randy Newman’s Faust* can’t seem to do better in the Shattering Revelations Department than: God is... a good-looking guy! The Devil likes... rock’n’roll! God likes... to be worshipped! The Devil’s favorite city is... Las Vegas! God and the Devil are both... figments of the human imagination! This *Phantom*-esque Broadway musical will shake the foundations of Western Civilization about as much as that other masterwork of pop atheism, Jethro Tull’s *AQUALUNG*.

The casting might have seemed like a good idea back in, say, 1973, but... James Taylor as God? Don Henley—a cipher here—as Faust? Elton John (who?) as Angel Rick (who?)? And here’s a sample of this *Faust*’s devastating wit, as the Devil (Newman) tells off the Lord (Taylor): “In all my life / I don’t believe I’ve ever heard such bullshit! / Even from You / A master of bullshit / You know it / I know it / It’s bullshit! / Bullshit.” My, my. The Lord must have just crumpled up and died.

Only the women make this disc worth a re-play. Linda Ronstadt (as the pure Margaret) sings an almost heart-breakingly innocent “Gainesville,” and “My Hero” and “Sandman’s Coming” are the sort of winsome, minimalist ballad-with-slightly-tart accompaniment that Newman writes all too seldom these days. Bonnie Raitt (as the worldly Martha) does a greatly self-satisfied, bad-girl-with-heart-of-gold turn in “Life Has Been Good To Me,” and her “Feels Like Home” is wearyly poignant—the sorts of tunes she gave up singing long ago, more’s the pity.

Newman himself sings the breathless comic shuffle of “I Gotta Be Your Man” (unabashedly based on “They’re Red Hot,” the Robert Johnson novelty tune), but “Bleeding All Over the Place” might have been a lot better had it been taken more seriously. The rest of *Faust* is generic tuneless Broadway boilerplate with generic aging-rock-star posturing. Pretty tired. Six decent songs out of 19 is not so hot, but this proportion has been typical of Newman albums for almost two decades now.

Most of the backing tracks are LA session-dude slickery, but Newman’s astringent orchestral arrangements are of intermittent interest. Still, you’d be better off picking up one of his many soundtrack albums to hear Newman’s best work in this department. I seem to

\(^{3}\) *E-Town* is a nationally syndicated radio program that combines ecological news and information with live musical performances. Imagine Unplugged meets *One River*.

RANDY NEWMAN: *Randy Newman’s Faust*
Randy Newman; Faust; James Taylor; Lord; Don Henley; Faust; Elton John; Angel Rick; Linda Ronstadt; Margaret; Bonnie Raitt, Martha
Reprise 45672-2 (CD), Peter Asher, prod.; Frank Wolf, eng. AAD/TT: 5828

When I heard that Randy Newman was working on his own version of Goethe’s *Faust*, I had two questions: *Why?* and *What else is new?* After all, the protagonists of so many Newman songs over the past 30 years, from “Davy the Fat Boy” to “Guilty,” have clearly made Faustian bargains with their own inner Mephistopheles, even if few have had the moral wherewithal to resist or regret such deals. Besides, Goethe wrote *Faust* 200 years ago; itself an update of the Book of Job, it doesn’t need rewriting or updating, and Randy Newman didn’t need this degree of self-indulgence. (It’s not just a concept album—it’s a Broadway Show! God, so to speak, help us.)

Randy Newman has rewritten Goethe’s *Faust*: Well, okay, but how ‘bout some tunes!
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WorldRadioHistory
STEREOPHILE, DECEMBER 1995
be alone in thinking Newman's finest music over the last 12 years has been for films; even Scott Montgomery, in his exhaustive and otherwise excellent cover story on Newman in Goldmine No.394, gives the soundtracks short shrift. But pick up Ragtime (still only on cassette and begging for expanded CD reissue), Awakenings, Avalon, Maverick, or, best of all, The Natural. All the grace and wit that Newman no longer puts into his own songs he seems still able to muster to accompany the stories of others.

But not Goethe's Faust. The sound is very clean, with convincing if false soundstage depth and spread when the chorus is singing, but in an exercise as tired, riskless, and pointless as this, I don't see that it matters. What a disappointment.

—Richard Lehmann

THE POLICE: Live!
ADR. TT: 2:24:11

Live! is a catchy, bouncy legacy of those now-distant days before Sting's transformation into the navel-gazing Stephen Stadulus of pop jazz-rock, back when Mr. Summer and musical pals Stewart Copeland and Andy Summers purveyed The Police's catchy, bouncy, New Wave Reggae. This is an aural Tale of Two Cities, as it were. Disc One documents a 1979 radio broadcast from Boston's Orpheum Theater, recorded just after the release of Regatta De Blanc. Disc Two, a memento of the group's 1983 stadium-sized "Synchronicity" tour, is, more than anything, a reminder of how far The Police had come in those few intervening years. As the rolls at A&M are only too happy to point out, they were the Most Played Band on US radio in the '80s. Yikes!

The evidence presented by Live!—of either the performances themselves or the overall sound quality—doesn't add up to a clear-cut case of Good Police, Bad Police. Both discs deliver the reasonably faithful sonic illusion of actually being part of the concert audience. Placed side by side, however, the '79 tapes are a tad dry and box-in-the-sound tending to gravitate to the midsection. The '83 show is a better recording, with a far greater soundstage and a more equitable spread from high to low.

Musically, it's a matter of personal preference. Neither of these performances is likely to revolutionize your opinion of The Police, though you'd be hard-pressed to deny the group's individual and cumulative technical proficiency—these guys had their chops down, and negotiated their instruments

Phil springs yet another album—The Gold Experience—on an unsuspecting public still hung up on pronounceable names.

(Summers, guitar; Sting, bass; Copeland, drums) with smooth aplomb. If you're inclined toward the grand, polished gesture, the expansive traversals of the Atlanta tapes will be your cup of tea. Those who favor youthful abandon will no doubt opt for the edgy, tart Boston version. I'd say take your pick, but they're only available together.

—David Prince

THE Gold Experience
Warner Bros./NPG 45999-2 (Cl 1). Phil, prod.; Tom Tucker, Chonic Fireeze, Ray Hahnfeld, Steve Durkee, Phil, Brian Gardner, engs. TT: 65:21

These days, it's hard to be outrageous. When Phil burst upon the scene in the late 1970s, his realistic discussion of sexual obsession, liberated social behavior, and sensualist philosophy jolted the pop world. Of course, there was ample precedence for rock outrageousness. In fact, the act of being outrageous is an integral part of "rocking" itself—or so it would seem. But there was always an edge, an element of danger, to Phil's songs. Now, some 15 years later, while the message has remained essentially unchanged (ie, hedonism is fun but ultimately unsatisfying), it no longer shocks us to hear it articulated in sexually explicit terms. What remains, however—and this is the real key to Phil's artistry—is the impeccable musician's energy, and vibrant grooves.

"Control" is a wicked, nasty, pointed rap about female power which relies heavily on hip-hop vernacular and subterranean synth bass backed by digital drum tracks. As usual, Phil's originality allows him to transcend the style with ease. "Endorphinmachine" is a surging rocker reminiscent of Purple Rain-era pyrotechnics which may have you up doing aerobics in the listening room. Elsewhere, "Shhh" and "I Hate U" are the kinds of slow-burn R&B grinders the kid from Minneapolis could probably do in his sleep, but they're superbly arranged and sung. "Now" is serious, hands-waving-in-the-air, party-time, body-jerking, get-down jamming. You'll be playing this track at your next house party—guaranteed. Oh yeah, I forgot—audiophiles don't have house parties.

Most of the material examines various stages of male/female relationships. The "gold experience" represents the achievement of a transcendent state of awareness and fulfillment, but also offers a warning: "All that glitters ain't gold." The only track not specifically concerned with interpersonal dynamics is the socially conscious "We March," co-written with Marvin Gaye's daughter, Nona. There's also plenty of the pleasures-of-the-flesh–oriented material we've come to expect from Prince, etc.

Sonics are about as bright, loud, and in-your-face as recorded music gets. If this disc doesn't give you enough bass, it might be time to invest in those subwoofers you've been considering—the bottom end is mega-massive. The top end, however, is often piercing and plagued with upper-register digital nasties. Hearing this CD blasting out at 120dB on the dance floor with six margaritas in you, you won't care. Listening at home with all your senses intact is a different story.

The Gold Experience was recorded in mid- to late 1993, at roughly the same time as Gone. The first single from this collection, "The Most Beautiful Girl in the World," was released in January 1994. It's good to finally have the album, which is of typical high quality and well-paced. Does this guy's studio vault ever get depleted? Phil's ability to crank out topnotch material seems to be truly unlimited.

—Carl Baugh
Synergistic Research and Music Lovers Separate The "Cable Truth" From The "Wire Liars!"

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WorldRadioHistory

Stereophile, December 1995
What a delightful surprise these four discs were. But first, some history:

In two two-year stints at Hal Roach Studios in the 1930s, composer Leroy Shield (1893-1962) composed well over 100 brief snippets of what later became known as "production music"—modular capsules of general-purpose soundtrack music for indicating a film's mood and pace. These were recorded directly to optical film and stored in a jukebox-like device from which they could be selected, played, and re-recorded to create soundtrack after soundtrack for Roach's briskly assembled comedic two-reelers (and later four- and eight-reelers). Some of Shield's musical cues eventually found their ways onto the soundtracks of as many as 50 or 60 different films, including virtually all of the talkies by the Little Rascals, Laurel & Hardy, Charley Chase, and the Boy Friends.

In other words, if you're American and over 25, and even if you're entirely unaware of the fact—you have heard this music before. Listen to these recordings to hear what may well have been some of your earliest musical experiences, whether at Saturday matinees or watching Saturday daytime TV programs. The sheet music and original film recordings are long lost; until a fortuitous discovery last year, the only remaining sources were the scratchy film soundtracks themselves. But even before that find, Producer Gert-Jan Blom sponsored the painstaking process of building a 2000-item database of cues from hundreds of Hal Roach comedies, assembling complete performances of such compositions as "Good Old Days" (the Little Rascals theme), "Little Dancing Girl," "On to the Show," and many, many more (each Rascals CD contains 50 tracks). These were transferred to DAT, after which began the laborious process of transcribing them, note for note, and then the almost-as-difficult task of playing these demanding miniatures before the microphones.

The result is a revelation, revealing not only how perfect Shield's intricate, quirky, and rhythmically daunting compositions were for the films to whose pacing and ultimate success they contributed so much, but also how effortlessly and unremittingly delightful they are when heard on their own. Their Mozartean Dixieland grace and energy conjure up a time when innocence still seemed possible, or at least was an illusion most Americans were more benignly willing to share. But these little gems are lifted above their own tendencies toward sentimentality and simple nostalgia by the obvious glee taken in their composition and, here, their performance. I guarantee it: If your disposition is not sunny when you put either of these CDs on, it will definitely be so by the time they're done. Highly recommended, and not just for specialists, or collectors of musical kitsch.

For these sessions the Beau Hunks numbered from 12 to 16 players—brass, woodwinds, saxes, strings, banjo, percussion—and clustered around a single stereo pair of mikes in a small studio to be recorded live in analog. The result is a masterpiece of the recording art: intimate, warm, utterly believable, with ideal soundstaging.

A similar technique was used in recording the Raymond Scott (1908-1994) tribute, Montreux on the Planet Mars, this time with the Hunks pared down to a sextet. You've heard Scott's music before, too: Carl W. Stalling, in his 25-year career as Music Director of Warner Brothers' animation division, often interleaved his own cues with Scott compositions. "The Toy Trumpet," "Dinner Music for a Pack of Hungry Cannibals," and "War Dance for Wooden Indians"—each, believe me, aptly titled—can be heard on the soundtracks of scores of classic WB cartoons; "Power House" alone appeared on more than 40 of these.

If Shield perfectly captured the lighter side of the '20s and the early '30s, Scott—the missing link between Spike Jones and Frank Zappa—managed to encode the somewhat darker, more determinedly surreal style of Warner Bros. animated comedy of the late '30s and '40s. There's a rhythmic ferocity in many of these mini-suites that perfectly matches the manic energy of Bugs, Daffy, Porky, and Elmer.

But the paranoid, secretive Scott never wrote anything down; instead, he taught his bandmembers their parts by "dictating" them from the piano. Again, the Beau Hunks had to transcribe the scores note for note; again, the results carry the authority of authenticity; again, they're delightful.

Perhaps the most invisible if most ubiquitous of the three composers surveyed here was Roger Roger (1911-1995). Roger, the first French composer of production music, between 1955 and 1964 composed close to 20 albums of generic orchestral cues for the Chapel-Mood Music series. These were not 101 Strings Play Songs for Lovers collections (still appearing at yard sales and flea markets near you), but were released only to the trade: radio, TV, and film studios. Roger's evocative little tonepoems have been used in thousands of low-budget documentaries and feature films, in "industrials" and "instructionals," radio dramas, local television productions, and countless commercials.

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Jane Siberry has followed her worst album with her best, on Maria turning into strengths all of the weaknesses that deep-sixed When I Was A Boy. On Maria, Siberry's flirtation with jazz has become a serious, committed relationship, and she has learned how to pick — and direct — her sidecats a lot more judiciously. Yes, here are the same tendencies toward long, meandering, semi-improvised verbal odysseys, the same habit of seeming to stumble on a vocal proto-riff and then kill it with repetition. The difference is that these repetitions build and are built on by an overarching and disciplined musical intelligence that somehow went missing on Boy.

And what a band. It's Joshua Redman's rhythm section: drummer Brian Blade anchors the whole session with the taste and laid-back swing of Jack DeJohnette, and standup-bass player Christopher Thomas plays with the solidity of a funk bassist and the flexibility of someone who's played standards all his life. Engineer David Travers-Smith has a warm, close-toned trumpet sound reminiscent of Mark Isham's or even Chet Baker's, while Tim Ray has a more crossover sound on acoustic piano. All four groove with quiet warmth and strength.

Basic tracks for this long album were laid down in three days; Siberry then spent the next three months in her living room laying down vocals. Other than those vocals, there are few overdubs. It's a tribute to Siberry's musical maturity that the result sounds entirely spontaneous. There's plenty of space in the generous mix, and Siberry wisely resisted the temptation to lay down harmony vocal upon harmony vocal. A lot less leaves space for a lot more.

I've tried to avoid mentioning Si-

berry's fellow Canadian, Joni Mitchell, but the similarity of Maria's sound to the free-wheeling spaceiness and lyrical looseness of Hejira, Don Juan's Reckless Daughter, and Mingus is unmistakable, and not at all derivative. There are also similarities to Tim Buckley's jazzier discs. Siberry sings lower in her range than usual, keeping to a minimum the breathlessness that began to dawn on her last two releases and made her sound like an alternative Blossom Dearie. The voice is fuller here, and more bravely and less wistfully wielded.

The closest to standard "songs" are the unutterably tender "Goodbye Sweet Pumpkinhead" — a true-love-found song — and the modally bluesy "Would You Go?," on which Siberry sounds as if she's being accompanied by no less than Keith Jarrett's Belonging quartet.

The rest of Maria is more impressionistic: linked strings of images looping back on themselves, with effects more evocative than narrative, as in "Honey Bee": "...and when I lay me down to sleep / in my flowery keep / the moon upon my face / I dream bowls of milk / ...sailin' toward a sea of rose." Or like Siberry's reworking of a nursery rhyme: "Mary had a little lamb / it fleece was white as snow / and everywhere that Mary went... hey! / Where did that little lamb go? / Where did that little lamb go? / little lamb little lamb far far away and long ago..." And vamp to fade. You get the idea.

Siberry adds sitar, tabla, and backup singers on the 20-minute "Oh My My," and manages to work in a children's chorus singing all the verses of "Puff the Magic Dragon" in between listing 24 numbered steps in the slow grunting-down of the human soul by modern society. It's an ambitious track with some power and elegance of expression that ultimately adds up to less than the sum of its too-many parts.

What kept me listening was the music. Maria is so gorgeously conceived, played, sung, and recorded that whether or not you can follow the words doesn't really matter. The sound is ECM-ish: full, lush, rich, warm, slightly larger than life, or more intimate than real, but always a sensual feast.

Amazingly good, and a true contender. If she has the smarts to book herself and this band in a concert tour of very intimate clubs willing to suspend table service for the duration of her set, Siberry will be something to catch. Magic could happen. Recommended. What a comeback.

—Richard Lehnert

**Stereophile, December 1995**
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Manufacturers' Comments

McCormack DNA-0.5
Editor: Yumpin! Yiminy! I am so stoked that Sam likes the amp! Uh, that is, I greatly appreciate the comments of Sam Tellig regarding the deluxe DNA-0.5 amplifier. It truly is a honey of an amp—one that I find myself coming back to time and again, both as an evaluation tool and for the profound pleasure of listening to music.

I can’t think of anything to add except a heartfelt “Thanks!” to the hard-working folks here at McCormack Audio who make it possible for you to enjoy fine products like the DNA-0.5. Great work, guys!

STEVE MCCORMACK
Designer, McCormack Audio

AUDIO RESEARCH CD1
Editor: As is so often the case in audio, measurements alone can obscure as much as they reveal—whether one is designing a product or reviewing it. Thank goodness that Wes Phillips has the uncommon good sense to trust his ears, and his long experience of music both performed and recorded, in judging the musical merits of a product like the CD1 compact disc player/transport from Audio Research. We are especially proud that the CD1 is the digital player Wes turns to “when I listen for pleasure.”

Some of Robert Harley’s measurements, such as the right-channel linearity and noise figures, puzzle our engineers, and lead us to wonder whether the unit reviewed may simply reflect a sample variation. Others, such as the 0.8dB drop in response at 20kHz, reflect a design priority in favor of gentle filters for better sonics and overall musical coherence.

“Cost-no-object” design engineering is certainly not what the CD1 is about. Rather, it reflects an intelligent mix of sensible, informed engineering choices, solid manufacturing, and ease of use in a single-chassis component. But as with every model from Audio Research, the guiding principle behind the CD1 is still that musical intelligibility and enjoyment must come first. Thank you, Mr. Phillips, for keeping your ear to the heart of the matter, and for considering the CD1 worthy of inclusion in your reference system.

TERRY DOWN
Vice President, Marketing & Sales
Audio Research

BALANCED AUDIO TECHNOLOGY VK-5 & VK-60
Editor: Balanced Audio Technology would like to thank Robert Deutsch and Stereophile for their stellar review of our VK-5 preamplifier and VK-60 power amplifier. We are pleased that Robert compared these products to the Class A competition and found, with the VK-5 preamplifier, “music opening up in a way that was quite exciting,” and that with the VK-60 power amplifier, “a layer of artificiality was removed, and I came closer to feeling that I was listening to the real thing.” Robert’s review confirms our belief that the VK-5 and VK-60 offer a unique combination of harmonic integrity and dynamic authority. Moreover, Robert’s clear preference for balanced operation (when carefully compared to single-ended operation) supports our position that properly implemented balanced designs offer superior sonic performance.

More important, the VK-5 preamplifier and VK-60 power amplifier demonstrate that Balanced Audio Technology can offer the superiority of fully balanced topology without requiring the customer to pay a premium. Indeed, both the VK-5 and VK-60 are priced more than competitively with the industry’s leading single-ended designs.

Balanced Audio Technology was founded with the belief that every aspect of design, manufacturing, marketing, and product support should be treated with the utmost level of professionalism. For example, our products offer a balanced combination of aesthetic grace and design excellence. We supply white papers that provide an informative yet eminently readable overview of our product designs. These are the perfect complement to the Stereophile review. Customers have a direct line to the factory on our 800 number to answer any questions they may have. Our Director of Sales, Geoffrey Poor, is a well-known and well-respected contact for our professional (and growing) retail network of audio specialists.

This level of professionalism should be evident in the way we handled the VK-60 power-transformer supply quality problem. As soon as it became clear that the problems Robert experienced with his transformers were not an isolated case, Balanced Audio Technology undertook an aggressive campaign to identify the source of the problems and eliminate them. We worked closely with the supplier to produce greatly improved parts. At the time of this printing, all US customers should have had their VK-60s already updated to the new power transformer at no charge. Federal Express was used for expeditious pickup and return. Overseas retrofits will be completed shortly. As any Olympic athlete will tell you, the way that you deal with adversity defines your character.

Finally, we would like to point out some discrepancies between measurements from the review and our own. For example, our measurements of the VK-60 sample provided to Stereophile, both prior to shipment and after its return, indicate an output impedance of 2.3 ohms in stereo mode as opposed to the 3.9 ohms reported in the review (our specification is 2.5 ohms). Such differences, not uncommon in the world of electrical measurements, are sometimes hard to explain and may reflect a measurement artifact of some sort of intermittenance (for example, a poor connection in one of the four output tubes’ sockets could cause such an increase without being otherwise noticeable). The 1.5 ohm measurement on the bridged amplifier is more in line with our data.

In closing, Robert’s magical experience with the VK-5 and VK-60 has been replicated by our customers across many diverse speakers and systems. We believe that our equipment has demonstrated a real-world universality in its ability to provide consistently excellent performance. We are pleased to be recognized for our efforts, and are sincerely appreciative of Stereophile’s professional review.

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CREEK 4240SE
Editor:
It's amazing what a glass of cheap red wine and a slice of pizza will do.
I did enjoy Bob Reina's review of the Creek 4240 Special Edition amplifier. I like a man who likes my equipment.
But I do take umbrage over his attack on the speaker jacks on the back of the amp. They are there because we, and many British manufacturers, know that they are among the best-sounding connectors available. Binding posts, spade lugs, and (ugh) bare-wire spring clips just don't cut the mustard (whatever that means).
Ironically, the only people who complain about banana sockets are reviewers, because they are about the only people who keep changing their equipment. (Surely they are not suggesting we make equipment just to please them?) The rest of us put it together once, sit back, and enjoy the music.
As Bob says, the Creek 4240SE (and the regular 4240) can be ruthless in exposing problems in associated gear. This would perhaps account for the mixed reviews by others. Too many people are misled by its low price and rate it with inferior equipment. The Creek 4240SE is truly a high-end product. Feed it a good signal and it will sing. Feed it crap and it will reproduce crap—brilliantly!
ROY HALL
Music Hall/Creek Audio Ltd.

MANLEY 440
Editor:
We thank you and Jonathan Scull and Tom Norton for a fine review—we know it's a lot of work in all phases: listening, evaluating, and then measuring.
Just a couple of points from me, please:
1) The purpose-built "500" series (ultra-low ESR) Cornell Dubilier 350Vdc electrolytic capacitors constitute an inadequately "safe" power supply in terms of Joules-Energy at the 650V power-rail we use...probably the highest-capacity bank in the tube industry. Solid-state amplifiers with their lower (50-80V DC) dual plus minus voltage rails utilize total capacity in the 10s, 50s, and sometimes 100s of thousands to equal this.
2) JS takes issue with the "resonant" toroidal dust-cover (0.0900 milled aluminum) without commenting or noting that it mates with what we know to be the most rigid, solid, noiseless chassis in the world: 5/8" solid milled sides, with 1/4" solid chassis plate, front panel, and rear—all milled from billet. No beat/stamped sheet-metal here!
3) JS gets a little "numerique" confusion on power numbers. We claim approximately 50% power output in triode, and TijN confirms this with 210W into 4 ohms, even at a standard 112V line voltage. (In my respectful opinion, Stereophile should contemplate purchasing a large VARIAC for their test bench to adjust for Santa Fe's seemingly low-line voltage.)
4) EveAnna claims JS misunderstood her when he states that she prefers triode mode. She (and I) actually prefer tonal operation in this particular 6500-equipped model. JS has it right about how I personally feel about sufficient power headroom versus iris-sensitivity speaker sensitivity: triode operation is glorious only when sufficiently sensitive speakers (say, +90dB) afford generous headroom. Triodes, with their inherently higher distortion, shine especially when they're not "fighting the load!"
5) The output transformers in the 440s supplied to JS (and all current production, therefore) are our latest extension and development of the MAGIC concept—designed by me and totally manufactured in-house. Among other things, they guarantee absolute phase-to-phase equality in number of turns, DC resistance, and exact plate impedance.
Pardon me for summing up by saying that we are very proud of our 440 model, and highly gratified that Jonathan and Kathleen enjoyed it so much.
Thank you.
DAVID MANLEY
Manley Laboratories

CLASSÉ DAC-I
Editor:
Classé Audio wishes to thank Stereophile and Robert Harley for the outstanding review of our first digital product, the DAC-1. We waited a very long time to introduce our first digital products and are extremely honored that Robert Harley found the DAC-1 to be..."a revolution in the price-performance ratio in digital playback." We sincerely appreciate Mr. Harley's detailed and insightful comparisons of the DAC-1 to reference-quality processors such as the Spectral SDR-2000 Pro and the Sonic Frontiers SFH-2 Mk.II.
Classé Audio always attempts to offer outstanding build quality, superior electrical measurements, and excellent sonic performance...all while achieving a realistic price target. We do not follow the concept of designing for "cost no object." We believe that it may be more difficult to achieve the goals we set when price is a relevant objective. Hence, when a respected reviewer such as Mr. Harley recognizes our effort as a revolution in price-performance ratio, we feel completely justified that our design goal is fulfilled.
In regards to the sonic qualities of the DAC-1, we concur with Mr. Harley's observations. In fact, we are humbled by his statement, "My reaction to the DAC-1's musical performance after the first evening of listening? Stunned." Many of our dealers and distributors have made similar observations after their initial listening sessions. Even after shipping the entire first production lot, we still hear the word "stunned" quite often.
In assessing the results of his electrical measurements, Mr. Harley made the following observations: "This is the lowest noise level I've measured in a digital processor..."...the DAC-1's linearity was superb..." "These are the best-looking low-level waveforms I've measured."
"The DAC-1's channel separation...was excellent, measuring nearly 130dB at 1kHz..."

The DAC-1's achievement of superior technical performance is a tribute to both the design team and to the UltraAnalog AES '91 and DAC D2040-A modules. Readers should note that the DAC-1 uses two of the UltraAnalog Dual DACs in a true balanced differential design. After years of experimenting with less costly DAC chips such as those from Burr-Brown, Analog Devices, and others, we found that our goals could only be achieved by using the justifiably expensive UltraAnalog digital receiver and DAC modules.
Finally, we have recently begun shipping our first Digital Transport, the CT7.
We are highly optimistic that serious audiophiles will find it to be a perfect complement to the DAC-1, and ask that you audition both our new digital products together.
Mike Voglas
President, CEO, Classé Audio

RUARK TEMPAR
Editor:
Although I sometimes curse the day Ruark printed their owner's manuals, therein referring to the small cavity and plug at the rear of their speakers as a "bung," I am not beyond joining others with humorous scatological references. Hey, if Shakespeare could do it, so can we. We've found that some people forgo the bung with lead shot or sand and instead infuse Ruark bungs with cat litter (fresh, please). Does it sound better? We'll leave that test to you.
Weiss's analysis of the Ruark Tempars is thankfully as thorough as any done on the megabuck components he wistfully longs to test. We often send Tempars into the field first, in the crucible for new dealers. This is partially because the Tempar is our most popular teensy. But it is also because every dealer who plays with them for a while usually offers a comment similar to the one Mr. Phillips nearly wrote: "It's impossible to make them sound bad." Since Wes Phillips towers well over 6', tall, I'm not surprised he's worries about the Tempars' diminutive stature. The psychological effect of these shortsies is to make almost everyone think that they're going to image too low. But they don't. The key is to get far enough away from them. The closer you get, the more likely you are to get a lowering feeling, as Wes sometimes did. Rest assured, the Tempars are designed to cast an image upward,
Golden Dragon Audio Tubes

Premium tubes developed specifically for audio by British audiophiles and engineers.

"Judging by the quality and sonic superiority of the Golden Dragon 12AX7 and EL34, this venture is the best thing to have happened to tubes since the heyday of the likes of M-O Valve and Mullard...the Golden Dragon goal of premium tubes rivaling the best ever made appears to have been realized."


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310 WorldRadioHistory Stereophile, December 1995
long review, and for providing this space for our thoughts and comments. And thanks, Rolf, for building these beautiful and @#$%@$! heavy monsters, and, most important, for having this incredible gift of hearing abilities. (I would love to have just one third of his golden ear.)

It's good to see Jonathan write with so much humor. Yeah, he's right in that I forgot the dolby, etc., and I like the way he put it. Unfortunately, there isn't enough humor in this industry. It's true that the High End is the livelihood of us manufacturers and distributors, and this is a serious matter, but the High End is also fun. Today the consumer has the impossible task of sorting out the product he really wants or needs in a labyrinth of new products, rumors, and hype, regardless if it is a small system or a $420K amplifier. Of course, there is serious money involved here, but at the same time, this industry is based upon two major issues: High End as a hobby for the consumer, and the overall love of music. It shouldn't be about audio toys or advertising hype, but unfortunately, this seems to be the trend of the '90s. As for the consumer, just listen as much as you possibly can, compare, and, most important, have fun with the music.

Thanks also to TJN for his measurements and comments. However, as JS pointed out, these were my "traveling" amps. They have been a myriad of shows, dealer demos, and seminars. It is true that the fit and finish on this pair is well below that of regular production pairs, but this is an expensive pair of amps. It would cost a fortune to send a new pair to every audition, and that's why I use these amps on the road. Also, once the top cover is off, there are rails or handles in the amplifier, with which one can lift the 400s quite easily.

As for the heatsinks, see the sidebar interview with Rolf Gemein. "Overdesigned? Maybe, but they work wonders. The size of the 400s is also pretty much dictated by the height and depth of the power supply. Yes, it looks macho, but the power supply is the reason for the humongous case. As with all Symphonic Line products, Rolf only uses the best stainless steel. Sire it's heavy, but it's also one of the reasons why the amps sound that way.

When I received the amps back from Santa Fe, we checked the faulty amp and found that the same $4 pre-driver checked out. Rolf had already substituted this part that gave us all the problems with another driver that is inherently more stable and reliable. It works great.

Finally, there is some very good news from Germany. As of October, Rolf offers a smaller version of the amps, called the Kraft 250s, as well as a matching tube reference preamp. The 250s will be more modest in size and weight, with the identical design and sonic performance. The price will be $18,000 for the pair. Anyone who feels that the size or cost factor of the 400s is a bit too much might find the 250s ideal.

Happy listening,
Klaus Bunge
President, Symphonic Line

ACOUSTIC ENERGY AE2 SIGNATURE
Editor:
Thank you for a thorough and clearly very positive review of the AE2 Signature [November '95, p.108]. We believe that JA has appreciated exactly what we were trying to achieve: to deliver a fast, neutral, and dynamic sound with controlled and extended bass in a highly compact package of superlative finish.

As John has correctly observed, designing with nominal 6dB/octave response slopes offers superior depth, clarity, and dynamics. As he also noted, both macro- and microdynamics matter and play significant parts in the AE2 Signature sound. However, it is inevitable that some of the off-axis frequency responses will be less tidy than for a system with a steeper slope crossover.

Perhaps not sufficiently well explained is that the response of both drivers, individually and in context, comes right when on the defined and recommended listening axis. In fact, that axis deliberately creates a small time delay to the tweeter relative to the listener, bringing it into optimum phase alignment with the midrange through the crossover region. That's why the center is flat on the listening axis.

Proof of the essentially neutral tonal balance is seen in JA's room curve, which does not show any significant notch or loss of energy at crossover. Also, bearing in mind JA's customary speaker placement on the long wall of his room (ie, well away from the side walls), we could anticipate a mild lightening of midrange timbre. This would not occur in what we believe is a more typical room setting where the speakers will be closer to the side walls, which will generate some reinforcement of the lower midrange. Our reference lab room curve for the AE2 Signature mirrors JA's fig.7 except for a couple of dB of smooth reinforcement in the 100-300Hz range.

Steven J. Taylor
Managing Director, Acoustic Energy Ltd.

ACOUSTIC ENERGY AE2 SIGNATURE
Editor:
Cost pressures, such as those imposed in the US on imported products, lead companies like Northstar Leading the Way to seek out and obtain the finest high-end lines. The Acoustic Energy AE2 Signature series are such products. We knew from the start that we had something really special when we auditioned these wonderful speakers at Steven Taylor's suite at The Golden Nugget during the 1995 WCES. We quickly reached agreement to handle AE distribution in the US.

We too appreciated the awesome dynamics that these compact speakers generated. Like John Atkinson, we realized that AE had been able to increase the dynamic envelope of a small speaker by minimizing the resonance of the cabinet andexploiting to the full the dynamic potential and transparency of the pure piston metal-cone drivers.

We believe that AE has also tailored the crossover to match the new design without compromising tonal integrity. The speaker can play very loud without any compression or tonal degradation. It fulfills one of the most important aspects of the enjoyment of music: dynamics!

Frank Garrie
Director of Sales & Marketing
Northstar Leading the Way

PLATINUM AUDIO SOLO
Editor:
After many months of anticipation and suspense, it made my day to see your positive review of the Solo [November '95, p.108]. I was very gratified because, in all truth, there were many long days and nights put in by the dedicated team here at Platinum.

The Solo may be considered "conventional"-looking, but great attention to detail was applied to the industrial design so that the Solo would integrate visually in most home environments. My goal was to create a loudspeaker with very high performance ability, steering clear of anything ostentatious or eccentric. Customers from around the world appreciate the Solo's simple elegance.

Back in 1985, when I designed my first loudspeaker (the Acoustic Energy AE-I), I was still struggling with trying to reproduce at least 41Hz (the lowest note on a four-string bass) at realistic levels from a minimonitor-size enclosure. Around that time, the bass guitar had evolved into an instrument with an additional lower B string (around 30Hz). As a bassist myself, I found the challenge of taking up this "new" instrument exciting. The growing popularity of this instrument, however, contributed to even greater frustration for me as a speaker designer. It became my obsession to build a minimonitor that could reproduce the total frequency and dynamic range (grunt) of the five-string bass, without any compromise to any other part of the musical performance. A speaker that is bass-limited seldom risks interaction with room low-frequency modes, and seems to always sound tight in the bass region...but it will never give the listener the exhilaration of a full-frequency musical performance. It has taken me 10 years to design a minimonitor that can deliver powerful bass performance, and the Solo is the result.

I'd like to point out that I never really
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intended for the Solo to perform optimally with low-power amplification. So I was really surprised when we acquired our French distributor after he auditioned the Solo powered by the Cary Audio Design CAD-300SEI. Admittedly, his listening evaluation took place in a small room; nevertheless, he described the sound as transparent and pure, and with clean low-frequency impact! He also went on to comment that the overall experience was "very involving."

Many years ago, Martin Colloms told me "when manufacturing a product, spend the customer's money wisely." I have never forgotten that. Designing a high-performance minimonitor like the Solo is a tight-line balancing act between sonic performance, aesthetics, and design/manufacturing costs. I believe that when the listener considers that he or she doesn't have to purchase a subwoofer in order to obtain virtually full-frequency performance, indeed the Solo represents an excellent value in the high-end environment.

I'm glad that JA did this review. Being a bassist himself (if you've never owned a Fender then you are not, upright players excepted), he picked up the best aspects of the Solo. Oh, and we do have working prototypes of the bass guitar loudspeakers... and we forgot to warn the neighbors! PHIL JONES President, Platinum Audio

UNITY AUDIO SIGNATURE 3 Editor: Relevance. Both manufacturers and readers alike ponder each month what relevance Stereophile's MLSSA measurements have to sonic integrity. Indeed, few understand what is being measured, much less their impact. A common thread to virtually all of the MLSSA sections is one of no relevance. We see loudspeakers that are praised by reviewers as sonic nirvana measuring well, and measuring badly. As one who is at home in the scientific community, I should be espousing the glories of hard data. I, however, realize that measured data are like statistics, as the art, and danger, are in the interpretation.

Republicans and Democrats, when presented with the same "facts," see these "facts" differently. This is to be expected, as they are using these "facts" to further a cause. In the same issue as the Signature 3 review (November 1995, p.153) is the review of the WATT/Puppy 5 (p.99). This is a fine system, and Wes Phillips described the sound well. If you examine the [nearfield] plots (Puppy, fig.7, p.106; Signature 3, fig.10, p.167) using the measured response of the Unity (ref. level -4dB), we see that the two speakers have very similar bass responses. Since the Signature 3 is "basically a floorstanding minimonitor," one must wonder why the Puppy 5, a $5500 subwoofer, is not termed thus.

In figs.8, 9, and 10 of the WATT/Puppy review are, perhaps, the worst measured time-domain responses ever published in your magazine. Fig.9, in fact, displays what I would believe to be a midrange wired out-of-phase with the rest of the system (hear this, Lars...). This is the only explanation for a step response this bad. JA acknowledges that any wired out-of-phase is a no-no. How does JA interpret these measurements? "...an excellent... triangle shape." The MLSSA automatically generates an "excess phase" response. Where is the WATT? The Acoustic Energy's, the Platinum's, the Baton's?

JA finishes his summation of the WATT/Puppy by stating: "This is an excellent performance, correlating with the System 5's grain-free and smooth—but detailed—presentation."

Relevance. There is that word again. Are we trying to say the Signature 3 is better than a WATT/Puppy 5? No. Are we saying that through MLSSA measurements you can judge a good speaker from a bad one? No. What you can do is use the MLSSA measurements to boost products that are in your favor, and destroy products that are not. Unity Audio is, clearly, a bother to JA (see also the technical section of the Unity Audio Signature 1 review in Vol.16 No.5, pp.124-127). The facts are in black and white (just like our photo—even though we supplied a color transparency!). It is time to call for standards—and equal treatment.

If you would like a detailed response to this review, a primer that clearly explains what each MLSSA measurement actually is, and other thought-provoking articles, visit our Web site at (http://www.unityaudio.com); it should have been up and running by mid-November. Truth in a bottle...

ROBERT L. GROST President, Unity Audio

AUDIO MAGIC Editor: We at Audio Magic would like to thank Stereophile, and especially Steven Stone, for considering our product worthy of inclusion in your "Recommended Components" list. We spent a thoroughly enjoyable afternoon this past summer with Steven Stone and J. Gordon Holt, changing cables and enjoying fine music. Steven's system is truly of reference quality, and we were particularly impressed by the recordings made locally by Gordon and Steven. Hearing the performance allows one to evaluate components in the light of the highest standards of accuracy. We are thrilled to have someone with this level of dedication to music and its reproduction writing for Stereophile and evaluating our products. Steven may not be as thrilled with us, though, for when we took enough cables to wire his system we neglected to bring a current price list. We would like to apologize to Steven Stone and Stereophile for our oversight, and provide you and your readers with the current pricing of the Audio Magic Sorcerer interconnects and speaker cables, as listed in "Recommended Components": Sorcerer interconnects, $649/1m pair, $699 balanced; Sorcerer speaker cables, $1395/8' pair, $100 each additional foot/pair.

If your readers have any other questions, our number is (303) 364-8202.

JERRY RAMSEY, DAVID KISNER, LARRY WALL Audio Magic

RA LABS USA Editor: First, I would like to thank Stereophile for recommending one of our products—the RA Labs Black Gold Mini Reference loudspeaker—for the last year and a half. We have experienced, firsthand, the value your readers place on a Stereophile recommendation, and it is indeed remarkable.

Roy Allison and those associated with the RA Labs brand name have formed a new company. The name of the new company is RA Labs USA Inc. The products are the same as always, but it was necessary to identify the brand name with a company of the same name in order to avoid confusion, especially abroad.

The product is still available factory-direct, and soon will be available at selected Audio Specialists around the country. The new address and phone number: RA Labs USA Inc., 1A Business Way, Hope-dale, MA 01747. Tel: (800) 651-7444. Thank you and your readers for your support.

BOB BARR General Manager, RA Labs USA

MICROMEGA Editor: I am sorry to inform you that the main phone number for Micromega USA, Inc. was incorrect [in the October issue, p.203]. Unfortunately, there is an individual at the number published who is having a very difficult time. Could you please adjust your records to reflect the following information: Micromega USA, Inc., 13227 16th Avenue West, Lynnwood, WA 98037. Tel: (206) 745-8750. Fax: (206) 787-3067.

Thank you very much for your assistance with this matter.

Best regards, BRIAN HAWKINS Micromega USA

AUDIOQUEST Editor: In the October '95 Stereophile (pp.19-21), Mr. Bob Harr writes to the editor regarding an experience he and two "buds" had evaluating cables. I am not writing in response to the lukewarm evaluation of my own cable designs. If the cables in question had strictly been from other suppliers, my concerns would be just as great.
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Mr. Harr found “insignificant” differences among several of the cables. Any session among such disparate products which failed to reveal substantial differences must have been inadequate in some fundamental manner. The methodology is suspect. Since I wasn’t there, I am reaching for unsubstantiated conclusions as to how the session actually progressed. However, even if my concerns are misplaced in the particular, I believe them to be universally valid.

I maintain that if instead of sending the “better halves” off to the mall, they had hung around and everyone had thought the circumstances too uncontrolled to do serious evaluation, that then the significant others could have told the guys how straightforward and obvious the differences were. I believe the guys themselves would have been more likely to be impressed by the differences.

Just yesterday I was forcefully reminded of the advantage that goes to those who can listen without thinking. I was evaluating three different AC power cables, taking turns booking them up to a D/A converter, always starting the same 90 seconds of music over from the start and never touching the volume.

Over to the side an exhausted friend was lying on the sofa, one ear to the world, nowhere near the hot seat. This person has never read about audio or paid attention to audio. A Discman and a boombox populate their audio experience. After I had played each of the cables about two times, the disinterested party, who was absolutely not participating, who knew nothing about the cables and had no idea which one was in use, said, “That one’s much better; it doesn’t have that stuff in the way.” Virgin ears and no pre-developed audio language—but a straight route to the naked truth!

Methodology: How can something as simple as evaluating an audio component require serious thought? Doesn’t one just listen, and either there is a difference or there isn’t? If there is a difference, isn’t one better and one worse?

Yes! If you’ve never thought about equipment. No! If you have.

The most fundamental distinction is the difference between listening to music vs. listening to equipment. This is definitely the conundrum of our industry: How can one judge the “vehicle’s” effectiveness without becoming preoccupied with the vehicle?

The very definition of good audio equipment is that it is not noticed but is instead listened through. If one were to view a far-off landscape through a window, one would appreciate having a clean and undistorted window to look through. If the task at hand is to judge the usefulness of the window, it is the visibility of the view that must receive the viewer’s attention. The “test” would be to see how much interference the window caused. It would be very unproductive to let the eyes focus on the window itself. Focusing on any dirt on the glass would clearly destroy the ability to see and appreciate the view, rendering the “evaluation” meaningless.

It is in this manner that paying attention to the equipment destroys one’s ability to judge the effectiveness of the equipment. This artificial separation of the equipment from its function is possibly the most fundamental pitfall in the evaluation process.

Despite rampant references to “golden ears” and such, it is the truly naïve listener who most easily appreciates differences and is able to establish hierarchy. The irony is that it is the total absence of technical detail which makes it possible for these listeners to cut directly to the truth. However, even these advantaged people need an appropriate context for the bare truth to come shining through. There are pitfalls even for virgin ears.

The challenge for those of us immersed in this fabulous world is to retain the innocence we once had when we first felt the emotional and sensual thrill of a sound system that was better than we had thought possible. Generally, this ear-opening experience took place around late adolescence. We then go on to spend the rest of our lives trying to re-create that experience. The crucial distinction here is between “event” and “experience.” The politically correct paradigm for audio is to be preoccupied with re-creating an event that took place at another place and time.

To hell with living in the past. Music is about how we feel in the present! The purpose of an audio system (in the real world) is to evoke a human response here and now, not to give a history lesson. Whether an audio system is able to convey if a recording was made in Boston Symphony Hall or Carnegie Hall does not address the system’s ability to perform its basic function.

Music and data are not the same thing. If the recording and playback processes were more nearly perfect, then music and data would be equally well served. However, audio systems are a long, long way from perfect. This vast discrepancy leaves room for some seriously warped priorities—what I call the tyranny of perceived resolution.

In an attempt to more predictably quantify audio performance, there is an imperative to pay attention to quantifiable values. At its most base level this means measuring and looking for high or low numbers. At the listening level, this quantification fixation leads to the monotheistic religion of “resolution at all costs.”

In the artificial context of listening to (focusing on) the equipment, any additional “information” creates an imperative to follow that path, to use that...
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equipment. However, if the purpose of an audio system is to be a vehicle for music to stimulate the mind and body, more information should only be one of the gods in a pantheon, not the only god.

For example: If two components are components, and if you were using one there is a barbershop quartet singing to you, but with the other one you knew was an ABX test, you would immediately and absolutely declare the component conveying the music to be superior. However, what if the sound of the quartet is enthralling and involving, but that of the quartet is fatiguing and irritating? Isn’t it more important to enjoy the music?

This dichotomy highlights why a recording monitoring system is often so different from an entertainment system.

Resolution (perceived or real) is the purpose of a monitoring system. Sounding good and being enjoyable is next to irrelevant; hearing what is going on is the whole story.

After the danger of listening to equipment instead of music comes the next most fundamental challenge to useful evaluation—overcoming the amazing human ability to adapt.

We are astonishingly capable of “seeing” through distortion. We (generally) don’t feel our clothes, yet we are sensitive to even a single rain drop falling on our shirt. We can play all colors of sunglasses and yet still see that the sky is blue. If we use yellow goggles while skiing on a cloudy day, when we take them off the snow looks purple. The “solution” isn’t to get out the yellow paint to fix the snow, the solution is to allow ourselves time to re-calibrate our references. Once we have adjust ed to a colored (distorted) reference, we can be fooled into thinking reality is wrong.

Have you ever been given a cassette tape and you didn’t know if it was Dolby-encoded or not? Chances are you pushed the Dolby button on and off while you were playing the tape, in an attempt to decide which was correct. Chances are that at least your initial response was that both positions were wrong. One way sounded too bright and one sounded too dull. In this artificial context we are faced with two conflicting references, each of which makes the other one sound wrong. A common response is to wish there were a middle position, even though one of the existing positions is absolutely correct and the other is absolutely wrong. This is an example of how instant comparisons are highly deceptive selling techniques and not part of a trustworthy evaluation methodology.

Whoever controls the switch can sell whatever they want. This also applies to a lone individual doing an “evaluation” by themselves. Just because a second party isn’t involved doesn’t prevent someone from “selling” themselves whichever component first grabs their attention, whichever one got the good review, whichever one has an attractive story.

Another simple opportunity for deception (including self-deception) is the A/B phenomenon. The second time a piece of music is played, the listener is bound to notice something that wasn’t noticed the first time—even with familiar music. This perception feeds directly into the value system that says more information is our most commanding priority. If you want to sell something, always play it second.

There are ways around this pitfall: Go back to “A.” No matter which is better, going back to “A” will be a surprise. Since the step from “A” to “B” included the “novelty factor” in addition to the real difference, the step back to “A” will be surprisingly different from the original step to “B,” simply because the novelty factor has disappeared. “A” will seem to be better than when played the first time. Continuing on to play “B” a second time, without the benefit of the novelty factor, then reveals its true relationship to “A.” After the initial A/B/A/B, it is possible to move to “C” and “D” with far less confusion.

It can be easier to evaluate three products instead of the apparently simpler task of evaluating only two. Even without the deception of an instant A/B, any A/B is subject to a certain amount of the effect I described with the cassette-tape example—the truth is perceived as somewhere between the two.

If two of the three products are relatively similar, say Vandersteen Model 2 and 3 speakers, ARC VT60 and VT130 amps, or AudioQuest Type 4 and Indigo speaker cables, then it is quite easy to establish an absolute hierarchy between the two products. When a third and different product is compared to these similar pairs, it becomes a comparison between a line and a point and not just point to point. It becomes much easier to establish whether the third product is preferable to either member of the pair, inferior to either, or somewhere in between.

There is almost no way back to the “garden of complete innocence. It requires great awareness and careful methodology to attain anything like the direct vision available to those who know no details which might mislead them. This view flies in the face of those who would say that people have to learn what is good sound, to go lots of live concerts, and study the technology. Bull!

The only thing that needs to be learned is how not to be misled by the incredibly deceptive process of listening to equipment. People hear real sounds all day long. None of these real sounds has the added layers of distortion that exist in any audio system. Whether or not we have ever heard a particular singer or instrument, we can recognize whether more or less of “that stuff” is in the way.

As to an experience like the one Bob and friends had, where only “insignificant” differences existed between interconnect cables, I take this as proof that the context and/or methodology were at fault. This is analogous to the discussion of ABX testing. The ABXers believe that a lack of repeatable hierarchy proves there were no valid differences. Others of us believe the same evidence proves that the ABX test in an invalid methodology.

In an ABX setup, the listener does not know whether or not there has been a change. ABX testing is not a question of how a fixed but blind “A” compares to a fixed but blind “B.” The ABX method is primarily an opportunity for embarrassment, leading to an experience that is only remotely related to that which is the purpose of an audio system. Context is everything, and the ABX setup is one hell of a distorted context. [Absolutely.—Ed]

Does all this mean that trustworthy conclusions are impossible? No. It means a balanced perspective is paramount. It’s a little like shopping for advice (which really is more useful than shopping for equipment): If honesty is the sole variable, you’ll probably end up taking advice from someone honest but incompetent. If competence is the sole variable—you get the picture.

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The Stereophile • RECORD-REVIEW INDEX
Indexes every record review published in Stereophile from Vol.10 No.1 (1987) through this issue. Also included are the SUSP, or "Building A Library" and music indices to "Building A Library" and music interviews. Available on 5¼ or 3½ floppy disks (MS DOS, raw ASCII only).

Send S9.95 to: Stereophile Record-Review Index 208 Delgado St., Santa Fe, NM 87501 (Please indicate disk size)
I was lucky enough to sneak away to New York last week for a Folio conference—to learn how to be a publisher. It was the 13th anniversary of my first such conference, one that made a huge difference to Stereophile. In those days we had a circulation of 3000 and an average issue length of 32 pages. I'd been on the job only eight months and was casting about desperately to learn how magazines were supposed to work. (I'd never worked in magazines before; I figured it would be enough just to publish more regularly than founder J. Gordon Holt had. What a shock to find a very different reality!)

The big thing that happened for Stereophile at that 1982 conference was a talk by Sam Tellig about direct-mail copywriting. I congratulated him on the talk, and he was fascinated by the title of the magazine I represented. Lo and behold, as we all know now, Sam was an audiophile. He volunteered to work with me on a direct-mail program for Stereophile—“For years, Stereophile has been one of the best-kept secrets in the industry . . .”—and even signed on as a columnist: the original “Audio Cheapskate.” Sam became our most popular writer, and many of you found out about us through direct mail, so the conference way more than paid for itself.

This year’s Folio: couldn’t offer quite such spectacular results, but I was able to relearn many of the things I’d learned years ago and had since forgotten. It also served as an introduction to the future most of us magazine people will experience over the Internet. Fascinating numbers were bandied about: Internet users double every 50 days; a billion people will be connected by the year 2000; 25% of Stereophile letters to the editor already arrive electronically (this figure from JA rather than Folio).

The implications for the magazine business are harder to divine, and opinions as to how magazines should appear on the Internet are strongly divided. On one issue everyone agrees: No magazines as yet make money on the ‘net, and the model for how to do so is obscure. Some “experts” tell a publisher to hire a whole new staff for their electronic product; others—particularly those who have sites up and working—say that all you need extra is a coordinator, plus some willing editors. After all, successful magazines already have a pretty good idea of what their audiences want.

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Some people say it won’t do to just put the text of your magazine on the web; it has to be different, and new. Others do pretty well just recompiling their existing magazine into database format, for easy access subject by subject. Most people agree that ads like the ones that appear in magazines won’t work very well on the web, but no one knows how they will be effective, or how they’ll offer any benefit to the web browser. Interactivity and great graphics are thought to be necessary, but no one knows how to do them well at anything like current modem speeds.

I loved the energy going into this subject, even though I’m not an avid web user myself. Everyone knows that people aren’t going to curl up in bed with their laptop linked to their favorite magazine—paper magazines work way better in such areas, in the bathroom, for example. Ten years from now, though, magazines may be coming into your home through a DSS-like service, and communicated to you by way of a 60” flat-screen TV—with which you can interact to ask questions of on-line editors and experts. Whatever the future brings, we probably haven’t thought of it yet. If you have ideas as to what directions we should go in, just write to me c/o Stereophile-on-the-net, P.O. Box 5529, Santa Fe, NM 87504.

I also got to visit several writers while I was back east. Jonathan and Kathleen Scull were entertaining Jean Paul Caffi of Jads and the designers of the new Jadis loudspeakers. The speakers looked amazing and sounded good (at background levels) when driven by umpt-zillion dollars worth of Jadis electronics.

Sam and Marina Tellig were listening to $13,000 worth of Jadis 300B amplifiers over a $1350 pair of Thiel CS.5 loudspeakers—great combo! Sam’s daughter Amy, who attracted a lot of attention at our 1989 High-End Hi-Fi Show in San Mateo—she was attending Stanford at the time—now works for a company putting on a hi-fi and appliance show in Moscow. She brought me the catalog from the Moscow show so we’d be sure to solicit all those companies for HI-FI ’96 in New York next May.

Speaking of HI-FI ’96, I got a chance while in the city to run through the Waldorf—Astoria once again. What a hotel! My week in Manhattan coincided with the UN’s 50th Anniversary, so I was excluded from staying at the Waldorf; 22 heads of state, including our own, were staying there instead, along with 700 Secret Service agents. Next May 31 through June 2 will be different: You’ll be the heads of state visiting the best hi-fi equipment in the world, and there won’t be room for any Secret Service agents—unless they’re readers, of course. Exhibits, seminars, and live music will be on 12 whole floors of this magnificent hotel. Don’t miss it!
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This picture tells you a lot about AudioQuest cables, but without a frame of reference it doesn’t tell you whether the boxes (or the viewer) are rising, falling or just floating. Many inferior cables are popular, even though comparison against a proper reference immediately reveals serious flaws. Because AudioQuest cables are referenced against no cable (the bypass test), we understand each cable’s strengths and weaknesses. We know that AudioQuest cables will give you a performance closer to the original, whether on a mini-system or on a “big rig.”