

stereophile

JULY 1996

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Frank Doris, The Absolute Sound, Issue 100†

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A S W E S E E I T

10 YEARS AFTER

"Words are pegs to hang ideas on."

—Henry Ward Beecher

Larry Archibald was moving office. As *Stereophile's* CEO believes that whatever you need should be close to hand and that you will always need everything, a knot of interested staffers gathered to see what archaeological items would be unearthed from the shrinking piles of paper on and around his desk. My haul? I managed to rescue some otherwise dumpster-destined 1986 issues of *PC Magazine*.

Browsing through those magazines, I stumbled across a writer referring to a 286 PC with a 12MHz clock as "blindingly fast"—compared with the 166MHz Pentium machine the same \$3000 could buy today, the best of 1986 would appear brain-dead! An ad for an add-on 60Mb hard drive promoted how affordable it was at just \$1350—I just paid \$179 for a second 512Mb drive for my 486! The RadioShack Model-100 was the professional writer's laptop of choice—its meager 24kb of user RAM, about 4000 words' worth, was considered a lot in '86. And Microsoft's Windows and Word for Windows were being reviewed against strong competitors like GEM Desktop, DESQview, Volkswriter, Wordstar 2000 Plus, and other contenders for the "Where Are They Now?" Club. (The exception was XYWrite III Plus, which I still use, except that I now run it in a Windows window so I can toggle between it and Word 6.0.)

It was in May 1986 that I left the UK magazine I had been working at for 10 years, *Hi-Fi News & Record Review*, to join Larry Archibald and J. Gordon Holt at *Stereophile*. While *HFN/RR* was commercially successful, the fact that it was owned by a large conglomerate meant that it was not as flexible as I needed it to be to push it toward the goal I had envisioned. However, *Stereophile* had the seeds within it of what I wanted to achieve: In the same way that the nascent High End's commitment to sound quality would eventually make it the Audio Establishment in the '90s, I wanted to take the



magazine J. Gordon Holt had founded—on the seminal idea of judging an audio component by how it *sounds*—and steer it into the mainstream. Without losing sight of the publication's roots, compromising its integrity, or dumbing down the words it published, I believed that it was possible to produce a high-circulation audio magazine that would enroll its readers in its world of ideas to a much greater degree than had previously existed in the field of hi-fi publishing.

I was lucky enough to find, one by one, a team of talented writers and editors who shared my vision. Guys and gals, you're the best! I was also lucky enough to find *you*—the best, most perceptive readers in the world. My thanks to all of you, writers and readers alike. You've changed the world of audio.

From this vantage point of 10 years after I crossed the pond, that world has certainly appeared to change. The stable of US magazines in 1986 included *The Absolute Sound*, *Audio*, *Stereo Review*, *Hi-Fi Heretic*, *High Fidelity*, *The Boston Audio Society Speaker*, *The Audio Amateur*, *Speaker Builder*, and *The Sensible Sound*. *Stereophile* was a digest-sized publication appearing eight times a year and averaging around 150 pages per issue. Between 90 and 100 of these pages were editorial, the 50,000 or so words being written by a team of 20 editors and reviewers. Its readers were as vocal and involved as they are now, but there were only around 25,000 of them. (When Larry bought the magazine in 1982, it had fewer than 3000 readers and the number was falling. For LA to establish a rate of circulation growth sufficient to reach 25,000 in just four years with

only minimal capitalization is a tribute to his street smarts and business integrity.) I was *Stereophile*, Inc.'s full-time employee No.3!

The magazine you hold is the first of my second 10 years. To date, I have contributed about a million and a quarter words to 116 issues of *Stereophile*, as well as producing eight recordings for the magazine. In 1996, *Stereophile*, Inc. employs around 45 full-time staffers, with 60 editors and writers contributing an average of 120,000 words to each of 12 full-size issues every year. Our average magazine size in '96 is 300 pages, 150 of them editorial, and each issue is devoured by more than 80,000 audiophiles and music lovers.

Other than *High Fidelity* and *Hi-Fi Heretic*, the 1986 magazines are still around, but have been joined by *Stereophile Guide to Home Theater*, *Fi*, *The Audio Adventure*, *Tracking Angle*, *Listener*, *The Audiophile Voice*, *Sound Practices*, *Glass Audio*, *Positive Feedback*, *Home Theater*, *Bound For Sound*, *Vacuum Tube Valley*, *Widescreen Review*, and *The Audio Critic*. To judge by the sheer volume of words published each year, high-end audio in 1996 is healthier than ever.

But words alone are not necessarily a good indicator of health. As the High End has grown over the past 10 years, it has also fragmented. Who'd have thought in 1986 that anachronistic single-ended tube amplifiers would be the hot thing in '96? While the sound quality of today's best gear is significantly higher than what could be achieved 10 years ago, so is its price! And are Home Theater and Car Audio really threatening the High End? Or are they bringing new people, with new voices, to our often too-insular world?

Whatever the answers, I'm sure that I'll meet you here in 10 years' time. And however the world will have changed, there will still be a place for music lovers to escape into the best kind of virtual reality—that created in one's own mind via the magic of music! Because, in the words of the sadly mortal Lowell George, "If you like the sound of shufflin' feet, it can't be beat!"

—John Atkinson

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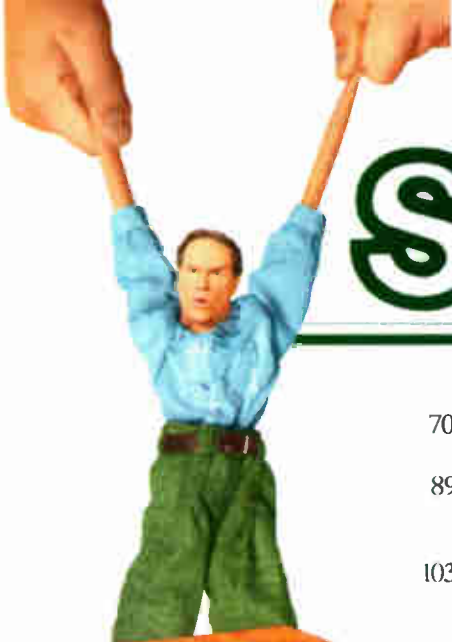


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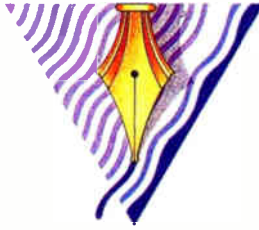
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LETTERS

WHERE ARE YOU?

Editor:

Please excuse me for being blind, or something. But upon quick perusal of the April *Stereophile*, I can't seem to find the address to mail letters to the editor to ...if I can e-mail them that would be most convenient, or you could send me the USPS address, so I can kill trees while corresponding to your publication.

DEAN SCHREIER

Dallas, TX

dean.schreier@pscomail.ps.net

Mr. Schreier is correct in that we do seem to make it hard to find out how to reach us. (We bury the address on the page facing the inside back cover.) Snailmail should be sent to P.O. Box 5529, Santa Fe, NM 87502; you can e-mail me at john.atkinson@tanet.com; 288-3236@mcimail.com; 74472.255@CompuServe.com; or you can fax me at (505) 983-6327. —JA

HOLT'S LAW RULES?

Editor:

Regarding *Stereophile's* Festival CD: weird selection, cold and sterile interpretation, impeccable recording. It absolutely lacks musical emotions and shows me how much the music is a problem of soul and meaning. Not, certainly, of technical matters.

ING. DARIO TEICH

Buenos Aires, Argentina

Thank you for the compliment on the engineering quality of our Festival recording, Mr. Teich, and the implied endorsement of (J. Gordon) Holt's Law — "The better the sound, the worse the performance." However, as Festival's engineer and co-producer, I believe that the performances on this CD, captured live in concert at the 1995 Santa Fe Chamber Music Festival, literally crackle with passion. Readers who would like to make their own minds up should see the advertisement on p.114 of this issue for details on how to order this CD. Let me know what you think. —JA

FUN OUR DESTINY?

Editor:

I believe it is time that you re-evaluated your destiny as prolific writers in the electronics world as we know it.

I have been involved in the audio industry for 17 years in one way or another. We owned a high-end store for seven years and we really created a niche market. Along with that, I have a consulting firm for people who have plenty of money but lack the time, or the desire, for gut-wrenching night sweats to research the products by themselves. Most of these people don't want to be educated in the electronics world. They simply want great audio and video for their home enjoyment. The cost of these systems can range from \$1500 to \$100,000. It all depends on the clients and their needs.

In my garage, there sit — at least at this time anyway — six motorcycles of different nationalities, sizes, shapes, and colors. Allow me to share the names of some of my stable mates. One Ducati 916, one Ducati 907ie, one Kawasaki ZX-6R, one Kawasaki 1978 KZ-1000a2, one Yamaha 1982 Seca 650, one 1983 Honda custom 1000 cruiser. All immaculate, all dusted off with a California Car Duster nightly.

I've been biking since I was nine years old and I have yet to experience a Moto Guzzi Daytona 1000 sidle up alongside

of my Ducati 916 and say something like "My duck out-corners your goose on any day of the week. Even if my grandmother were riding in the pilot's seat." Or "The drag coefficient of the left faring on my Bimota clearly is lower than your Triumph Triple Speed's."

My long-winded point is that we ride different pieces of equipment because it is fun and always provides a new learning experience. We become much more broadly educated being exposed to high-tech units like the ones listed above. Not one of them, by the way, *sucks*. They are all different. All unique in their own way. All of them *fun*.

The same applies for audio and video gear. My main system probably retails in the neighborhood of \$45,000. But I have five audio systems in my house, and the one that gets the most use is the Aiwa mini system (with subwoofer) that's located in the kitchen. There is nothing quite like the experience of cranking up some bass-laden disc and having the silverware and the china put on their own little concert.

All kidding aside, remember when audio and video was fun? You remember, back when we didn't have our collective heads stuck so tightly in our sphincter muscles. No one knows how we got stuck there, but by God we did. If you don't think so, have a look around. Or better yet, look at *Stereophile's* most recent "Recommended Components" list.

Try to be a lot more objective, folks, in what you print as good, better, or best. It's all so very subjective and everyone's tastes, ears, and pocketbooks are different. Let's all try to have a little more fun and enjoy music for what it is. A form of art, not a function of mechanical ability.

I'll tell a quick story about the man who was auditioning a very expensive audio system in our store. It was a well-recorded string ensemble that at that time was a direct-to-disc vinyl pressing that was extremely lush-sounding. After

Letters to the Editor should be sent to The Editor, P.O. Box 5529, Santa Fe, NM 87502. Fax: (505) 983-6327. We regret that resources do not permit us to reply individually to letters, particularly those requesting advice about specific 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.

"Madness"

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the disc was finished, I asked the client how he liked the sound. His reply: "The sound is terrific, but the ant that farted slightly left of the front stage center sounded completely inaccurate and smeared."

HOWARD R. PAUL
Sound Decisions Unlimited
Allentown, PA

CATS?

Editor:
I hate those pussy single-ended triode amplifiers. "Power" amps my eye!

MATTHEW HATFIELD
Eastern Illinois University
Cumh6@uxa.ecn.bgu.edu

DOGS?

Editor:
Tom Norton's "Measurements vs Listening" sidebar following the review of the Jadis SE300B in the March *Stereophile* (p.122) is a killer. All audiophiles should be required to memorize it word for word.

Chasing coloration and distortion in a system with complementary coloration and distortion is like a dog chasing his tail: If he ever catches it, all it does is hurt. It also makes for a depleted bank account, a closet full of cables, tweaks, and electronics, and is the major cause of *Audiophilia nervosa* and eventual withdrawal from the High End.

People who design, manufacture, and sell these expensive tone controls — "...crooked wires with gain" indeed! — should realize that they're only digging their own grave.

Good work, Tom. BRAD LEHMAN
Designer, Virtual Mode

TWEAK OF THE CENTURY?

Editor:
I don't usually take the time to write letters to *Stereophile* but I just have to thank the lady who wrote a letter on behalf of her husband ("Letters," March '96, p.13). Thank you, Mrs. Kristen Breeden of Nanaimo, BC, Canada. Your letter was so intriguing that I just had to go out to my local pharmacy and get an "invalid ring" to place under my CD transport to see what all the fuss was about. Yes, you are absolutely correct: by using this ring (which I call a whoopee cushion) and not spending \$175 for something called the Seismic Support Platter for CD players, I did indeed clean up the sound and add new life to my system. Supporting the CD transport on a cushion of air does give you better depth and a more open soundstage.

I told my wife that this has got to be the *Tweak of the Century*!!! I bought my invalid

ring at my local CVS Pharmacy for \$5.49.

When I first put the ring under the transport, I thought it was going to look objectionable, but actually you hardly see it. At first I had it filled up with too much air. I had to let some out, to where the player sits on about an inch of air cushion or less. But it does work miracles. I told my wife that this was just an example of good old "Yankee ingenuity." When I read about homemade remedies and tweaks in the editorial pages of *Stereophile*, I feel that alone is worth the price of subscription.

ROBERT S. MATTHEWS
Springfield, VA

Mr. Matthews is correct to experiment with the ring's air pressure. The idea is to create a mechanical high-pass filter; if there's too much air in the ring, both the Q (springiness) and the corner frequency of the filter will be too high, resulting in constant motion as the ring is excited by the transport's vibration. This is the opposite of what you want, where the transport vibrations should be damped and absorbed.

—JA

A LIBERAL BITCH FEST?

Editor:
"Give us a chance," *Stereophile's* promotional flyer said, so I subscribed. One year later, I wish I had saved my money. For the past year, issue after issue, *Stereophile's* writers have felt the need to lace their writing about stereos with political editorials.

Now this may surprise you urban sophisticates, but us conservatives love music and high-end stereo. Why mix politics with stereos — what do the two possibly have in common? Why can't a community of music lovers come together without turning it into a liberal bitch fest?

So, for the record, the NEA should be abolished, Ronald Reagan was a great president, Newt Gingrich is an intellectual genius, the NRA is protecting American freedoms (see, some of us have more than one hobby), and finally, if Bill — I Feel Your Pain — Clinton had not raised my taxes, I would still have disposable income with which to pursue my hobbies. Goodbye *Stereophile*, this \$35 will be spent apolitically... on stereos.

MARK HUNTER
Mhunter652@aol.com

Sorry to see you go, Mr. Hunter, but "liberal bitch fest"? Really? From Michael Fremer on the left to Sam Tellig on the right, Stereophile actually has a broad spectrum of political belief among its contributors, though it is true that the writers' center of gravity leans more to the left than to the right. They also vary in how much of their poli-

tics leaks into their writings. However, as it is an election year, I will comment on a couple of political points — hey, he started it!

First, judging from what is done rather than what is said, whether a president is a Democrat or a Republican appears to have little bearing on the need of the government to raise taxes. Reagan, Bush, and Clinton all raised taxes. The American public wants entitlements, the American public ends up paying for them, as pointed out by one of my favorite political writers, the very conservative P.J. O'Rourke, in his 1991 book *Parliament of Whores*. (How come it takes "humorists" — O'Rourke and more recently Al Franken — to provide the most penetratingly perceptive comments on politics?) Finding the means to prevent an electorate from, to quote O'Rourke (who in turn is paraphrasing de Tocqueville), "voting themselves rich" without being elected out of office is the biggest problem facing democratic governments of every political persuasion.

Second, if pre-1990 Soviet Russia is the paradigm of what happens when government gets too big, those who feel that any government is wrong should remember what columnist Meg Greenfield wrote in a recent *Newsweek*: "The absence of government is not paradise; it's Bosnia."¹ In my view, whether you are Republican, Democrat, or Independent, the issue in question is ensuring the optimal amount of government to allow the individual to live with maximum freedom while ensuring him or her the freedom from being oppressed by those more powerful. Personal freedom needs to be balanced against societal responsibility.

Now that I've probably upset right and left, let's return to the real world.

—JA

VIVE LE VINYL

Editor:
Greetings. Last night I happened to tune in on NBC's Tuesday-night sitcom, *Third Rock from the Sun*. The basic premise is four aliens from an advanced civilization attempt to experience and learn about the planet Earth by taking human form and dwelling among us. One subordinate joins a CD club. When the package arrives, the aliens eagerly examine the contents. The leader, John Lithgow, holds up a CD and says, "Hmmm, primitive. Don't these Earthlings know about the superiority of vinyl?"

I laughed myself to bytes. Vive le Vinyl.
MICK WOLK
Havertown, PA

IT'S ONLY ANALOG . . .

Editor:
I subscribed to *Stereophile* for about five years; although I enjoy browsing the entire magazine, my favorite column is

¹ "The Last Word," *Newsweek*, May 20, 1996.

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Michael Fremmer's "Analog Corner." I have noticed an increase of advertisements for analog gear in *Stereophile* lately, and I find this very encouraging.

I recently found myself at the all-too-familiar crossroads of being forced (for monetary reasons) to choose whether to upgrade my analog set or my digital set. Not being one to follow the masses, I laid down my hard-earned money and brought home a VPI Jr. turntable, AudioQuest PT-6 tonearm, and Sumiko Blue Point cartridge. To say that this was a gigantic sonic improvement is an understatement. It was more of a revelation!

I have considered myself somewhat of an "audiophile" for many years, always more concerned with the equipment than with the music. For the first time, I am truly enjoying music! I have gone from constantly analyzing what was coming out of the speakers to sitting back, relaxing, and enjoying the music. Correct me if I am wrong, but that is what we are striving for, isn't it?

I credit my new joy of music to the analog direction that I have chosen. CD may be the "perfect" music medium, but who says music is perfect?

Others may find satisfaction in digital, but for me, analog is the only path to true musical satisfaction. Wasn't it Mick Jagger who said, "It's only analog, but I like it, like it, yes I do." TOM ALBRECHT
Loveland, OH

MUSICAL NIRVANA!

Editor:

I wanted to write a letter in the hope of saving others some time in their quest for audio nirvana. About three years ago I started to actively pursue an interest in Home Theater and stereo equipment. I knew a few things as true, thanks to *Stereo Review* and *Consumer Reports*: You don't need a CD player if you have a laserdisc player; vinyl is dead, due to its inferior sound; tube gear was troublesome and inferior to solid-state; and all CD players and amps sounded pretty much the same.

When I first read *Stereophile*, I thought it was interesting but out of touch. I viewed most high-end products with such skepticism that I assumed all expensive gear (especially tweaks) were a con man's livelihood. In the past three years, a lot of my beliefs have changed. If I had taken much of what was written in *Stereophile* seriously, I might have had an easier time in arranging a satisfying stereo system.

What finally assisted me to the point of satisfaction was a dealer two hours away from me in Gainesville, Florida. Having

no high-end dealer here in Tallahassee, I had to turn to mail-order for most of my gear. Anything that wasn't stocked at Circuit City just wasn't available. After wandering into Sound Ideas during a visit with my mother, I realized that putting a system together unaided was a quite difficult task. How could I be as familiar with this sort of gear if I had not seen that much of it? Thankfully, the salesman who helped me, Jason Beal, knew what I wanted. After talking for a few moments, he knew the sound I was looking for and how I could get it.

I wasn't looking for visceral slam at concert volumes, I wanted beauty and accuracy. Jason suggested electrostatic speakers biamped with tubes on top. Great, but aren't these things ridiculously expensive and problematic? No! My fears were allayed and trades arranged to mate me with more perfect gear to please my ears. My older equipment will now find a more appropriate owner and I'm delighted with my new digs. It's great to see a store allowing trades so customers can upgrade without pricing themselves out of the hobby. I just wish I could have started with these guys from the ground up.

How does a store in Gainesville provide the service a local store could not? Well after realizing that the 6' Martin-Logans could not be shoehorned into my Caprice Classic, Jason offered to drive the speakers up and install them. Once at my place, he heard the system and knew what was right and what wasn't. Solutions were found that enabled me to add new amps and trade out the old. Used cables (no break-in period) were added at a very fair price. (I still wonder who traded up from Straight Wire Maestros.)

My reason for writing again is to suggest that if a local audio hut isn't an option, one fairly close might be. I've gotten great service. I don't think I could have finished the system properly on my own. I'm very thankful that Jason and I hit it off so well and that he was prepared to give me such attention when I lived two hours away.

I have come to believe many things that three years ago I would have ridiculed. Here is my short list:

- A \$600 record player plus a VAC-in-the-Box phono preamp can bury a \$4000 CD player—easily. The cheapest way to beautiful sound is vinyl. A \$35 Grado cartridge and a record cleaner can challenge most every CD player I've yet heard. When comparing the same material on vinyl and CD, my friends always pick the licorice pizza.

- Electrostatics *can* play loud, sound

good with rock music, and won't melt your amp.

- Tubes are the real deal! My Cary amps are auto-biased and are hardly any more trouble than solid-state. Like vinyl, tubes are often maligned. Don't fear the tube. Great used gear is out there. (It was reading the March '96 *Stereophile* (Vol.19 No.3) that convinced me to go tube. Though I went with 100W monoblocks, your articles were instrumental in that decision. This last step has completed my audio quest and leaves me satisfied.)

- Spend the extra dough on good cables. Nonaudiophiles can easily hear the difference between a good cable and an inexpensive one.

- A lot of those crazy-sounding tweaks work. Really.

- Separates sound better. Especially in Home Theater, where most people use a receiver for everything. A Home Theater system cannot produce music as well as a music-only system. How can something image with a TV between the speakers?

- When a *Stereophile* writer recommends a tweak or piece of gear, he means it. His name is on the article and he is easily called to the carpet on his opinions. Also, in the years I've been reading *Stereophile*, I've never felt that the writers' opinions were based on advertising dollars spent in their mag or were influenced by anything but their opinions.

I'm not stopping my interest in hi-fi. I will continue to read *Stereophile*, but with an observer's eye rather than a consumer's. I hope you and your advertisers won't mind. WOODY COMPTON
Tallahassee, FL

Sounds as though you've put together a musical system, Mr. Compton. See you around the used-vinyl bins!
—JA

LIFE COULDN'T BE BETTER!

Editor:

Well, it's high time to send an e-mail message of gratitude to the greatest magazine ever produced—at least in many of our opinions here in southern California. About a year and a half ago I came into some money and was headed for the closest "Good Guys" or brain/wallet-zapping department store, when Pat Brady (a high-end audio friend) rescued me by asking if I had considered getting professional advice on high-end audio gear rather than blindly heading, like a sheep to slaughter, to a chain store for mid-fi garbage.

I made one of those life-changing pauses, turned completely around, woke



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up from the consumer-zombie fog that too many of us are trapped in, and avoided one of the bigger mistakes of my life. I subscribed to *Stereophile*, purchased Robert Harley's *Complete Guide to High-End Audio*, and entered a brave new world! A world of music, humor, intrigue, controversy, expert opinion, passion, stunning equipment, and even more humor. I now have a truly high-end audio/Home Theater system (recently greatly upgraded by the wonderful Von Schweikert Research VR-4 speakers) and life couldn't be better.

Along the way I've found a very enjoyable hobby, met a few strange dealers who couldn't sell or communicate—one even ignored my desire to spend \$10,000 on some initial purchases—but through *Stereophile's* articles, letters, ads, and other audiophile friends, I've realized a little of the American dream. Ambrosia Audio helped immensely along the way, too; what a class act they are.

Thanks, *Stereophile*; keep up the good work, and thanks for not caving in to the snivelers and for spurring us on to higher and higher audio life changes!

ROGER McNICHOLS, JR.
Owner, Good News America
GNA88@aol.com

A FEATHER IN THE CAP

Editor:

Thank God for Wes Phillips's "Car Tunes"! All of these years I've been subscribing to *Stereophile*, I have wished for some *real* guidance in weeding out the gems from the rubbish among car audio equipment and, until now, no publication with any real credibility has reviewed this stuff. Out of the roughly 80,000 *Stereophile* subscribers, I'd bet that most of us have stereos in our cars. I'll go out on a limb and venture to say that most of us still love our tunes, even while we're driving (maybe even more so... gasp!). I have found car CD-player sound quality to vary wildly. Please do a head-to-head comparison of a variety of mainstream audio CD players and find us a good-sounding unit.

The addition of the quarterly "Car Tunes" is but another feather in *Stereophile's* cap. Year after year, I am heartwarmed to see nothing but a continual increase in the quality of the magazine.

JUSTIN GRAVES
Dayton, OH

IT'S A 12V WORLD

Editor:

I opened my April 1996 *Stereophile* and delved into one of my favorite sections, the letters. I was shocked to see the

reaction Wes Phillips's 12V column received. I didn't think the audiophile community had such a loathing for mobile audio enthusiasts. I work in an audio store that sells the likes of B&W, Proceed, Cary Audio, and NAID. The real kicker is that not 20' away from the \$15,000 Matrix 801/Proceed/Cary Audio Design setup is the infamous "car room." In the time I have worked at this store, I have never received any negative comments about our carrying car audio, or having it in such close proximity to the home gear.

In the last couple years, I have noticed a trend in the high-end community: No one listens to music anymore! The driving force that got me into the audio business was the music. I enjoyed listening to and performing music. That's what audio is all about: accurate reproduction of music performances!

I will admit I have a car-audio system that would be considered above average, but the time I spend in my car is much more enjoyable because I can listen to *music*! And music that is much more accurately reproduced than is possible with a stock or even an inexpensive aftermarket system.

No *true* audiophile can say that they are *not* a music enthusiast. They should enjoy music that is produced better than by a typical stereo, whether it be at home or in the car.

TIMOTHY GILL
Lafayette, IN
manders@gibson.cioe.com

THEY'RE WORKING ON IT

Editor:

I'll start reading that "Car Tunes" column as soon as Michael Fremer and Wes Phillips get together and tell me how to play LPs in my car. M. ROBERTS
Mroberts@Cnet.com

DOING IT WRONG

Editor:

This letter is being penned in response to the comments written by Tom Larson and Justin Havemann (March '96, pp.24-27) concerning the integrity and objectivity of the review process as applied by *Stereophile*.

Mr. Larson slams the magazine, basically saying *Stereophile* has turned into a large "infomercial" for companies who spend a lot of money on advertising. Mr. Larson then goes on to say that manufacturers of high-priced equipment "will see that very few succeed in the long run, and that those who do have had to bow to a price/performance criterion that your magazine has, for the most part, left in the dust."

I respectfully disagree with Mr. Larson, especially on this last point, where basically he is *completely wrong*. I don't know what manufacturers he is referring to, but the makers of high-priced equipment that I know of, people whose hard work and dedication gave the music-lovers' community a definable reference, have endured quite well, hardly a flash-in-the-faceplate kind of thing. These companies each have anywhere from 10 to 25 years of success. Companies like Krell, Audio Research, Mark Levinson, B&W, Wilson, Thiel, and McIntosh come to mind. These companies set a necessary precedent: How good could it be? If it were not for this kind of approach, would companies like Rotel, NAD, Arcam, AudioLab, Adcom, Mission, Pioneer (UK), and Marantz (UK) exist? I don't think so. In my lifetime I will probably never spend more than the equivalent of \$3000 on any single piece of equipment—but I am not going to begrudge Robert Harley, for example, if he decides to buy a \$15,000 pair of speakers if he feels that it is worth it to him.

Living in a foreign country, supporting a family, struggling to make ends meet, then seeing (or reading about) someone seemingly drop 10 or 20 grand at the drop of a hat certainly gives me something of a shock and a certain amount of envy. But let's not kid ourselves. The people who can do this may be wealthy, but they are wealthy for a reason. It didn't happen by accident. They worked their asses off, made specific decisions, made sacrifices, set specific goals regarding how they wanted their lives to be. As readers, we benefit from the resources they have and we should really just leave it at that.

There is, however, an issue that Mr. Larson hints at and that Mr. Havemann addresses more completely: The question of objectivity within the scope of the review process. I, too, have noticed that above a certain price point, certain manufacturers' products cease to be looked at critically. I will never forget *Stereophile's* review of the Mark Levinson No.38 remote-control preamplifier (August '94). Keeping in mind this was a \$3000-plus product, the reviewer stated that this preamp sounded dark and veiled, robbing the music of its life and vitality. But somehow, by the end of the review, this product was recommended, and praised for its heavy, thick faceplate and convenience features. My God, the reviewer could have been talking about a toaster oven!

I do not believe this was an objective review that served the reader! However,

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I also do not believe that this product was recommended because the magazine was accommodating one of its advertisers. A writer/reviewer is a human being, and being a human being, he made a judgment call: He was reluctant to give a company with a well-deserved track record of outstanding products a negative review. Not because he was evil, but because he was faced with a manufacturer with whom he could not be completely objective. (It should also be noted that shortly after this preamp's introduction to the marketplace, Madrigal Laboratories created an "S" version of it that, I understand, improved greatly on the original's shortcomings, elevating its performance to a level consistent with the rest of the Mark Levinson product line.)

What we readers need is an objective, unbiased viewpoint, which needs to be that much *more* critical when the market value of said product is equivalent to that of a new car or a mortgage down payment. For example, we have a new speaker from Jadis. John Atkinson is faced with a decision: Who reviews this product first? Let's see. Who has more Jadis equipment than the other reviewers on staff combined? Who has the Jadis tiepin, the Jadis cuff links, the Jadis signature car (gold trim), the Jadis/Cross pen-and-pencil set, and the special Jadis prophylactics (Ultra Golds)? Hmm... I know! Jonathan Scull! He would be the *perfect* person to give a Jadis product a neutral, unbiased review. Not!!!

Please note that I used Jonathan Scull as an example of what I believe to be a flaw in the magazine's review policy, *not* because I think he does bad work. On the contrary, I have a great deal of respect for his work and opinion.

Here is what I see as being a fundamental problem. Clearly reviewers or evaluators have their own biases and their reference systems reflect that bias. That's predictable; that's no problem. There's a problem when an evaluator/writer has, say, a preference for valve amplification and the magazine has a valve amplifier to review. Said reviewer is given the valve amplifier to review because "it's right up his alley." Wrong, Bucko! This person should *also* hear the amplifier to see how it measures up or compares to *other* valve amplifiers, but the person who should handle the majority of the evaluation should, in my opinion, be someone who has no bias toward valve amplification. In this way, products and reviewers' evaluations would be more clearly discerned by the reader. And thus products whose perfor-

mance supersedes individual biases would clearly be set apart as exceptional.

SEAN ENGEL
Valladolid, Spain

DOING IT RIGHT

Editor:

I work for a well-known stereo shop in the Detroit area. I would like first off to say—*thanks!* After reading *Stereophile* for quite some time, I feel you need to hear some appreciation. It strikes me as extremely ironic that most people whose letters you publish complain about how they have to read your so-called "nontechnical, garbage articles" by so-called "nonqualified writers," when appreciative audiophiles like myself have to read these trashy, negatively biased letters that don't tell me anything but the fact that these people live sorry, confused lives!

How do these people gauge true talent? If they can't appreciate a good, personalized style of reporting that adds personal, qualified opinion, bias, and, best of all, feeling, how can they begin to appreciate the true talent of a musician? Do they sit down with pad and pencil and only review the technical aspect of the music they hear?!

I have been a jazz musician for over 12 years and I believe if you don't know how to recognize the "feel" of music, you have no business listening! (This doesn't just apply to jazz, of course.) My only hope is that when I start playing professionally, these people will not listen to my music!

If it is a technical, no-feeling aspect to cheaper equipment that these people want, I'm sure *Popular Mechanics* or *Stereo Review* would suffice. Whatever your fancy—leave the talent to people like myself who can appreciate it! If price is your quarrel, *no excuse*: Not everyone can afford a Rolls-Royce, but who would refuse a ride in one? Well, probably the same people who write these nasty, annoying letters!

Next time, leave your negative, selfish, the-world-is-here-for-my-tastes attitudes at the front cover and read positively. You will most likely want to renew that canceled subscription!

JESSE ROBITAILLE
Alma's Hi-Fi, Farmington Hills

MONTHLY GEMS!

Editor:

Don't ever cancel my subscription to *Stereophile*. It is the funniest technical publication on the market today. I can hardly wait for it to arrive so I can spend the evening savoring the contents and

laughing hysterically.

I am a music lover, retired lawyer, amateur pianist, and amateur recording engineer, some of whose records have been aired on NPR.

First, I read the "Letters" column. It's great when threads go on for several issues. The discussions remind me of pompous old theologians vigorously and uncharitably debating minuscule differences in liturgy—it couldn't be more amusing.

The purely technical articles are great as they are always educational and help to keep me up-to-date on the current technology and the fabulous plans for the future.

The reviews of new equipment are a real gas—especially if you have a medium income. Consider the engineer who is producing a \$52,600 amplifier and who is rather vague about the tubes and had no handbook or instructions for the reviewer. The reviewer liked it for analog, but overall preferred another amplifier. Should I buy two? For a few hundred dollars more, I could purchase a new, perfect, 7' Steinway piano that will work for all music and all musicians and will last almost forever with proper care.

The description of the equipment and how it works is set out in such [mellifluous] but unspecific English that it is matched only by the metaphysical poetry of Blake.

CD and LP reviews are simply personal preferences and not worth reading. Depend on your own ear and taste.

Do continue the serious discussions of tweaks, green felt-tip pens, and hockey pucks. I've scrounged a few pucks from the Boston Bruins and pasted them around my music room, but they just don't hack it. The Asians must have kept the secret. At any rate, they offer mental stimulation and much merriment.

Best of luck and—with very straight faces—do continue to produce these monthly gems.

ROBERT W. CONNELLY, BS, JD
Centerville, MA

DESPERATELY NEEDED DRUG

Editor:

I would like to introduce some of the *Stereophile* readership to a drug they seem to need desperately. It's called Ex-Lax. My God, some of the letter writers (and some friends of the staff) are so dang uptight, there just has to be some solution to the problem. Maybe constipation of the colon causes a "constipation of the mind." No more room for new ideas. A couple of things in the

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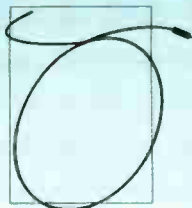
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April '96 issue irked me, however:

1) The issue of speaker imaging and/or disappearing, brought up by Herb Reichert in the review of the Kassai Silver and Parker King in "Letters." Let me get this straight. Imaging is bad. Okaaaay. Speakers should not sonically disappear. So the sound should stay firmly attached to the loudspeaker? This would be better? Okaaaay. Gentlemen, I suggest an extra dose for both of you.

2) Home Theater is *evil*. Thou shalt only listen to two-channel stereo with SE tube amps. No satanic CDs—only vinyl! Forget it. I *like* my Home Theater. If I am then a tasteless conspicuous consumer, so be it. I also have a nice, powerful car stereo and I will relish reading Wes Phillips's reports in this area. So there!

Please feel free to insult me some more, Mr. Letter Writer! That is what really bugs me. If my likes and dislikes differ from yours, I must be a mouth-breathing mush-head. I must be on a mission to Destroy The High End. I must be ignorant and deaf! Doses all around! On the house!

3) A suggestion to Jonathan Scull. You are overlooking an area to tweak. Completely! I can't believe you missed it! Why, sir, the area is none other than yourself—your very body! First, the brain operates on electrochemical impulses, right? Why not a Shakti strapped to your noggin? Speakers will cause vibrations in your body. How do you drain them off? A king-sized ClampRack! How about Mpingo discs on your butt? My God, the possibilities are endless! Why, the mind reels at the possibilities for tube socks and cable jackets!

Just poking a little fun, Mr. Scull; I like your reviews. One more thing—what is your wife's nationality? German? Polish? Russian? You forgot to remind me in your Kassai review.

GLENN KINYON
Oklahoma City, OK

We understand that J-10's wife is French. From France.

—JA

THE KING

Editor:

I found Jonathan Scull's March '96 review of the Audio Note Kassai Silver power amplifier amusing. A \$52,600 amplifier with a high level of distortion of 7.5%. He then connects a pair of Alpha-Core Goertz silver interconnects and says, "It continues to impress and amaze with its clean, wide-band, fast yet

thoroughly *harmonic* presentation."

Scull is the *King* of Journalistic Quackery.

MARON HORONZAK
Stoutsville, MO

INDEED

Editor:

Jonathan Scull should write a book about something.

JOE PLAZIAK
Chicago, IL

He is.

—JA

HOW LOUD?

Editor:

"As We See It" in February pointed out several good reasons for bench-testing the components slated for review, but failed to mention the most important reason: To find out if the manufacturer cares enough to send you a review sample that meets its published specifications. The assumption, of course, is that it will. After all, both the review sample and the specifications are completely under the control of the manufacturer.

Strangely enough, however, that does not appear to be the case. JA's review of both the Joseph Audio RM7si and the Totem Acoustic Mani-2 in February show them to have only about half the claimed efficiency. What surprises me is the cavalier way you brush past these failings. If you bought a car with a 200hp engine and found out that it was really only 100hp, would you shrug your shoulders and accept it?

Of course not. You'd be madder than hell, and demand your money back. Yet JA didn't seem terribly concerned that the Mani-2, for instance, had only 40% of its claimed efficiency. If I were in your position, I would send the speakers back to the manufacturer, telling them that the product was unacceptable. After all, if *Stereophile* can't count on an honest review sample, what hope is there for the rest of us!

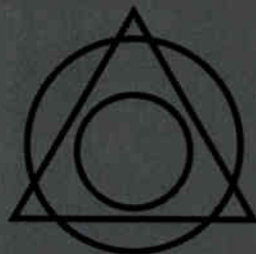
This is especially significant since, in the last analysis, the published specs are what the manufacturer is selling. He doesn't have to continue using the same drivers you tested. He doesn't have to use the same binding posts. All he has to do is meet his published specs. Nor is there any reason to believe that the next unit out of the box will perform as well as the one you tested.

In conclusion, were you not surprised that Israel Blume cried "foul" ("Manufacturers' Comments," February '96, p.244) when you failed to fix the defects in his Troubador speaker? If Mr. Blume can't be bothered to check his product before sending it to you, he

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richly deserves the poor review he received.

NORM STRONG
Seattle, WA

While broadly agreeing with Mr. Strong's point, if there is one specification that almost all loudspeaker manufacturers disagree on, it is voltage sensitivity; i.e., what sound pressure level (spl) at a standard distance (1m) a loudspeaker will produce for a standard input voltage, nominally 2.83V, equivalent to a power dissipation of 1W in an 8 ohm resistor. The reason is that loudspeakers do not have a flat response. If a loudspeaker driven with 2.83V sine-waves produces an spl of 85dB at 1m at almost every frequency between 100Hz and 10kHz, but has a sharp maximum spl of 90dB at 1kHz and an equally sharp minimum spl of 80dB at 3kHz, what is its sensitivity? "Somewhere around 85dB" is the correct answer, yet the manufacturer would probably say "90dB"—the loudspeaker does go that loud at one frequency, after all.

At *Stereophile*, I assess sensitivity by driving the speaker with pseudo-random noise from my DR Labs MLSSA generator, capturing the speaker's output with the MLSSA system set to its storage 'scope mode, then calculating the B-weighted spl using the MLSSA software. I use the B-weighted figure because published research has shown that it best corresponds to a loudspeaker's perceived loudness. (See R.M. Aarts, "The Calculation of Loudness of Loudspeakers during Lis-

tening Tests," Preprint 2928, presented at the 88th Audio Engineering Society Convention, Montreux, 1990.) However, this gives a figure generally below the manufacturer's specified sensitivity, particularly when it has a lack of energy in the low treble.

—JA

TOO LOUD?

Editor:

Wes Phillips stated in the January '96 *Stereophile* (p.263) that he listened to the Thiel CS7s with his spl meter pinned at about 110dB. I have two comments and concerns.

We rely upon your subjective "measurements" done through your ears and auditory systems. Is it possible that some of your staff have so damaged their hearing or have at least changed it from listening at such high levels that what they hear may be significantly different from that heard by much of the population? Seriously, consider having your staff evaluated by an Ear, Nose, & Throat specialist to determine if they have unusual hearing losses in any of the registers. I do not think this is too much to ask considering how carefully you measure other elements in your evaluation chain.

Second, I am sure that we are all aware of the danger that exposure to high

sound pressure levels presents to our continued enjoyment of the audible world around us. Perhaps *Stereophile* could publish an article on the measurable hearing loss that changes from generation to generation depending on the exposure to headphones, loud rock bands, etc. I think we are all aware of the loss that some rock musicians have suffered in performing on stage, etc.

In brief, is the measurable hearing of your staff representative of the rest of us? Have you damaged certain areas more than the rest of the population or due to "occupational" exposure?

ERIC J. THOMAS, MD
Middletown, CT

Dr. Thomas is, of course, correct that to make a habit of listening at average levels of 110dB is dangerous to the point of stupidity, and I do not do so. Most audiophiles seem driven to turn my hi-fi up, as I habitually listen to music at 70–80dB spls. (JA, upon his first visit to my apartment in Brooklyn, politely asked, "Do you really listen at this volume?") However, as part of the reviewing process, I do have to determine what a speaker's performance parameters really are. This includes extremely low-level listening as well as testing the speaker's upper limits—which, in the Thiel's case, are, shall we say,



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extreme. At car magazines, for instance, it is taken for granted that the reviewer will drive the vehicle under test until it fails, but it is also assumed that the reviewer does not, as a matter of course, drive the same way around town. That is what I was doing with the CS7, and I was careful to limit the length of my exposure to the excessive sound pressure levels.

The point is well-taken, however, that I should be careful not to give the appearance of encouraging this sort of reckless endangerment. I am also intrigued by Dr. Thomas's suggestion of an article on hearing loss as an ever-growing (and generational) issue. Thanks for the idea!

Along those lines, I am reminded of a book I once read — I can't remember the author's name — called *The Tuning of the World*, which explored the notion that the proliferation of electricity and electric motors has retarded the frequency of civilization to 50 or 60Hz, whereas this would not have been true of, say, a medieval village. The author did also point out how much louder background levels have become — even for what we call "silence." (Actually, the book wasn't well-written, but it was so intellectually stimulating, I didn't care that much.)

Regarding Dr. Martin's final point, most of the core staff in Santa Fe do have their auditory systems checked regularly by audiologists, who find our hearing at least "normal." We, of course, find this humbling. — WP

WHERE AYRE?

Editor:

Why no review of the Ayre V3 amplifier? I have read several very positive comments from your staff when they've auditioned the V3 at various shows. My dealer intimated that *Stereophile* has run reviews in correlation to the amount of advertising that a manufacturer purchases. I'm sure this couldn't be true. The Ayre, with its lack of overall negative feedback, inductor-filtered power supply, and three-stage design, seems to be innovative and apparently sounds good.

STEPHEN SLAUGHTER
Dallas, TX
slaugh@hc.ti.com

Despite what your dealer told you, there is no connection between whether a manufacturer advertises in this magazine and whether their products are chosen for review coverage. We've reviewed almost every loudspeaker made by Snell Acoustics, for example, but in 32 years, they have advertised just once! In the case of the Ayre V3, we have wanted to review this intriguing amplifier for some time, but Ayre has been leery of submitting a sample for formal review because of the implications of magazine coverage for a small start-up manufacturer. (Everyone understands that a review that is in any way negative can put a new company out of business; it is not widely appreciated that a positive review

can have the same effect by causing the small company to become financially overstretched.) Instead, Ayre — wisely, in my view — chose first to establish a supportive network of retailers, and only then to seek a review in this magazine. Wes Phillips has a review sample of the V3; his review will appear in late summer. — JA

TRANSPORT INDEPENDENCE

Editor:

I was thinking about why digital transports cost so much — for me, the reason appears to be to allow a stable clock to be derived. I don't understand why people are designing transports in this way when there's an obvious way to do a better job easier and cheaper.

I'm a systems software person. I view the transport/DAC problem as a data supply problem. I want the bits from the transport to be delivered to the DAC at 44.1kHz (or whatever the clock frequency) exactly. I propose having a 4x CD-ROM drive that can play "Red Book" audio data at four times the normal speed. The S/PDIF signal from this drive goes to a computer with an appropriate interface. It reads the bits into a RAM FIFO buffer. At the same time a 44.1kHz clock is used to read the words from the buffer and send them to the DAC. The words arrive from the

transport four times faster than we send them to the DAC, so we need only to request data from the CD-ROM drive when the buffer needs topping up.

This eliminates the clocking problem completely. The clock used for the DAC is independent of the transport mechanics... This technique is used routinely for computing applications, when a constant stream of data is required to be passed along to another device. When I see things like a Mark Levinson CD transport costing \$9000, it frightens me that people have missed such an easy way to do this. And once the audio is encoded digitally, there is absolutely no difference between an audio bitstream for a DAC and a bitstream for anything else.

BILLY NEWPORT
pcmail@mailpoilly@itwdpub.attmail.com

If a CD playback system were to be designed from scratch, Mr. Newport's topology would undoubtedly be the way to go. (A similar suggestion was made in the June "Letters" column by Peter S. Lovely.) But given that everybody buys conventional CD playback equipment, the Genesis Digital Lens, reviewed in this issue by Robert Harley, uses a large RAM FIFO (First-In, First-Out) buffer to achieve a similar immunity from datastream jitter, but with a constant input datastream. — JA

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Conversion, the SFCD1 takes conversion accuracy in CD players to a new level by utilizing the best dual D/A converter available - the UltraAnalog D20400A - which is also used in both the SFD-1 and SFD-2 MKII Digital Processors. Also like the SFD-1 and SFD-2 MKII, the SFCD1 utilizes the Pacific Microsonics HDCD™ PMD-100 filter/decoder chip, which provides superior decoding and filtering of both HDCD and non-HDCD compact

discs. Additionally, the SFCD1 utilizes the same Philips mechanism as the SFT-1 CD Transport, but with new refinements in the drawer action and improvements in the decoding of digital data.

More firsts, the SFCD1 is the first vacuum tube CD player that implements analog DC servo circuitry to eliminate output coupling capacitors. With two 6922 tubes in a high-speed buffer output stage, the result is an ultra-low output impedance with no frequency roll-off throughout the full audio bandwidth. The isolation of digital processor circuitry from the transport mechanism is one of the primary benefits of separates. To ensure complete isolation between the motor, optics, digital clock, AC line voltage and sensitive analog output circuitry, the SFCD1 uses an impressive lineup of three custom toroidal power transformers and twelve separate voltage regulation stages. We believe this level of power supply isolation is unprecedented in single-chassis CD players!

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INDUSTRY UPDATE

US: Wes Phillips

Dealers promoting manufacturer and designer seminars should fax (do not call) Wes Phillips the when, where, and who at (505) 983-6327, at least eight weeks before the month of the event—ie, if you're putting on something in September 1996, you should get the information to Wes no later than July 1. 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: Atlantic Stereo (445 E. 17th St., Costa Mesa) will host an afternoon with *Stereophile's* Robert Harley on Saturday June 22 at 2pm. Bob will discuss a variety of topics, from how to get the best sound from your system to the latest in digital audio. Bob will also sign copies of his book, *The Complete Guide to High-End Audio*. Call Tom Farinola at Atlantic Stereo, (714) 646-8895, for more information.

The Digital Ear (17602 E. 17th St., Suite 106, Tustin) and *Theta Digital* will premier *Casablanca: A Tale of Intrigue and Romance* on the evening of Wednesday June 26. The West Coast premiere of Theta's Casablanca surround-sound processor will be hosted by Producer/Director Neil Sinclair. Call (714) 544-7903 for precise time and reservations.

Future Sound (851 California Dr., Burlingame/San Francisco) will present a seminar on Monday June 24, 7-7:30pm, featuring Doug Blackwell of *Transparent Cable*. Blackwell will discuss audio and video cables, and demo Transparent's cables with and without their unique networks. For information and reservations, call (415) 342-1476.

Georgia: On June 23, the *Atlanta Audio Society* will host Dennis Had and Billy Wright of *Cary Audio Design* and Charles Whitener of *Western Electric* for a seminar featuring Cary's SE amps and Western Electric's 300B triode. Location is, as yet, undetermined. Call

Chuck Bruce at (404) 876-5659 or John Morrison at (770) 491-1553 for further details.

Louisiana: *Audio Orleans* is moving its salon. The new address is Metairie Road, Metairie, LA 70005. Store hours are from 10am to 7pm, Monday-Friday; 10am to 5pm, Saturday; or by appointment. For more information, call (504) 737-2026.

Nevada: *The Upper Ear* (3900 W. Charleston, Las Vegas) will host an afternoon with *Stereophile's* Robert Harley on Monday June 24, 7:30pm. Bob will discuss a variety of topics, from how to get the best sound from your system to the latest in digital audio. Bob will also sign copies of his book, *The Complete Guide to High-End Audio*. Call Steve or Richard at (702) 878-8212 for more information.

Washington: *Definitive Audio* will present the *Home Theater/THX Experience IV* on Wednesday June 26 and Thursday June 27 at their Bellevue store, near Seattle. High-end industry representatives on hand for demonstrations will include Paul Marwy (Lucasfilm THX), Sam Runco (Runco), Chris Browder (B&W), David Birch-Jones (Marantz), Randy Taylor (*Definitive Technology*), Dave Nauber (*Madrigal Audio Labs/Proceed*), Mark Goldman (*Wilson Audio Specialties*), Doug Blackwell (*Transparent Cable*), Colleen and Steve McNaur (*Rotel and AMX*), Steve Daniels (*Linn*), Terry Leiby (*Velodyne*), Kevin Morris (*Pioneer Elite*), Curt Petty (*Draper Screen*), Harvey Gilbert (*Audio Research*), Pete Halenbeck (*Faroudja Laboratories*), Dave Gordon (*Thiel*), Wendell Diller (*Magnepan*), Mike May (*RANE*), Gary Watkins (*Mitsubishi*), Buzz Goddard (*Lexicon*), Craig Matthews (*Sharpvision*), and Andrew Ritzinger (*Panasonic*). In keeping with the event's focus on emerging technologies, demonstrations of pre-production DVD and flat-

panel display TV will be featured. Call (206) 524-6633 for additional information and/or reservations.

Overseas: Wes Phillips

Singapore: *Inkwell Publications Pte Ltd.* has announced *High End Singapore '96*, a high-end consumer show featuring audio and Home Theater products. It will be held July 26-28, 1996 at the Mandarin Hotel, Singapore, at 333 Orchard Rd., Singapore 238867. Tel: (65) 737-4411. Fax: (65) 732-2361. There will be a panel discussion, "The State of High-End Audio and its Effect on Consumers," as well as seminars from visiting manufacturers. Equipment, accessories, LPs, CDs, books, and other associated gear will be on sale. Inkwell Publications: No.9 Lorong 101 Changi, #03-08 Park Ct., Singapore 426641. Tel: (65) 344-3866. Fax: (65) 244-5880.

Malaysia: *Inkwell Exhibitions (M) Sdn Bhd* has announced *High End Malaysia*, a high-end consumer show, to be held August 2-4, 1996 at the Hotel Istana at 73 Jalan Raja Chulan, 50200 Kuala Lumpur, Malaysia. Tel: (03) 241-9988. Fax: (03) 244-1245. The main seminar will discuss "Can There Be a Successful Integration Between High-End Audio and Home Theater?" There will also be seminars from many visiting manufacturers. Equipment, LPs, CDs, books, and accessories will be offered for sale. Inkwell Publications: 43-C Jalan Pandan, 2/3 Pandan Jaya, 55100 Kuala Lumpur, Malaysia. Tel: (03) 223-8911. Fax: (03) 223-8912.



Japan: John Atkinson

As we reported last month, the Japanese Conference on Advanced Digital Audio (ADA), held April 15, made a recommendation regarding the standard for

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DVD) to be used as the next-generation audio carrier. From the preliminary information, it looked as though a variant of Sony's Direct Stream Digital had been selected. This turned out not to be exactly the case.

The ADA's recommendations, presented as a specification wish list to the DVD consortium companies working on a high-quality audio disc to be based on DVD, were as follows: frequency response up to 100kHz; dynamic range over 144dB in digital domain, 120dB in analog domain without reducing the frequency range below 20kHz; basic provision for two-channel stereo, with multichannel upgrades possible; no data compression, though lossless packing would be acceptable; maximum playback time the same as CD, at 74 minutes; easy down-conversion to current digital playback standards and up-conversion to new formats without degradation; acceptance of single-sided, single-layer 5" discs; and backward compatibility for the new players so that they will play the existing catalog of conventional "Red Book" CDs.

Technically, the ADA's proposed specifications seem appropriately high quality and appropriately flexible. And Meridian's Bob Stuart points out that the ADA proposals are more about archival purposes than they are about a consumer medium. However, the last point is evidence, to me at least, that this proposal is being driven by the hardware manufacturers, whose business plan primarily involves selling customers new players. It depends on software companies independently producing the necessary music discs. For any form of HQAD to get off the ground commercially, however, it means recruiting the software companies from the outset; something, for example, that Sony worked very hard at behind the scenes before the launch of CD in 1982.

That, to me, was the beauty of the Acoustic Renaissance for Audio proposal, published in *Stereophile* last August (Vol.18 No.8, p.53). By using a dual-layer disc to make the new discs backward-compatible (so that the existing population of players would be able to extract Red Book CD audio and only the new players would extract the new high-resolution data), the record industry would only have to have a single inventory in the stores. And that might persuade them that it would be worth them getting behind the new medium. At present, they are deathly afraid that any form of HQAD would be an invi-

tation to piracy. It's bad enough, they feel, that CDs allow pirates in mainland China to mass-produce their copyrighted material—one estimate is that as much as 30% of the cassette versions of a hit release offered for sale in the US are counterfeited copies, mastered from a CD. And HQAD would offer pirates the original 20-bit data!

Unless the record industry is intimately involved in the decisions to implement the format and their needs considered, it is hard to see why they would want to help get any form of HQAD off the ground. And without their help, HQAD is going to stay on the horizon a lot longer than anyone expects. A similar problem is affecting the DVD launch. The hardware manufacturers are still gung-ho that players will be offered for sale in the US this fall. But whether customers will have discs to play depends on the cooperation of the film and computer industries—and they are still hung up on such "minor" issues as copyright and copy protection!



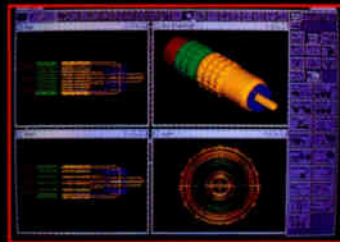
US: Wes Phillips with John Atkinson

Cable manufacturer AudioQuest has announced that Andy Regan has accepted the position of Executive Vice President for the company. AudioQuest's President Bill Low explained, "This position recognizes Andy's role and willingness to contribute and exercise responsibility in all areas of company activity."

Mark Goldman, Wilson Audio Specialties' Director of Sales and Marketing, is leaving the company to become President and majority stockholder of Sound Components in Miami, where he was due to join partner and longtime owner Susan McGrath on June 17, 1996. Before he joined Wilson, Mark was one of Sound Components' top salespeople.

John Bicht of Versalab—remember his superb-sounding Model 2.3 record player—announced that he will begin manufacturing a new, custom-made, no-holds-barred turntable, available in "extremely limited quantities." Interested parties should contact Versalab—920 Witthuhn Way, Lexington, KY 40503. Tel: (606) 224-2650. Fax: (606) 224-8290—for information concerning price and availability.

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Some chair shuffling at *Stereophile*: Ralph Johnson, who was *Stereophile*, Inc.'s Show Coordinator for its 1992 Los Angeles and 1993 San Francisco Shows, rejoined the company in May as President. Ralph, who most recently was in charge of a nonprofit organization in Washington, DC, will be responsible for the overall running of the company as well as overseeing the Home Theater and Specialty Audio Shows. Former President Larry Archibald moves upward to become CEO and Chairman of the Board, but remains Publisher of *Stereophile*, *Stereophile Guide to Home Theater*, *Schwann Opus*, *Schwann Spectrum*, *Schwann Artist*, and *Compact Disc Review Digest*—and most important, will continue writing “The Final Word.” *Stereophile* Editor John Atkinson continues in that position while becoming the company's Vice President/Editorial Director. Assistant Publisher Gretchen Grogan, who joined the company from the Santa Fe Chamber Music Festival at the end of 1994, also becomes the Executive Producer of *Stereophile*'s recordings.

US: John Atkinson with Wes Phillips

The world of high-end audio is a pretty honorable one, the cowboys having moved on many years ago. (They're probably involved in marketing net browsers these days.) However, we recently heard a sorry tale from a reader, John Cacciamani, who purchased a pair of 1m Magnan Type Vi interconnects from a dealer who advertised them for sale in *Stereophile*'s “AudioMart” section. It turned out that the cables were *fakes*—they sounded “dramatically inferior” to the sound of another pair of Type Vi Magnans that he owned.

David Magnan sent us a pair of genuine cables to compare with the fakes. While the ersatz interconnects looked very similar to the real thing, there were some differences, both physical and electrical.

The fake cables each had a series pin-to-pin resistance of 28.5 ohms, a series shield resistance of around 0.3 ohms, and a shunt capacitance of approximately 20pF. By comparison, the genuine cables (serial number 3143) had series pin-to-pin resistances of 51.2 ohms (red) and 43.7 ohms (green), shield resistances of 0.6 ohms, and shunt capacitances of around 50pF (red) and 70pF (green). While I was somewhat alarmed by the electrical differences between the two Magnan

samples,¹ the differences between them are smaller than the difference between either of them and the fake cables.

While both sets of cables have a black woven jacket, that of the real cable has a slightly wider diameter and is made from nylon. The fake cable jacket is a polyester monofilament expando sleeving similar to what Magnan used some time ago. Real Magnan cables have a serial number on the identifying badge;

**IT TURNED OUT
THAT THE CABLES
WERE FAKES—
THEY SOUNDED
“DRAMATICALLY
INFERIOR.”**

fake ones don't, and the label is different in appearance. Both cables use gold-plated RCA plugs, with what appears to be heatshrink over their barrels and the familiar Magnan red and green bands. The fakes use physically different RCAs, however, with more of the colored bands showing. Real Magnan cables use a wide-spaced air/Teflon dielectric.

We have told the advertiser who offered the fake Magnans for sale that his advertising will no longer appear in this magazine. Mr. Cacciamani stopped payment on his check, so he is not out of pocket on the transaction. But if you are offered Magnan Type Vi interconnects by someone other than an authorized Magnan dealer, don't part with your money until you have had a chance to compare them with the real thing, or at least check their series resistance and shunt capacitance with a multimeter. You should note, however, that when this issue hits the newsstands, the person making the fake cables will probably try harder to make his cables look and measure like real Magnans.

What I find particularly interesting about this story, however, is that the reader who bought the fake cables was alerted to the fact that something was wrong by the cables sounding different from what his experience with Magnan Type Vi had led him to expect. Accordingly, I asked Wes Phillips to take a listen to the two pairs of cables.

¹ The differences are apparently due to variations in the impedance of the bronze ribbon used as a center conductor by Magnan.

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Wes Phillips comments: Mr. Cacciamani has good ears. Taken on their own merits, the fakes aren't bad cables, although—as he points out—they are not in the same league as the Magnans. The counterfeit cables sound harmonically lean. The low bass and the highs, through the loss of information, actually sound “cleaner”—there's less overtone excitation accompanying the fundamental. This occurs throughout the frequency range, but is especially noticeable at the extremes. Spatial presentation also suffers from the loss of low-level information. Transients are softened—and since this is an area where the Magnan Vis excel, it is quite obvious. The counterfeit cables add hardness to vocals, particularly tenor voices.

If these fakes were offered through retail outlets, marketed in an honest and upright fashion—rather than leaching off another man's good reputation and hard work—I would say that their designer does not lack talent; it's to his shame that he lacks scruples.

US: Jonathan Scull

We get invitations. This one was from JAD Records (330 South Spalding Drive, Suite 104, Beverly Hills, CA 90212. Tel: (310) 552-0010. Fax: (310) 552-0040). It was in the form of a mock CD jewelcase sporting a photo of Bob Marley smoking a fair-sized joint, and sporting a fair-sized smile on his face. The flip side informed us that Bob Marley's original producer, Danny Sims, was about to unlock the vault “to a treasure trove of previously unreleased songs—*Sixties Soul Shots*. JAD Records will showcase their new release of *Soul Almighty: The Formative Years, Vol.1, S.O.B.'s*, 204 Varick Street, NYC, 6–9pm, cocktails and hors d'oeuvres.”

There's nothing like an open bar and a free meal to get those journalistic juices flowing! Kathleen and I arrived earlyish and found a nice table from which to observe the festivities. S.O.B.'s, a familiar downtown music spot, soon became crowded with artists and music industry types. They appear, in general, to be a bit more slick than audiophile types. Must be the money that's up for grabs, the very thing so many find so elusive in high-end endeavors. (“I'm doing this because I love it, because I need to do it...for sure not to make money!”) We watched a lot of embracing, kissing, hugging, and backslapping going on, and I have to admit the atmosphere seemed pretty convivial. The drinks were pretty good too.

MUSIC INDUSTRY

TYPES IN GENERAL

APPEAR TO BE

A BIT MORE SLICK

THAN AUDIOPHILE

TYPES.

The press kit's headline reads: “Unheard Bob Marley Classics ‘soon come’ on JAD Records, restored masters reveal early soulful side of Reggae legend.” The CD is a result of two years of restoration and remixing from the team that originally worked with Marley back when these were recorded, 1967 to '72. Listening to the tales of the restoration from (original) engineer Joe Venneri during the presentation, and in the multimedia portion of the CD, was interesting. (Joe was an original member of The Tokens!) The tapes were a real mess and had to be baked before use, and even then were only useful for a certain limited number of hours.

The multimedia portion of the disc they showed during the presentation was full of interesting tidbits for Marley worshippers. It includes: a photo gallery of rare and never-before-seen photos of Marley “and other Rastafarian subjects” (so Hollywood...); a full discography of Marley songs; a timeline of his life captured by “renowned historian” Roger Steffens; the first release of the rare spiritual “Selassie is the Chapel”; a full-length music video of the first single “What Goes Around Comes Around”; and the most interesting part, an “In the Vault” section that allows the user to toggle between the original and restored versions of four unreleased tunes. Comparing the two certainly highlights the fine job done in restoration.

As far as the sound goes, the CD's really not too bad. Plenty of BIG REGGAE BASS, of course, and the rest of the mix isn't too muddled. In fact, although imaging in the high-end sense seems to have taken a hit, the tonal balance is rich and melodic, and the overall presentation is anything but screechy.

JAD Records was founded in 1965 by soul singer Johnny Nash (“J”) and producers Arthus Jenkins (“A”) and Danny Sims (“D”) to release music by Nash. Down in Jamaica, Mon, they signed Marley in 1967—as a songwriter! “Stir It Up” and “Guava Jelly” were written and sung by Nash. And



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*Reverend Brown trembled with anticipation
as dark cellos entered the room.*



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the rest, as they say, is history. Interestingly, a very vivacious and self-possessed Nzinga Garvey, granddaughter of Marcus Garvey, turns out to be the CEO of JAD. The entire production is a cooperative effort between JAD, Navarre Corporation, Rock On Rom, and Graphix Zone.



UK: John Atkinson

Famed English mathematician Michael Gerzon, one of the developers of the Ambisonics surround-sound system and a leading audio creative thinker, died in London on May 6 of pulmonary disease. His recent work involved the rediscovery of the late Alan Blumlein's work on stereo microphone techniques (see the booklet for *Stereophile's* Test CD 2), the development of subtractive dither systems to increase the resolution of digital systems, the correction of loudspeaker amplitude and phase errors using Digital Signal Processing (DSP), lossless audio coding, the development of a "distance" control analogous to the ubiquitous pan-pot but operating in the image-depth dimension, and the proposed DVD-based High Quality Audio Disc, where he was one of the advisors to the Acoustic Renaissance for Audio, the group led by Meridian's Bob Stuart and Canon's Hiro Negishi.

In 1978, Michael was made an AES Fellow for his work on directional psychoacoustics—along with the late Duane Cooper and others, he had laid much of the theoretical groundwork for surround-sound audio recording and reproduction and was the co-inventor, with Peter Fellegett, of the Soundfield microphone. In 1992, he was awarded an AES award for excellence for his development of Ambisonics. At the time of his death, Michael was as involved in the practical implementation of his depth-control ideas with an Israeli company called Waves, who are software suppliers of signal processing and user interfaces for the Windows and Macintosh professional audio and multimedia markets; their TrueVerb product is based on his ideas.

Michael would have been 51 in November; it had been obvious for some years that his health had not been good (he was an asthmatic). My favorite memory of Michael was at the 1992 AES Convention in Vienna where, presenting a paper he had co-written with his long-time collaborator, Peter Craven, on the audio applications of DSP, he

drew a flat straight line on the overhead and said, "You all know what that is; it's the frequency response of a DSP-corrected loudspeaker. And you also all know that it sounds terrible." He was dramatically introducing the fact that, without first clearly defining a goal, following an over-simplistic design path does not lead to excellence.

In the words of Bob Stuart, who e-mailed me to let me know the sad news: "I am not overly sure that the audio world really recognized Michael's genius. We will miss him."

UK: David Inman

The shadow of the late Herbert von Karajan hung heavy over London's South Bank last Easter. For it was Karajan who, after falling out comprehensively with the powers-that-be in Bayreuth, founded the Salzburg Easter Festival in 1967 as his personal platform to mount Wagner's four-opera cycle, *Der Ring des Nibelungen*, using the opportunity to record the cycle at the same time.

This year, 29 years after the founding of the Salzburg Festival, London's Queen Elizabeth Hall played host, over the Easter weekend, to another *Ring* cycle—nothing less than the entire Bayreuth *Ring* in the Barenboim-conducted, Harry Kupfer production. Only this presentation was remarkable for another reason—it was an audio-visual event. The production was that recorded/filmed by Unitel at Bayreuth in 1991-2; it was shown in the QEH in HDTV with digital sound reproduction of the highest quality. Spread over just three days, with *Das Rheingold* and *Die Walküre* on

Saturday, *Siegfried* on Easter Sunday, and *Götterdämmerung* on Monday, this was to be the only *Ring* cycle to take place in the UK this year. The promoters, The Park Lane Group, celebrating their 40th anniversary in 1996, are to be congratulated on carrying the whole project through in the absolute minimum of time—less than seven weeks from concept to actuality, in conjunction with SBC, Teldec, the licensees of the Unitel recordings, and ATC Loudspeaker Technology, England's premier professional monitor loudspeaker company.

No work makes greater demands on the abilities and stamina of singers, players, designer, producer, and indeed, audience, than Wagner's great *Ring*. Sixteen-and-a-half hours of concentrated adrenalin and symbolism, not to mention incest, greed, jealousy, violence, betrayal, battle, murder, and sudden death—oh, and a broken sword and spear, magic fire, and a dragon, all spread over three evenings plus a prelude. At Bayreuth, Mecca for all true Wagner lovers, and other houses mounting a complete *Ring* cycle, there will normally be a break of an evening or two during a complete cycle of all four operas. Time to catch one's mental breath, but at the same time a break in concentration. How much more remarkable then—unique, in fact—to be able to hear the entire *Ring* cycle over just three days. For once the scattered superlatives of The Park Lane Group's advance publicity were justified. "Unique," "The First Time," "The Only . . .," "Special." How true.

There had been only two other simi-



London's Queen Elizabeth Hall, viewed from the audio engineer's position, next to the three ATC SCA2 preamps.

lar performances, one each in France and Germany, with, reportedly, less than wholly satisfactory results in the sound-quality department. Much of the credit for the outstanding success of the London event goes to Alan Ainslie and his colleagues at ATC. The Park Lane Group had worked with Ainslie before and asked him to become involved on the basis that an event such as this stood or fell on the absolute necessity for sound quality of the highest order. That may seem obvious, yet how often has an otherwise successful event failed where sound quality is concerned?

Queen Elizabeth Hall is the middle one of three concert rooms in London's South Bank complex. Normally used for concerts by baroque or chamber orchestras, QEH seats 900 in a steeply raked auditorium. The projector occupied the rear five rows of seats while the audio control point was also at the back of the auditorium, set a little to one side.

The videotape, with its digital picture and embedded soundtrack, was fed into the hall from a control van parked outside the building—facilities provided by HD Scanners. The D1 HDTV signal passed first through a BRB (Bit Reduction Box), where it was expanded

HOW OFTEN HAS AN OTHERWISE SUCCESSFUL EVENT FAILED WHERE SOUND QUALITY IS CONCERNED?

and where D/A conversion took place. From there the HDTV component was sent to the massive Hughes/JVC ILA-M435S HDTV projector that occupied the last five rows of seats in the auditorium. The projector had to throw 35m (114') onto a screen 14' high and 33' wide.

The four audio channels went directly to the sound system provided and manned by ATC. This actually consisted of five channels of audio; the front main stereo left and right channels, the rear left and right pair of ambience channels; plus, because the QEH screen is almost 40' across, a synthesized center channel—L+R, reduced in level—to provide audio locked to the on-screen images. As Alan said, "It's really just a big hi-fi system operating in normal stereo mode, with a bit of ambience at



The right-channel speaker array: two pairs of stacked ATC SCM200 monitors with amplifiers on the floor next to them. You can just see the famed ATC soft-dome midrange units.

the back to draw the sound into the auditorium."

The active speaker system consisted of four pairs of ATC SCM200s, each pair having 1700W of amplification plus 2dB headroom. The SCM200s were arranged in two-cabinet arrays with the dual bass drivers vertically aligned and tweeters inboard (see photo). Two SCM100 cabinets mounted vertically one above the other formed the center channel, placed below the center of the screen. Each SCM100 has 350W of amplification plus headroom. The rear ambience channels were a single SCM50 with 350W on each side at the back of the auditorium. The rear ambience channels were not band-limited, and the amount of low-frequency stage noise they carried caused one or two anxious moments for the survival of the small (relatively) rear speakers!

Control was from just two ATC SCA2 control preamplifiers, one used for the rear channels, one for the front. The center channel level, once set with a third SCA2, was not altered. The preamps drove 100m of balanced audio cable from the control position at the rear of the auditorium to the speakers on the platform at the front below the screen. At no time was there any measurable video or supply-related noise or interference. No equalization was needed or used.

The total power available from the ATC system on program, including headroom, was 10kW. For those interested in such matters, the total value of the sound system only was £80,000 (\$126,000). Add that to the projector

valued at £120,000 (\$190,000), the control van and its equipment, and you're looking at more than three quarters of a million dollars. Serious Home Theater.

Although taken from the same film/recording sessions, the 4-channel HDTV audio mix is different from that on the commercially available laserdisc and CD. A dry run in the hall not being possible, ATC monitored the laserdisc beforehand. Its dynamic range was a little over 60dB, with a noise floor 85dB below peak. It was assumed that this would be similar for the 4-channel HDTV version, which proved to be the case. The design objective for the system in the hall, therefore, was to have peak levels of 110dB available from the front channels only, with significant headroom. In practice, during the performance, peak levels were generally found to be between 95dB and 100dB. A very small amount of gain riding was used in the quietest passages because the Hughes/JVC projector produced an ambient sound level in the center of the hall of around 60dB, despite it being heavily surrounded with black cloth drapes.

One neat touch: As at Bayreuth, the end of each interval was signaled by music. Siegfried's horn call summoned the audience back into the auditorium. An imaginative little touch, and one that made the event even more memorable.

Did it work? Was the experiment a success? Do we ask The Park Lane Group to do it again, perhaps with other Unitel HDTV productions? We know they are interested. The answer from

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Peter Aczel, *The Audio Critic*; Issue No. 23; Winter 1995-96

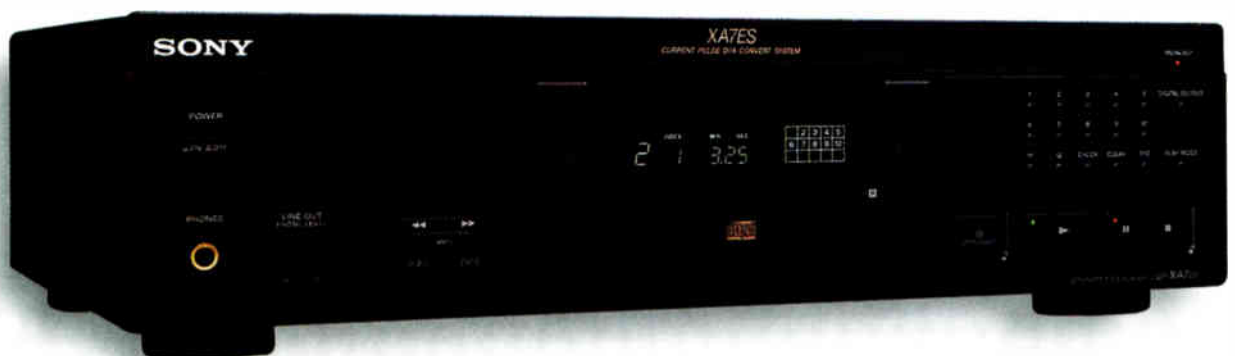
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Ed Foster, *Audio*; March, 1996



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this admittedly committed Wagnerophile is an emphatic "Yes!" The opportunity to experience a state-of-the-art *Ring* cycle over a limited and appropriate time-span, in nonstressful conditions and at relatively negligible cost (£42.48, or \$67, for the complete *Ring*), was really not to be missed.

Yes, of course there were criticisms, some subjective, some objective. The spl was, for some of those present, too high at times; the dynamic range appeared too great at others. These points will always be made—even at home. There were no subtitles; there was no audience reaction (the performance was filmed without audience) or "live" atmosphere. There were occasional odd changes in visual and sound perspectives; there were the usual problems of seeing/hearing singers and actors in close-up. *But this was not Bayreuth. Nor did it attempt to be. It should not be judged that way.* This was, quite simply, a different event and a terrific way to spend Easter weekend.

A detailed critique of the film/production/performance is not appropriate here except to note that this *Ring* seems to be considered one of the more successful of recent years, since the Chereau centennial production. Interestingly, also at Easter—shades of Karajan/Salzburg?—a new production opened at the Deutsche Oper in Berlin, by the same team—Harry Kupfer, designer Hans Schavernoch, and conducted by Daniel Barenboim, General Music Director at the Berlin State Opera, with many of the same protagonists. Early reports indicate that the production builds on the Bayreuth one and is even more spectacular visually and artistically. Perhaps Unitel will film that, and we can see and hear it next Easter. Please, Park Lane Group.

UK: John Atkinson

Meridian's website has a new address: <http://www.meridian-audio.com>. Better change those links.

According to the May 13 issue of industry bible *Audio Week*, Nakamichi's UK distributor has announced that the financially ailing Japanese specialty-audio company, hit by the strong yen, was to abandon the audio market once current stocks of CD players and cassette decks had been sold. Instead, the company will move its product focus into the world of computers, where it already has a factory in mainland China making optical CD products. What this means for Nakamichi's presence in the

US market, we will have to wait and see. (A spokesman for Nakamichi Japan subsequently denied the UK report.) More next month.



US: Jonathan Scull

The debate rages on. Will Home Theater kill off the High End? Will it reach some critical mass of basic quality and stop there? (Like the Blob?) Is there a Home Theater system that can even *play* music? Who but the few, after all, can afford separate systems?

Absenting ourselves from these grave questions, let us consider affable John Eargle and Delos. John is director of recording for this label, and has worked with Amelia Haygood there for something over 15 years. I've often enjoyed listening to their CDs over the course of my reviewing career. So I was interested to receive an invitation to a press launch of their latest release, *Litton+Dallas* (DE 3196), as it proclaimed in bold lettering, Andrew L. and the Dallas Symphony Orchestra and Chorus doing Tchaikovsky's *1812 Overture*, Litton's arrangement of *The Sleeping Beauty*, a symphonic ballad called *The Voyevoda*, and the *Coronation Cantata*.

You woke me up for that?! Another *1812*?! Well, it's recorded in what Delos calls "VR?"—VR squared—which connotes Virtual Reality Recording. What we have here is a Dolby-encoded Surround disc that is, of course, fully compatible with stereo playback. Instead of fighting it, or sticking its head in the sand and ignoring it, Delos is recording to the Home Theater crowd. As John Eargle points out in the following interview, there's an enormous installed base of Home Theater owners—I suppose *some* of them must be growing tired of watching *Barney* in Surround.

With that in mind, Kathleen and I headed over to the Rose Building at Lincoln Center one rainy Friday. We munched smoked trout (it's Lincoln Center, after all), and met Delos doyenne Amelia Haygood for the first time. A short presentation and a demo followed. The Tascam DA-88 8-track digital recorder that was used in the recording fronted THX Harman Citation gear, playing to their own stand-mounted surround speakers. Rear surrounds were dipoles. The Chorus on the *1812* sounded smooth, ambient, and well spread-out over quite a large soundstage. (But not as deep as I've come to expect from High

End stereo systems. Truth be told, I also felt the dynamics were a bit restrained.) But hearing the back-slap of the massed chorus off the rear wall made the hair on my neck stand straight up. Or was it that crowd from *Stereo Review* sitting behind me?!

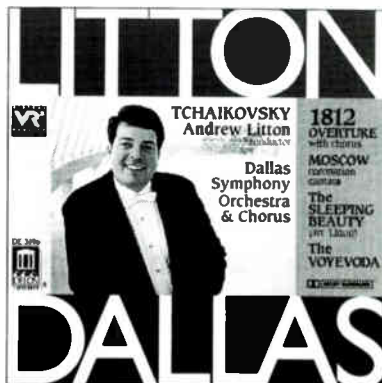
Lifting a suspicious eyebrow at the Tascam, I expected a splashy, digital top end, but the recording sounded anything but. It's no tweaked-out externally clocked Nagra-D, but it seems to have done a credible job of capturing the performance. Perhaps a shade dark-sounding for my taste, but enjoyable, smooth, and ambient nonetheless. If the demo was any indication, I'm sure it'll sound superb on most Home Theater setups. I took the opportunity to chat with John Eargle:

Jonathan Scull: Will you describe the recording technique that you employed on this new disc?

John Eargle: The important thing is that although the disc does sound, to my ears at any rate, very fine in stereo, the same material is also stored on an 8-track medium. The aim is to have something archived for future possibilities in multichannel sound. In other words, I selected the tracks and microphones specifically for the flexibility of making a surround-sound mixdown at a later point.

Scull: Let me ask you about the mike setup, John.

Eargle: The two main microphones—labeled "two" and "three" in the diagram—are Sanken CU-41s. Those microphones are my favorite cardioids because they have exemplary off-axis response. Most cardioid microphones, once you get substantially off-axis, begin to show a high-end rolloff. These maintain their pattern control fairly high up in frequency. I can turn everything off except these two microphones



Delos, Tchaikovsky, Andrew Litton, and the Dallas SO.

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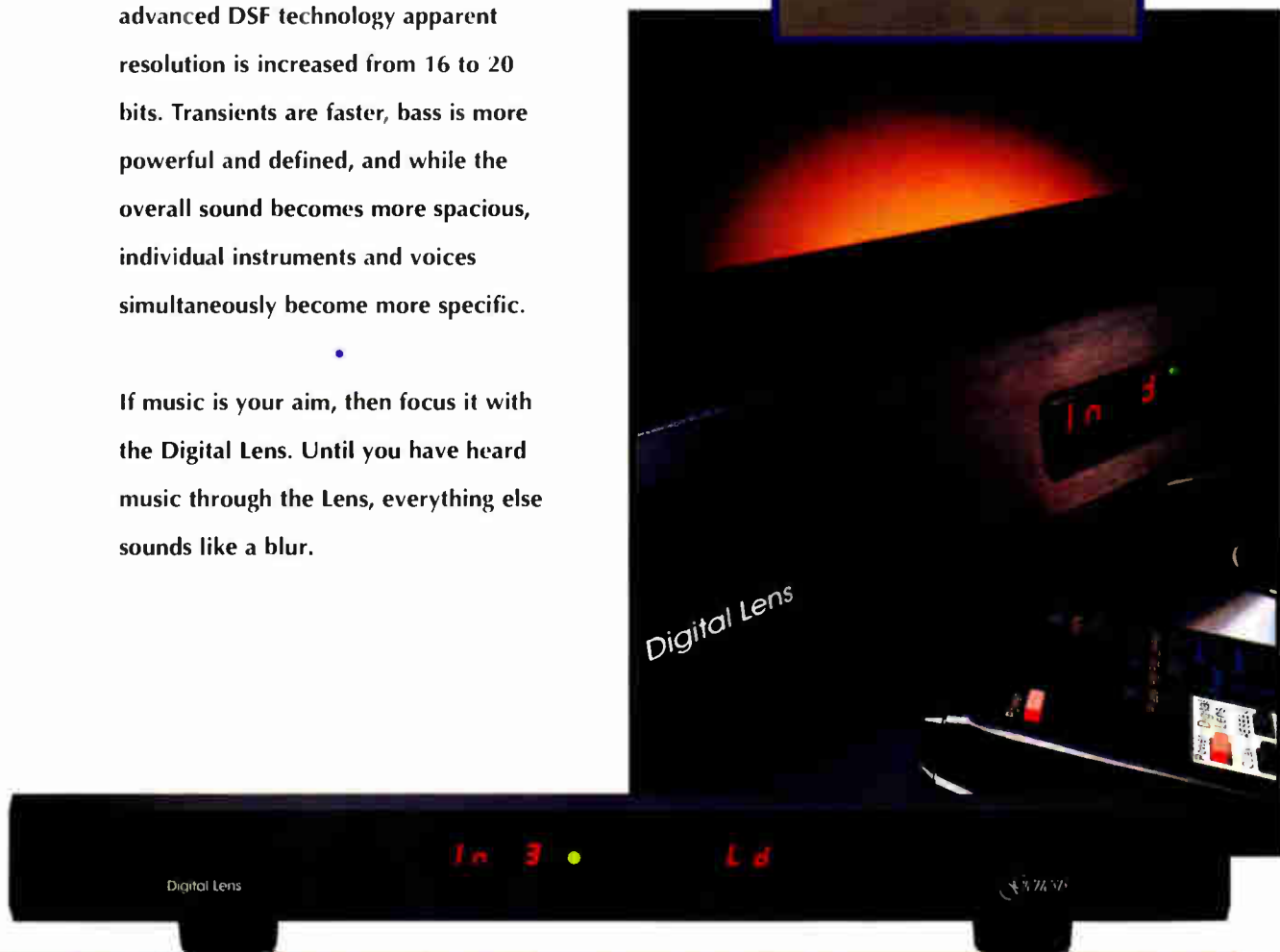
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and probably walk away with a reasonable recording. I wouldn't want to... [laughs] but if I had to, I probably could. And then the flanking microphones, marked "one" and "four," are Sennheiser MKH-20s omnis at a height of 12'. These were chosen for their super-flat response and super-low noise level. Everything else from that point on is a negotiable item, so to speak. It depends on the recording. The number and type of mikes can be almost whatever you have, as long as they're really good cardioids. As you look at the layout for *this* recording, the positions marked with the little arrows are directional microphones. And the ones that have an X in the middle are omnis.

Scull: You recorded eight tracks on a Tascam DA-88?

Eargle: Right. And that's processed through the Prism A/D [from the UK]. That's 24-bit if you wish. We're coming out of it at 20 bits and storing the signal, which was then used in making the stereo recording. And then I also fed, from the console, the eight channels of the Tascam DA-88.

Scull: What was your goal with this recording technique?

Eargle: Well, the first goal, of course, is to make a superlative stereo recording. 'Cause if you don't do that, if you sacrifice anything at that point, then you're really not doing what you're paid to be doing. I would say that this is as good as any recording I've ever made, and this probably is the best orchestral recording I've ever done. And in order to ensure that, we monitored the recording in stereo.

The reason we went with five channels here is that it's an existing format, and the Consumer and Electronics Manufacturers Association (CEMA) says that there are ten million of these setups around the world. And the vast majority are here in the US. If that number is anywhere near true, then there is a substantial installed base of users.

Scull: The setup we heard the recording through at the press function was a standard Home Theater rig?

Eargle: Yes, a standard Home Theater system. Albeit a very-high-quality one. [The Citation components] show a lot of the handiwork of Jim Fosgate.

Scull: Well, you, for one, obviously don't think that Home Theater means the death of high-end audio. It would seem you're trying to bridge the gap?

Eargle: Well, you know, Jonathan, if you define the High End broadly, in terms of companies that cater to an upscale market, you'll find that all the manufacturers at the High End have gone into Home Theater products. So, I don't really see the two as being incompatible at all. In fact, they're mutually supportive.

In fact, I don't even *have* a Home Theater system at home. [laughter] I have so little time to listen to music that I don't want to occupy that discretionary time watching video. I'd rather play music. And I have a lot of stuff that I have to play—even competitive recordings that I go out and buy to spend time listening to. But I don't see anything essentially wrong with having both setups in your home.

Scull: Ahh, John, "both" setups, as you say. One might infer you feel it's appropriate to have a high-end two-channel stereo system and a separate Home Theater rig?

Eargle: Right. And I would prefer to have them in different rooms, myself... I would like there to be a place where I can go *look* and listen and another place where I could listen with my eyes shut.

Scull: When earlier we spoke, you had quite a different opinion than most regarding the audiophile call for 24/96—24-bit quantization, 96kHz sampling rate. Most people seem to be looking forward to 24/96 as some

THE FIRST GOAL, OF COURSE, IS TO MAKE A SUPERLATIVE STEREO RECORDING.

kind of panacea for the problems of digital. You seem to feel quite strongly otherwise.

Eargle: Well, I don't deny that more is better, in every aspect of what we do here. And I would dearly love to see all of these things happen and I hope that they can. But I have a suspicion that when we try to do *everything* for *everybody*, we're going to run out of room.

Scull: It's a storage problem?

Eargle: Well, let me put it this way. Say you plot an X/Y graph, and along the X-axis you plot the sample rate, and on the Y-axis the "listenability" of what you're doing. If you plot the quality level against the sampling rate, you'll find that, yes, for a very low sampling rate, everybody can hear that the high end isn't extended enough. Then, as you go up to higher numbers, you find that curve begins to rise rather steeply. And once you've come to a point at the knee of the nerve... [laughter] I mean the knee of the *curve*...

Scull: Freudian slip...

Eargle: The nerve of some people! [laughter] Anyway, the curve breaks, there's a strong knee, and beyond that point no one can hear an improvement. Now what is that number? It's probably somewhere between 44.1 and 96.

Scull: Want to be more specific?

Eargle: Actually, I'm *not* going to say where. But I have a feeling that it's probably a little bit closer to 44.1 than it is to 96. There really isn't much point in going with higher numbers there unless you have room to spare. Now, a similar curve will be observed if you start look-



Recording engineer John Eargle (left) finds that chatting with Jonathan Scull is not quite the "ordeal by audiophile" he had been fearing.

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ing at the data word length. Once you pass 16 bits, I'd say that the break point is going to be somewhere between 16 and 24. Probably around 18, 19, or 20. And once again, when you've passed *that* curve, there isn't much more reason to go on unless you have a *lot* of room to spare.

Another very important ingredient here—once we break out of our stereo two-channel mold of thinking—is the number of tracks. For example, if we plot the sound-quality factor against the number of channels, we'll find out that that curve is rather general and it stays general for a long time. Until we get up to maybe 10 or 12 tracks. For example, let's say that we have enough information storage space to run 96k at 24 bits. But let's say that we're limited to two channels; then we can only get, let's say, 120 minutes. Okay. We go to four channels, but that's only 60 minutes. (I'm choosing these numbers just to make the point.) If we want to have four channels at 60 minutes, well, that's an imposition on a lot of people. Record manufacturers wouldn't like that because they're used to the playing time of the CD, for example, which is touching the 80-minute mark. I don't think that would be an acceptable compromise for any manufacturer who wanted to stay in business.

Now let's say we change the sampling rate or the data word length and we get back to our 80 minutes. That seems to be reasonable, *and* we can get another channel or two. And why take a giant step beyond 16 bits when you still have microphone noise to deal with? You know, it's a limiting factor in a lot of recordings.

Scull: *Anything you'd like to leave us with?*
Eargle: All I can say is keep the faith and... [laughter] don't just spend your time watching video. Because when you're watching a picture, you let your hearing get awfully sloppy. I do believe that. I think you hear best when you can turn off the visual cortex and shut your eyes. That's the way I like to listen. I hear a lot more when I'm not having to watch something.

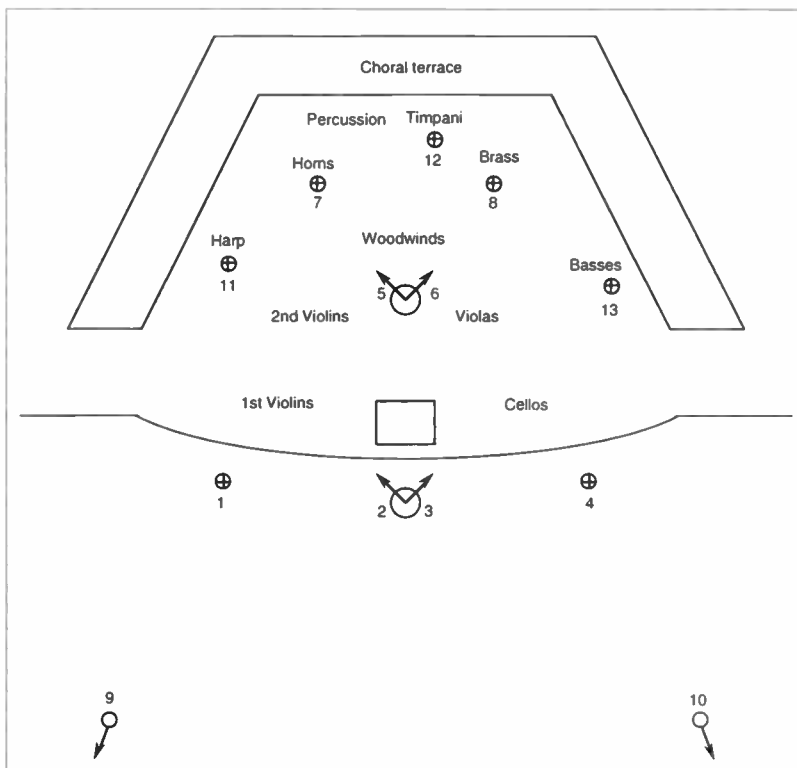
Scull: *Thanks for your insights, John.*

Eargle: Well, actually, Jonathan, it's a pleasure to chat with you...

US: Barry Willis

Owners of CD players are being taken to the cleaners by unscrupulous dealers, as in the following story:

I have a blind neighbor, Marta, for whom music is an even more important part of life than it is for me. This



John Eargle's microphone setup for the Delos Tchaikovsky recording in Dallas's McDermott Hall. Mikes 1 and 4 are flanking omnis, 12' high; mikes 2 and 3 are the main stereo cardioids, 12' high; mikes 5 and 6 are a stereo cardioid pair for the woodwinds, 10' high; mikes 7 and 8 are spaced omnis for the chorus, 15' high; mikes 9 and 10 are spaced cardioids for room pickup, 15' high; mikes 11, 12, and 13 are accent mikes for the harp, timps, and basses, respectively.

woman, a graduate student in psychology, is an aspiring musician who lives alone, with her guide dog, on very little income.

We were having dinner recently when she told me about her CD player, a moderately priced Denon, which several months earlier had begun to skip. She took it to her local chain store, where she had purchased it, to have it serviced. (Sighted people have no idea what a big production something like this is for the blind: They have to arrange for a friend to help them unhook the offending equipment and drive them with it to the store, or, in Marta's case, hire a taxi.) Someone at the store—she could not remember whom—tested the player briefly and could not verify the problem, but said he would send it to their service center for examination.

The player went away for a couple of weeks. One day Marta got a call saying it was ready for her to pick up. The service center, she was told, had run her machine for several hours and had been unable to verify the problem. She arranged for another friend to drive her to the store and get it. She paid the min-

imum charge and took the player back home, where it immediately began skipping again.

She lived with the skipping player for a few more weeks until a friend found time to take it, and her, back to the store for round two. This time the service center verified the problem and told her it could be cured by a good cleaning. Marta's cost: \$90.

A few weeks passed between her second visit to the store and the day she brought the "repaired and cleaned" player home. (The time scale for ordinary transactions becomes enormously stretched out for those who depend on the help of others.) After a neighbor reinstalled the player in her system, Marta found, to her great disappointment, that it still skipped. She was so angry and so disappointed that she stopped using it altogether.

Sometime later she again called the store. Again they told her she would have to bring the player in for service, or, they said, she could buy a new one. When she asked if they would apply her \$90 "repair charge" toward the purchase of a new machine, she was told that too much time had passed for them

to do that. Net results: Marta was out the cost of one "no problem found," one "repair," one purchase at full retail, and several rides to the store. She was the one who got cleaned.

Years of cassette deck and VCR problems that can be cured by cleaning have conditioned the public to believe that CD players need it, too. Dealers, of course, haven't bothered to tell anyone that the cleaning of CD players is nothing but a moneymaking ritual. Skipping CD players are almost all due to a few simple causes: damaged or defective discs, weak lasers, bad tracking motors, and bad spindle motors. Cleaning isn't the cure.

Gullible customers who fall for this scam don't understand that if a CD player is operated in reasonably clean air, there is nothing in it that will need cleaning. Ever. Discs do not shed oxide, and there is no physical contact between the disc and the laser's lens. The only possible instance where cleaning might help a CD player is when the machine is used in a filthy environment, like a smoky bar. Even in the worst case, cleaning requires nothing more than an easy wipe of the lens with an alcohol-moistened cotton swab—a procedure

that takes less than a minute to perform. \$90 for this is an outrageous ripoff.

I'm not particularly religious, but I sincerely hope that if there is some sort of retribution in the afterworld, the nastiest places in Hell will be reserved for those who prey on the helpless.



Germany: Markus Sauer

The German section of "Industry Update" has concentrated so far on companies that already have US distribution. I'd like to broaden the scope a bit and run some portraits of companies that have yet to cross the great divide, but that I feel are of general interest to American readers, either because of technological interest or just to impart a better understanding of the German market—in normal times, one of the most important sales areas for US companies.

This installment sees another first in that it features not a manufacturer in the normal sense, but a modifier—a kind of company that's common enough in the US but sees little mention in the

international press. I'm speaking of Swoboda Audio Modification, or SAM.²

Company president Michael Swoboda, 38 years old, holds a degree in electrical engineering. For his diploma, he designed an electronic loudspeaker regulator that subsequently found commercial success in the flagship of German loudspeaker manufacturer IQ. This project sparked Swoboda's interest in audio technology. He sent several German audio magazines an "interview" with himself that he'd prepared to raise interest in his ideas. In 1985, the largest of them, *Audio*, hired him as a reviewer, telling him, "You have the technological background and the ears it requires. Don't worry about writing—we'll teach you that." Swoboda stayed at *Audio* and learned the hi-fi business. He left in 1987, having made lots of contacts in German hi-fi, and found work as a freelance engineer for a number of speaker manufacturers, designing active loudspeakers and subwoofers.

In 1990 he bought his first Sony CD player, the CDP-X557. Not entirely

² Swoboda Audio Modification, Lindahlöhe 11, 45259 Essen, Germany. Tel: (49) 0201-468080. Fax: (49) 0201-468090.



content with the sound, he tinkered with some modifications—the usual stuff, he says: changing some capacitors and op-amps. In these early trials he saw potential for further improvements in sound by more radical operations on the player's innards.

To this day, Swoboda is deeply impressed with the quality and depth of Sony's engineering. In 1991 he decided to design his own analog filter and output. He built these on a board that fits inside the Sony player. When his friends heard the modified player, they immediately wanted one for themselves, and Swoboda began to think that there might be a market for his creation. He went to his old magazine, *Audio*, and presented them with the player, a modified CDP-777. The magazine ran an enthusiastic report, commending the player as the best integrated CD player they had ever heard. Swoboda was in business.

The story could have ended there. Quite a few modifiers have an initial success, but then the original manufacturer gets wind of the matter, the lawyers speak, and the modifier is back where he started. Swoboda was lucky: Sony Germany compared a modified 777 with their then-new 779, both in the lab



Michael Swoboda proudly presents his board. The SAM board for Sony CD players contains the digital filter and the output stage.

and in the listening room, and decided that Swoboda was actually on to something. Instead of putting him out of business, Sony Germany took him under their wing and treated him as a quasi-official tuning shop, analogous to the relationship between AMG and Mercedes-Benz. Sony Germany will honor the warranty on its products after they've been modified by SAM. Sony even invited Swoboda to be a co-exhibitor at the Frankfurt high-end shows.

Sony saw the potential of selling

players to customers who were too "tweaky," too immersed in high-end sensibilities, to buy a player from a giant company. They also saw that cooperating with Swoboda would keep customers loyal to the brand who otherwise might have wanted to take a step beyond the stock offerings. In return, Swoboda is completely open with Sony about what he does; Sony's central repair shop in Cologne has complete documentation of all changes to the stock players, and is able to repair modified units.

SAM subsequently offered its modification board for a number of other Sony models besides the 777, including the 77, 779, and 707 CD players and the DTC-59ES and DTC-670 DAT players. Instead of just dropping in the existing board, SAM invested considerable work to adapt the modifications to the electrical environments of the different units. Grounding proved critical, making the difference between a barely noticeable improvement and the sort of difference Swoboda feels consumers should get from one of his mods. The result was a huge success: On some Sony models, as many as 80% of the units sold had been modified by SAM.

In early 1995, SAM presented a new

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version of the CID-player modification, appropriately named Type 2. In Germany, this costs the equivalent of \$1050, including VAT (Value Added Tax). This mod consists of a double-layer board: One side carries a star grounding plane; the other combines the analog filter (the heart of the modification), a very-high-quality amplification stage, and a dedicated power supply that takes its voltage from the stock transformer.

In the filter, Swoboda aims for a constant group delay up to frequencies of 70kHz—normal filters have a constant group delay of only up to 25kHz. One element of Swoboda's filter is a frequency-dependent negative resistor (FDNR). The output stage, which Swoboda describes as the CID player's built-in pre-amplifier, employs expensive op-amps that give a high output current. Much work has also gone into the power supply: The board features 34 selected capacitors that give the power supply a short "reaction time" and provide a very low output resistance to ensure stable operation of the SAM board under all musical circumstances. It's direct-coupled, with no capacitors in the signal path.

THIS WAS ONE OF THE BEST SOUNDS I'D EVER HEARD FROM CD.

All internal links are gold-plated, using high-quality Swiss Multi-Contact parts with less than 0.1 ohm contact resistance. This is important to Swoboda, who believes that many players, especially English models, may sound fine now, but will rapidly deteriorate through oxidized internal contacts. His board should keep its sound for years.

When asked how it's possible for a relatively small German company to improve upon the efforts of Sony's Japanese design team, Swoboda says that he employs some parts that Sony could never use at the price point the stock players have to meet—and he has much more time to select components on sonic criteria. The latest version took 700 hours of listening to find the best components, grounding arrangements, and so on.

Computer simulations and measurements can take the designer only so far; at some point, the designer has to sit down and listen. Sony Japan gives its engineers a fixed time budget for the complete player, so work on a single stage can never



A Swoboda-modified Sony CDP-X707; the SAM digital filter board and output stage sit in the rear right corner.

take as long as it might when someone takes the finished product and then works on just one stage. Swoboda has the highest respect for Sony engineers. The mechanical and digital parts of the players are of extremely high standard, he says—better than anything one of the smaller high-end companies could create, and much, much cheaper than the same product would have to be if built by a smaller company. (The single most expensive component that goes into making a budget speaker is the cardboard packaging; large-scale manufacturers at least get a good price on cartons, but it would sometimes be easier for a small manufacturer to hand-deliver the products.)

I was able to compare stock and modified Sony CDP-X707 players in Swoboda's system, which consisted of the Mark Levinson No.38 preamplifier, Adyton Cordis 1.6 power amplifier, and Dynaudio Confidence 5 speakers, with triple OCOS speaker cables. This is one of the best systems I've encountered in my manufacturer visits; the sound was completely freed from the speaker enclosures, with very good image specificity and depth.

We listened to a recording of the Liszt Piano Sonata and, as a complete contrast, an Ofra Haza selection from her *Yemenite Songs* album. In both cases, the modified player offered much better insight into the structure of the music. Where the stock player certainly sounded good in its own right, the modification was rhythmically more assured and tonally richer, and had a greatly improved sense of musical flow. A more relaxed sound, cleaner highs, and more convincing dynamics completed the picture of an altogether very worthwhile upgrade, certainly worth the price.

This was one of the best sounds I'd ever heard from CD. Swoboda freely

admits that the top Krell player beats his creation, but maintains that below the ultra-expensive models, his is the best. The German magazines unanimously agree—rare in itself, because one magazine will normally be delighted to find flaws in another magazine's favorite. (If you thought competition was fierce and internecine between American rags, you should see the German market.)

SAM does have one product that's completely its own, independent of other manufacturers. It's an active digital cable, costing *ca* \$600 including VAT. Swoboda is tight-lipped about the innards. The cable seems to contain active electrical impedance matching for reflection-free transmission of digital signals, which translates as lower jitter. In Swoboda's eyes, this is a kludge, trying to make the best out of the ill-judged S/PDIF data transmission standard. Swoboda thinks a CID deck and its converter should be connected with four lines: word clock, left and right signal data, and bit clock. In the current standard, all four of these elements are encoded into a single datastream, which creates all sorts of problems. Internally, these elements are kept separate. This is the principal reason, Swoboda says, that separate CID players and D/A converters have a hard time beating a really well-thought-out integrated CID player.

Swoboda is now adapting his modification to the latest Sony creation, the extraordinary CDP-XA7ES, which is unique in keeping the laser pickup unit stationary and moving the CID under it, for lower resonance in the pickup and thus fewer readout errors. Swoboda holds high hopes for this model, especially because of the further-improved power supply, which now features separately regulated voltages for just about every stage. **S**

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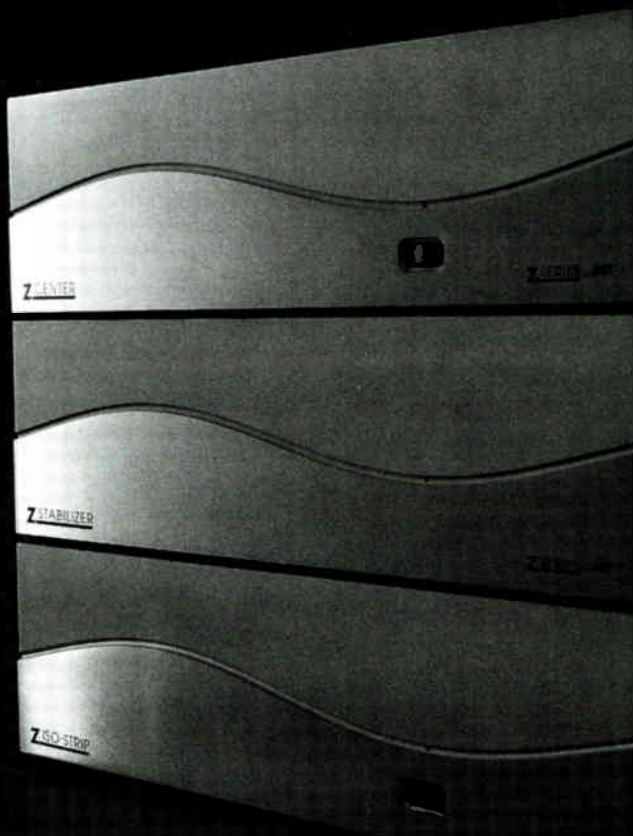
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Vol. 17, No. 12, December 1994



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SAM'S SPACE

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I just got back from the Single-Ended Triode seminar at the Adams Mark Hotel, in Philly, hosted by Peter Breuniger, Executive Director of the Philadelphia Audio Society. (Thanks for the invite, Peter.) The meeting room was packed—maybe as many as 300 men and one woman. (There may have been more women; I saw only one.)

If there had been more women present in Philly, keynote speaker Harvey Rosenberg would probably have had to tone down his speech. Actually, it was *after* his opening speech that Harvey proposed that the designers of single-ended triode gear be invited to contribute to a Triode Sperrn Bank. This way, an impregnated woman could be certain of giving birth to an “artistically sensitive” soul. Only great designers would be invited to make—ah, a deposit.

Herb Reichert, of Audio Note USA, also spoke and made the point that this single-ended triode phenomenon is not about nostalgia—it’s about getting people involved with the music. Dennis Had, of Cary Audio Design, made much the same point.

Jacques Cazclais, of Caztech Audio, just outside Montréal, showed an interesting pair of 805 monoblocks that will be in production soon—price not yet set. I was impressed, too, by the sound of the Komuro 805 monoblocks, manufactured by Komuro Audio Labs of Brooklyn, N.Y., and selling for \$8500 a pair.

“Komuro goes up on a mountaintop for several days,” said Harvey Rosenberg, “and contemplates the effects of different transformer laminates on the sound. Stuff like that.”

All amplifiers were playing through a pair of Swans Allure speakers—the commercial implementation of a high-sensitivity design by erstwhile *Stereophile* writer Dick Olsher. This was in a very large hotel conference room filled with several hundred people. It was amazing that the speakers could play at all, given



Audio Electronic SE-811 monoblock power amplifiers

the very low power of many of the amplifiers. (Yes, the amps often clipped.)

Dennis Had demonstrated his Cary 805, which has become a single-ended triode classic. This monoblock has some staying power—despite the fact that some audio scribes apparently wish that this whole single-ended phenomenon would go away. It won’t.

THIS SINGLE-ENDED TRIODE PHENOMENON IS NOT ABOUT NOSTALGIA.

But the amplifier I got most excited about?

It was probably the cheapest amp at the seminar—the \$1595 (assembled) Audio Electronic SE-1 stereo amp, using one 300B output tube per side and rated at 7 watts a channel. As with other Audio Electronic products, the price varies depending on whether you want it built-up or as a kit, and which 300B output tubes you prefer. “Brown-bottom” Chinese tubes are supplied as standard. This amp is sold direct to the customer with a 10-day, money-back guarantee. For info, you can call Audio

Electronic (a subsidiary of Cary Audio Design) at (919) 460-6461 or fax them at (919) 460-3828.

“Maybe 30 watts of power is too much,” declared Dennis, after demoing his Cary 805 monoblocks on the Swans Allure speakers. “Let’s try 7W instead.”

At that point, he switched over to the Audio Electronic SE-1 Signature, and, as if to rub things in, cranked up the sound.

Okay, so the 7Wpc amp was under a little stress—dynamic compression more than anything else. But the amp played, and the sound was quite appealing, especially when Dennis *didn’t* crank up the volume.

AUDIO ELECTRONIC SE-811

While waiting for the SE-1 Signature to arrive, I’ve been listening to the Audio Electronic SE-811 monoblocks, which retail direct from the factory for \$1995/pair.

The amp is named for the SV-811-3 output tube from Svetlana, of St. Petersburg, Russia, my wife’s hometown—we drive by the factory on the way to Uncle Mischa’s *dacha*. The tube was developed by Svetlana with input from Dennis Had and George W. Badger, President of Svetlana Electron Devices, here in the States. The idea was to modify the design of the 811A transmitting tube—taking the anode plate cap on top “downstairs” to pin 2, and

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removing 75% of the grid wires to make this a low- μ audio tube.

The result? An inexpensive, directly heated triode audio tube that can retail for \$29—a far cry from the \$150 or more you can pay for a single 300B.¹

The amp starts off with a 6SN7 dual-triode as the first gain stage. This is directly coupled to the screen grid of a Russian 5881, which forms the second driver stage. The control grid of the 5881 is tied down to the cathode so that the tube emulates a triode. Output coupling of the 811-3 tube to the loudspeaker is through an air-gap transformer—since this is a single-ended design, you need the large air gap to avoid transformer core saturation. Solid-state rectification is used; this is choke-filtered so the music supply voltage “doesn’t move a volt from whisper level to crescendo level,” says Had.

All you really need to know is that the amp is a single-ended triode, and is rated to put out 12Wpc into 4 or 8 ohms. Because the 811-3 output tube uses a thoriated tungsten cathode, it burns with a very bright white light. You won’t be sitting in the dark with these amps!

So how does the SE-811 compare with an amp that uses the pricey, often dicey (prone to failure) 300B output tubes?

The SE-811 monos have a good deal of the same clarity, purity of tone, and absence of grunge I hear with other single-ended triode amps, including those that use 300B output tubes. Violins sound particularly extended, smooth, and sweet—more so than they would, I think, with any conventional push-pull tube design. There is a grainless quality about the upper midrange and treble that identifies the SE-811, for me, as a single-ended design.

What’s more, for a 12W design, the SE-811 packs some bottom-end punch. The Audio Electronic monoblocks were able to drive a pair of Hales Concept Two speakers to surprisingly high levels with deep, tight bass. (However, a more powerful push-pull tube amp, the AudioPrism Debut, provided even deeper, more powerful, and better-defined bass—as you’ll read next month.)

It was too bad, therefore, that some of the 300B magic was missing.

I have much the same reaction to the SE-811 amps as I did to the Marantz CD-17 CD player I wrote about in June. I would have liked a richer, fuller har-

monic presentation—and more spatial resolution. While I didn’t use the CD-17 much with these amps, I did use the Meridian 508. I felt I lost some of the Meridian’s superb presentation of space.

As for the “light from within” that I described with the Jadis SE300Bs in my January and February columns, some of it is there with the SE-811. Still, with this amp, it’s more a matter of light shining on the music than light shining from within.

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There are some attractive push-pull tubed alternatives for just under \$2k, including the AudioPrism Debut and the Conrad-Johnson MV-55, each priced at \$1995. I thought that both amps gave me more body, more bloom, and a greater sense of space than I got from the pair of SE-811s. These qualities are things you also get from a great 300B-based amp...like the \$3795/pair Cary 300SE monoblocks. Or try the 300B-equipped Audio Electronic SE-1 Signature for \$1595.

The SE-811 has its single-ended virtues, too. As I said, the top end is particularly smooth, sweet, and extended—no hardness, no grit, no grunge. I’m not sure you can get the same sound from a push-pull design. Also, with the SE-811 you’re getting a lot of amp, if not a lot of power, for the money. You’re getting a pair of well-built tube monoblocks for just under \$2k. Most other manufacturers give you a single mono amp for this price.

The pair of SE-811s worked reliably in my system—no problems at all. And none of the tubes, including the SV-811-3, is expensive to replace. All in all, the Audio Electronic SE-811 is an innovative, interesting, and enjoyable amplifier—a unique product, not just another me-too design. Well worth investigating—but I’m still a 300B man myself. **S**

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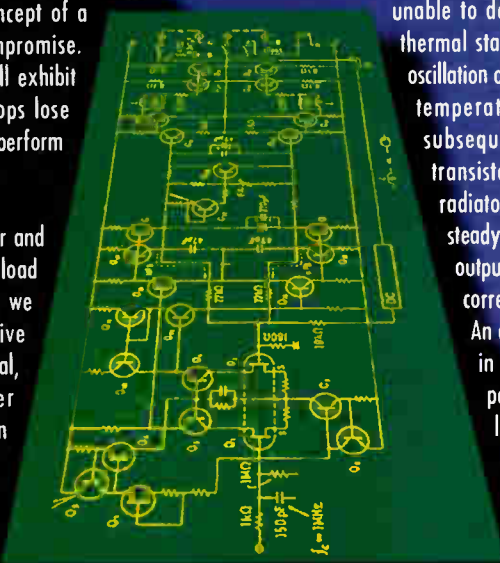
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¹ Svetlana is said to be also working on a version of the 300B.

Non Negative Feedback: The **Real** Solution to IM Distortion

Practically all amplifiers, regardless of price, employ a design technique called Negative Feedback (NFB) to ensure wide bandwidth, stable operation and generally low distortion. NFB amplifiers handle back-EMF reactance from the load by introducing a canceling signal at the input. Great stuff. Downside, however, is that the benefits of NFB are at the expense of lower open-loop gain. In other words, if an amplifier is based on the concept of NFB, it is based on the concept of a correcting mechanism that introduces compromise. The result? For starters, a NFB amplifier will exhibit higher IM distortion. In addition, NFB loops lose control at maximum power conditions, and perform particularly poorly near clipping. Bad deal.

At Onkyo, we wanted to avoid NFB altogether and find an ultimately smarter way to handle load back-EMF reactance and minimize IM. So we invented a revolutionary new Non-Negative Feedback (NNFB) circuit. NNFB seems logical, but without feedback you have to lower distortion and output Z in the amp section itself. To address this, our engineers scrapped the typical emitter-follower connection, and came up with a two-level inverted Darlington circuit with a multi-level connection to an inversion amp with emitter ground. Very slick. Because the circuit is inverted, only the initial level V_{be} is output, and the circuit retains A-grade operation. This pays off with lower V_{be} -Ic distortion and lower output Z than any other Darlington circuit. Instead of 100% local feedback to each emitter-follower level, Onkyo uses a two-level connection of emitter-ground inversion amps, each with its own gain. This



way, we can add two levels of current boosters to the emitter followers. Quite revolutionary. Thus we achieve lower output Z, and since an inverted configuration is used, we entirely avoid the collector current nonlinearities of regular Darlington's. That was the easy part.

Our competitors choked. Their engineering departments were unable to design inverted Darlington's with the necessary thermal stability for solid bias current and an absence of oscillation of the phase margin. Not us. We designed separate temperature compensation for the first driver and subsequent levels, strengthened the compensation transistor mounting and designed an aluminum heat radiator with a small time constant. The result: Rock-steady bias. Next, to prevent the oscillation caused by an output impedance peak at 20-30 Mhz we induced phase correction at the base of the output level transistor. An air-core coil works, but we found that ferrite beads in the jumper wire are far better (high magnetic permeability at low frequencies, low Q, and high loss at the 20-30 MHz point). Perfect. Bottom line: Grand Slam. We nailed NNFB. All of the obvious benefits. None of the drawbacks.

Our NNFB amplifiers are not based on a principle of performance compromise. They attack the underlying problems of amplifier design directly. Our research has led us to identify and solve the challenges that other designers retreated from. The innovative design of our NNFB amplifiers provides exactly what you need from a power amplifier: wide bandwidth, stable operation, and very low distortion. High performance, without compromise.

More good news: We also chucked known transformer technology, and perfected our own design—no more messy clean-ups after embarrassing flux leakage! More importantly, we've got EM induction noise down to seriously low levels. To the point: You get leakage from both the perimeter of the power supply transformer (no signal) and center core (signal present). Particularly bad is a sudden increase in leakage (and noise) at maximum output. The proprietary Dual-Core AEI transformer radically improves on traditional toroidal units, and even tweaked-up toroidals. We designed a new

type of core, with peripheral and opening ratios larger than before. This allows an increase in the number of coil windings. The hybrid uses a wound core system (low leakage with no load) and a coil around the center part (low variation with or without load). Works great—with one problem. Production

The **Realities** of Audio Transformer & Capacitor Design

told us it would be tough to automate the process of winding the center coil. We solved this with a bobbin mounted where the two cores are joined. We can wrap the coil by rotating the bobbin. No sweat. Even better, the bobbin allows heavier gauge wire because of less stress during winding. The result? Lower resistance, which means greater efficiency when providing power to the circuit. For the listener, the new AEI transformer means pure musical signals, essentially free of any induced transformer noise. Thus the very low distortion levels achieved by our NNFB design are not compromised.

But, there's more. Onkyo went one step further and designed its own Audio Tuned Reference Capacitors. Not only do they provide greater power delivery at low frequencies, they give you tremendous continuous power reserves that last as long as the music demands them. How do we know? We conducted listening trials with over 900 different capacitors. Exhaustive research but we've ended up with the best sounding capacitors ever. Very expensive, but worth it.



Power To Spare Comes Only From **Real** High Current Drive

Finally, our engineers got extremely aggressive about Integra's current drive capability. The other guys keep bragging about their reserve power capabilities, but they always measure into a wimpy 8 ohm load. Not exactly high-end quality. Onkyo's ability to handle low impedances is based on 6-ohm loads and lower—delivering measured results that set us apart from the rest of the pack.

Non-Negative Feedback architecture. Dual-Core AEI transformers. Audio Tuned Reference capacitors. Discrete output stages. Hand-selected resistors and transistors. A modular chassis. All Onkyo hallmarks that add up to serious levels of reserve power and torque—just what's needed to handle the most demanding musical passages.

When you buy a power amplifier, the design and manufacturing techniques, measured specifications, and developmental testing are all critically important. But what is most important is the amplifier's ability to consistently deliver high power levels into low impedance loads, with the greatest possible transparency. The drive capability of Integra amplifiers in your listening room is one of our proudest accomplishments. And our competitor's worst nightmare.

That's about it. With NNFB, new AEI transformers and Audio Tuned Reference caps, the new Integra line is simply incredible. True golden-ears products. In short, if they weren't the best, we wouldn't put the Onkyo name on them.

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ANALOG CORNER

MICHAEL FREMER

There's news on the Exabyte front: In my April column ("Now the Bad News," p.58), I reported rumblings in the mastering community about the growing use of the Exabyte computer backup system in CD production. The 8mm tapes allow glass masters to be cut at double speed, thus halving production time, and time is money so "look at the clock!"—that's for all you *My Little Margie* fans.

No sooner had the ink dried on that story than I received a call from a Marv Bornstein, who consults for Cinram, an Indiana-based CD-manufacturing facility. Bornstein worked at A&M for many years, back when sound quality was job number one there, and Bernie Grundman ran Herb Alpert's cutting lathe. An ex-girlfriend of mine worked at A&M when I lived in Los Angeles, so I got to hang around the lot a lot and I actually met Bornstein (and Grundman, for that matter)—it's a small platter, ain't it?

I also wrote about the BMG/RCA Victor, *The Songs of West Side Story*, a Lennie B. tribute album, a while back: Grundman and Oceanway's Allen Sides were not happy with the sound of the final CD pressed by JVC, despite the Oceanway all-analog production. What was going on in the pressing process that changed the final CD sound compared to the 1630 master? There was talk of Exabyte being the culprit.

Cinram presses discs for the BMG Record Club. And while Cinram was not doing a record-club version of the Lennie tribute at the time, Grundman and Sides wanted to hear what Bornstein's plant could do with it, so they sent him a CD-R and a 1630 tape. Guess what? According to Bornstein, both Grundman and Sides were quite happy with the Exabyted results that Bornstein sent them, sourced two ways: from 1630 tape and from CD-R. Grundman corroborated.

So whatever's causing stuff to come back from the shop not sounding like

the good little digital clone it is, it would seem that Exabyte is not the culprit. Bornstein was kind enough to send me both versions of *West Side Story* that Cinram cut for Grundman and Sides, which I compared to the JVC original. He also sent me the BMG Record Club editions of the outstanding Impulse! SBM jazz reissues so I could compare those Exabyted discs with the GRP originals pressed by MCA. Hey! I thought that exercise went out with the death of vinyl!

I'll spare you my findings since this is supposed to be an analog column, except to say that if the Cinram edition was mastered from Exabyte, and the JVC one wasn't, Exabyte's no villain. In fact, the Cinram version was, if anything, slightly better focused at the very bottom, and McCoy Tyner's piano sounded more coherent. (My original

Impulse! LP creams both of them, of course!) So whatever's causing music to come back shrunk from the CD dry cleaner, it's probably not Exabyte. Case closed (I think).

STILL RELAXIN' IN CAMARILLO
Talk about having one's ducks in a row: Acoustic Sounds' Chad Kassem has David Wilson's Audio Research tube-driven, tricked-out Neumann SX74 cutting lathe set up at RTI's Camarillo, Calif. plating and pressing plant. So now veteran mastering engineers Stan Ricker and Bruce Leek can cut a lacquer, take it down the hall for plating, and have a 180-gram test pressing in hand with Polaroid-like speed and convenience (well, maybe not quite that quickly).

So how has Chad Kassem progressed from being a mail-order supplier of RCA "Shaded Dogs" and Mercury Living Presence LPs to an award-winning



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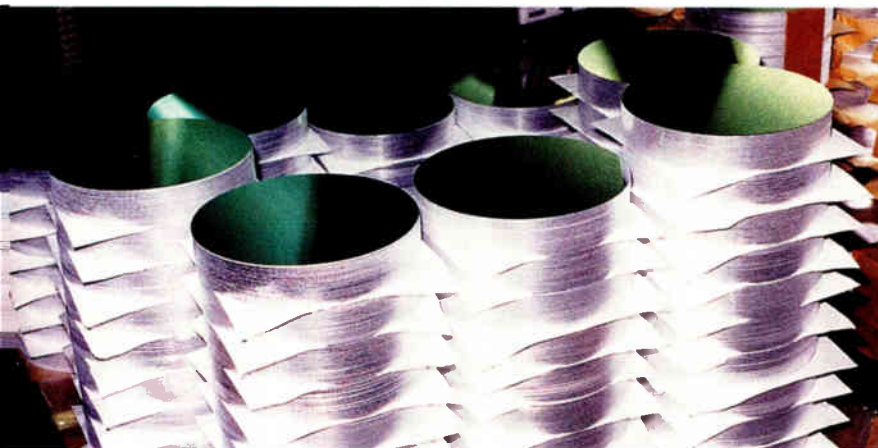
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Raw aluminum discs off the pallet

executive producer for his own label (Jimmy Rogers's *Blue Bird* and Nancy Bryan's *Lay Me Down*, both on Analog Productions Originals), a first-class reissuer of outstanding jazz, blues, rock, and classical music on audiophile-quality vinyl and gold CDs, and now owner of a top-shelf disc-cutting facility?

Answer: hard work and, more important, a willingness to admit to not knowing everything—and *listening*. Yes, Chad does love to talk—you usually have to cut him off in midstream or you won't get any work done—but he does listen. That's obvious from the wide-ranging, often way-out-in-left-field choices in his reissue catalog. There's something for every taste, and beyond that, he offers vinyl fans a chance to explore some great-sounding, out-of-the-way stuff they wouldn't ordinarily hear.

I recently received some test pressings of the first group of Chad's "Revival Series" 150-gram releases, and when they're available, you'll be in for a musical and sonic treat. Kassem has chosen an eclectic mix of well-known and obscure (Sidney Maiden?) jazz and blues recordings for reissue, including *Thelonious in Action*, Monk's first nonstudio recording. The mastering job creams both my original Riverside and the OJC reissue.

One thing's for sure: There's nothing soft or "tubby" sounding about the test pressings I received. While each sounded unique, they all shared a few common characteristics: superb dynamics, incredible focus and clarity, and a quiet that'll have you dropping to the noise-floor. And at \$17.50, you can buy them without gulping.

Between these issues, and Classic's, MoFi's (do *not* miss MoFi's reissue of Nirvana's *Nevermind*), DCC's, and all the rest, I'm reaching "critical reviewing mass"—which means I could spend all

of my reviewing time covering just vinyl. Who would have thought this possible a few years ago?

LACQUERS FOR SLACQUERS

At HI-FI '95 in Los Angeles, History of Recorded Sound's Len Horowitz slipped me a promotional lacquer from a company called Transco in Linden, New Jersey. Horowitz is an analog enthusiast and mastering engineer once employed by Westrex, the inventors of the 45/45 stereo cutting system. Some of you may be familiar with History of Recorded Sound's "direct to lacquer," 45rpm, red-vinyl Big Daddy release from 1990, on which the group covered The Cars' "Just What I Needed," Robert Palmer's "Addicted to Love," and a few other tunes, as if they were written and recorded in the 1950s doo-wop style. (They did the same to the entire *Sgt. Pepper* album on a hilarious Rhino CD.)

Anyway, the promo lacquer's color Xerox cover shows three children entranced by a cutting lathe—I assume Horowitz's—in the process of cutting a lacquer. Underneath, it says: "the new generation... Transco." It's been sitting around on a shelf for almost a year, and while I was contemplating Kassem's high-/low-tech assembly line, I thought: "A visit to a lacquer manufacturer! What could be nerdier?! And it's only a hop, skip, and an oil refinery away!"

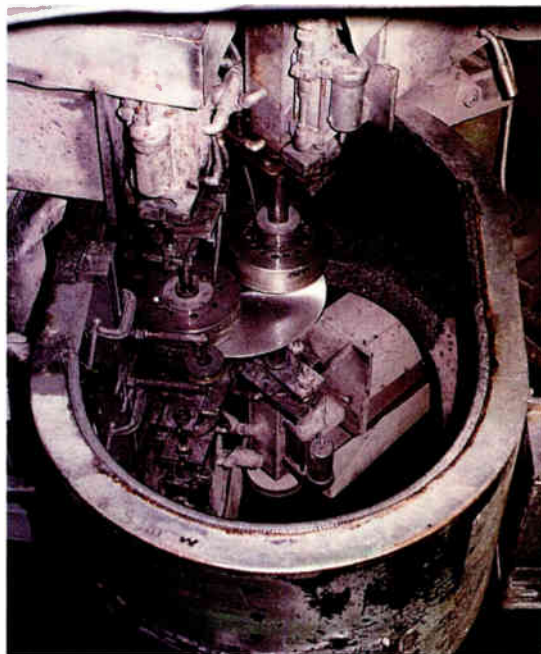
I called Transco immediately and set up an appointment. Transco President Bob Cosulich was solicitous; after all, lacquer manufacturing isn't exactly a breaking story, so it's not every day that a reporter requests a guided tour.

Today, there are two main lacquer manufacturers in the United States: Transco on the East Coast, and Apollo on the West. Apollo's equipment originally belonged to Audio Devices in Connecticut (which also made recording tape, with which some of you oldsters are surely familiar). Capitol bought the company and moved the equipment to Winchester, Virginia. When Capitol decided to get out of the business (with the introduction of guess what?), it sold the lacquer manufacturing gear to Apollo, which hauled it out west.

I didn't want to get into a discussion of who manufactures the best lacquers. Nor did I poll all the usual suspects to find out who supplied their lacquers. I was just curious about how lacquers are made, and I was happy to be able to find the answer a car ride away. I will say, though, that I've seen both brands of lacquers at most cutting facilities I've visited.

Linden is just south of Newark, in that industrial stretch where you wonder what they were thinking when they nicknamed it "The Garden State."¹ It kind of looks like El Segundo, Cali-

¹ As a New Jersey resident, I think the "Garden State" sobriquet refers to the vegetative state the New Jersey electorate was in when it elected Christie Todd Whitman Governor.



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ifornia, but without the ocean backdrop. During the 50-minute ride from home (in the souped-up '72 Saab 96, of course — could you believe Eduardo Benet's letter in the February issue, getting on my case for beefing up the engine?), past Giant Stadium, past the big, stinking oil refineries, past the Port of Newark, IKEA, and the International Airport, I tried to imagine what I'd find when I reached Transco.

All I could think of were the abandoned hulks of steel mills you see in the rust belt. I kept fixating on some huge, dark, postwar apparition, mostly empty and cold now but for a small area of activity where a few lonely souls trickled out the occasional lacquer: a far cry from the thousands that used to roll off the assembly lines like Model Ts during vinyl's heyday.

What I found off New Jersey Route 1 was a small, clean manufacturing facility — storefront-sized as seen from the street but actually much bigger — meticulously run by two brothers-in-law clearly more interested in playing golf than playing records. Bob and his partner Fred got involved in the arcane business of record-lacquer manufacturing in 1971 by injection: They married the daughters of former Transco owner Chet Conk. Hey, that's okay. These guys know which side their nitrocellulose is buttered on. Make good lacquers or it's back to the public links!

Ah, but I'm being obnoxious (so what else is new?). In fact, according to

Cosulich, Conk himself had gotten involved in the business through *his* brother-in-law, who used to work for Presto, a company that made transcription discs before the magnetic tape era. The two formed Transco and began making their own transcription discs. When tape came into the market, they formulated a lacquer that could be plated, and so survived into the next era.

During the 1970s, Cosulich told me, business was booming. "So things slowed down a lot in the '80s?" I asked. "Not really," he said. Capitol had shut down its Virginia facility and so Transco became "basically the only game in town," running 24 hours a day.

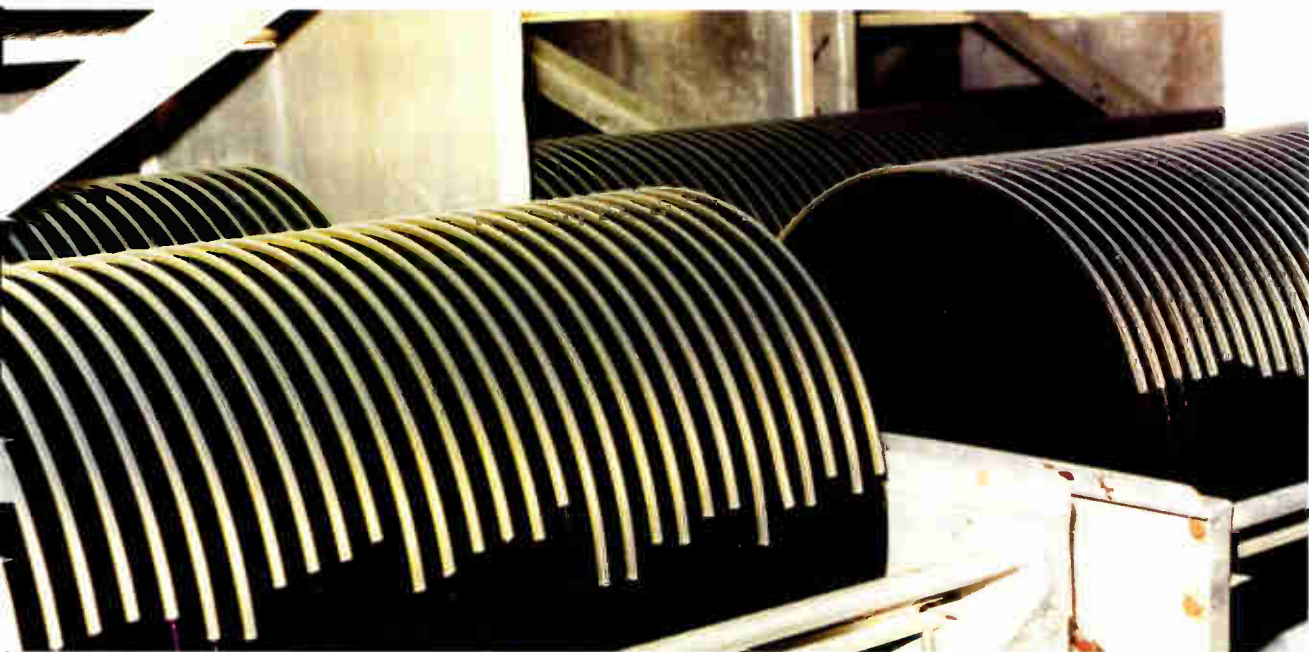
Toward the late '80s, however, business did slow down, so Transco got into the tape-distribution business, where it still is. Last year, happily, lacquer sales volume went up, though Cosulich wouldn't divulge numbers. This year, he told me, they're ahead of last year so far. The trend is upward, my vinyl-loving friends!



The flattened, polished aluminum disc is ready for lacquering with nitrocellulose.

SLIPPING DISCS

So exactly what is a "lacquer" and how is it manufactured? The first step in preparing a vinyl record is to cut the groove for one side in a perfectly flat disc made by coating an aluminum blank with a thick layer of nitrocellulose lacquer. Bob Cosulich took me on a guided tour and showed me the process, beginning at Transco's other facility a few miles away on the same street. There, aluminum discs are baked into submission in a large oven to make sure they're perfectly flat. Transco buys the 12" and 10" discs in large pallets. Once the discs



Once covered with lacquer, the blanks are cured in racks.



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have been baked and cooled, they're washed and then polished in giant grinding/sanding machines until they're silky-smooth. The equipment is so specialized, Transco has to manufacture its own sanding discs for the machines.

The polished discs are hand-inspected, carefully packed, and driven over to the main plant, where the final coating and curing takes place. The lacquer itself is a flammable, explosive, nitrocellulose-based material pre-mixed with solvents, resins, plasticizers, and dyes to form a Concord-grape-colored ooze with the consistency of honey that Transco buys in 55-gallon drums from Randolph Products, another New Jersey firm.

The goo is pumped into Transco's tanks, where it's filtered before application. Excess is pumped back in to the tank, but not before being filtered again. In fact, Cosulich told me, the lacquer is filtered continuously. What else is this stuff used for? A variation makes nail polish, and at one time, pencil and airplane paint were made from nitrocellulose-based lacquer, but no more. Cosulich also told me the formulation used today is virtually identical to what was used during the "golden age" of vinyl, though certain materials have changed due to stricter environmental regulations. I don't know about you, but I'm willing to give up a bit of noise floor to help save the environment.

As you might imagine, lacquer fumes

are quite noxious, and Transco is monitored by both state and federal (EPA) environmental agencies, which actually insist that the gases be incinerated rather than be vented into the atmosphere. You know those environmental wackos. Given the added expense, it's a wonder we can still compete against cheap, foreign-made lacquers.

Over at the main facility the polished aluminum discs are carefully unpacked and run through the lacquer-coating machine that applies a thin layer to one side. Once out of the machine, the lacquers are carefully stacked to cure for a few days. Then the process is repeated to coat the other side. The double-coated lacquers are then put in a dishracklike device and filed away for a few weeks of final curing. After the curing process is complete, the lacquers are carefully boxed and shipped off to disc-mastering houses around the world.

Of course there's QC. Cured lacquers are tested by the batch for noise on Transco's in-house lathe. Silent grooves are cut and played back. Rejection rates are low, according to Cosulich, mostly because everything is carefully monitored during each step in the procedure, and Transco's been at this for a very long time.

Another part of Transco's business is manufacturing cutting styli for every brand of cutting head: Westrex, Ortofon, Neumann, you name it. It's a very specialized skill that took about a

year to teach to the Transco employee who now does it pretty much full time.

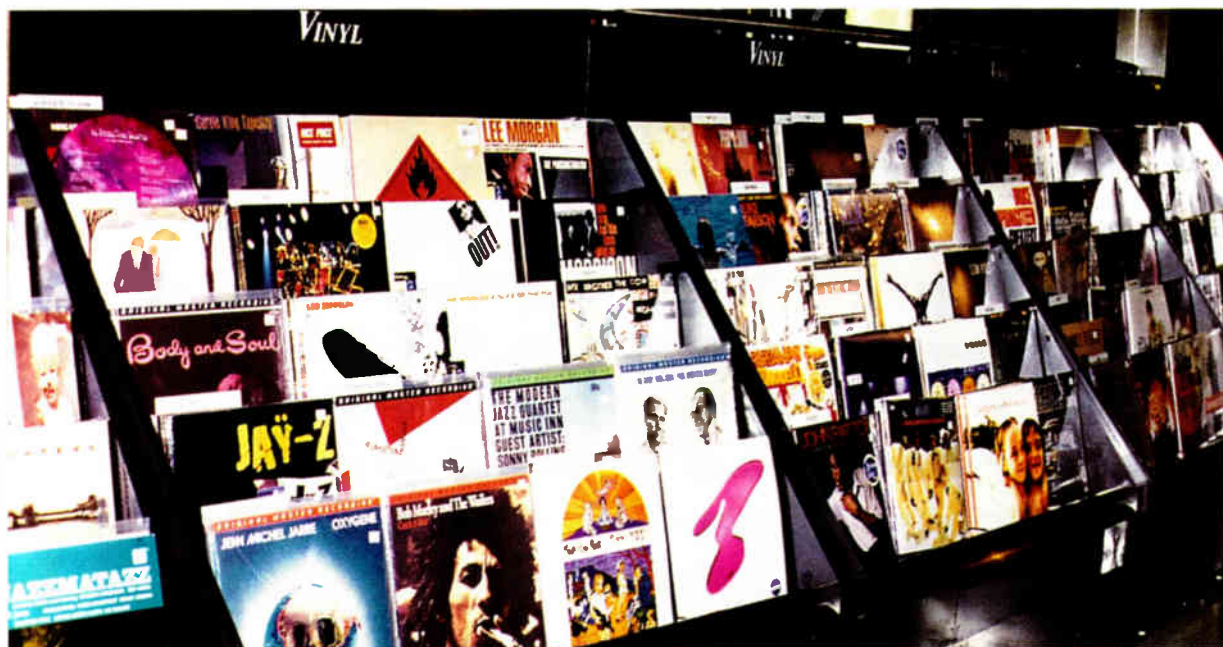
So that's the lacquer story. I want to thank Bob Cosulich for taking a half day out of his busy schedule to show me around his facility. By the way, if you think records sound like dynamite, you're not too far off. Nitrocellulose is explosive, so if you have a stock of lacquers, keep them locked up and out of the hands of your local militia, or they may be ground down for pipe bombs!

LIKE A MEGA-VIRGIN

The evening before my lacquer excursion I attended the pre-grand-opening party for Virgin's new Times Square MegaStore, said to be the world's largest "record" store. With press badge in hand, I entered early so I could explore and shoot pictures before the hordes of invited guests packed the place and obscured the view.

This is one giant multifloor extravaganza! With over 150,000 CDs, 7000 laserdiscs, I don't know how many audio and video cassettes (who cares?), and a promising though not particularly thorough vinyl section; a book store; a cafe; a performance stage; about a hundred listening stations—even some video-software viewing stations—and a Sony multiplex movie theater in the basement, you could spend the day and not see it all.

By the eighth glass of champagne I wasn't seeing much anyway, but before the libations and the hors d'oeuvres



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Listening stations at the Virgin MegaStore.

turbo-charged their way through me, I did manage to get some pictures and take some notes. The store is very well-organized by format and musical genre (there's even a "Vintage" section for '50s rock) and very well-stocked, with a good mix of imported CDs and LPs, and lots of independent and out-of-the-way stuff (on CD). The boxed-set selection, however, was not up to snuff (store reps told me that stocking was far from complete). Back-catalog depth was also pretty good, and the shelf design made for easy pickin's.

One thing that really impressed me: The CDs in the listening stations and on the feature racks above the bins seemed to have been chosen as much by the enthusiasm and tastes of the section managers as by record-label strong-arm marketing tactics. That's good! It helps give the store a unique personality. None of these chain stores has the charm of independently owned "mom-and-pop" operations, but it seemed as if whoever was in charge of the Virgin operation was allowing the underlings to express themselves—at least on a limited basis.

The listening stations, by the way, were very well-organized, flexible, and easy to use. Each station offered a choice of four discs, and you could choose any selection on each. With high-quality Sony headphones at each station and lots of volume, fidelity was pretty good. I auditioned discs I knew (like Jonny

Polonsky's short-but-sweet pop masterpiece on American Records) to see how they sounded. Verdict: good enough to tell whether or not the recording was decent.

As an experiment, I chose a musical title in my collection to see how long it would take me to locate it in the store. Not bad. And they'll order anything not in stock on CD or vinyl, domestic or imported.

But aside from the improved selection of vinyl—enough to get me to return; in fact, had the registers been open that night, I would have spent plenty on imported and domestic vinyl—and the sheer volume of CDs, did anything really distinguish the Virgin MegaStore from other record stores?

Not really.

A while back in this space I wrote about the folly of stores mixing expensive gold CDs in with the regular product. Unfortunately, Virgin makes that mistake. By chance, I happened upon the example I used in my column: Back to-back in the Bob Marley section were both PolyGram's \$8.49 CD of *Exodus* and Mobile Fidelity's super-sounding gold CD at \$29.95. Which do you think the uninitiated would buy?

My feeling is: As long as you're going to stock audiofool goods, have an audiofool section with both gold CDs and thick vinyl. Instead, the MoFi and Classic Records vinyl was mixed in with the regular stuff in the curvaceous

vinyl section. Didn't see no DCC vinyl (or gold CDs, for that matter) or any of the other audiophile vinyl we know and love.

Speaking of the vinyl section, it was a curious grab bag: lots of great imports of stuff unavailable on domestic vinyl like Björk's two solo albums—the second one's on pink vinyl—and the usual suspects (*Kiss, My Ass* on colored vinyl, *Bruce Springsteen's Greatest Hits*, etc.), and lots of MoFi product, but very little independent-label domestic vinyl, which is where most of the interesting action is—though I did spot *Everclear* on Tim Kerr Records. (The CD is on Capitol.)

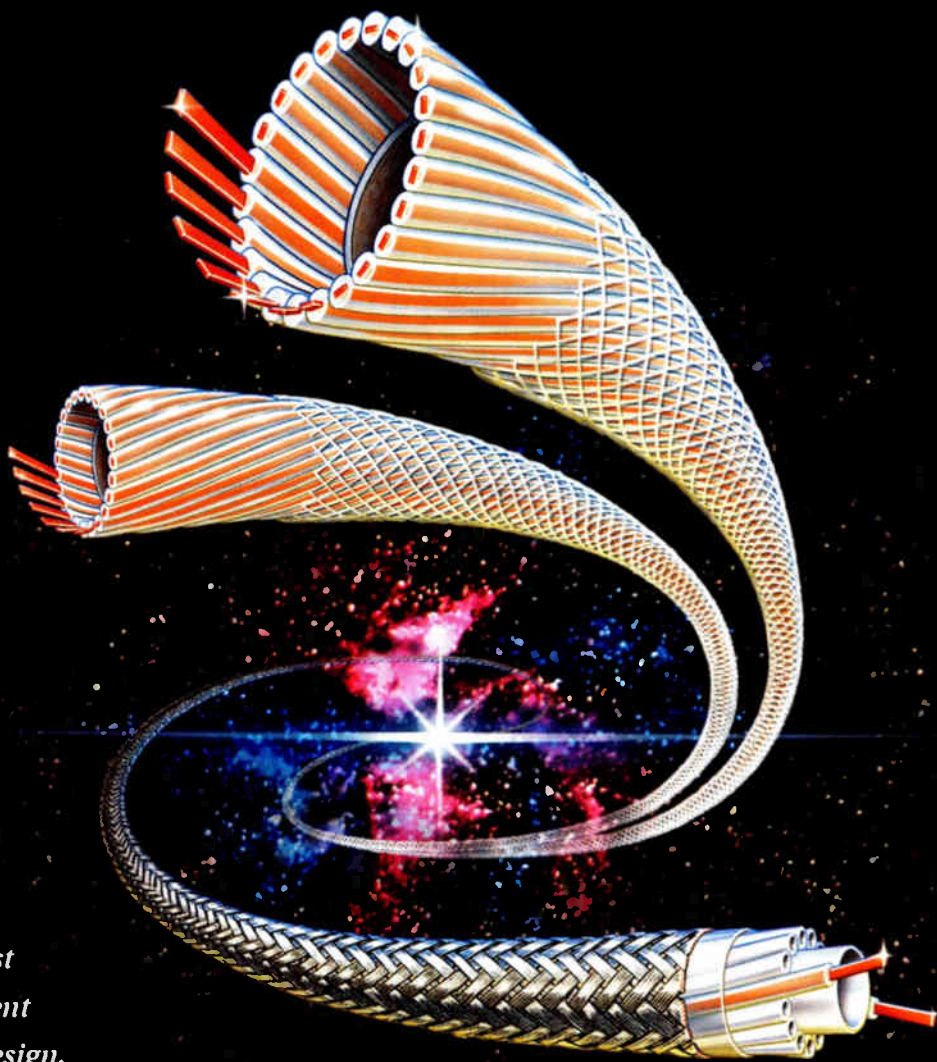
There's also an entire section of 12" dance singles and an almost hilarious \$2 and \$3 cut-out bin, which contained LPs probably locked away in Virgin's English basement for a decade. (*Wham!*, anyone?) On the other hand, some of the English cut-outs, like some old Graham Parker albums, were really tempting.

It was clear to me that the staff at the Virgin MegaStore does not include anyone hip to the current vinyl scene. Too bad. Maybe that will improve. At least they're trying.

Meanwhile, if you visit the Big Apple and you're searching for vinyl, make sure to visit Other Music, across the street from the downtown Tower, on Fourth and Broadway. They have a superb selection of indie music on vinyl. **S**

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SALON HIFI 96:
JONATHAN SCULL

Ah, Paris. City of light! Never mind the light, how about the food? Let me tell you, after close to a week in the UK (avoiding *les vaches folles*—the mad cows, that is), we were more than ready for a little French cuisine. Kathleen and I had been in England visiting practitioners of the high-end audio art, UK style. (More on our entire European audio tour and accompanying interviews

coming up soon.) We took the high-speed train to Paris—the Eurostar—from London’s Waterloo Station to the *Gare du Nord*. A three-hour ride, and only 20 minutes under water! Painless, fast, and easy. On the Paris side, the Eurostar flew so quickly that the traffic on the *National* appeared to

As you might imagine, Salon HiFi 96, held March 22–25 at the Palais des Congrès de Paris, was a stylish affair. We glanced at a relatively slim *Catalogue Officiel*: slim and elegant in comparison to the usual WCES brick. At least the French take their hi-fi (say “hee-fee”) shows seriously; Friday morning opening ceremonies were attended by one Monsieur le Ministre Alain Madelin, no less. (Imagine Newt or “Who Me?” Al D’Amato clutching their tonearms, hi-fi scissors at the ready, with a word or two about the importance of music and High End in our homes... never mind.)

I saw some familiar names while scanning the roster of manufacturers: Accuphase, Adcom, AKG, Alphason, Apogee, Audio Note, Audio Research, AudioQuest, B&W, Boston Acoustics, Bryston, Cello, Celestion, Chesky, Creek, Cyrus (familiar in the UK at least), Dynaudio, Electrocompaniet, Energy, Flatline, Focal and its parent company JMLab, Infinity, Harmonix, Jadis, KEF, Klipsch, Krell,

SHOW TIME!

JONATHAN SCULL AND MARKUS SAUER REPORT ON THE FIRST TWO MAJOR INTERNATIONAL AUDIO SHOWS OF 1996

be going backwards! (Believe me... the way the French drive, especially Parisians, they weren’t going backwards!)

Our Paris visit proved to be more a more tightly knit and cosseted affair than had our British audio adventures. (Well, you know the English; they hate to show any emotion.) It started as soon as we stepped off the train on a beautiful, mild, March Paris evening right into the waiting arms of Jacques Mahul (the “JM” of JMLab/Focal) and his International Marketing Director, Patrick Decobecq. Jacques, involved with the organization of Salon HiFi 96, was our official host for the show. They make a great pair; Jacques’s poetic, suave, and sophisticated manner proved a perfect foil to Patrick’s half Belgian, more earthy sensibility.

We ate at a well-known *resto* just across from the station. I think Jacques was a touch dismayed by the small mound of bags we were schlepping; “No,” I had told him on the phone from Old Blighty, “right across from the station is fine, we’re traveling *light!*” I unlimbered my French and, after a glass or two, was making myself understood. (Kathleen reports it took a full two days before she could abide my French.) “John-a-tan,” Jacques told me laughingly near the end of the meal, “you’re sense of hu-moor is so *arrosive!*” Cor-rose-SIEVE, as he pronounced it, and quickly added that that is considered a great compliment in France. But of course...

Lowther (familiar to the horn cognoscenti), Audiomeca, Macintosh, Magnum Dynalab, Marantz, Micro-mega, Mirage, Mission (UK again), Mobile Fidelity, Monster Cable, Mordaunt-Short, NAI, Transrotor, Pink Triangle, Pro-Ject, Proceed, PS Audio, Quad, Revox, Rogers, Rotel, RPG, Scan-Speak, SEAS, Shure, Siltech, Snell, Sonus Faber, Sound Lab, Tannoy, Teac, Telefunken, van den Hul, Vifa, Well Tempered, Wilson, WireWorld, XLO, and YBA.

There were also a few French companies not well known outside *la région*, like Cabasse (although they may be doing something about that soon—they were at Hec-Fee ’96 last month here in New York), speaker and electronics manufacturer Cairn (enjoying good French street cred), speakers by Jean-Marie Reynaud, and



electronics from **Audio Sculpture—Audio Matière** as they're known in the States, imported by Ron Hedrich at **Marigo Audio Labs** (847-674-1265).

And, somewhat offputting to *this* reporter, I have to tell you that there was a big Home Theater presence from the major manufacturers: Barco, Bose, Canon, Denon, Dolby, Faroudja, Harman/Kardon, Lexicon, Loewe, NEC, Pioneer, Runco, Sony, Thomson, and Vidikron. Did I see a sign reading "Onkyo Universe"? I think so, and believe me, that's what they have in mind for *you!* Many, many video rigs, all of them spinning that old porkboiler *True Lies*. After two long years watching Schwarzenegger and his tumescent Jumpjet, I thought I was at last *free* of this pestilential movie. But no... it was everywhere in Paris! "Here's my invitation..." *kabloom*. (Being a journalist, I know just what Arnold means!)

Touching the internationalist pulse of the High End in Paris left me with strong impressions regarding Home Theater's chance of killing off stereo replay. In fact, I agree with Jacques Mahul in the June *Stereophile* (p.208); Home Cinema will become *just good enough* to support the visual

medium that it *really* is at heart, and pretty much just stop there. Relatively good quality for the mass market, and nothing more. Certain high-end companies will introduce relevant pieces certain to be more refined than those the giants turn out, but I believe there will *always* be a devoted cadre of music lovers who will need to listen to fine music on a high-end stereo system of whatever pedigree.

That said, we did have an enjoyable quasi-Home Theater experience in the **Cello** room, presented by Paris dealer David Blecher of Presence Audio-Conseil at 51, rue Saint Louis en l'Isle, who also handles well-regarded French manufacturer **YBA**. (The store is just next to Bertillon, for whose famous ice cream Japanese tourists wait in line for as much as an hour.) M. Blecher played some... unusual and quirky material on the big all-Cello Performance Amp rig, including, as I glance at my notes, "slightly Dali-esque French vocals, Yiddish folk music (!), and an evocative if somewhat flatulent oboe piece," switching speakers as he went. This included the diminutive Seraphim active models, which gave a very good account of themselves in comparison to the gigantic multi-driver Masters.

After a time he switched on the video projector and popped *The Three Tenors* into the player. We enjoyed experiencing the three boys exuberantly belting it out on the two front stereo pairs, rather than in



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any form of surround. I have to tell you, this, followed by a rockin' Tina Turner singing "Undercover Agent for the Blues," seemed pretty enjoyable in comparison to the sound of rending flesh on tap elsewhere in the *Palais des Congrès*.

One could not help but notice how big Home Cinema has become in France. In fact, I learned that France is the second largest consumer of Home Theater after the States, followed by Britain. The number of French audio/video magazines with booths at the show, and the milling throngs before them, spoke eloquently to this. "It's true the French are cinema-mad," explained Jacques Mahul.

This is an interesting cultural phenomena, and might explain the dearth of committed French audiophiles. "You see, Jon-a-tan, we are a country of many individualists," continued Jacques. Paging through the press release, I found, under the title "*tendances*," a paean to *fièvre du numérique*. "*Il nous offrait une simplicité et un confort d'utilisation...*" Of course, for



SHOW TIME!

Club Lowther's horns — and they're not kidding!

way into their always jammed *salon*. Designers Jean-Bernard Gabet and partner Jean-Phillipe Martin (of *A II Ingenierie*) were also showing a new, smaller moving-coil speaker designed for Jadis, finished in light oak and similar in appearance to the bass module of the Eurythmie 11.

They call it the Model 7, and use a more normal driver complement in its design. It will cost something in the region of \$10,000.

Farther down the mezzanine, we came upon *Club Lowther Europe-Ouest* (Brussels 322-736-78-94). We entered and fell into a gaggle of bright-eyed single-ended zealots. (Why are single-enders always so excited all the time?) We were surrounded by Lowther single-driver units, their bizarre-looking paper cones and weirder-than-weird phase

FRANCE IS THE SECOND LARGEST CONSUMER OF HOME THEATER AFTER THE STATES.

France, therein lies the tale. "It offers a simplicity and a 'comfort' (or ease) of use..." That, sadly, says it all in a nutshell.

But before we hurtle off into oblivion—in 5.1 discrete channels—let me tell you what *was* up regarding high-end audio. First stop *Jadis*, located on the mezzanine level at the Hotel Concorde Lafayette. The hotel conjoins the *Palais des Congrès* where the bulk of the exhibits were to be found. Friday morning everyone was still in the tuning stage, but we had a chance to listen to the Eurythmie 11s ("Elevens," as they're properly called) driven by the JP200 (their magnificent dual-mono, four-chassis preamplifier, essentially two JP80s). It was fronted by the new SE845 monoblocks, all wired up with Long Island's finest, *Nirvana* cable. The 845 is rated at 20W, pure class-A, auto-bias, and zero-feedback, and is powered by one 12AX7, a 6SN7, and one tall, glowing, and somewhat phallic 845. The husky yet elegant monoblock is built up on a single chassis similar to one of the chassis of the big four-chassis JA500. (I can't even call the '500 a giant anymore, as the *Jadis JA800* is rumored to have begun making its appearance... the mind boggles!)

With double the power on tap of the SE300B, and a reputation for gusto in the bass, the 845 did sound big, colorful, and bold. This in a room large enough to support the Eurythmics, I might note. As a result, the sound was really much better than at the 1996 WCES. (This is not a swipe at US importer Northstar Leading The Way—there *were* no good rooms at the late and unlamented Sahara Hotel.) Digital front-end was the JD1/JS1, and I'd say they were getting truly delicious sound in there by midday Saturday with a pair of SE300Bs.

In fact, during show hours it was hard work squirming our

plugs thrusting out at us from a wide variety of enclosures.

They featured a nice looking preamp called the *Arion Eros* (*Tout a fait*, as the French would say) and matching *Nemesis* amp, a parallel 300B affair featuring a granite front panel that, according to the documentation, "adds the final touch of class." Also on offer were several power and integrated amps. The good-looking, yes, sexy electronics are made in County Tyrone, Northern Ireland! Call Club Lowther for a SE care package, including a newsletter and do-it-yourself speaker projects.

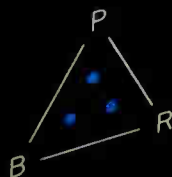
While visiting Lowther Land, Kathleen and I had the pleasure of meeting for the first time Pierre Lurné and his wife, Christiane, of *Audiomeca*. Several of their front-end



Jadis—even J-10 was speechless!

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components, including the new Ambrosia D/A converter, were featured in various rooms at the show. The only photo I was able to snap of Christiane was with her hand up in front of the camera; Pierre was far more photo-friendly. And we had the pleasure of meeting early SE proponent and journalist Jean Hiraga, who occupied himself during the show by giving well-attended lectures on room acoustics, speaker setup, and Home Theater.

Skipping the Pioneer/Apogee Home Theater rooms on the mezzanine, we landed in another familiar single-ended landscape — **Audio Note**. As with the Jadis Eurythmics, Audio Note's room was much larger than at WCES. However, as the **Avantgarde Compact Trio** horn speakers were fresh from the factory and not as yet broken-in, dealer Phillippe Heitz of Triode & Co. elected to use one of AN's own speakers from the SE series. These units feature pure silver reference hookup wire, pure silver-wired inductors, and Black Gate bipolar capacitors. We turned an ear to the 27W Ongaku, M7 preamp, DAC 4 Signature setup, and found the presentation indeed smoother and more appealing than AN had managed at Vegas. But I was keenly disappointed not to have auditioned the Avantgardes. Another time, perhaps.

Having exhausted the Concorde Lafayette exhibits, we turned our attention to the main show venue, the *Palais des Congrès*. I found an elevator in the connecting passageway

SHOW TIME!



Audio Matière Ultima 60W SE amplifier

that zoomed us up to *niveau 5* (fifth floor), close to the always crowded JMLab suite, and the stunning presence that is their Grand Utopia speaker.

Let's talk about the Grand Utopia for a minute. Saturday evening Jacques and Patrick ushered us in for a private listening session. Gérard Chretien (*Directeur Général Adjoint* — don't even think about asking me what *that* means...) spun silver discs on an all-YBA system (CD1 Blue Laser/Signature Six-Chassis preamp, and two pairs of biamped Signature Four-Chassis amps). Françoise Vacheron (*Responsible Export* — and I can see why, her charm only exceeded by her competence) made sure we were all content. Content as in... "Do you 'ave a glass of JMLab Sauternes?" And potent stuff it was, too...

The Grand Utopia gets my Absolute Best Sound At A Show Award with Triple Crème Fraîche and a Flourish, as front-ended by the YBA electronics. I won't dwell on the details of construction as you'll have read about them in the May issue of *Stereophile*. They are truly warm, gorgeous, and sculptural in aspect, and fittingly, the user covers the drivers when not in use with beautifully finished wooden baffles. There are no supplied cloth or foam grilles. (I applaud this "hands-on" and slightly ritualistic approach.)

The sound was phenomenal. My notes: "Extremely coherent and super-detailed, yet always musical. A *deep* and powerful bass, transparent and luscious midrange, clear and crystalline highs. The decay of the reverberant field always well-developed. A smooth, suave, and lyrical presentation. Strings have just the right resin and sharpness without feeling edgy. Terrific imaging, natural, not bloated or puffed-up. All in all, a most tubelike presentation, without a glass bottle in sight." (Except the ones containing the Sauternes. A little more, *s'il vous plaît*?)

Although we used the JMLab suite as an unofficial watering hole, wandering the rest of the fifth, sixth, and part of the seventh-floor hallways in the *Palais*, we ran into much of audio note, if mostly in static form. (The only "live" action was Home Theater. We "saw" Karen Summer's **Transparent Cable** — in a box. Nice-looking box it was, too. We noticed a little **Krell** amp on **Sonus Fabers** with a pair of **Wilson WITTS** next to them, but no sound. For a little touch of home, we ogled a gaggle of **Audio Research** amps hooked to big **Magnepans**...but alas, no music. **B&W** were doing Home Theater demos up on *niveau 7*, but it was always too crowded to even get in the door. They displayed their speaker



JMLab's masterpiece, the Grand Utopia

B A L A N C E



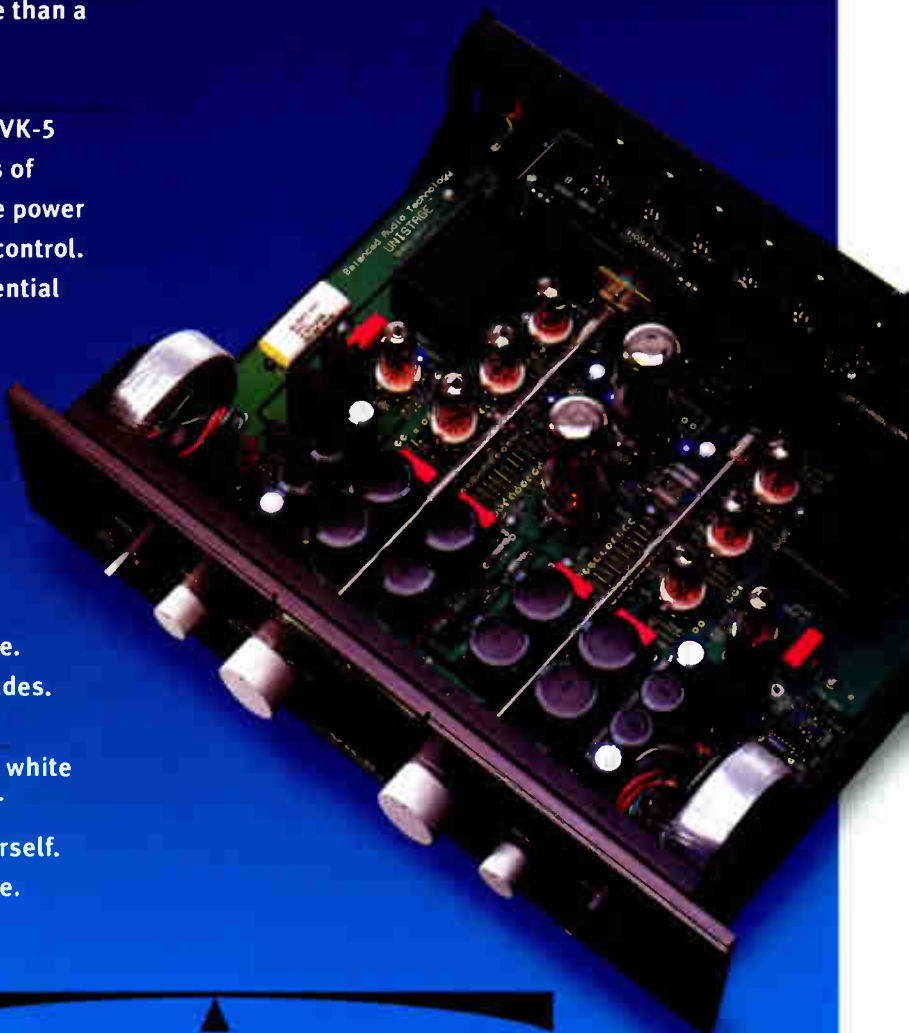
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"*Soif de musique...soif d'image...?*" (Thirsty for music... thirsty for image...?) TV-Micro Hi-Fi from Lema/Tokaï (Tel: (33) 1 40 85 87 87, Fax: (33) 1 47 94 88 37) have an amusingly tart answer for you. Among other offerings, they've got a CD Mini Hi-Fi in a Coca-Cola Can, including an equalizer (just what you need), a twin-cassette deck, speakers that open out from the "can" (which stands just under 3' high) with wireless speaker connections, and 40Wpc output. Cute.

One dealer had an exhibit in an out-of-the-way cul-de-sac between main floors. We found it with a sign pointing the way to the back stairs proclaiming "Crisis!" in large red letters. Just so... as we recognized most of the brands represented, we followed the serpentine markers and found a few speaker systems on display from **Genesis**, a clutch of **Audio Alchemy** front-end components *looking* quite nice, ditto **Meridian**, the big **Gryphon** Antileon amp (lit up but not playing) with a good-looking new integrated amplifier behind it, a brace of diminutive **Cary** single-ended amps, a few offerings from **Pass Labs**, and an **Illuminati** Orchid AES/EBU interconnect dangling from a pegboard, surrounded by **Kimber Kable**.

One guy making music, and getting quite an audience to boot, was Jean-Jacques Van Leeuwen of **Audio Matière**. He was powering some interesting-looking **Leedhs** speakers with his Ultima single-ended 60Wpc amplifier and distinctive front-end components, including a special stand he was at pains to show us. He's difficult to understand in either French or English, and I always feel like backing up and checking the exits when he starts regaling me about his products, eyes glowing like flaming charcoals. One thing... he's committed.

Cabasse, makers of speakers and electronics, is another French firm that eschews Home Theater. They had a huge exhibit with an informal cafe squeezed in behind their display, a conference room, and an auditorium in which to demonstrate live music and play back through their speakers. We had a very Parisian lunch of cold cuts, scrumptious fresh bread, cheese, and wine with Export Manager Christophe Cabasse. He's one of three Cabasse sons working in the firm, started back in 1950 by papa Georges.

Meanwhile, what's that eyeball from outer space that I'm holding in the accompanying photo? And just what is that

SHOW TIME!

pyramid staring at? Well, that's their statement product—the Cabasse Atlantis. It's a four-way active system. (How about hyperactive? Two 200Wpc internal amps, and two 400W *amplificateurs* nestle within!) And the eyeball...that's Cabasse's big thing. They call it S.C.S. (*Source à Cohérence Spatiale*, or Spatially Coherent Source technology, if you prefer. Christophe doesn't mind, he flips back and forth between languages without blinking.) "...the first four-way speaker capable of radiating like a section of a pulsating sphere—the ideal 'point source.'" Cabasse is known for its research work with the French Navy, and claims to have the largest anechoic chamber devoted exclusively to music reproduction equipment in the world.

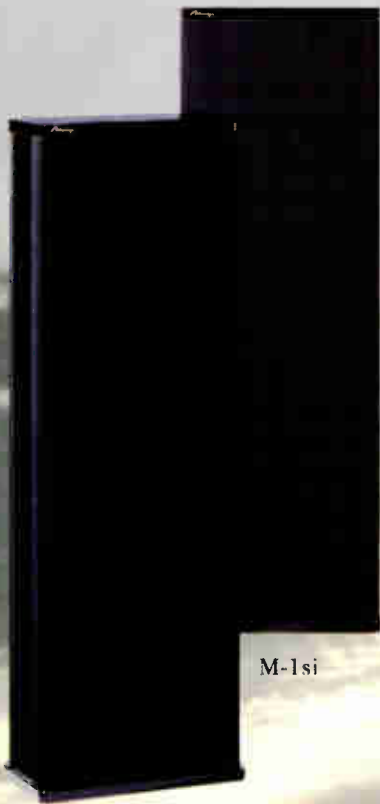
We spent about an hour on the last day of the show listening to the charmingly presented live music demo, interspersed with playback on a variety of their speaker systems. It was, even for these trained ears, not always a simple matter to tell when the musicians began to mime and the speakers took over. I understand from Christophe that he and his brothers are interested in again making their presence in the United States, and I hope they succeed in bringing their very innovative product line to our shores.

Sunday night we attended an exquisite affair. Our host, Jacques Mahul, had arranged for dinner aboard a yacht for his **JMLab/Focal** people. A sort of moveable feast. Kathleen



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— THE INNER EAR REPORT

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and I were to be ... the main course! *Review-air à la coq!* After casting off, we enjoyed champagne, canapes, and a boisterous awards ceremony on the fard deck. Then, with romantic Paris slowly passing on either bank of the Seine, we retired below for dinner.

Poor Jacques had completely lost his voice that afternoon, and sat Kathleen and I next to him. My instructions were to use my "cor-rose-sieve" humor to make everyone laugh! Hey, I like a good time, and was much aided in this regard by the Japanese contingent, including Mr. Hiroyoshi Noda and Mr. Okihiko Sugano. Man, these guys knew how to party! Basically, everything in liquid form disappeared *toute de suite*, as did a bottle of Russian vodka brought to our table by the deep-voiced Peter Y. Chernov, "Correspondent, Dealer," as inscribed on his Moscow business card. 'Twas Peter who sold the first pair of Grand Utopias in Moscow, I am told. When I asked him what the purchaser did, Peter responded, "He listens!" I'm still laughing!

The elegance, charm and conviviality of this special evening never waned as we purred up the Seine to l'Île Saint Louis and back. It was like a dream. At our table, the two Mr. Lees from Korea adopted Kathleen for the evening, it seemed. And Alex Manninger of Inakustik in Germany (his wry smile and natty manners betraying his Hungarian roots) and Kenneth K. Yun, Managing Director of Betruue Ltd. in Hong Kong, were more than ready to enjoy the finer things in life. As did Daniel Jacques of Audio Plus Services, newly appointed importer of JMLab in the States.

Next installment: Details of our journeys in the UK, including visits and interviews with Max Townshend (of **Townshend** Seismic Sink and Rock Reference turntable fame), Frank Dernie (of Formula One Ligier/Footwork fame), Craig Milnes and Andrew Scholey at **Wilson Benesch** (of carbon-fiber fame), Martin Colloms (of journalistic fame), and Robert Churchill (of Churchill fame), and Bé Yamamura of **Yamamura Churchill** (of giant cork single-driver speaker fame). I'll also cover our visits and interviews after Salon HiFi 96 with Yves-Bernard André and his wife and partner, Ariane Morin, at **YBA**, plus a visit with **Jadis's** Jean-Paul Caffi and speaker builders Jean-Bernard Gabet and Jean-Philippe Martin of A II Engineering.

À bientôt!

VIENNA SOUND & VISION SHOW 1996: MARKUS SAUER

The Austrian market is an interesting one. The indigenous hi-fi industry is so small it practically doesn't exist, with a few honorable exceptions I'll mention later. The country is just too small to support an industry of its own, not when the complete world market is available. The same phenomenon also means that it is not economically feasible to have an importer layer between manufacturer and dealer. In Austria, therefore, many dealers also act as importers, with the goods they import often being distributed only by the dealer himself or through some friendly

SHOW TIME!

shops. As a result, the market is extremely fragmented.

Despite (or because of?) these disadvantages, the Austrian market seems to be pretty healthy, as evidenced by the show that's the subject of this report. 1996 saw a new show in Vienna, with a new date (March 21-24, colliding with Paris, unfortunately), a new concept, and a new team of organizers.

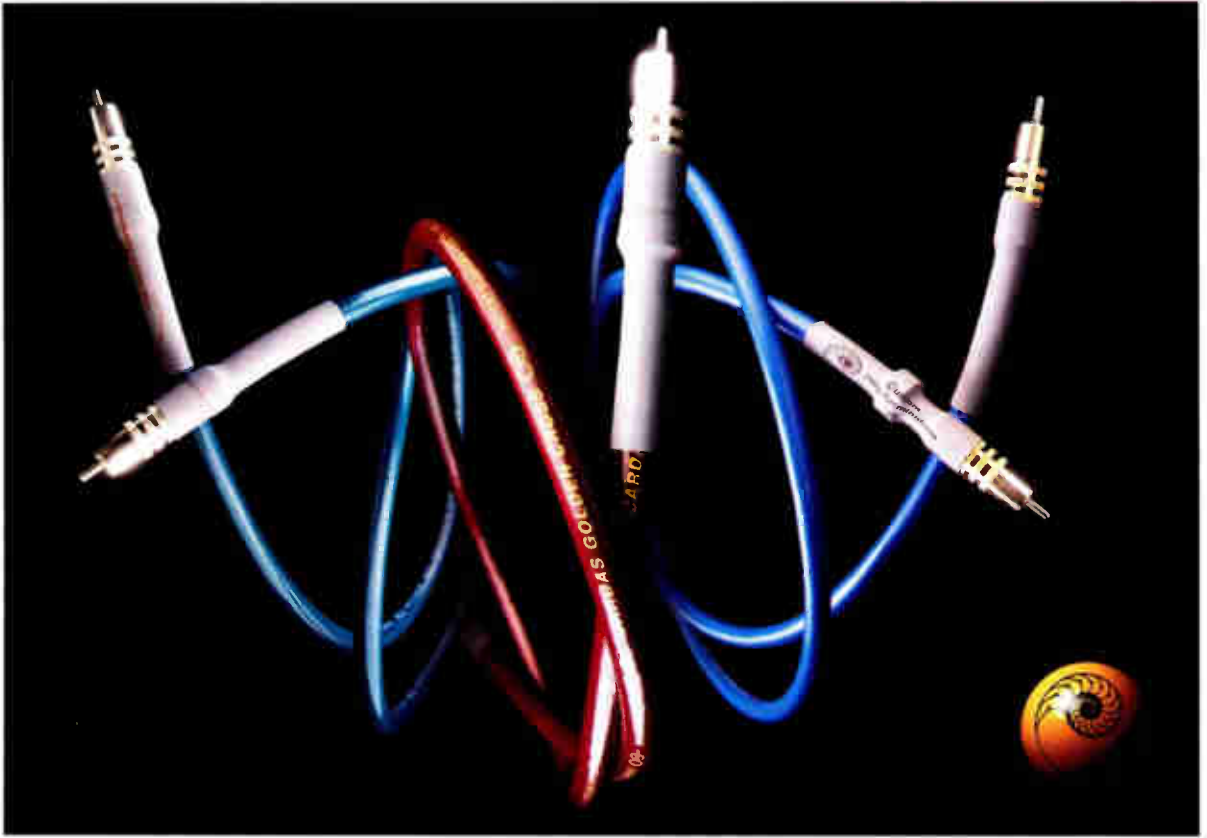


Sonority four-channel headphone amplifier

This date was chosen because there is no other show in the German-speaking countries within a few weeks of this event, although I suspect the organizers were surprised by the shift in the Frankfurt show's timing from August to May.

There used to be and possibly still is a show in Vienna in October. This was initially successful, but attendance has been dwindling for the past few years. 1995 attendance, for example, was around 2200. Clearly, a new concept was called for. Dr. Ludwig Flich, a journalist with a weekly column on music and audiophilia in *Der Standard*, Austria's answer to *The New York Times* or *The Washington Post* (it's printed on pink paper like the UK's *Financial Times*), had been toying with a new concept in the back of his mind for some time. He thought the old show, which was devoted exclusively to hi-fi and high-end gear (with but a small intrusion of Home Theater), was no longer really viable. He wanted a show that would still have its core in music entertainment, but for a broader, less exclusive clientele. He also thought that the show should do its utmost to be accessible to the unconverted instead of promoting a clublike appeal only for insiders.

Flich found a team of professionals to realize the show: his wife, Michaela Flich, and Barbara Rosenberg, who has experience of over 200 fashion shows under her belt. These two worked for about 10 months to bring the new show to success. Together, they had a number of really nice ideas: For example, every exhibitor had to announce the products on display on a sign next to his room's entrance, with special



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mention of “highlights” and product premieres. The show was advertised not only in the audiophile media, but in the general press (where Flich’s *Der Standard* connection undoubtedly paid off) and, especially, in the women’s press. As a result, the show attracted not only the hardcore fans who every exhibitor knows on a first-name basis, but people from all walks of life. There were a surprising number of women who were not in tow to some male showgoer, but who were exploring good sound on their own. I spoke to a number of exhibitors who said that they had not often had so many visitors who were not on their 13th system, but who had a modest system or even no system at all. One software provider said that at audiophile shows, he sells usually an 80/20 mix of LPs and CDs. At this show, the mix was 60/40 in favor of CD, an indication that a normal, nonfreak audience made up the bulk of purchasers.

Another nice touch was to make the show attendance possible for families, by providing a kindergarten for children (dubbed “Kinder Play-Station”; I wonder what Sony thought of this misappropriation of its latest wonder product’s name). There was a number of workshops, too, at least five a day,



Arion's Nemesis amplifier

where either the organizers demonstrated something of importance to audiophiles, or where one of the exhibitors gave a formal presentation of one of his products. These workshops consisted of a 15-minute presentation and 10 minutes of Q&A and were very popular.

A further highlight of the show was the presence of the oldest playable Bösendorfer piano in existence. Sporting serial number 7, dating from 1828, and sounding like a cross between a modern concert grand and a clavecin, this piano had been recorded a few days before the show, with works of Schubert and Maria Szymanowska played by Rosario Marciano (professor of piano in Vienna). CDs and LPs were available at the show and the artist also performed live, so the public could make its own live *vs* recorded comparisons.

All this effort paid off. Show attendance was around 5400, a number that is sensational for a country with a little over 7 million inhabitants; Thursday was slow, Friday good, Saturday excellent, and Sunday almost as good. Barbara Rosenberg says the organizers were aware that Thursday was difficult, but that the show started on Thursday to give everybody a chance to have their systems sorted by Friday. 98% of the show went according to plan; only minor things went wrong (for example, five girls were fired on Thursday because they didn’t show the level of courtesy and friendli-

SHOW TIME!

ness the organizers required). The staff of the Vienna Marriott hotel was superbly cooperative, probably not least because the hotel has been pre-booked for five years. The exhibitors were full of enthusiasm for the show, many already booking for next year.

One of the novel ideas mentioned above was to integrate large and small manufacturers under one roof. **Sony, Philips, Grundig, Matsushita (Technics, Panasonic), Virgin MegaStore, Pioneer**—those are all names you don’t find at normal audiophile-oriented shows. Not surprisingly, they all emphasized video/Home Theater; equally unsurprisingly, nobody mentioned DVD—no need to rock the CD boat before the new product is in the shop.

Even less expected was the inclusion of new entertainment media; *ie*, games, computers, and CD-ROMs. For example, IBM showed an interactive game called Quest for

Fame. The game’s object is to “blaze the trail to stardom with Aerosmith—America’s premiere rock band.” You are given either a special pick-up or a special guitar to be connected to a computer, which needs to be configured with a CD-ROM cartridge, a soundcard, and some speakers. The player is given on-screen advice on how to play the guitar, rhythm or lead, by a part of the screen that looks like an electrocardiogram. The goal is to strum the guitar in time with several Aerosmith songs; the player doesn’t need to know any chords, he just has to strum in time, pitch being taken care of by the computer (crudely). It used to be that you needed to know three chords to be a rock’n’roll star, but thanks to the miracle of computer technology, you can now do without even one. If you play in time well enough, you finally reach the game’s highest level and play before a 100,000-strong audience in a mock stadium.

Compaq introduced a keyboard-cum-scanner, the object of which eluded me. More germane to this magazine’s subject, a number of software (read: music) companies also exhibited. One interesting introduction at the show came from Tacet, a German record label that has a number of interesting offerings. New at the show was a CD called *My Audiophile Companion* (TACET 51), which contains, among others, tracks to demonstrate the differences between analog and digital mastering, tube and solid-state microphones, and several types of A/D converters. Further iterations are planned, with titles like *The Truth About Analog and Digital* or *The Chamber of Horrors of Sound Engineering*. Tacet is the label of Andreas Speer, a recording engineer well respected in Europe.

On the audio hardware side, let’s start with the Austrian offerings. LOG¹ is a company that builds loudspeakers and tube amplifiers. They played a system consisting of the Prolog tube preamp (AS 49,900² in either line- or phono-only form, AS 69,900 with line and phono functions), the

1 LOG Ges.m.b.H., Ziegelstr. 13w, A-8045 Graz, Austria. Tel/Fax: 43 (316) 681076. Addresses are given only for Austrian companies.

2 All prices given in Austrian schillings (AS), speaker prices per pair. \$1 roughly equals 10 AS. Austrian prices include VAT at 20%.

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Apolog tube power amp (30Wpc, AS 49,900, available also as an integrated amp), and Epilog loudspeakers. These consist of the Epilog-I two-way speaker, sporting a modified Foster paper-membrane, full-range driver and a metal-dome supertweeter, and the Epilog-I B subwoofer, which uses a 9" Focal driver (AS 29,900 and AS 24,900 respectively). The idea is to use the two-way in normal-sized rooms and to add the subwoofer where the room's size or the desired sound pressure levels are beyond the capabilities of the stand-alone speaker. The power amp uses 8417s in a push-pull configuration, the designer preferring these tubes to the more usual 6550s.

This setup basically sounded very good—very open, unmuffled, with low coloration and excellent dynamics in both the micro and macro senses. One caveat concerned the bass. Both parts of the speaker are configured as bass reflex designs, which in this hotel room (on the small side for this speaker system, I suspect), led to some integration problems with the bass alignments. I think it would be a good idea to either make one of the designs a sealed enclosure, or to introduce some form of electronic crossover with steeper cutoff slopes than available passively. (Oh, and designers hate this form of second-guessing by journalists after only a brief exposure to their designs.)

From **palwill**, a company that is somehow related to LOG, came a turntable. Finished in chrome and of skeletal construction, this beast was definitely not styled so much as engineered. The base consists of three height-adjustable feet linked together by massive rods, which gives a faint whiff of



Vienna Acoustics Beethoven speakers

SHOW TIME!



Mark Levinson No.36S D/A converter

the Mercedes three-pointed star. As is the base, the platter is made from brass, 9kg (20 lbs) of it. The bearing is of the inverted type. Price is AS 38,000.

MACE³ showed a preamplifier (AS 20,000) and prototypes of a D/A converter (AS 27,000) and power amplifier (AS 40,000). The name "MACE" was chosen in honor of designer Michael Cech and means "mouse" in Czech. (A discussion of the name's connotation in the international market may result in a renaming.) The design was extremely understated and elegant. Internally, the amps are wide-bandwidth designs. All units can be linked with a serial computer port to give a plug-and-play unit: if you select the CID input on the preamp, the DAC will wake from its sleep. Naturally, a full system remote is included in the price. The power amp sports a novel protection circuit that sits completely outside the signal path. These electronics, with the help of the latest version of the **Audio Physic** Spark loudspeaker, threw a huge soundfield with very natural-sounding instruments firmly located. They also went surprisingly loud without distortion and generally sounded very pleasant.

Vienna Acoustics,⁴ the company whose Mozart speakers so impressed the *Stereophile* gang at the 1996 Las Vegas WCES, had a world premiere with their Beethoven speaker (from AS 39,990/pair, depending on finish). The mid and bass drivers of this model sport polypropylene diaphragms. I have found that this rather soft material usually leads to a slightly indistinct bass range. Not so at Vienna Acoustics; the company has developed "Spider Cones," which are reinforced in a pattern that somewhat resembles a spider's web to give good definition down to the lowest notes. Real deep bass is difficult to judge in those flimsy hotel rooms, but the Beethovens gave an excellent account of themselves.

Moving on to German companies, the **Sonority** KSR 501 is a four-channel tube headphone amplifier that forms part of a complete system with the matching **Ultrason** HFI-3D four-channel headphones (AS 21,000 all-in). Via a second volume control on the amp, the listener can adjust

3 Contact: Peter Haidinger, Thoneben 108, A-8102 Semriach, Austria. Tel: 43 (3127) 28550. Fax: 43 (3126) 28551.

4 Vienna Acoustics, Lehnnergasse 15, A-1235 Wien, Austria. Tel: 43 (01) 8896815.



Unison Research Mystery One tube preamplifier

house design built not on a chip, but from discrete elements. Dither is programmable; eight noise-shapers, each fed with a differently dithered signal to spread out errors, and eight 34-bit internal word length, high-performance digital filters are used. Both analog and digital sections are symmetrical throughout. The internal data path is 24 bits wide, so the unit should be upgradeable for use with the future DVD disc. The improvements are said to reduce the DAC's sensitivity to jitter, achieved by changes in the internal architecture. The upgrade is retrofittable, so the investment of current PDM ten twenty-four owners is protected. In May, dpa will introduce the 500 S pre- and power amps, configured in what dpa supremo Robert Watts calls "Compound Squared Class-A," using extremely high-speed bipolar transistors.

Micromega (from France) had a

D ESPITE AUSTRIA'S SIZE, ITS MARKET SEEMS TO BE PRETTY HEALTHY.

the loudness of a second pair of drivers integrated into the headphones at an angle that allows their sound to reach the listener's ears from behind. The goal is to make headphone listening more spatially convincing and less fatiguing. With double the normal driver count, the headphones were as heavy as you'd expect, but the sound certainly had more weight than usual with headphones, which normally sound anemic to me. The amp uses a PCL 86 tube in a single-ended design, which gave the expected smoothness and freedom from grain. The 2W output power is more than enough for headphone listening; loudness was no problem. A normal, two-channel version of the amp is also available.

An+Di showed a programmable power amplifier that has been the subject of a patent application on 71 technical points. The final version will probably be shown in Frankfurt, so I'll reserve a more thorough description for the report from that show. The same goes for the new Audionet CD transport, which was shown in prototype form. The transport mechanism is one of the familiar C.E.C. belt-driven types. The exterior is a huge disc, made from MDF with a stone base.

Canton was proud to be the recipient of the Innovation Award (a scheme instituted for the show) in the Highest Fidelity/Transducer category with their Digital-1 loudspeaker. The Digital-1 is a digitally corrected loudspeaker that can be adapted to a specific room resonance signature, to give a perfectly flat amplitude response in the listening position. This system will be the subject of a separate "Industry Update" article because of its far-reaching significance.

dpa digital from the UK premiered a revised version of their PDM ten twenty-four Limited Edition Reference Series Digital to Analogue Converter, to give it its full (overblown) title. This top-of-the-line DAC is unusual in that it employs 128x-oversampling, allowing the analog output stage to be extremely simple. The DAC itself is an in-



Faking it with the help of IBM

world premiere for new versions of their up-gradeable Stage CD player, now called Stage 4, 5, and 6. The substitution of the old series was made necessary by those dumb European Community rules on electromagnetic compatibility, and Micromega took the opportunity to also improve the sound of the player. Prices are unchanged.

Another French company, **Jadis**, showed a new medium-power push-pull tube power amp called DA 5. This is currently a German-market special, but will be available in modified form and probably under a different name in other markets.

The top **Pro-Ject** turntable model 6.1 will gain a new tonearm later in the year that was shown in prototype form and looks much improved over the old, rather fiddly affair.

Linn Products, from Scotland, laid the emphasis firmly on their multiroom and Home Theater products. Their sound was curiously compressed.

Unison Research from Italy premiered the Mystery One preamplifier, an all-tube line stage distinguished by the use of a battery for the grid voltage.



Grundig's Space Fidelity music center

SHOW TIME!

Rectification is via an EZ 80 tube. A passive power-supply filter is used; all switching is done via relays. Price is around AS 33,000. A system consisting of a **Garrard 401** turntable mounted in a **Loricraft** plinth, with an **SME 3012** arm and **Denon DL103** cartridge, the above-mentioned preamp, a couple of **Unison Smart 845** mono power amplifiers (a single-ended, direct-heated triode design using the 845 tube), and gigantic, high-sensitivity **Apertura Atlante** loudspeakers (from France), was, unfortunately, underwhelming. The usual triode hallmarks of smoothness and freedom from grain were present, but these virtues stood no chance against a multiplicity of vices, including severe coloration, an undynamic, sat-upon sound, and a general lack of drama. Not being familiar with most of the individual components in that chain, I'm loath to make a judgment, but I'm pretty sure that the choice of loudspeakers was an unfortunate one.

Apertura speakers may have a high sensitivity, but that doesn't make them automatically suitable for being driven by a triode amp with its high output impedance and sensitivity to load. Good sensitivity alone means nothing; a speaker will be suitable for triodes only if blessed with a uniform and high impedance.

Sure enough, a new, much smaller Apertura speaker called the Nova (AS 23,000), an unpretentious but sophisticated two-way floorstanding design, sounded much better driven by (Swiss) **Goldmund** solid-state gear a few rooms down the floor. This was my first exposure to Goldmund after a hiatus of some 10 years, and I was impressed. A megabuck system consisting of Mimesis 39 CD transport, 12+ DAC, 2 preamp, and 8.5 power amp, and using all Goldmund Lineal cable, sounded recognizably CD and recognizably solid-state, but on a level I have not too often heard bettered. And this under show conditions! Dynamics, timbre, imaging—wow!

That these two companies presented together is no coincidence. Christian Yvon, the man behind Apertura, was also the designer of the Goldmund Dialog speaker a few years back and is rumored to be working on a new all-out Goldmund speaker. Goldmund also showed its first integrated amp. Called the SR (for Square Root, to signify that it embodies the essence of Goldmund's thinking on amps), this meticulously built and immaculately laid-out, line-only beauty joins the Krell KAV-300i and others in the new super-integrated league.

A.J. van den Hul from the Netherlands had a prototype of his new carbon loudspeaker cable, which will be called

highly artificial. Worst offender in the high-level, bass showoff sweepstakes was **JBL**, who managed to disturb demonstrations 50 yards down the floor.

In 1997, the Vienna Sound & Vision Show will be held March 13–16 and will probably include in-car audio. **S**



Loricraft Garrard 401 with SME 3012 and Denon DL103—underwhelming, unfortunately.



The palwill turntable



Dr. Ludwig Flich, the show's spiritus rector.

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Bold listings available in New York City exclusively at Sound by Singer.

Got the upgrade bug?

Take the journey with Howard J. Blumenthal as he describes the evolution of his system.

Every few months, the upgrade bug bites. Last fall, it bit pretty hard. Rather than continuing my component-by-component improvement program, I decided to move the entire system to the next level.

And this time, I decided to do the job right.

Before I begin to describe the obsessive behavior required for a serious upgrade, here are some parameters . . .

My room measures 16' by 16', a nice size for a home office [though it is in general a good idea to avoid rooms where two or more dimensions are the same, due to the consequential bunching up of low-frequency room modes—Ed]. It's an unusual space: The ceiling follows the roof line, so part of the ceiling is flat and two surfaces are angled (45°).

There are four telephone-booth-sized additions: three for windows and one for a door. Carpeted floor, but the walls and bookshelves are hard and reflective.



The author's listening chair. With a Rotel RB-990BX power amplifier and Thiel CS1.5 speakers (seen here with and without their grilles), musical ecstasy was achieved!

My budget, my personality, and my wife agree that \$10,000 is probably too much to spend on a stereo system, and that \$6,000–\$7,000 should be enough to take a good leap forward. (My personality also permits a 30% fudge factor.)

My music listening covers a wide range: classical (pleasant background while writing), jazz, world music from everywhere, blues, and sometimes pop, vocals, shows, opera. Rock is fine, but I severely overdosed on rock in my record-reviewing years, so it's no longer as much fun as it once was.

I mention all of this because a clear picture of physical space, budget, and musical preferences is essential for a successful journey. Without all three, it's easy to get lost.

Armed with this virtual map, I stepped out. I found the actual steps, the "getting there" part of the journey, to be enormously instructive. Doing the job right, however, has occupied about a third of my waking hours (and, to my dismay, hours normally spent dreaming, too) for three months.

I was a good student, and I've never lost the hang of homework. As it turned out, *Stereophile* became a kind of textbook — not the absolute word, but far better than any other available printed material.

Like many people, I started by browsing (and then, to my astonishment, nearly memorizing) the magazine's "Recommended Components" list (in Vol.18 No.10 in my case, but

A CLEAR PICTURE OF PHYSICAL SPACE, BUDGET, AND MUSICAL PREFERENCES IS ESSENTIAL FOR A SUCCESSFUL JOURNEY.



most recently published in Vol.19 No.4).

I began with loudspeakers, but eventually broadened my search to include a new preamplifier, amplifier, CD player, interconnects, and speaker cables. I even had my room tuned.

The "Recommended Components" list suggested that I was not a "Class A" kind of guy (too expensive), and that I had passed by "Class D" some time ago. In the loudspeaker category, "Class B" felt pretty comfortable.

Entering Class B was like drifting into a new world. You can't go into the average stereo store and expect to see Class B products. You need to visit only the better stores — and most cities support only one or two such dealers. You also need to act like a knowledgeable customer; otherwise the salesperson will size you up as unimportant. Unfortunate stories abound: One salesperson spoke into my ear during my entire audition of Martin-Logan loudspeakers, telling me what to think. Another refused to reposition bipolar Mirage M-3si speakers, insisting that they sounded best when placed 4" from the back wall.

In time, I learned to arrange listening sessions by appointment, to bring my own music, and to identify precisely what I hoped to hear. This encouraged the salespeople to take more of an interest, suggest alternatives, and nix some "Recommended Components" as unsuitable for my tastes.

The search began at a Philadelphia dealer. I had high hopes for the Martin-Logan Aerius. I've owned Magnepan MG-1c loudspeakers, so this seemed like the right move. The Aerius's sound was clear, and made even more so by a fine recording on the new PopeMusic label. Lori Lieberman's "Drive On" features her crystal-clear voice backed by guitar and a few other instruments. The experience reminded me of working in a recording studio (I've spent lots of time in them, mostly as a TV producer). The first few minutes on the next CD, William Alwyn's *Symphony 4* on Chandos, presented a slight metallic ringing accompanying the violins. The more I listened, the more I noticed this subtle but annoying sound. I tried a few more CDs, heard the same thing, and left the store. I compared notes with a few friends and found out that some peo-

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My, my. Things nowadays are not always what they're

cracked up to be. We're almost positive

it all started with the egg-free egg. Yum.

Then came caffeine-free coffee, with the

taste gone, too. In a matter of days, the

conscience-free politician followed, who

within moments was justly run over by his

own badge-engineered car. And now, here

comes the ultimate horror: The Dynaudio-

free Dynaudio speaker.

No way! Just kidding! In fact, it's just the

other way around; 90% of all other high-

end manufacturers do not painstakingly

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ple hear this sound, and others don't. I heard it. And I didn't like it.

A local chain carries both Snell and Mirage, so I heard several models in a single visit. It was here that cautions about amplifiers and their ability to tightly control bass began to make sense. Using the best from Adcom and B&K, I couldn't get away from the blobby sounds in the Mirage M-3si's low end. As I was moving toward the room where the Snells were set up, I heard the same Mirage in a Home Theater setup. Great speaker! Perfect for Home Theater, lots of richness and

knowledgeable salespeople, and good listening rooms. It was here that I nixed the Energy Veritas 2.8 (by this time, I had just about memorized the Class B recommended speakers; the task was something like collecting baseball cards and just keeping the ones I liked). Too boomy. I found that I liked the PSB Stratus Gold (the sound was true and the bass kicked, although the cabinet was pretty clunky).

At about this point, I started thinking about amplification, realizing that the amplifier could make a big difference in the sound of the loudspeaker. This became clear in subtle

I BEGAN TO REALIZE THAT THE AMPLIFIER COULD MAKE A BIG DIFFERENCE IN THE SOUND OF THE LOUDSPEAKER.

detail, no question about excitement during car-and-truck chase scenes. But these speakers weren't right for me. I already have a Home Theater — and I'm very happy with my combination of NHT 1.1 monitors and SW2 subwoofers.

Based on my brief in-store demo, Snell's good reputation in Home Theater sound seemed well-deserved, but I was disappointed by an unnatural emphasis in the midbass. Not ideal for my music listening needs. I moved on.

I extended a business trip to Boston to spend some time at Goodwin's Audio, a store with a fantastic selection of high-end products (all well-organized and beautifully displayed),

ways. By now, my main test CD was John McGlinn's recording of *Show Boat*, specifically the second half of "Can't Help Lovin' Dat Man of Mine," in which Teresa Stratas (Julie), Frederica von Stade (Magnolia), Bruce Hubbard (Joe), and Karla Burns (Queenie) are backed up by the London Simfonietta. There's so much going on here — plenty of small details at every point in the sound spectrum — that if the piece plays on the right amp with the right speakers and the right CD player (and the right cables, etc.), it's thrilling. I know this music pretty well, and I've trained myself to hear the subtleties.

CLIMBING MOUNT COMPROMISE

It all began when I bought an issue of *Stereophile*. Enjoyable reading at first, the magazine turned into a periodic supply of necessary insights and information. Now I anticipate every new issue with sweating palms while accusing our mail-lady of purposely delaying the mail so she can see me suffer. I swear!

And so, while waiting on the steps of the house for the latest issue (it is, after all, the 26th), I am always thinking of how to go about achieving the sound I hear in the showrooms of Definitive Audio and others. Sure, I'd love to listen to a Mark Levinson digital combo with Cary monoblocks through MIT cables and Wilson WATT/Puppies, but did I tell you I'm a student? You can imagine how much I can save from my day job. However, such banalities cannot stop anyone from the joy of music reproduction, so I strategically spread the purchase of my system-to-be over a three-year period. With good luck, a steady supply of information, and the right compromises in the least painful places, I was hoping to put together a killer stereo.

First, I looked for speakers. With my supply of cash pointing to models

below the \$500 mark, I had to exclude floorstanding full-range models. I chose Monitor Audio 7 minimonitors (\$380/pair) over Celestions, MB Quarts, B&Ws, and NHTs for their relatively neutral midrange, the amount of detail they were able to reproduce, and because, I have to admit, I fell in love with their appearance. However, they sounded way too bright for my sizzling audio-video receiver, but one has to suffer, no? (This characteristic would also introduce further trouble and paranoia into my journey in audio land.) Several paychecks later, I balanced their performance by adding a Velodyne F1200 subwoofer. The fast, tight, and well-controlled low frequencies this produced blended incredibly well with the minimonitors. I positioned the 7s deep into the room, 7' apart and sitting on 28" stands, with only an inch toe-in; I back-walled the sub in between them.

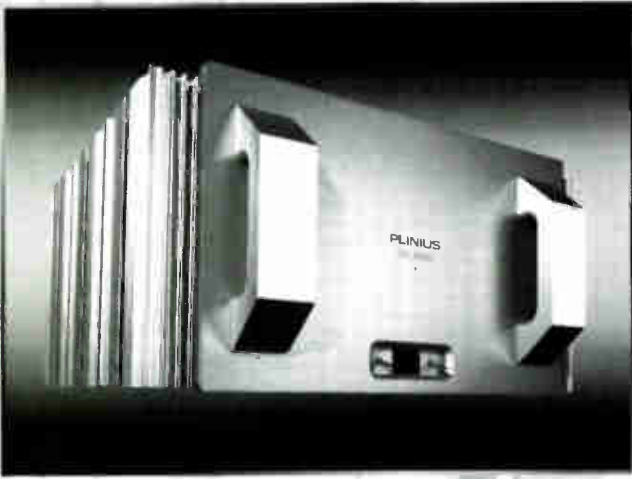
Twelve issues of *Stereophile* later, my ears were bleeding from listening to the receiver/Monitor Audio combination, but what should its substitute be?! What could I afford under the \$2k mark and love at the same time?

I listened to an integrated amplifier

from Cary, which I liked but did not trust: I found myself peeking at the tubes and calculating their maintenance cost and the amp's system limitations. Too many ifs and unknowns, and even though I liked the sound a lot, I just could not make myself spend all my money on an amplifier. I needed something reliable and flexible. Then it happened — Wes Phillips had just reviewed the McCormack Micro Line Drive in *Stereophile* (Vol.18 No.6, p.87)—and I found a dealer in Seattle, Madison Audio, who carried components by McCormack. The MLD was the answer to my preamp quest. It is both incredibly musical and affordable, and it also solved my other problem of how to incorporate the subwoofer into the system without degrading the signal path: I used the MLD's passive output to run the speakers and the active output to feed the sub! This worked marvelously. Not only does the sound have all the positive aspects of a passive preamplifier, it also has all the dynamics of the active stage. I was happy.

After frequent weekend visits to Madison Audio, I found myself falling in love again — my girlfriend is very

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Totem's Model 1 speaker—shown here in both available finishes—was a contender.

Using the PSB, we tried several different preamps and amps. Seeking both clarity and warmth, I strongly preferred a Rotel amplifier. Would I have been happy with an amp from Acutus or EAD? Perhaps, but to my ears, in that room, with those speakers and those cables, on that day, the Rotel was very satisfying. But which Rotel?

I had initially hoped to save some money with a Rotel integrated amplifier, but I could easily hear the advantage of the Rotel RB-980BX power amplifier, a Class C recom-

mended component. I thought about buying two (one for each channel; I then learned what "bi-amping" really was about and decided it was too tricky). Then I spoke with some people in the know at Rotel who suggested the RB-990BX: essentially two mono amps in a single box. The convenience of this approach appealed to me. But I didn't see the RB-990BX on the "Recommended Components" list, and this worried me—until I read Edward J. Foster's uniformly positive review in *TestBench*. I listened to this 200-watt Rotel amp in a few other stores, compared it with Adcom, Acutus, B&K, Parasound, and some other brands. Certainly I heard differences, but none caused me to change my mind. As I spoke with informed friends in the business—I write a syndicated newspaper column about consumer electronics, so many of my friends are writers who cover the field—everyone had glowing things to say about Rotel. So: one decision made. Rotel's

new RC-995 preamplifier completed the matched set.

Speakers were still a problem. A visit to NYC's Sound by Singer introduced me to a \$9000 Krell CD player, and a Krell amp and preamp of similar quality. They were amazing—there's no missing the difference between this gear and the equipment I'd planned to own, but... (do I really need to finish this sentence?). The trip allowed me to cross some heavy-sounding Sonus Faber speakers off my list, but encouraged me to get to know the various Audio Physic

understanding. This time, it was with the sound of McCormack's power amplifiers. The only dilemma was whether I should choose the Micro Power Drive, which would save me an all-too-needed \$400, or the DNA-0.5. They both sounded very capable, and almost sweet, without "etched" highs. I was amazed at the musical presence of these amplifiers, especially of the little MPD, but its bigger brother ultimately won the race by a few lengths.

However, even though I auditioned both of the dealer's demo samples at home, when I first plugged in my very new DNA-0.5, I had a heart attack. I just spent all my money on sound that was flat and dry! Gone was the rich forest of Loreena McKennitt's *Mirror Mask* CD that I heard with the dealer's pieces. But for every hour played, several trees came back; after 80 hours of playing, the amplifier's sound was rich again, and so full of emotion that it made my Rebecca cry.

My CD player, the Micromega Stage 2, which has a very low output impedance, proved to be a good match for the passive preamp. Its harmonic balance, resolution of detail, and sweet, liquid character complemented the fast DNA amplifier. It also helped tame my

bright speakers. The Micromega was twice as much as the Marantz CD-63SE, which I had also considered, but the extra money was well worth it for the richer, livelier musical feeling of

TO MAKE MY
DREAM SYSTEM WORK
TO ITS FULLEST
CAPABILITIES, I HAD
TO FIND THE
INTERCONNECTS IT
DESERVED.

the Micromega. On the other hand, it only cost half of what I would have had to pay for a Meridian 508, to which, to my ears, the Micromega got very close.

Finally, to make my dream system work to its fullest capabilities, I had to find the interconnects it deserved. The setup was now more revealing than before; it let me hear all the changes that occurred. For example, the afford-

able Kimber PBJ interconnects worked well, but they closed-in the imaging and sounded just a touch too crisp for the already bright/sensitive system. I needed something that sounded relaxed and liquid, with a wide soundstage and a reasonable price tag. My search came to an end when I listened to the Music Metre Caliber interconnects. This great, affordable cable gave me all the relaxed textural smoothness and all the spatial information of the more expensive competitors with only a few small drawbacks: The soundstage could be a little more expanded in absolute terms and the transparency could be improved if I were willing to spend several hundred dollars more. (I wasn't.) Nevertheless, after three years of gathering, I was finally able to harvest the richness of the gear developed by the McCormack, Micromega, and Music Metre audio gurus.

As I am waiting on the steps of the house today, wiping my sweaty palms into my jeans (it is, after all, the 29th), a thought crosses my mind: Would I be able to improve the sound of my Monitor Audios by rolling off their frequency band below the 80Hz region? The audio road unfurls before me.

—David Vican

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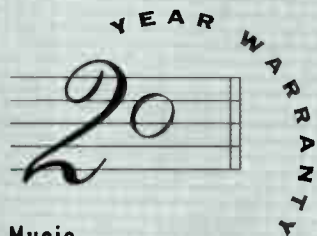
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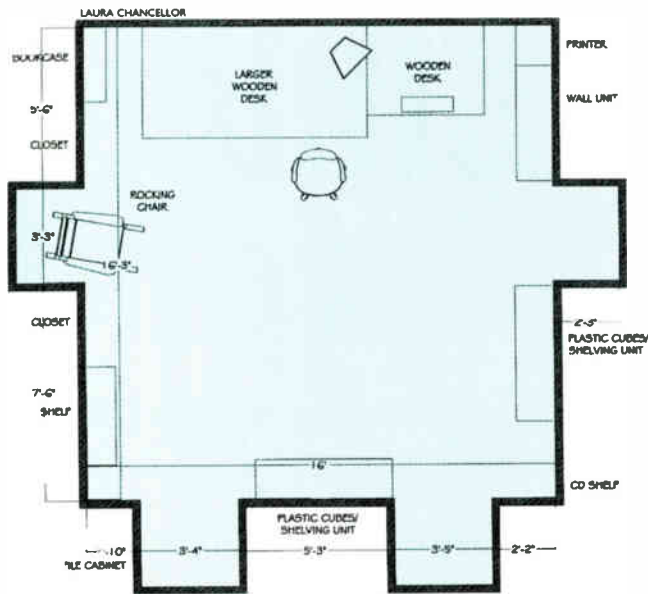
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Howard Blumenthal's challenge: his room!

speakers better, especially the Step, an excellent monitor loudspeaker.

The Step compared very favorably with another of my favorites—the Totem Model 1. If I was to buy a pair of monitors (and the essential stands), these Totems would be the one. I kept returning to this speaker as a reference. I liked the clarity, and the Totem's ability to provide a crisp, very musical presentation of every CD I played.

Then I heard the Thiel CS3.6—somewhat beyond my budget, and, based on several conversations with my (eminently sane) wife, probably too big for the room. Still, the definition, transparency, depth, richness, and altogether fantastic sound of these Thiels was something I couldn't forget. I spent an afternoon comparing the Thiel CS3.6, CS2 2, and CS1.5. I kept loving the '3.6; at the same time, I felt that the sound of the '1.5 was lively and immediate, and that, in many ways, it seemed like a close relative to the '3.6. Two extremely positive *Stereophile* reviews of the Thiel '1.5 (Vol.17 No.8 and Vol.18 No.11) encouraged me to try them at home.

By now my listening room was equipped with the Rotel gear, including Rotel's best consumer CD player, the RCD-975.¹ I added the pair of Thiel CS1.5s, readied them with about 200 hours of pink noise, and was extremely pleased with what I heard. (They were connected to the amp by AudioQuest Midnight cables; AudioQuest Quartz cables were used to interconnect.) This was a big step in the direction that I had hoped to go—the music felt so real, there was so much detail, and every instrument seemed to present itself absolutely perfectly in space.

These speakers were easy to place. I messed around with placement, essentially maintaining a 10', 9', 8', or 7' triangle. The 10' distance provided the best soundstage and the best bass (closest to the back walls). The closer locations provided a little more detail, but the sound became bright,

and, because the higher sounds seemed to bounce all over the room, I started getting headaches. It took a few days to find the "sweet spot." When I found it, the imaging became even sharper (and the headaches never returned).

I played a Rossini overture for my wife, who knows that music well. She thought it sounded good (first time she had heard the new system), but a little "light." She wanted to hear more kick, more authority. We tried a few tracks from John McGlinn's *Annie Get Your Gun*, notable for exciting (and very well-recorded) tom-toms and other percussion. The sounds were there, but they didn't punch through. I moved the speakers around some more, and listened to some Charlie Mingus to confirm that the bass was indeed being reproduced accurately (no question—the bass was tight and more accurate than I'd heard with any of the other speakers I'd tested). I also tried the drum track on TDK's *Ultimate Guide to Great Sound* CD, and the drummer appeared before me. Very accurate, every sound exactly as it should be, nice depth in the bass, but again, the lowest noise never reached into my solar plexus.

Still, there was so much I loved about the CS1.5. The choral voices on Robert Shaw's new recording of Mendelssohn's *Elijah* were so realistically presented. There was this nice sweeping bass line, and it held the presentation together beautifully. Not too pronounced, but very much as it might sound in a concert hall. Blues sounded great: The nuances in Mississippi John Hurt's voice and guitar were spectacular (on *Memorial Anthology* from the small Genes label). Coltrane sounded great—deep, rich, detailed. But then, I'd put on Dr. Didg, a rock band whose central focus is (of all things) a didgeridoo, and it just didn't sound thrilling. There was no question about the accuracy of the reproduction. Nor was there an issue with the way that the speakers filled the room with life, energy, and magic. If I could just increase the power of that bass—not by a lot, just by a little more—I could get

more authority for the symphony, more resonance in the sounds of the cello, a stronger bass line for serious rock recordings.

I returned to my increasingly thick stack of Thiel reviews, hoping to find an audio writer who had compared Thiel's CS1.5 with the CS2 2. I was hoping to see a few sentences that read, roughly, "Everyone who has the '1.5 knows it's amazing. The sound is so clean and musical, and you wouldn't want to give that up. Well, the '2 2 sacrifices just a bit of that detail, but the extra bucks buy the one thing the '1.5's 6½" woofers cannot provide—more exciting bass." There was no such comparison. I guess review-



RoomTunes Deluxe Just-a-Rack

¹ Rotel also sells a CD player in their high-end line.

cloud ten

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...probably the same people who are satisfied living on cloud nine.



STRAIGHT WIRE



Room treatment devices courtesy of RoomTunes—"This was fairly amazing."

ers don't think the way consumers do.

At this stage, I knew I wanted Thiels. I had listened to dozens of loudspeakers, and I definitely preferred the sound, the look, the finish, the style, the size and shape, the reputation, the name, everything about the Thiel loudspeakers. The issue was *which* of the Thiels... I'm convinced that this is the way a smart consumer thinks ("I want a Volvo, a Honda, a Mitsubishi, a Nikon. Now which model can I afford?"). I didn't know what to do.

While I was thinking this through, Chip Rendle from RoomTunes visited. I was still having problems with sound bouncing around the room. Chip applied two CornerTunes to the tops of two window alcoves located behind the 1.5s. Immediately, the reflections subsided. This was fairly amazing: What looked like four small throw pillows improved the overall presentation by about 20%. Everything sounded better—the bass improved, the treble stopped ringing—everything came together. We tried an EchoTune on a back wall, but because the top of my back wall is already angled 45°, it made no difference and we took it down.

Chip also put together the Deluxe Just-a-Rack (really handsome Rocky-Road flavor—gray faux granite; my kids

FRACTIONAL ADJUSTMENTS REALLY DO MATTER— AND THEY MATTER A LOT!

thought the shelves were made of rock). Here's something I wouldn't want to do myself—balance 24 different corners (four for each of six shelves). Chip did it all by eye, without a level. Since I needed the rack anyway, I didn't count this as part of my budget (okay, I'm cheating a bit, but this whole stereo renovation idea came about because I was redoing my home office; like a big company would, I shifted the expense from one budget line item to another). Did the rack improve the sound? No huge difference, but I needed the rack anyway.

Chip then brought out the Solid Brass Audio Points. I protested. It was enough already—"every little tweak in the book," I thought to myself. He insisted, and placed three points under the amp, the preamp, and the CD player. We replayed our test recording (at this point, "I Got the Sun in the Morning" from McGlimm's *Annie Get Your Gun*, useful because of its strong female voice, tom-toms, and lots of instruments on top of each other). Each instrument took its place in space more securely than before. Alan Feinberg's *The American Romantic*, an Argo piano recording, sounded "like there's a real piano in the room," according to my wife, who thought the idea of tuning a room was ridiculous (she now reluctantly admits that the music does sound better).

As for cables, I decided that life was too short to experiment with every possible speaker cable and interconnect. "Recommended Components" had good things to say about AudioQuest's cables, so I tried the mid-priced variety. Midnight for speaker cables. Quartz for interconnects. Both sounded fine.

Then I visited a friend who owned a pair of Thiel CS3.6 loudspeakers. Gulp. Everything that I liked in the Thiel CS1.5s was there, but so was the bass, and more authority overall. This still-unresolved issue needed attention. I continued to hope that the CS2 2 would be the ideal compro-

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mise, but I need more information.

I called Thiel. I even faxed a hand-drawn diagram of my room (see illustration), complete with measurements. Greg Evans showed the sketch around, and discussed my desire for "more punch" with various Thiel experts, including Jim Thiel. All agreed that the '22 would be only a small step, a loudspeaker purchased more for its slightly laid-back sound and polite presentation than for flashy midbass. The '3.6 was the more appropriate solution. I took a deep breath, checked out the available space for the larger speakers (a foot or so higher) ... and didn't say a word to my wife until I knew the speakers were on the way.

By now, I had memorized every word written by Robert Harley (*Stereophile*), Anthony H. Cordesman (*Audio*), and other writers whose words filled the booklet of CS3.6 reviews. All insisted upon a "muscle amplifier," going on to suggest brand names that seemed beyond my means. I liked the Rotel equipment. Greg calmed my fears—turns out,

MILES WAS IN THE ROOM WITH US — THE SPEAKERS MELTED AWAY.

most people run the CS3.6s with either Adcom or Rotel amplifiers (he knows this from the warranty cards). Comforted, and a bit cross with the audio writers who nearly led me astray, I decided to take the leap.

After schlepping these 107-lb cabinets up the stairs and into my office, we attached the cables, turned everything on—and grinned. Nobody—not my wife, not me, not my friend Ariel (who had helped me schlepp)—none of us said a word. We just *watched* Miles Davis play his trumpet. Miles was in the room with us—the speakers melted away. An amazing phenomenon. I had read about this meltaway business, but now it was actually happening in my own room!

Incidentally, there was no problem with the Rotel RB-990BX, no compromise in sound with this \$1000 amplifier. In fact, this is a wonderful combination, one that I'd wholeheartedly recommend. (If you're in a letter-writing mood, feel free to suggest my next amplifier ... or preamp.)

The few final steps turned out to be more important than I would have guessed. I swapped Rotel's RCD-975 CD player for the Meridian 506; the transformation was comparable to the swap between the '1.5 and '3.6 loudspeakers. Bass was more plentiful, more rigidly controlled, and more accurate overall. The same could be said for every part of the musical range. Individual instruments were presented with greater character—again, the words that I had read in *Stereophile* came alive. Monk's piano sounded more like a piano. Jacqueline du Pré's cello sounded more like a cello. Chee-Yun's violin sounded more like a violin. In short, everything was much better (these incremental transformations always caught me by surprise).

Incidentally, this is the place in the story where vinyl stops sounding better than digital. Even some of the warmth available with vinyl seemed to materialize with this CD player. (Admittedly, a better turntable, cartridge, and phono preamp would no doubt change my mind.)

The Meridian suggestion came from Ron Goldberg, an audio writer and producer blessed with the ears of a skillful audio recording engineer. Ron spent a half-day tweaking my system. Not with accessories: He spent the time adjusting the positions of the speakers. As with room tuning, the

resulting improvement was fairly astonishing.

Ron started by equalizing the distance to the back walls—58", not a quarter of an inch more or less. He then measured and adjusted the distance from each speaker to the listening position. The visual image of the music seemed to improve—voices and instruments began to appear where they belonged. Still, it wasn't pinpoint perfect.

We were testing with Suzanne Vega's *Solitude Standing* CD, and with each adjustment, Suzanne's place at center stage became more secure. Nevertheless, Suzanne sometimes bounced off the left wall. The smallest possible adjustments—many not more than $\frac{1}{8}$ " or even $\frac{1}{16}$ "—moved her back to the center and eliminated the bounce, and at the same time deepened the soundstage. This went on for a good hour, not only with Ms. Vega, but also with David Holland's *Extensions* and some Couperin Motets. Ron shoved the speakers $\frac{1}{8}$ " this way, a carpet fiber that way, and every time he made a change, the voices moved and the overall

sound improved. I could never have done this myself—and I don't know that most people have friends whose ears are so well-trained. But fractional adjustments really do matter—and they matter a lot!

The very last changes came with new cables. AudioQuest Argent replaced Midnight. That was the big final step that pulled everything together and helped to define, for me, what the term "coherent sound" really means. At this point, there had been so many positive transformations, but here, again, was another huge leap. Ron and I had been skeptical, but now there was no question in our minds—better cables really do result in better sound. Are the Argents worth \$750/pair? Are they *more than twice* as good as the \$295 Midnights? In a word, "Yes."

(These speaker cables also eliminated an unwanted reflection off the back wall, one that we had planned to tune out with a RoomTunes piece! It just disappeared when we changed cables.)

We also swapped the AudioQuest Quartz interconnects for the same company's Lapis. There was an improvement, although not as profound. On the other hand, I won't be replacing the Lapis with the Quartz in my system.

Whew! Three months and about \$10,000 later, I have reached a comfortable place to rest and listen to some music. Does the journey end here? Probably not. But the combination of Thiel, Rotel, Meridian, and AudioQuest should keep the bug from biting again. At least for a while. **S**

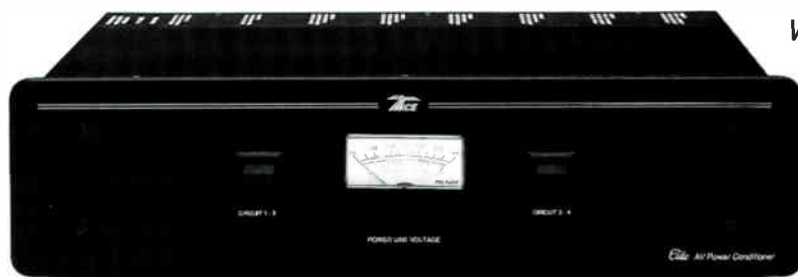
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Above: Theta DS Pro Generation V digital signal processor
Right: Enlightened Audio Designs DSP-9000 Pro Series III
Top Right: Audio Research CD-1 CD player



A hi-fi system's digital front-end can be as simple as a CD player or as complex as a separate CD transport and multi-box digital processor with a jitter eliminator in between. Whatever the configuration, your audio system's digital front-end is a vital link in the reproduction chain, and the source you'll probably spend the most time listening to.

The digital front-end reads information from a digital medium such as a CD and uses that digital information (which has been stored as binary "ones" and "zeros") to create an analog signal to feed to the rest of your playback system. Retrieving the digital data that represent the music and converting that

¹ Excerpted and adapted from Robert Harley's *The Complete Guide to High-End Audio*, published by Acapella Publishing, P.O. Box 80805, Albuquerque, NM 87198-0805. Tel: (800) 848-5099 for credit-card orders (M-F 8:30am-5:30pm MST). *The Complete Guide to High-End Audio* costs \$29.95 (softcover) or \$39.95 (signed hardcover edition) plus \$4.95 shipping and handling (\$6.95 outside the US).



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data to analog form are very exacting processes. Consequently, the musical differences between digital components can be vast.

HOW TO CHOOSE A DIGITAL FRONT-END

Since its commercial introduction more than a decade ago,² CD playback technology has advanced more rapidly than have other fields of audio. The sound quality of the first CD players was a far cry from the musical performance available from today's high-end CD players—even budget machines. Moreover, the musical and technical performance of current state-of-the-art transports and digital processors was unthinkable to the designers of first-generation CD players.

Of all the components that comprise a high-end system, the digital front-end is the most likely to be left

² The Japanese launch was in the fall of 1982, the European launch in the spring of 1983, and the American launch in the summer of 1983. —JA

behind in technology's inexorable progress. The continual improvement in the musical performance of digital components can make choosing a digital front-end more difficult than selecting other audio components. The audiophile is faced with the choice of spending a significant amount of money on components that are likely to be bettered in a year (and at a lower price), or spending very little now for a less satisfactory piece and waiting until the products more fully mature.

But this factor can also work *in favor* of today's consumer. Technological advances have resulted in superb musical performance from today's moderately priced digital products. Your purchase today reflects more than 12 years of progress.

Further, your investment will be protected if you keep your digital front-end for many years. The secret to enjoying your digital source in the long run is choosing

The Digital Interface

The S/PDIF interface is a standard consumer format for transmitting digital audio, primarily between a CD transport and digital processor. (S/PDIF stands for "Sony/Philips Digital Interface Format" after the two companies who invented the Compact Disc.) A professional version of S/PDIF, called AES/EBU (Audio Engineering Society/European Broadcast Union), is sometimes included on consumer digital audio products. Although the CD medium is limited to 16-bit data words, both the S/PDIF and AES/EBU can carry up to 24-bit words.

CD transports can have a variety of output connections. The four main types are coaxial electrical (an RCA jack), AES/EBU electrical (an XLR connector), TosLink (EIAJ) optical, and ST-type (AT&T) glass-fiber optical. Virtually all high-end transports have coaxial output at the minimum, with some offering all four outputs. A transport will often include coaxial output as standard, and offer AES/EBU or ST-type optical as an option. These output options usually cost between \$200 and \$400 each. To use ST-type glass-fiber or AES/EBU outputs, however, your processor must be able to accept these interfaces.

Sonic differences between transports are almost certainly the result of jitter in their S/PDIF outputs. Recovering the correct ones and zeros from the disc is relatively straightforward; the digital output from a transport is a bit-for-bit identical copy of the source data. The timing of those bits, however, can greatly affect playback quality [see "Bit Is

Bits?" in the March '96 issue of *Stereophile*—Ed].

The only way to choose a transport, therefore, is by listening to several models within your price range. It's a good idea to audition a transport with the processor you'll be driving with it. All transports have their sonic strengths and

audible difference with some processors than with others.

The interface between transport and processor will also affect the sound. Sonic differences exist not only between types of interface (coaxial, ST-type optical,



Krell KPS-20i CD player

weaknesses; listening to candidate transports with the digital processor you'll be using will allow you to get the best musical match. Moreover, different digital processors will affect the transport's sound. The digital front-end's sound is determined not just by the transport and processor, but how they work together.

Transports will sound different depending on the processor they are driving because digital processors respond differently to transport jitter, the timing variations in the digital datastream that is output by the transport. This datastream jitter is either passed along to the digital processor's word clock (where it degrades the sound) or is rejected by the digital processor and is less sonically detrimental. Consequently, transports make much more of an

AES/EBU, and TosLink), but between cables within the same interface family. Two coaxial cables may sound nearly as different as two transports. A top-end coaxial digital interconnect costs about \$200. If you're on a budget, try a 75 ohm video cable, available from your local RadioShack for about \$6.

Incidentally, evaluating transports and digital interconnects is much easier than comparing other components: The levels are automatically and precisely matched. All transports and interconnects will produce the same listening volume when driving the same processor—the transport or interconnect doesn't change the ones and zeros in the digital code.

—Robert Harley



C.E.C. TL 0 belt-drive CD transport

If you opt for a CD player, look for one that has a coaxial digital output on an RCA jack. This will let you use the CD player as a transport if you upgrade to a separate digital processor in the future. Unfortunately, almost all mass-market CD players, as well as laserdisc players, use an inferior optical connector called "TosLink" (see sidebar) rather than an electrical coaxial jack. If you drive an outboard digital processor with a TosLink plastic-fiber cable, you won't be getting the sound you paid for. Make sure you choose a CD player with a coaxial digital output. That way you can be assured of a clear upgrade path in the future.

Those with a more ambitious budget—more than, say, \$2000—should choose a separate transport and digital processor. This isn't a hard-and-fast figure but a general guideline. I can think of some superb \$2000 CD players and a few mediocre transport/processor combinations at that price. If your budget is greater than \$2000, however, the separate transport and processor is probably the way to go.

There are many advantages to separates. First, separating the disc playback mechanism from the D/A converter allows each portion to be optimized for its specific job. Second, isolating the two sections keeps electrical noise radiated by the transport away from the critical D/A and analog output stages in the processor. The result is better sound. Third, a separate transport and processor allow you to take

MANY DIGITAL PROCESSORS WITH EXCELLENT PARTS PEDIGREES DON'T MEASURE UP IN THE LISTENING ROOM.

the one that best suits your system and musical taste. This way, it won't be obsolete tomorrow. Choose your digital source carefully; you'll enjoy music more now and be less inclined to replace it in a few years. *[Although the possible advent of a "High Quality Audio Disc" or a "Super CD" based on the DVD might make some buyers wary of investing in a high-performance CD playback system, I have to say that I believe the full commercial implementation of an audio-only DVD is further off than you might think. —Ed.]*

The first decision in choosing a digital front-end is whether to buy a CD player or separate transport and digital processor. There are advantages and disadvantages to each approach. I'll look first at who should buy a CD player and why.

Those on a modest budget should opt for a CD player. By combining the transport and processor in one chassis, with one power supply, one front panel, one shipping carton, and one AC cord, the manufacturer can put more of the manufacturing budget into better sound. Moreover, there is a very good technical reason for having the transport and processor in the same chassis—there is no jitter-inducing S/PDIF interface between the transport and processor.³

Many excellent CD players are available for under \$1000. Some CD players that can legitimately be called "high-end" sell for as little as \$300. This is, however, the lower limit of true high-end CD players. Below this level you're entering the realm of mass-market products designed for maximum features and minimum manufacturing cost, not musical performance.

advantage of improvements in digital processors. With separates, you can upgrade the processor while keeping your transport. Finally, the cutting edge in state-of-the-art digital playback is all taking place in separates.

Once you've decided on separates, you must allocate the digital front-end budget among a transport, a processor, and a digital interconnect. (A good digital interconnect can make the difference between good and great sound from your digital front-end.) If you plan on keeping the components you select for a long time, get a transport and processor of equal quality, spending about 35% of the digital front-end budget on the transport and 65% on the processor. If, however, you're one to constantly upgrade components, you may want to think about buying a state-of-the-art transport and a lesser-quality processor. This will allow you to take full advantage of the rapidly improving sound quality of processors. Then, when you've found a processor that suits you and your system, you'll have a first-class digital front-end.



Audio Alchemy Digital Transmission Interface v2.0

³ See Malcolm Omar Hawksford's and Chris Dunn's article on this subject, "Bit Is Bits", in the March '96 issue of *Stereophile*. —JA

When shopping for a digital front-end, remember that technical performance is secondary to sound quality. Magazine reviews often go into great technical detail describing a digital product's design and the components within it. Although interesting, such descriptions don't tell you how the product sounds. Manufacturers will often tout their products on the basis of some technical innovation or the use of the latest parts. Many technical factors influence a component's musical performance; parts quality is only one small factor. Don't buy a product just because it uses a particular DAC chip or digital filter. Many digital processors with excellent parts pedigrees don't measure up in the listening room. Listen to the product and decide for yourself if it sounds good. Just as you wouldn't consider buying an amplifier based on how little distortion it has, you shouldn't choose a digital component because it features parts used successfully in other designs.

Another claim you should ignore is a processor's word-clock jitter specification. As has been shown in *Stereophile*, jitter degrades the sound of CD players and digital processors. Some manufacturers make unverifiable jitter claims, sometimes even picking a jitter number out of the air. When shopping for digital components, forget the marketing hype and just listen.

These are rough guidelines; the best combination of transport and processor can only be decided by listening, not by



Classé DAC-I digital processor

THE SECRET TO ENJOYING YOUR DIGITAL SOURCE IN THE LONG RUN IS CHOOSING THE ONE THAT BEST SUITS YOUR SYSTEM AND MUSICAL TASTE.

meeting an arbitrary price point. The transport purchaser should be aware, however, that future breakthroughs in transport design could make superb-sounding transports available at very low cost. Some think it may even be possible to make a perfectly jitter-free transport using an inexpensive electronic output circuit.

HOW TO LISTEN

Perhaps more than any other component, digital products come in a range of "flavors"; the sonic and musical characteristics of different brands and models vary greatly. This variability has its drawbacks—"Which one is *right*?"—but also offers music lovers the chance to select the front-end that best complements their playback system's characteristics and suits their musical tastes. The different types of musical presentation heard in CD players, transports, and



Mark Levinson Reference Digital Processor No.30.5

digital processors tend to reflect their designers' musical priorities. If the designer's parts budget—or skill—is limited, certain areas of musical reproduction will be poorer than others. The trick is to find the processor that excels in the areas you find most important musically and is a synergistic match for your system.

Selecting a digital source specifically tailored for the rest of your playback system can sometimes ameliorate some of the playback system's shortcomings. For example, don't choose a bright-sounding digital processor for a system that is already on the bright side of reality. Instead, you may want to select a processor whose main attribute is a smooth and unfatiguing treble.

All digital products have their own strengths and weaknesses. Only by careful auditioning—preferably in your own system—can you choose the product best for you. To illustrate this, I present two hypothetical listeners, each with different systems and tastes, and two hypothetical digital processors. The example highlights the importance of system matching when choosing a digital front-end. I've used a digital processor in the example, but the concept applies to transports, CD players, and even different digital interfaces. Although the following discussion could apply to all audio components, it is particularly true of digital: Not only are there wide variations in sonic characteristics between processors, but a poor-sounding digital processor at the front-end of a superb system will ruin the overall performance.

Listener A likes classical music, particularly early music, Baroque, and choral performances. She rarely listens to full-scale orchestral works, and never plays rock, jazz, or pop. Her

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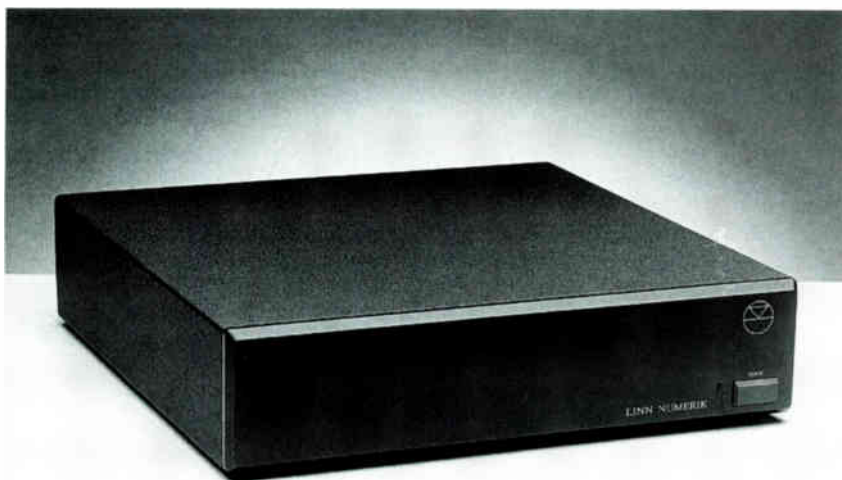


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Linn Numerik digital processor

system uses inexpensive solid-state electronics and somewhat bright loudspeakers, the combined effect of which is to make for a detailed, forward, and somewhat aggressive treble.

Listener B wouldn't know a cello from a viola, preferring electric blues, rock, and pop to classical. He likes to feel the power of kick drum and bass guitar working together to

sparkle in the treble and punch in the bass. Processor #1's better dynamics and tighter bass not only better serve the kind of music Listener B prefers, but also complement his system.

So which processor is "better"? Ask Listener A after she's auditioned both products in her system; she'll think Processor #2 is vastly superior and will wonder how anyone could like Processor #1. But Listener B will undoubtedly feel that A's preferred processor lacks rhythmic power, treble detail, and dynamic impact. To him, there is no comparison; Processor #1 is the better product.

This example is exaggerated for clarity, but shows how personal taste, musical preference, and system matching can greatly influence

which digital products are best for you. The only way to make the right purchasing decision is to *audition the products for yourself*. Use product reviews in magazines to narrow down the choice of what to audition. Read the reviewer's description of a particular product and see if the type of presentation described is what you're looking for. But don't buy

DON'T CHOOSE A BRIGHT-SOUNDING DIGITAL PROCESSOR FOR A SYSTEM THAT IS ALREADY ON THE BRIGHT SIDE OF REALITY.

drive the rhythm. His system happens to be a little soft in the top octave, and not as dynamic as he'd like.

Now let's look at the sonic differences between two similarly priced, inexpensive digital processors and see how each would—or wouldn't—fit in the two systems.

Processor #1 has terrific bass: It is tight, deep, driving, and rhythmically exciting. Unfortunately, its treble sounds a little etched, grainy, and overly prominent.

Processor #2's best characteristics are a silky-smooth and sweet treble. The processor has a complete lack of hardness, grain, etch, and fatigue. Its weaknesses, however, are a soft bass and limited dynamics. It doesn't have a driving punch and dynamic impact on drums compared to Processor #1.

I think you can guess which processor would be best for each system and listener. Putting Processor #1 in Listener A's system would only exacerbate the brightness. Moreover, the additional grain would be more objectionable on violins and voices. Processor #2, on the other hand, would tend to soften the treble presentation in Listener A's system, providing much needed relief from the relentless treble. Moreover, the sonic qualities of processor #1—dynamics and tight bass—are less important musically to Listener A.

Conversely, Listener B would be better off with Processor #1. Not only are its musical characteristics better suited to the type of music he likes, but the system could use a little more

a product solely on the basis of a product review. The reviewer's system and musical tastes may be very different from yours. You could be Listener A and be reading a review written by someone with Listener B's system and tastes.

Use reviews as a guide to products to audition yourself, not as absolute truth. You're going to spend many hours with your selection; listen carefully before you buy. It's well worth the investment in time. Moreover, the more products you evaluate and the more careful your listening, the sharper your listening skills will become.

It is important to realize that the specific sonic signatures described in the example are much more pronounced at



Linn Karik CD transport

lower price levels. At the very highest levels of digital playback, the sonic tradeoffs are much less acute. Instead, the best products have very few shortcomings, making them ideal for all types of music. The better the processor, the fewer and less extreme the tradeoffs.

A significant factor in how good a processor or CD player sounds is the designer's technical skill and musical sensitivity. Given the same parts, two designers of varying talent will produce two very different-sounding products. Consequently, it is possible to find skillfully designed but inexpensive products that outperform more expensive products from a less talented designer. Higher-priced products are not necessarily better.

Don't get stuck on a specific budget and audition only products within a narrow price range. If an inexpensive product has received a rave review by a reviewer you've

utes that contribute to a good-sounding digital front-end. How high a priority you place on each characteristic is a matter of personal preference and musical taste. In the following sections, I've outlined the musical and sonic qualities I look for in digital playback.

The first quality I listen for in characterizing how a digital component sounds is its overall perspective. Is it laid-back, smooth, and unaggressive? Or is it forward, bright, and "in your face"? Does the product make you want to "lean into" the music and "open your ears" wider to hear the music's subtlety? Or do your ears tense up and try to shut out some of the sound? Are you relaxed or agitated?

A digital product's overall perspective is a fundamental characteristic that defines the product's ability to provide long-term musical satisfaction. If you feel assaulted by the

IF THE PRODUCT'S FUNDAMENTAL MUSICAL PERSPECTIVE IS FLAWED, IT DOESN'T MATTER WHAT ELSE IT DOES RIGHT.

grown to trust, and the sonic description matches your taste, give it an audition. You may save yourself a significant chunk of money. If you decide not to buy the product, at least you've added to your database and can compare your impressions with those of the reviewer.

WHAT TO LISTEN FOR

In addition to determining which digital products let you enjoy music more, you should listen for specific sonic attrib-

music, you'll tend to listen less often and for shorter sessions. If the product's fundamental musical perspective is flawed, it doesn't matter what else it does right.

Key words in product reviews that describe an easy-to-listen-to digital product include "ease," "smooth," "laid-back," "sweet," "polite," and "unaggressive." Adjectives like "bright," "vivid," "etched," "forward," "aggressive," "analytical," "immediate," and "incisive" all point toward the opposite type of presentation.



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There is a fundamental conflict between these presentation extremes. Processors that are smooth, laid-back, and polite don't offend, but they often lack detail and resolution. The absence of aggressiveness is often at the expense of obscuring low-level musical information. This missing musical information could be the inner detail in an instrument's timbre that makes the instrument sound more lifelike. It could be the transient nature of percussion instruments; a slight rounding of the attack gives the impression of smoothness, but doesn't accurately convey the instrument's dynamic structure. Very smooth-sounding digital products often have lower resolution than more forward ones.

The other extreme is the digital product that is "ruthlessly revealing" of every detail in the music. Rather than

instrument intact and a sense of space and air between the instrumental images. This is easy for analog to accomplish, but quite difficult for digital. A recording with excellent portrayal of timbre and space helps in identifying which digital products preserve these characteristics.

Another important quality in digital playback is soundstage transparency. This is the impression that the space in which the music is presented is crystal-clear, open, and has a "see-through" quality. The opposite of transparent is opaque, thick, and congested. Soundstage transparency is analogous to looking at a city skyline on a perfectly clear day. Just as smog or haze will reduce the skyline's immediacy and vibrancy, blurring the resolution of detail in the buildings, so too will soundstage opacity detract from the musical presentation.

THE ABILITY TO ENGAGE YOU MUSICALLY IS THE ESSENCE OF HIGH-END AUDIO.

smoothing transients, these products hype them. In a side-by-side comparison, the ruthlessly revealing product will appear to present much more detail and musical information. It is more upbeat, more exciting, which appeals to some listeners. This presentation, however, quickly becomes fatiguing: You feel a sense of relief when the music is turned down—or off. The worst thing a product can do is make you want to turn down the volume or stop listening.

This conflict between lack of detail and a ruthlessly revealing approach can be resolved by buying a higher-priced processor. I've found a few models that can present all the music, yet are completely unaggressive and unfatiguing. [*"Recommended Components" tells which ones they are. —Ed.*] This is a rare quality, and one that I find musically important. The digital front-end must walk a fine line between resolving real musical information and sounding etched and analytical.

Digital reproduction has a tendency to homogenize individual instruments within the soundstage. This tendency to blur the distinction between individual instruments occurs on two levels: the instruments' timbral distinctiveness and their spatial specificity.

On the first level, digital products can overlay the music with a common synthetic character that diffuses the unique texture of different instruments. The subtle tonal shadings that distinguish each instrument are buried by the synthetic character. The music sounds as though it is composed of one big instrument rather than many individual instruments. Instead of hearing separate and distinct objects (instruments and voices) hanging in three-dimensional space, the listener perceives a synthetic continuum of sound. There is a "sameness" to instrumental textures that prevents their individual characteristics from being heard.

The second way in which digital playback can diffuse the separateness of individual instruments is by presenting images as flat "cardboard cutouts" pasted on top of one another. The instruments aren't surrounded by an envelope of air and space; the soundstage is flat and congested; and you can't hear clearly where one image ends and an adjacent image begins. Good digital playback should present a collection of individual images hanging in three-dimensional space, with the unique tonal colors of each

LISTEN FOR YOURSELF

I've focused on these aspects of the musical presentation for evaluating digital products because they vary so greatly from one product to another. Beyond these specifics, the best question to ask yourself is "How long can I listen without wanting to turn the music down—or off?" Conversely, the desire—or even compulsion—to bring out CD after CD is the sign of a good digital front-end. Some components just won't let you turn off your system; others make you want to go do something else.

This ability to engage you musically is the essence of high-end audio. It should be the most important criterion when judging digital front-ends. **S**



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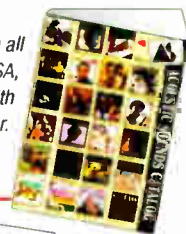


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**Art Pepper
So In Love**

Of the new releases issued under Art Pepper's name in 1980, *So In Love* was overall the finest. The altoist stretches out here on a program of standards and blues, backed by alternating rhythm sections from the East and West coasts. Pianist Hank Jones is all one could ask for in an accompanist, and his aching solo on *Diane* sustains perfectly the restive mood of Peppers' opening choruses. Overall, the West Coast team (pianist George Cables whose great rapport with Pepper is unmatched, along with jazz legends Charlie Haden and Billy Higgins) powers the music along with great care and economy. Pepper had climbed to such a plateau of individuality that he seems often here to be drawing his unconscious influences into the light and remembering what it was he loved about them in the first place. On a leisurely *Stardust*, he daffodils his sentiments with the grace and cunning of a Lester Young. The title track, a Cole Porter waltz that agitates into a collective improvisation by its climax, offers the best illustration of the wondrous use



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Pepper makes of John Coltrane. It isn't in this case a matter of piling up chords or of playing more notes, as it is with so many others, but rather of drawing on extreme registers of the horn to express more conflicting emotions, to reach deeper and higher recesses of the viscera and the psyche. Remixed by Rik Pekkonen and John Koenig; remastering supervised by John Koenig and Chad Kassem.

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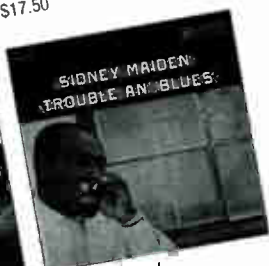
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A GROWN MAN

Loudon Wainwright III
talks with Steve Guttenberg
about Fame, Wealth, & the
Need to be Loved by a
Bunch of Strangers
in a Dark Room

HUGH BROWN

*"The doctor reached inside of her,
He turned me 'round then pulled me out."
—"April Fool's Day Morn" (1982)*

"After the War (II) my father
Loudon (II) came home with
his bride Martha (I). My par-
ents had sex and nine months
later I was born albeit almost
backwards...."

So begins the life (and record-company bio sheet) of singer-songwriter Loudon Wainwright III. With his eponymous debut album in 1970, he was already spilling his guts, seemingly revealing every aspect of his life. And stark, bitter slices of the down'n'out lifestyle, like "Black Uncle Remus" and "Central Square Song" on his first two records, did not widely promote the notion that Mr. Wainwright was a fun kinda guy. However, as anyone who's seen him in concert can attest, the LW III wit is as dry as the Mojave and as sharp as the crease in a bond-trader's pants, his face is made of pure Neoprene, and he's got the best comic timing in the singer/songwriter biz. And, 50 years after the blessed event chronicled in "April Fool's Day Morn," he's still telling all.

With the 1972 hit single of "Dead Skunk" (#1 for six weeks in Little Rock, Arkansas) came limousines, ladies, and LW III's allotted quarter-hour of fame. In addition to three 1975 appearances on *M*A*S*H*, the following decades saw a few more strong albums, then a few weak ones, then a long stretch of no albums at all. But beginning with *Fame & Wealth* in 1982,

Wainwright returned to a more stripped-down, acoustic sound on an unbroken (to date) string of discs full of strong, insightful songs that mix mordant wit, remarkable emotional maturity, and sometimes dis-



FATHER/DAUGHTER DIALOGUE

*Dearest Daddy with your songs
Do you hope to right your wrongs?
You can't undo what has been done
To all your daughters and your son
The facts are in and we have found
That basically you're not around
Dearest Daddy try as you might
All you are is just uptight
You sing of my mother and me
Somewhat sentimentally
You sing of a father and son
When all you do from him is run
You like to think that things are okay
By singing things that you should say
Dearest Daddy with your songs
Do you hope to right your wrongs?*

*Darling Daughter can't you see
The guy singing the songs ain't me
He's someone people wish I was
What I can't do this dude does
And if the songs seem slightly pat
I know life's messier than that
They're just songs and life is real
They're just my version how I feel
And you don't feel the same I know
How it went down or it should go
My mistakes you label wrongs
I expiate my guilt with songs
Why I'm uptight or not around
Those whys continue to confound
Darling Daughter can't you see
The guy singing the songs ain't me*

—by Loudon Wainwright III, © 1995 Snowden Music Inc.
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turbingly frank personal confessions. It all reached a peak—or maybe a high mesa—with 1992's *History*, and continued with *Career Moves* and the recently released *Grown Man* (reviewed on p.223). LW III also writes and records the occasional topical ditty for National Public Radio and ABC's *Nightline*.

On the occasion of his first quarter-century in the business and his first half-century on the planet, Mr. Wainwright spoke with Steve Guttenberg in mid-January about the continued blurring-together of his art and life. —RL

Steven Guttenberg: *After 26 years on the road and 15 great recordings under your belt, I can safely say that you're not just getting older, you're getting better.*

Loudon Wainwright III: Like the finest wines and cheeses...

Guttenberg: *Yes, you're maturing nicely. You seem more comfortable since moving to Virgin Records.*

Wainwright: I got together in 1992 with Jeffrey Lesser, my co-producer and engineer. We made a record called *History* here in New York, primarily with two other musicians, it turned out. Then I convinced Virgin to let me make a live record, *Career Moves*—that was a serendipitous event. So when it came time to do the next one, we lined up the same people [plus bass and drums] and made *Grown Man*.

Guttenberg: *Are most of your songs autobiographical?*

Wainwright: From the last couple of records, certainly most of them are. The characters are people in my life, I'm quite often the protagonist of the song, and the events are quite often blow-by-blow descriptions. On the other hand, the songs are crafted, some things are changed—it's my version that I'm offering. I'm telling you this because I know you're leading up to my disclaimer in "Father/Daughter Dialogue," which everyone has noted.

Guttenberg: *Your daughter Martha sings, "Dearest Daddy with your songs / Do you hope to right your wrongs?" And you respond, "The guy singing the songs ain't me."*

Wainwright: The song is a description of an argument that my daughter Martha and I had; that was an accurate thing to say in my half of the song. It's not unusual in an argument, when you're pinned down, to say, "It's not me, it's somebody else." The songs are my version; it's just a song, or a performance, or a CD—it isn't the way I am in real life. I don't walk around the street jumping up and down, lifting my leg up, and sticking my tongue out. [A fair assessment of the visual element of an LW III concert. —Ed.] Though I am an oral person. That's my point: These songs, these CDs, these performances, they're just that: songs, CDs, performances; they're rooted in my real life, but they're different.

Guttenberg: *Yet the members of the audience believe that's the real Loudon we see on stage.*

Wainwright: And I think they should feel that, in the same way that when you go to the theater you see an actor become Trigorin or Richard III or Oedipus Rex. You see the person do a transformation. That's what should happen and that's what's so interesting; it's believable even though there's a guy jumping up and down, sticking his tongue out—somehow it's believable, it's human. I hope they believe it's me, or that it's someone they know: a neurotic, middle-aged guy, kind of paranoid, somewhat misogynistic. I suppose you could describe me that way. [laughs] Not really!

Guttenberg: *You're not afraid to show the audience the less attractive side of yourself.*

Wainwright: That's one of the great show-biz rules: You have to procure the audience's love and then hold on to it. You can't alienate them. I mean, even if you're spitting at



LW III DISCOGRAPHY

Loudon Wainwright III (1970), Atlantic SD 8260 (LP, n/a)
 Album II (1971), Atlantic SD 8291 (LP, n/a)
 Album III (1972), Columbia CK 31462 (CD)
 Attempted Mustache (1973), Columbia CK 32710 (CD, n/a)
 Unrequited (1975), Columbia CK 33369 (CD, n/a)
 T-Shirt (1976), Arista 4063 (LP, n/a)
 Final Exam (1978), Arista 4173 (LP, n/a)
 A Live One (1979), Rounder 3050 (CD)
 Fame & Wealth (1982), Rounder 3076 (CD)
 I'm Alright (1985), Rounder 3096 (CD)
 More Love Songs (1986), Rounder 3106 (CD)
 Therapy (1989), Silvertone 1203-2-J (CD)
 History (1992), Virgin B6416-2 (CD)
 Career Moves (1993), Virgin 88273-2 (CD)
 Grown Man (1996), Virgin 40625-2 (CD)

I HOPE THE AUDIENCE BELIEVES IT'S ME ON STAGE: A NEUROTIC, MIDDLE-AGED GUY, KIND OF PARANOID, SOMEWHAT MISOGYNISTIC...

them, if you're Johnny Rotten or Courtney Love, whatever they do, you have to engage them and hold them. It's a show-business rule, and it's true—like most clichés. I can push it to the limit. An example of that would be the hospital song ["That Hospital"], where I'm talking about an abortion. In a live situation you can actually hear the audience gasp sometimes—it's just a little close.

But you don't want to totally alienate [the audience]—you have to push them to a limit. It's one of the things I'm trying to do in the songs.

Guttenberg: *Where do these songs come from? "The Birthday Present" [from Grown Man], was recorded while you were taking a shower!—is that where you wrote it?*

Wainwright: No, I was bone dry and fully clothed when I wrote that one. I write songs everywhere—in a car, a plane, or yes, in the shower. I get up in the middle of the night and scribble something down. I'm always out there fishing for something... and you *could* catch something in the shower. Something happens and you don't know why it happens. There's a mystery element where the pieces of the puzzle fit together, you don't know why, but it's quite beautiful. I have no explanation for it. I'm more than grateful when it happens; it happens not as much sometimes as I wish it did.

Guttenberg: *You've written so many songs about being famous, or*

¹ According to, ah, Virgin Records, during this recording session "a condom (unlubricated) was used to protect the microphone."
—RL

your lack of fame; do people recognize you on the street?

Wainwright: No, not much; it's certainly not a problem. I think everyone in show business is hung up on [fame]; if they deny it they're disingenuous, if not lying. The truth of the matter is, people who are singers, or actors, or writers, or painters, or architects, or doctors—they want to make it, they want to become known, they want to make money. They want to be loved. This is one of the driving forces of the human condition. Show-business people *really* want to be loved. In fact, it could be argued that they need to be loved by a group of people in a dark room. That's what they're into. I recognize this, and, as you say, I've written about it my whole career. My desire for it, my revulsion about it or toward it, my need for it, my frustration about not getting it, all the aspects...

Guttenberg: *You had it for a little while with "Dead Skunk."*

Wainwright: Yeah, and it was revolting in some ways, horrible. I hated it—it was grotesque. It can be grotesque at that level where you're riding around in cars and there are 14-year-old kids pressing their faces up against the window for no reason other than your song is on the radio. It made me very uncomfortable, particularly at that time. I imagine that now I would see it with a little more humor and detachment, but I was 25 when it happened to me. It kind of blew me away.

Guttenberg: *So it cured you of the fixation to have a #1 record?*

Wainwright: No, it didn't cure me. I don't yearn for a #1 record, but maybe I want those faces pressed up on that limo to be, you know, 30-year-old women. I don't know...

Why should I be coy about this? 20-year-old women [laughs], or 45-year-old intellectuals; I'll take a wide spectrum of people, including the 14-year-old kids. I still want to be admired and adored; I'm just realistic about who's going to be doing that, how much I'm going to get, and I'm happy when it hap-

pens. I'm not desperate for it, but I still want aspects of it.

Guttenberg: *Let's go back to the beginning of your career, and your first record, on Atlantic.*

Wainwright: Well, the first person I went to see was John Hammond, Sr. at Columbia, who signed Robert Johnson, Billie Holiday, Bob Dylan, Bruce Springsteen. He liked [the demo tape] a lot. But then my manager took it around, and Nesuhi Ertegun at Atlantic Records liked it a lot too, and he offered more money. Having bought all those Aretha [Franklin] and Ray Charles records, I thought Atlantic was pretty cool; I was excited to be on that label. The first thing they did was to stick me in the studio with Arif Mardin, who was Aretha's producer, and a bunch of musicians. And that just didn't work. So I finally convinced them to just let me make a voice-and-guitar record. Later, I did move to Columbia, where they stuck me with musicians.

Guttenberg: *Against your will?*

Wainwright: Not against my will, but I was skeptical and nervous about it. [Album III] is a pretty good record. I listened to it recently, and it did have the hit single ["Dead Skunk"] on it, so I suppose it was a success.

Guttenberg: *After "Dead Skunk" you left Columbia for Arista, and the picture gets a little murky...*

Wainwright: There was an air of desperation about my career at that time. It had started off with a big bang, then things started to slide after the "Dead Skunk" thing. The

records didn't sell, the critics were turning off; the career was hemorrhaging. And it felt like that—it felt bad. Those records [*T-Shirt* and *Final Exam*] show a kind of desperation. This is what happens in a career: It goes up and down, stays down, then maybe goes back up again.

It's funny... when I had my two commercial successes, I felt, "Wow, it's really happening!" In interviews people would ask, "What are you going to do next?" I said, kind of ruefully, "Probably make a couple of bad records." I wasn't too far off, though the *really* bad ones came a couple of years later.

Guttenberg: *But then you hooked up with Richard Thompson.*

Wainwright: Yeah, we did a bunch of things together in the mid-'80s; he co-produced two of my albums [*I'm Alright*

were careful not to fool ourselves: those big speakers, it's dark, you can diddle, you're in there for hours, you've had too much coffee—you can really jerk yourself around. Richard was very helpful; they're produced, not overproduced.

Guttenberg: *Two of the records you've done with producer Jeffrey Lesser [Grown Man and History] feel specially connected.*

Wainwright: I'm running into people all the time who say that *History* is their favorite record of mine—I'm glad it's a relatively recent one. People respond to it because of its tone and mood, and specifically because it's about families. It resonates in that way. So I was a little worried about going into the studio because of *History's* success. *Grown Man* is lighter in tone, a little brighter, but is in a way connected to *History*.

THE FAME I HAD WITH "DEAD SKUNK" WAS REVOLTING IN SOME WAYS,
HORRIBLE. I HATED IT—IT WAS GROTESQUE.
THEN MY CAREER HEMORRHAGED.

and *More Love Songs*] and played on four. That was delightful—Richard is great fun, a hilarious man, he does wonderful impressions, accents, he keeps everybody laughing, and he's just a little bit better than me at tennis. Not much.

Guttenberg: *Did Thompson "free" you in the studio?*

Wainwright: Well, I think Richard realized what was wrong with some of the records was that I had gotten swamped by production, and that the song was just not in the "front" of the track. My vocal performance and the words of the song have to be protected. I think Richard was very aware of that. We

I think they fit nicely together.

Guttenberg: *After listening to you for the last 25 years, I'm looking forward to the next 25. We're growing old together.*

Wainwright: Are you ready to go to the nursing home or the hospital? Because that's where we're headed.

Guttenberg: *You're going to take me there, I hope.*

Wainwright: Well, I think that's my job.

Guttenberg: *Does it scare you?*

Wainwright: It's not scary, and "joy" is not exactly the right word. I'm going anyway, so I might as well write about it. **S**



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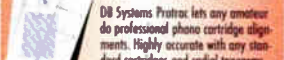
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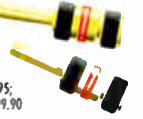
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15ft \$309/279.95 \$329/299.95 17ft \$345/315.00 \$365/325.00

*Prices for stereo pairs with spade or pin terminations. For bananas add \$20 per set of four. All cables covered by our exclusive 30-day satisfaction guarantee.

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Sturdy racks with 3/4" support rods & adjustable 23.75" wide by 15.75" deep by 3/4" thick composite wood shelves. Standard finish is charcoal black. Cone point feet are supplied.

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Strong, one-piece welded steel frame for maximum rigidity. From England.
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Standsign DIV35, For 35" TVs with three 35"W by 22"D shelves, regular \$349, now 299.95!

Ultra-modern Standsign Audio Racks feature a one-piece "hilted-back" welded steel frame with 14" by 18" shelves, and spiked cone point feet. A super-strong 2" x 3" beam supports all shelves.

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Target T-60: 24" tall with 7.5" by 7.5" top plate, steel top spikes & bottom cone points, was \$140, now 109.95**
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Save Now On The Bookshelf Speaker That Harry Loves!

The story behind this speaker has become a piece of audiophile lore. API, the Canadian maker of the Sound Dynamics 300i bookshelf speakers, was just about to discontinue the model when Editor-in-Chief of *The Absolute Sound Magazine*, Harry Pearson, revealed about the speaker in the "Recommended Components" section of Issue 93.

Calls came from all over the country demanding API continue to make the 300i. They did—until now. The mold that forms the rings holding the drivers is about to wear out. API estimates they can only make few hundred more pairs before the speaker will be discontinued forever!

The Sound Dynamics 300i is a three-way 8" design featuring black ash finish; FR: 34-22 kHz; 612 impedance; 90 dB SPL. Recommended power: 35-200W. Warranty: 5 yrs.

Sound Dynamics 300i speakers in black ash, reg \$600, now \$99.95—include a pair of matching metal speaker stands valued at \$175! Add \$39.95 shipping in US. Hurry!



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"Isn't it silly? You can spend a meager \$325 and get a CD player this spectacular!" says the *Audio Adventure*. "CD32... is colorful and easy to listen to." Now get the surprisingly good sounding Music Hall CD32 at a low, low closeout price.

For improved stability the CD32's 3-beam light-gate laser transport system is mounted in the middle of the chassis—and double-shock-mounted to improve disc reading. Extensive front panel are offered, but you can control everything with the 26-button infrared remote. CD32 plays both 3.5" & 5.25" discs. FR: 20-20kHz. S/N: -90 dB. DR: >90 dB. CS: 80 dB. THD+Noise: 0.00%. Dimensions: 14.25" wide, 12.25" deep, 3.6" tall. Warranty: 1 year. Made in China.

Music Hall CD32 CD player, regular \$325, while they last only \$169.95*. Hurry, supplies are limited.



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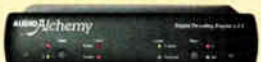
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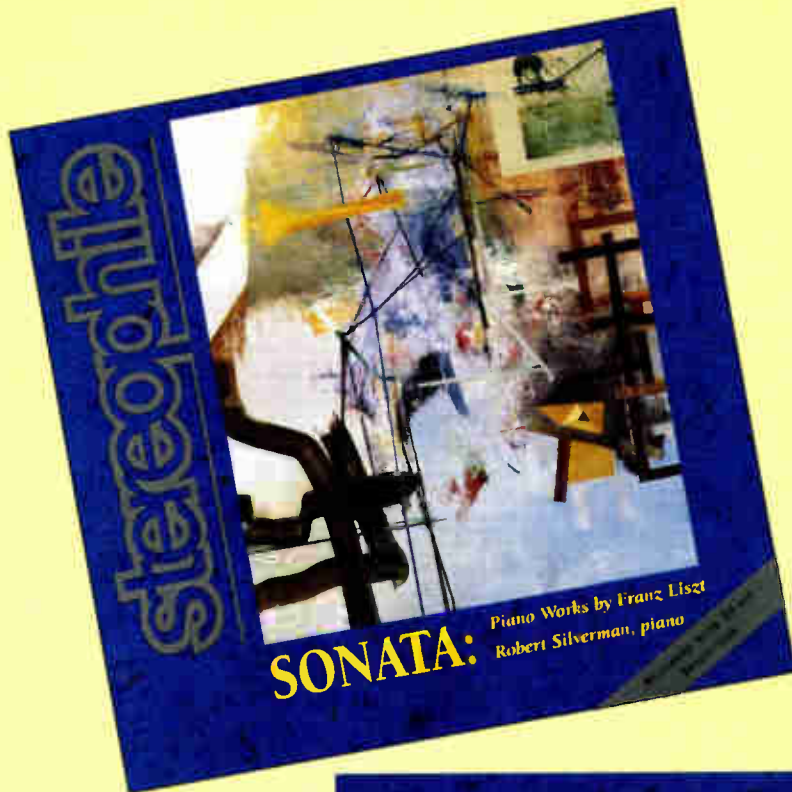
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■ Franz Liszt's Sonata in B-minor is the composer's only full-fledged sonata for piano and, in the words of program annotator Igor Kipnis, "one of the most remarkable pieces in the 19th-century repertoire . . ." Throughout the four movements, themes are varied and contrasted in tempo and harmony. The architectural plan which serves individual movements applies also to the work as a whole—giving the B-minor Sonata its strong sense of classical structure.

"I see the piece as a whole," says Silverman. "When I'm starting to play it, I'm standing on my tiptoes so that I can see over



**Stereophile's first "20-bit"
piano recording**

the horizon to the end." According to some critics, the piece represents the Faust legend—see if you don't hear suggestions of Mephistopheles in the later passagework.

■ The all-Liszt program continues with two versions of *La lugubre gondola* . . . *Vallée d'Obermann* . . . and concludes with the composer's famous *Liebestraum*.

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EQUIPMENT REPORTS

KRELL KAV-300i INTEGRATED AMPLIFIER

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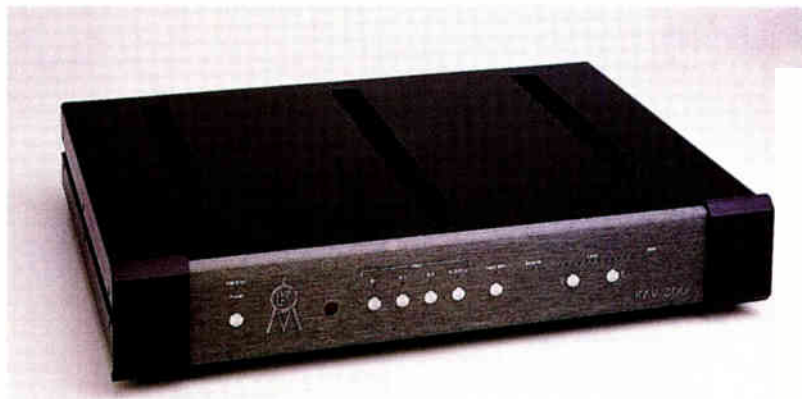
Solid-state, remote-controlled, stereo integrated amplifier with five line-level inputs including one tape loop. Power output: 150Wpc into 8 ohms (21.8dBW), 300Wpc into 4 ohms (21.8dBW). THD: <0.06%, midband, rising to 0.3% at 20kHz. Input impedance: 210k ohms. Input overload: 9V RMS. Maximum voltage gain: 36.1dB. Input sensitivity: 55mV unbalanced, 28mV balanced, for full power, volume control maximum.

Output impedance: 0.16 ohms. Power consumption at idle/standby: 50W. Dimensions: 19" W by 15.5" D by 3.7" H. Warranty: five years, transferable. Serial number of unit reviewed: SN 8795110051. Price: \$2350. Approximate number of dealers: 45. Manufacturer: Krell Industries, 45 Connair Rd., P.O. Box 0533, Orange, CT 06477-0533. Tel: (203) 799-9954. Fax: (203) 799-9796.

Is Krell risking its reputation? With the KAV-300i, an integrated amplifier that was originally envisaged as an export model, but for which home demand is clearly increasing, the Connecticut-based amplifier manufacturer is dabbling in low-cost territory. Previous Krell amplifiers have been known for their prodigious drive capability. Time and time again, it is found that the true measure of the bass performance of a big speaker isn't realized until a Krell power amplifier is brought into service. But how could an amplifier with a meaty 150Wpc specification and full remote control be built to sell for just \$2350?

The answer lies partly in the growth of Home Theater, an area where Krell has been gaining experience with good-quality, competitively priced, multi-channel amplifiers. There was also a precedent in the KST-100, a modestly priced 100Wpc Krell power amplifier that found favor in Europe a few years back.

The answer also lies in backing away from Krell's earlier design philosophy of maintaining the amplifier's output voltage into very low impedances of 1 ohm or below. If performance is to be sustained when the load impedance halves, then, all other things being equal, the size of the amplifier power supply as well as the number of output transistors and their heatsinks must double. For Krell to specify perfor-



Krell KAV-300i integrated amplifier

mance down to 2 ohms and below, they must pass the costs of doing so on to the customer.

In the end, it all boils down to application. So, if you back off from the unbreakable, drive-anything amplifier-design philosophy and say, "Hey, let's be reasonable, let's forget those possible 1 and 2 ohm loadings, and instead target and specify for well-designed 4 and 8 ohm nominal speaker systems. Now let's see how the design equations fall out." The KAV-300i's output is specified as 150Wpc into 8 ohms, doubling to 300Wpc into 4 ohms, but the amplifier is not intended to drive lower impedances. Sure, it will still be capable of frying a 3 ohm load, but you shouldn't expect the bass slam that you get

with an amplifier designed to drive lower impedances.

WHAT YOU GET

Krell's literature describes the KAV-300i as belonging to their "A/V" range of products. It has significantly softer, rounder styling than the larger KSA amplifiers. It may lack macho handles, but the '300i is well-finished, mainly in black textured enamel, with a silver-charcoal aluminium fascia offset by black-anodized end caps. Its panel logo is the new, downward-arrow Krell "Audio-Visual" symbol.

But regardless of Krell's philosophy or the unit's origins, I determined to view this product as an entry-level Krell amplifier, one with an unusual com-

combination of useful features, offered at a tempting price. You get five inputs, including the tape (monitor) facility. One input (B1) is balanced; one of the single-ended inputs (S3) may be configured, via an internal switch, as a direct or "through" input for an audio/video set-up, where the surround processor provides volume and balance control. (A hex wrench is supplied for getting inside, and also for replacing major fuses should this be necessary.)

Two kinds of output are available from the KAV-300i: loudspeakers are connected via one set of gold-plated five-way binding posts per channel; there is also a set of single-ended pre-amplifier outputs via gold-plated RCA jacks. Note that the loudspeaker terminals remain active even if the unit is run only as a preamp. This isn't a real problem, since in this mode no power need be drawn from the speaker terminals. However, speaker cables should not be left connected, in case the plugs short-circuit the amplifier outputs.

A model of simplicity, the front panel carries a horizontal row of circular control buttons made of milled stainless steel. From the left, we have the power switch, electrically servo'd, with soft-

start and standby modes. The power light glows red for standby, changing to blue for "operate." The next five buttons deal with input selection, while the remaining two cover volume up and down. LEDs show the status of all modes—the balance offset, mute, active input, and standby/operate. In addition, a set of 11 LEDs graphically shows the volume setting.

This amplifier will mainly be operated, I expect, via the remote-control handset, a satisfactorily chunky plastic molding. As well as duplicating the power/standby, source select, and volume control buttons on the amplifier's front panel, the remote gives the user access to the balance facility. This can be shifted unambiguously in five 1dB increments in either direction. The final touch is the inclusion of some basic control functions for a Krell-compatible CD player or transport (including many Philips-type RC5-coded units). I grew to like the handset with its dulled finish and positive-click membrane-type buttons.

The case is of aluminum alloy, and its good conductivity is exploited in the form of additional surface area for the modestly finned internal heatsinks. Though these do not have an optimum

orientation, an alloy block is bolted through to the lower case section to aid heat conduction. No external fins are present, though there are some ventilation slots in the top cover. I estimate that the unit should not be run continuously at full power into 4 ohm loads for extended periods. The heatsinking is fine for normal peak-program duty, however.

INSIDE

Inside, the compact, low-profile chassis packs a modest-looking, toroidal, steel-band-shielded transformer. This is rated at 400VA, but to a high-regulation Krell specification. (If this were not the case, that 300W into 4 ohm specification would be well out of reach.) Considerable thought has been given to protection, which in this design is by fuses (the bigger Krells use electronic protection operating via power relays). Gross short-circuit and speaker-fault protection is provided by 12A fuses at the output; these are located beneath the output terminals and are user-accessible from the outside. A 12A fuse should be good for continuous full power into 2 ohms; I don't reckon it would ever blow in normal use. There are four additional 12A

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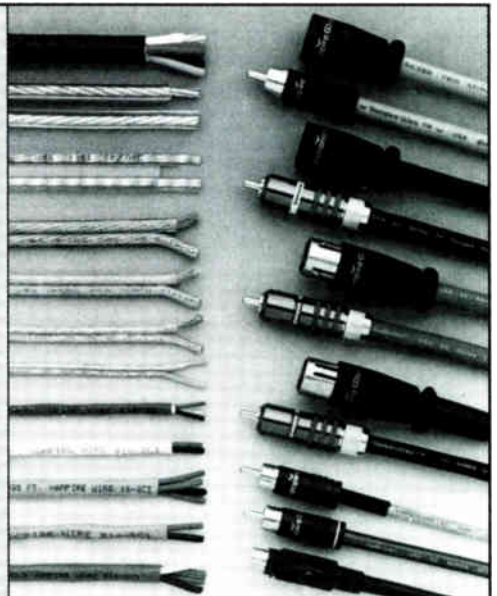
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fuses inside protecting the plus and minus voltage rails to each channel in case of device or circuit failure. Finally there is the AC mains fuse, which is integral with the IEC AC input receptacle.

Remarkably compact in layout, the circuitry is largely symmetrical for both channels, with a short path from input to output. It is also dual-mono from the separated transformer secondary windings onward. The smaller, upper board is the input and control section, noteworthy for its desirably high input impedance of 210k ohms. Earlier Krell products often had rather low input load impedances, but the '300i will load source components lightly, even suiting D/A processors with tubed output stages. The inputs are AC-coupled using polypropylene dielectric capacitors. The potentially noisy microprocessor, complete with its own power supply, is located well away on the front panel board together with its associated buttons and LEDs.

Balanced/single-ended input conditioning is achieved with Krell's discrete BJT-input, class-A amplifier. This has a low output impedance appropriate for driving the microprocessor-programmed volume-control section. This features a precision MDAC chip (a PMI DAC 8043, one per channel) used as a precision multiplying attenuator. This stage outputs a signal in current form; current/voltage conversion is accomplished by a well-respected op-amp chip, a SM2131, which feeds the resultant voltage signal to the DC-coupled stereo power amplifier stages on the lower board.

This larger board also incorporates the power supplies, which are integrated with the stereo channels. A dual winding on the transformer feeds separate rectifiers and moderate-capacity Nichicon supply reservoir capacitors, two 8200µF electrolytics per channel. Krell practice is followed for the driver-section power supplies, which use multiple paralleled reservoirs for a controlled low impedance over the audio bandwidth.

All discrete, the power amplifier circuitry follows Krell design principles, with arrays of complementary differential stages possessing a wide bandwidth. The fully complementary output stages use custom, high-current TO3-can Motorola bipolar transistors, six per channel. These have an intrinsic peak rating of over 40A per set and are operated in class-A/B at moderate bias. The '300i amplifier stages employ low values of global negative feedback, reflecting current thinking that the quest by designers in earlier years for high specific damping factors and very low distortion was

misguided, especially if their realization required high feedback. Although not true in all cases, it does seem that amplifiers that achieve a good overall technical performance with low global feedback sound more natural than those that rely on high feedback for linearization.

SYSTEM

Several good-quality integrated amplifiers were on hand for comparison at the time of this test. These ranged from the inexpensive Exposure XX to the Musical (British) Fidelity A1000, and included the new, expensive Ensemble Evocco. Reference power amplifiers included the recently discontinued Krell KSA-200s, a Naim NAP250, an Audio Research VT150SE, and a Conrad-Johnson MV55. Source components included the Krell KPS-20i/l and KPS-30i CD players, while comparison preamps included an Audio Research LS22 and a C-J PV12. Cables were Siltech, van den Hul, and Transparent. Loudspeakers ranged from the Wilson System 5 and WITT to the Ensemble Profusia, the Quad 63, and the KEF Reference Four.

SOUND

Installation was a breeze. The KAV-300i ran fairly cool and reached a stable sound quality in a matter of 10 to 15 minutes from standby. In operation, the remote control was slick and smooth-acting, with no funny noises, offering positive input selection as well as an even, wide-ranging volume control action of good resolution (just how the KPS-20i/l's volume control should have been—see *Stereophile*, April '95, Vol.18 No.4).

Serious listening commenced after a week's conditioning and informal use. The KAV-300i turned out to be a seriously good amplifier. Fresh out of the box the '300i sounded promising. It could play loud and neither change in tonal character nor appear short of breath. In its raw state, however, it lacked some of the clarity and refinement that became nicely apparent after the initial 20–40 hours of use.

Writers and engineers have recently been discussing the advantages of well-designed one-box CD players with their jitter-free direct link between transport and decoder. There is a similar advantage with a single-box integrated amplifier. Not only is the signal path shortened, you also eliminate typically two soldered connections for each channel as well as a length of external cable. More important, you get rid of the ground currents that

occur between audio separates and the audio connectors at each cable end. Knowing in advance the matching criteria for the pre- to power-amp connection, the designer doesn't have to over-engineer the interface in expectation of a range of load problems. This may help simplify the preamp section as well as further boosting the performance of the integrated amplifier.

Provided that such an amplifier has been appropriately designed with the right components, it will show a gain in performance compared with similarly specified separates. Within its modest frame, the '300i did show this advantage, allowing it to rival more costly two-box combinations. For readers familiar with my personal numbering system, the KAV-300i scored 22 points (25–30 points defines top amplifier sound). For reference, Krell's pre-1992 power amplifiers, which cost 3–4 times the price of the little '300i, also scored ratings in the low 20s when partnered with a suitable preamplifier.

The KAV-300i delivered a very well-balanced sound, with no obvious errors of tone or timbre. The Krell's midrange sounded quite rich, and if not quite to the best tube standard, it didn't glare or shout even when operated flat-out. Overall, the midrange was relatively clear, low in grain, and fine-textured. It's not as liquid or as transparent as a Premier 8, a VT150, or a KAS-2, but then, very little is! (Spend a little more on your system's cables and some of this difference can be made up.)

The soundstage had fine depth with surprisingly good transparency. The natural timbre and equally natural-sounding, well-layered perspectives were as convincing on classical music as they were on rock material. Focus was very good, stable over the entire dynamic range, and was allied to good image width. Reproduction of low-level detail and ambience were fine.

Like the mid, the KAV-300i's treble was neutral and self-effacing, with little grain evident. It sounded unforced, with clean vocal sibilants, while cymbals were rendered both open and unexaggerated.

In the bass, the little Krell went satisfactorily deep with fine control and above-average slam. While the all-or-nothing low-frequency grip of a big KSA wasn't present, the bass was entertaining—punchy, fast, and articulate. Although it did sound slightly soft—though not tending to booniness—the amplifier's bass timed well. It was nicely rhythmic, with a foot-tapping beat. Here, the littlest

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Krell amplifier may just have the measure of its bigger brothers.

While the '300i could kick the Wilson System 5 around pretty well, this speaker really needs to be driven by bigger amplifiers like the KSA-300S or, better, Krell's delightful KAS-2. However, you could have real fun with the '300i driving Wilson WITTs. Genuinely high sound levels were possible—the KAV-300i with the WITTs gave a performance which, in context, sounded surprisingly close to a KSA-200S partnering the System 5, a combination costing more than twice as much.

Dynamics were well-rendered and, in conjunction with the good rhythm and timing, gave good listener involvement. Aural fatigue was low even after prolonged listening sessions. Many times I forgot completely that my costly high-end amplification was out of the circuit! In fact, later on, when the review system was in a state of flux, it proved convenient and acceptable to throw in the '300i, so well did it perform in more expensive company.

MEASUREMENTS

In line with Krell's design practice of recent years, the KAV-300i is a low-feedback design, which means that we shouldn't expect extravagant results for damping factor or its more practical equivalent, output impedance. Nor is exceptionally low distortion likely. Nevertheless, Krell amplifiers aim to deliver clean, neutral power to a range of loudspeaker loads, and while this base-level design isn't rated for 1 or 2 ohm duty, it does crack the whip powerfully into 4 and 8 ohm loadings.

Noting that my test sample was a European model with a nominal 230V, 50Hz supply specification, I powered it from the typical UK voltage of 242V, a well-within-tolerance 5% lift. Output readings for this unregulated supply amplifier will therefore have benefited by around 8%, depending on transformer quality and its regulation.

With that proviso, this is undoubtedly a powerful amplifier, especially considering that it's a compact integrated type. Into a nominal 8 ohm load, single-channel driven, it delivered close on 200W continuous (23dBW) from 20Hz to 20kHz. The good 20Hz figure was a surprise in view of the modest power supply. The peak-program output approached 250Wpc—this is some little powerhouse!

A more demanding power test comprised firing up both channels with a tougher 4 ohm loading. Under these

conditions, the output level fell by 2dB, rather more than is seen for the big Krell power amplifiers. Nevertheless, the KAV-300i was still putting out 250Wpc into 4 ohms; this is actually a greater amount of power than the power transformer's specified 400VA. This seeming impossibility is explained when the transformer regulation is taken into account. If you are prepared to push a transformer really hard, it will go on delivering more power, but at poorer regulation. For this design's total continuous output of 500W, the transformer must actually be supplying something like 750W.

Both this behavior and the relatively small internal heatsinks indicate that the KAV-300i will not be the amplifier of choice for continuous, flat-out duty into 4 ohms or lower loadings.¹ This isn't a Krell dreadnought, but it is more powerful than many other amplifiers, particularly in its dynamic capability. There's certainly no shortage of peak current. That 250W peak program, 8 ohms, grew to 400W peak into 4 ohms with 620W peak available into 2 ohms. These figures are backed by ample peak current, measured at approximately $\pm 45A$.

It may be compact, but there's nothing downsized about the very good load tolerance shown by the '300i. The output impedance measured a moderate 0.3 ohms—this somewhat dependent on the amplifier's thermal history, and higher than the specification—and was virtually constant over the audio frequency range. This is equivalent to an 8 ohm damping factor of 27. Mild changes in bass damping and impact may be noticed when comparing this amplifier with bigger amplifiers of lower output impedance. With source impedances below 0.2 ohms, however, these differences tend toward inaudibility.

DC offset was respectably low at the speaker terminals, 10mV left channel and 8mV right channel. I inadvertently tested the protection with momentary full drive into a short circuit. This abuse blew the 20mm supply fuse in the 3-pin IEC power input socket. Conveniently there was a spare already clipped in the little inbuilt sliding drawer.

I made distortion measurements both after a modest warm-up and after some full-power operation had heated up the amplifier, to an estimated 60°C on the internal heatsinks. Bias levels had clearly altered at the higher temperature, and midband 1W distortion had increased

¹ An IHF ½-power preconditioning run was out of the question, a fact confirmed by Dan D'Agostino.

from 0.035% (-70dB) to 0.07% (-63dB). This behavior is partly related to the low negative feedback, but neither distortion figure would be considered audible.

At full power, the harmonic distortion level was typically 0.07% at low and mid frequencies, rising to 0.56% by 20kHz. Again, I don't consider this rise to be aurally significant, and at lower powers the 20kHz distortion level improved—to -57dB (0.14%) at 1W into 8 ohms, for example. The twin-tone intermodulation results—these are more important in subjective terms as a measure of high-frequency quality—were good, the 1kHz difference tone lying at -70dB (0.033%) at full power (fig.1), rising to -67dB at 1W into 8 ohms. However, some higher-order products can be seen clustered around the 19kHz and 20kHz fundamental tones, which might just take the edge off upper treble clarity.

Fig.2 shows the distortion harmonic spectrum for a 200Hz tone at 1W into 8 ohms (0dBW). This shows odd-order harmonics to predominate, mainly the third and fifth, with a rapid decay in level for higher orders. The second harmonic spectrum (fig.3) concerns the breakthrough of power-supply ripple under a stressed power condition with a low-frequency tone (37Hz). The amplifier was driven to two-thirds the rated power into 4 ohms. The dotted vertical markers in this graph are aligned with the harmonics of the UK's

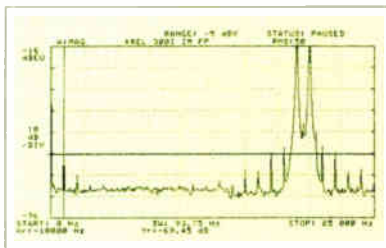


Fig.1 Krell KAV-300i, HF intermodulation spectrum, DC-25kHz, 19+20kHz at 150W into 8 ohms (linear frequency scale).

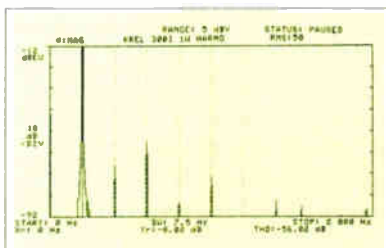


Fig.2 Krell KAV-300i, spectrum of 200Hz sine wave, DC-2kHz, at 1W into 8 ohms (linear frequency scale). Note that the third harmonic at 150Hz is the highest in level.

50Hz supply. Thus spectral lines that don't coincide with the markers are simply due to distortion of the 37Hz fundamental. There is one 100Hz supply harmonic present, but this is at a mild -80dB relative to full level.

Squarewave testing for stability showed a clean risetime barely affected by adverse loading, even a pure 2μF of capacitance. This is one stable, tolerant amplifier.

Though the KAV-300i is capacitor-coupled at the input, the frequency response (fig.4) was flat and wide. I measured +0dB, -0.5dB from 8Hz to 31kHz, while the benchmark -3dB or "half-power" points were at 0.6Hz and 90kHz. Channel separation was fine, if neither state-of-the-art nor to modern CD or digital standards. I recorded crosstalk at -68dB at 20Hz, -86dB at 2kHz, and -70dB by 20kHz. (These figures were somewhat dependent on input termination and whether I was using the balanced or single-ended inputs.)

The KAV-300i was quiet both physically and electrically, the latter measuring better than -110dB for background noise relative to full power. Channel balance was better than ±0.015dB at high volume-control settings, with ±0.02dB accuracy even at a -60dB setting!

I won't elaborate too much on the behavior of the 256-step volume control except to point out that there was a deep -93dB of maximum attenuation, while the next few settings ran -72, -68, -66, -62, -60, -58, -55dB, etc., and that

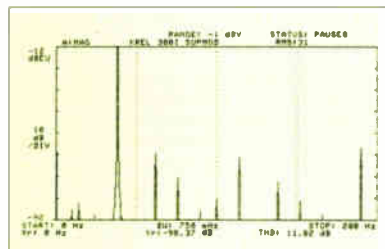


Fig.3 Krell KAV-300i, spectrum of 37Hz sine wave, DC-200Hz, at 200W into 4 ohms (linear frequency scale).

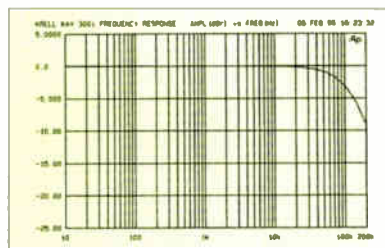


Fig.4 Krell KAV-300i, frequency response at 1W into 8 ohms (5dB/vertical div).

above -50dB, a more critical region, the resolution improved to 1dB or better. I checked a stack of settings from 0dB (full level) to -20dB and noted a fine resolution of either 0.5 or 0.75dB according to the position in the code. There was an almost irrelevant 0.2dB of backlash according to whether I was increasing or decreasing the volume. The backlash increased below -60dB, which initially confused me. The micro-processor appears to respond too rapidly to volume setting inputs—to access fine-level steps, a very quick action on the remote handset button is needed. I feel the internal volume-setting rate could be usefully slowed, though it should be noted that I only noticed this behavior on the test bench.

The '300i's input impedance was confirmed as being a desirably high 210k ohms, while the input also showed a wide dynamic range, accepting up to 9 volts before the onset of mild distortion. At full volume, 55mV input gave the IHF-standard 1W output, while 580mV produced full output into 8 ohms. This medium sensitivity is well-matched to modern source components.

The preamplifier section's output impedance was moderate at 120 ohms. The preamp wasn't as powerful as a separate, fully specified Krell preamplifier, but it will drive a range of normal amplifier loads, putting out up to 8.5V of level. It performed equally well for both balanced and normal inputs.

CONCLUSION

I feel that Krell has a winner in the KAV-300i. At \$2350, it may be designed to be cost-effective, but it's a Krell thoroughbred nonetheless, able to punch way above its weight. Not least, there is its ability on music signal to dump well over 200W per channel into an 8 ohm speaker and 300W into "kinder" 4 ohm speakers.

The versatile input facilities, the satisfactorily high-resolution volume control, and the fine infrared remote command system are all definite pluses. Remember, too, the preamp output terminals—if the '300i is a good-sounding integrated amplifier it must also be a pretty good-sounding preamplifier!

All in all, the Krell KAV-300i offers very good dollar value and is a seriously good amplifier into the bargain. For me, it's a likely Class B contender knocking on the door of Class A in *Stereophile's* "Recommended Components" listing. I firmly recommend it.

GENESIS TECHNOLOGIES DIGITAL LENS

Robert Harley listens to Genesis's de-jittering & "resolution enhancement" device

De-jittering device with "resolution enhancement" dither generation. Inputs: AES/EBU, RCA coaxial, BNC coaxial, TosLink optical, ST-Type optical. Outputs: AES/EBU, RCA coaxial, ST-Type optical. Display readout: CD subcode data (track time), transport speed accuracy (in parts per million), output word length (16 or 20

bits), dither mode, signal lock, input sampling frequency. Dimensions: 19" W by 2" H by 8" D. Weight: 12 lbs. Serial number of unit tested: 111115. Price: \$1800. Approximate number of dealers: 30. Manufacturer: Genesis Technologies, Inc., P.O. Box 669, Minturn, CO 81645. Tel: (970) 827-9515. Fax: (970) 827-9519.

Let's say you play a CD on a poor-quality CD transport and store the digital audio data in a massive computer memory. You then repeat the process, but this time play the CD into the memory from the finest CD transport extant (say, the Mark Levinson No.31). A week later you feed the two sets of data from the massive memory into a digital processor and listen to the music. Would the CD transports' sonic signatures be removed from the signal? Could you hear a difference between the transports a week later?

I believe that the two reproductions would sound identical. Because the memory's output clock bears absolutely no relationship to the transport's clock, the sound would take on the characteristics of the memory's output clocking circuitry. Any jitter in the transport and the digital cable driving the memory would be completely removed from the digital audio signal. [I have performed a similar experiment, storing the datastreams from nominally identical but different-sounding discs on a large computer hard drive. When the two sets of data are played back from the hard drive, they now sound the same. —Ed.]

That's the theory behind the new Digital Lens from Genesis Technologies. Designed by Paul McGowan, the Digital Lens uses not an hour's worth of memory, but a few seconds—long enough to isolate your digital processor from any jitter or speed inconsistencies in your transport and let you listen to CDs in real-time. This is why Genesis Technologies calls the Digital Lens a jitter *eliminator* rather than a jitter-reduction device.

While McGowan was at it, he took the opportunity to add other interesting features to the Digital Lens, including selectable output word length and dither generation.

WHAT IT DOES

The Digital Lens is housed in a slim, attractive chassis with a beveled ½"-thick front panel. A display section takes up about a third of the unit's width. No controls are provided on the front panel;

the Digital Lens is operated exclusively by the supplied remote control. (This remote also controls the woofer servo amplifier on Genesis loudspeakers.)

Because the Digital Lens operates entirely in the digital domain, the unit has only digital inputs and outputs. One of every input type is included: AES/EBU, coaxial on a BNC jack, coaxial on an RCA jack, ST-Type optical, and TosLink optical. The output complement consists of AES/EBU, Coaxial (RCA), and ST-Type optical.

In addition to its primary function as a jitter-reduction—er, jitter-*elimination* device, the Digital Lens performs what Genesis calls "resolution enhancement." In this mode, the Lens adds dither (a small amount of noise) to the output signal and increases the output word length from 16 to 20 bits. Unlike Audio Alchemy's resolution enhancement in their DTI•Pro and DTI•Pro 32—which attempts to calculate the additional bits using Digital Signal Processing techniques—the Lens simply adds dither to the digital signal (see sidebar).

Dither mode 1 operates only when the Lens is outputting 20-bit words. This setting activates bits 18, 19, and 20. In other words, Dither 1 tacks on three bits of dither to the end of the 16-bit samples read from the CD.

Dither mode 2 adds dither at the 15-bit level. This mode can be used in either 16-bit or 20-bit output. No matter what the dither mode selected, the Lens never changes bit 16 so that the HDCD* control code buried in bit 16 will pass uncorrupted through the Lens to your digital processor.

You can select between dither modes and output word length from the remote control. Genesis says Dither 2 softens the sound of older CDs that may be hard and bright. Most DACs, according to Genesis, like the 20-bit mode with Dither 1. A green LED illuminates in the display when in 20-bit mode, and another part of the display shows which dither mode you're in. Pushing a certain sequence of buttons on the remote will engage Dither 1 and Dither 2 simultaneously (dithering bits 15, 18, 19, and 20). You can hear for yourself the difference between the two dither modes by putting your ear up to a loudspeaker's tweeter: Dither 2 produces an audible hiss/buzz.

You'd think that a digital processor that will pass only 16-bit data wouldn't benefit from Dither 1 and 20-bit output words; these processors truncate (cut off) any bits below 16. According to Genesis, however, that isn't the case: 16-bit processors, and even processors using 1-bit DACs, sound better when fed dithered 20-bit data. Genesis doesn't know why, and there's no theoretical basis for believing it's true. However, as we'll see, stranger things can happen.

Dithering the DAC chip in your digital processor isn't the exclusive province of the Lens. Some processors that use the Pacific Microsonics PMD100 HDCD decoder/filter take advantage of the PMD100's dither-generation function. The PMD100 can be programmed to add one of seven levels of dither to the signal. Only a few processors use this feature, which requires a microprocessor to program the PMD100's dither generator.



Genesis Digital Lens

The Lens displays the CD's subcode information on its front panel. Subcode is nonaudio data—such as track number and track time—recorded on the CD along with the audio signal. When you see your transport or CD player counting track time, it's getting that information from the subcode.¹ This part of the Lens display simply duplicates the transport's display.

After being connected to a transport,

¹ A CD has eight subcode channels, designated "P" through "W". Channel P is simply a bit that goes high two seconds before the start of a track. The first generation of CD players used the P flag to find track beginnings. Subcode channel Q contains all the track number and time information as well as the emphasis flag and other housekeeping data. Subcode channels R through W were originally reserved for graphics encoded in a now-defunct format called CD+G (Plus Graphics). Each subcode channel has a data rate of 7.35k bits per second.

When measuring the jitter in digital processors, it's not uncommon to see a spike of jitter energy at 735kHz. This jitter is induced in the digital interface by the subcode. Simply throwing out this unneeded subcode reduces jitter in digital processors.

the Lens will show a number on the display's right-hand side. This number indicates the transport's speed accuracy, measured in Parts Per Million (ppm). We're not talking about the transport's jitter, but its average deviation from the standard output frequency. Because of crystal oscillator tolerances, some transports run slightly faster or slower than the correct frequency. The highest deviation Genesis has seen is 250ppm speed error, with 50ppm being a typical value. The Mark Levinson No.31 read 8ppm speed error, the Sonic Frontiers SFT-1 had 45ppm error, and the Parasound C/BD-2000 showed 35ppm.

HOW IT WORKS

Nearly all jitter-reduction boxes that fit between your CD transport and digital processor use the same approach to reducing jitter, filtering jitter from the transport's output with a circuit called a phase-locked loop (PLL). By cascading

two PLLs within the jitter box, significant jitter reduction can be achieved. The first PLL locks onto the incoming signal, the second PLL filters jitter. The Meridian 518, Audio Alchemy DDTI v2, DDTI-Pro and DDTI-Pro 32, Sonic Frontiers UltraJitterbug, and others use this technique.

Genesis has taken a totally different approach to jitter reduction. The Lens receives the S/PDIF or AES/EBU output from your transport with a conventional input receiver (the Crystal CS8412) and PLL, but there the similarities end. Having recovered the datastream, the Lens totally breaks it down into its component parts. The raw audio data are extracted and fed into a 500 kilobyte Random Access Memory (RAM). The subcode is displayed on the Lens front panel, then not used again. Other housekeeping bits in the subcode not needed by the digital processor are thrown out. At the Lens

DITHER & JITTER

Dither: If you think about the literal meaning of the word dither—"a confused or agitated state"—you're halfway to understanding how dither works in digital audio. Dither is a small amount of noise added to the signal that makes digital behave (and sound) more like analog. This noise allows a digital system to resolve low-level information below the amplitude of its Least Significant Bit (LSB). Without dither, signals with amplitudes below the LSB are simply ignored by the quantizer; the signal never traverses two quantization steps, a requirement of encoding the signal. The small amount of dither added to the signal causes the wanted audio signal to traverse quantization steps and thus be encoded with more fidelity to the original waveform. The dither "agitates" the tiny audio signal so that the quantizer becomes "confused" about which quantization level the signal is hovering near, causing it to vacillate between two quantization levels and thus more correctly encode the audio waveform.

An undithered signal has high distortion and poor low-level performance. Reverberation becomes more and more granular and coarse as it decays, then drops off into an unnatural black silence, the point below

which the digital system ignores low-level signals. But by adding a little dither noise, the reverberation decay is smoother, hangs longer, and sounds more natural. A consequence of this improvement is greater soundstage size and depth, along with more natural tonal colors. The only drawback is a slight penalty in signal/noise ratio.

That's dither added to an analog signal before A/D conversion. The Digital Lens adds dither to the digital signal *before* it gets to your DAC. The principles are the same, but the benefits of dither are less clear when you consider that the signal has already been digitized.

Dither added by the Lens constantly exercises the lower bits in your DAC. According to Genesis, this constant bit activity at the lowest levels makes the sound more analoglike. In addition to improving resolution of low-level signals, dither causes the signal to decay into background noise, rather than dropping off into the black hole of digital silence.

Jitter: "Jitter" describes timing errors in digital audio systems—errors that can cause audible degradation of the music. Although jitter is an arcane technical term, understanding how

jitter affects the sound of digitally reproduced music is fairly simple.

The only point in the playback chain where jitter matters is at the digital/analog converter chip in your CD player or outboard digital processor. The DAC chip takes in 16- or 20-bit digital audio samples and converts them to analog values. A sample is a binary number that represents the analog signal amplitude at the time the sample was taken in the analog-to-digital conversion process. The higher the analog amplitude, the larger the value of the binary number.

A timing signal controls *when* the DAC converts the incoming samples to analog. This timing signal, called the "word clock," looks like a squarewave. On the clock's leading edge, the sample is loaded into the DAC. On the falling edge, the DAC converts the sample to an analog output. Jitter is variations in the time between similar clock edges. Jitter causes the samples to be converted at slightly wrong times, which creates amplitude errors in the output. The right amplitude at the wrong time is the wrong amplitude. This mechanism is how a *timing* error in the DAC's word clock is translated to an *amplitude* error in the final analog output signal.

—Robert Harley

output, the S/PDIF datastream is reconstructed from scratch.

The Lens achieves its jitter rejection by putting the audio data through the half megabyte of buffer memory. The clock recovered from the transport clocks the audio data into the memory, but the output clock that feeds the data to your digital processor is generated by a precise, carefully realized clocking circuit in the Lens. This technique totally isolates your digital processor from the transport's clock—and its jitter. As in the opening thought experiment, where we read music from a CD into a huge memory, the Lens's output clock driving the digital processor bears absolutely no relationship to the input clock from your transport. In theory, the Lens should be an impenetrable barrier to transport jitter.

The audio data may be read into the Lens with your transport's jitter superimposed, but the data are read out with the precision of the Lens's output stage. Considering that the Lens's buffer can store more than two seconds of audio, no trace of the transport's jitter signature could possibly remain at the Lens's output—in theory.

Implementing this drastic approach

to removing jitter is trickier than it sounds. The Lens actually measures the transport's output frequency and assigns just enough memory to accommodate this error. A transport whose clock is close to the reference frequency (the Lens's output oscillator, which has an error of 2–3ppm) would need less memory space than one that was less closely matched. Because the input and output clocks aren't synchronized, the buffer tends to fill up slowly over the course of playing a CD on fast transports and run toward empty with slow transports. Genesis claims that the Lens's half megabyte of RAM won't overflow or empty with transports having a 1000ppm error over a 70-minute CD. Most transports use about a quarter of the RAM's two-second storage.

It's easy to see how the buffer's elasticity could compensate for transports whose output clocks ran faster than the Lens's fixed-frequency clock—the buffer gets fuller and fuller as the CD plays through. But if the transport runs *slower* than the Lens, the microprocessor lets the buffer fill with up with as much as two seconds of music before the output stage starts clocking it out. The buffer would then get less and less full as the disc plays through.

Note that the Lens's output clock runs at a fixed frequency, and can't be "pulled" in frequency like a Voltage Controlled Crystal Oscillator (VCXO) can. Genesis found that VCXOs had inherently higher jitter than the Temperature Controlled Crystal Oscillator (TCXO) used in the Lens.²

The AD1890's output is jitter-free, but the sample amplitudes can be slightly different from what is required. The part takes in the right samples at the wrong time, and outputs the wrong samples at the right time. [The difference, however, is specified by Analog Devices as being below the 16-bit noise floor.—Ed.] Ironically, the error introduced by this process is conceptually identical to the error introduced by jitter.

Genesis's RAM-based approach in the Lens allows the input and output clocks to be asynchronous, yet maintain perfect bit-for-bit data integrity. It just

won't perform sample-rate conversion, a feature not needed in a consumer product.

By making the memory shorter when driven by transports with a precise output frequency, the Lens avoids the situation of having a two-second delay between the time you push Play and when you hear music. With a 2s delay, there's the danger of pressing Pause, hearing the music continue, thinking the transport didn't accept the command, and pressing Pause again—which would start filling the buffer again. This RAM assignment technique saves a lot of confusion. In addition, the buffer dumps its data when the transport is put in Pause, then starts over when the transport goes back into Play mode.

On the subject of the RAM delay, the Lens poses a problem for a Home Theater system: The audio will be out of sync with the video. Genesis addresses this problem with a "LaserDisc" mode that bypasses the RAM. Instead of using the memory for jitter elimination, a dual-PLL input receiver takes over to reduce jitter in the incoming datastream. This feature also lets you hear the effect on the reproduced sound of removing the RAM buffer.

The Lens gets its name from its function: focusing incoming data to a precise point at the Lens output circuit. That data could be jittered and have an incorrect frequency, but the Lens will always output a jitter-free signal at a precise output frequency.

Because the Lens's output circuit is active whether or not you've got a transport connected, you can have the strange situation of seeing your digital processor locked when no transport is driving the Lens. Seeing that phenomenon drives home the point that the Lens completely reconstructs the S/PDIF or AES/EBU output signal from scratch rather than trying to clean up the transport's output signal.

The Lens suffers from one drawback inherent in all outboard jitter boxes: It must convert its jitter-free output into the S/PDIF or AES/EBU format to drive your digital processor. By putting the audio data back in S/PDIF, transmitting it down a cable, and recovering the clock with a PLL in your digital processor, jitter will be re-introduced. The jitter in your digital processor may be lower in amplitude and have a cleaner spectrum with the Lens, but it will still have some interface jitter as well as the intrinsic jitter of the digital processor's input receiver. Audio Alchemy's I2S bus alleviates



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² The Analog Devices AD1860 Asynchronous Sampling Rate Converter chip, the device at the heart of the Digital Domain VSP and Z-Systems jitter-reduction boxes, also has input and output clocks that are independent (that's what the "Asynchronous" means). The AD1890, however, changes the audio data by interpolating new samples between the input samples. At the output, the chip continuously throws out lots of unneeded samples to achieve the desired output sampling rate. Only a small percentage of the final output samples are identical to the input samples. What you put in isn't what you get out.

this dilemma, but it works only with Audio Alchemy processors.

INSIDE THE LENS

Some letters that have been published in *Stereophile's* "Letters" column have implied that designing a data buffer to eliminate jitter is a trivially easy, inexpensive task. In fact, the Lens took Genesis two years to design and de-bug. However, its price is just \$1800.

The power supply uses two transformers, one for the entire Lens except the output circuit, which is powered by the second transformer. The power supply to the output buffer and output clock is regulated by a custom, discrete regulation stage using four transistors. McGowan tried a conventional three-pin voltage regulator chip, but found it degraded the Lens's sonic performance. The rest of the Lens's 48 chips are supplied from three-pin regulators.

Two microprocessors control the Lens's operation. One microprocessor handles the housekeeping chores (the display and remote control, for example), and the other controls the audio processing: calculating the incoming frequency, assigning RAM, and generating dither. The Read-Only Memory (ROM) chip controlling the audio control microprocessor is socketed, allowing software upgrades simply by changing a chip. It takes 2000 lines of code to run the Lens. The half megabyte of RAM is contained in two large chips.

Input pulse transformers couple the incoming datastream from a transport to a Crystal CS8412 input receiver. The Lens's most interesting circuit, however, is the output stage. Great care was taken in its design; all that work before the output could have gone to waste if the final stage compromised the signal. The output stage consists of a TCXO to provide the timing reference, a waveshaping circuit, an output driver, and its discrete power supply. The entire output stage is on an isolated section of the circuit board. Signals are electrically decoupled from the output stage by opto-isolators. These devices break the electrical connection between their input and output, transferring the signal by light instead of electrons. Opto-isolators use photo-transistors and photodetectors inside 8-pin packages that look like ICs. Astonishingly, McGowan found that the bias to the opto-isolators had a

large effect on the Lens's sound quality. A row of resistors next to the four opto-isolators set the bias.

The actual output driver chip (a flip-flop) is socketed, a move that has already proved its utility. After listening to the Lens for a few weeks, Paul McGowan and Arnie Nudell visited my listening room to hear the Lens in my system. They also brought a new output driver chip that they've incorporated into standard production.³ After they'd installed the new output driver, the soundstage had more depth but instrumental textures were less smooth. We went back to the original chip before they decided to leave in the new output driver. (I can't comment on my preferences—or what I think of a product—to manufacturers while a product is under review.) But after about half an hour, the Lens sounded much better with the new output driver, presumably because the chip had warmed up.

All transports and jitter-reduction boxes McGowan examined use an inverter gate to generate the negative-polarity or cold half of the AES/EBU output signal. Because all gates introduce what's called "propagation delay," the AES/EBU output's negative phase lags the positive phase very slightly (by the amount of the gate's propagation delay). This delay between phases reportedly introduced jitter in the digital processor the AES/EBU signal was driving. The new output driver chip subjects each phase to the same number of gates, thus introducing no time lag between phases. The difference in sound between the two output driver chips was not subtle.

Not counting the four opto-isolators and IC regulators, the Lens uses 51 chips in all, all of them packed onto a single large printed circuit board. The Lens's build quality was excellent (sturdy chassis, thick front panel, high-quality jacks), and the implementation seemed fully realized. The complex board had no jumpers or Band-Aids to make it work. The Lens also performed without a hitch during the six weeks I had it for audition.

SYSTEM

The Digital Lens spent most of its time in my system between the Mark Levinson No.31 transport and a Classé DAC-1 digital processor. The digital cable between the transport and Lens was the excellent Illuminati DataFlex Studio. An AudioQuest Diamond X3 AES/EBU cable connected the Lens to the Classé. This input/output digital

cable complement was reversed depending on the digital processor's input options.

I also tried the Lens with the Sonic Frontiers SFT-1 and Parasound C/BD-2000 transports—two *very* different-sounding machines. Other processors I auditioned the Lens with included the killer Parasound D/AC-2000 (\$1995), Theta Chroma 396 (\$830 with HDCD), Adcom GDA-600, and Sonic Frontiers Assemblage. The Parasound uses a low-jitter UltraAnalog AES21 input receiver; the Theta, to be reviewed next month, features a standard Crystal CS8412.

The rest of the system was a Sonic Frontiers SFL-2 preamplifier driving Audio Research VT150 tubed monoblocks, with Genesis II.5 loudspeakers at the end of the chain. Interconnects included WireWorld Gold Eclipse, AudioQuest Diamond X3, and AudioQuest Lapis. Loudspeaker cables were short runs of AudioQuest Dragon II.

The system was plugged into the MIT Z-Center, with MIT Z-Cord II AC cords on all the front-end equipment. The power amplifiers have integral power cords, but were connected to the wall outlet through an MIT Z-Stabilizer II. A Merrill Stable Table and Billy Bags 5500 equipment rack provided support. The transports under audition also sat on a Bright Star Audio Little Rock 2 isolation platform.

LISTENING

Adding the Lens to my system produced a startling increase in soundstage size, bass definition, vividness, resolution of detail, palpability, and timbral realism. The Lens made the soundstage noticeably wider, deeper, and more layered. After getting used to the Lens in my system, I took it out for comparisons. The soundstage's left and right edges contracted toward the loudspeakers; the hall's rear wall moved forward; and the wonderful ambient bloom around the presentation shrank. Putting the Lens back allowed the loudspeakers to more easily disappear into the soundstage.

Interestingly, the Lens provided the most dramatic soundstage improvements in recordings that are already stunning. A good example is the spectacular performance and recording of Mozart's Piano Concerto 21, with pianist Eugene Istomin and the Seattle Symphony (Reference Recordings RR-68CD)—*Stereophile's* "Recording of the Month" for May '96. This HDCD-encoded disc has fabulous space, depth, and layering, the full extent of which

³ If you bought a Lens with a serial number lower than 111209, it has the old output driver. Contact your dealer or Genesis for a free upgrade, which is simply a matter of replacing a single socketed chip. You don't even need to know which end of a soldering iron to hold.

was revealed by the Lens. It sounds spacious already, but the Lens made the hall sound bigger and more expansive. Putting the Lens in the signal path made the overall perspective a little more distant and less up-front. This characteristic was more apparent with moderately priced converters such as the Adcom GDA-600, Assemblage DAC-1, and Theta Chroma 396 processors than with the Classé DAC-1.

Smaller recordings benefited from the increased space to a lesser degree. Guitar and vocal recordings—"Lonesome Road" on Mighty Sam McClain's *Give It Up to Love* (AudioQuest AQ-CD1015), for example—had more air around the image outlines and a less dry rendering, but the improvement was not to the extent heard on naturally miked recordings made in large halls.

The Lens also increased the apparent space between images. It tightened image focus while resolving more bloom around image outlines. This quality further heightened the impression of hearing instruments in space, and increased the sense of layering from the front of the soundstage to the rear.

A common sonic thread among jitter-reduction boxes I've tried is a tightening of the bass. Jitter seems to soften the low end, reduce pitch definition, smear bass dynamics, and dilute the music's rhythmic drive. Putting a jitter box between a transport and processor tightens the entire bottom end and better resolves the dynamic envelope of double bass and bass guitar. The Lens's effect on the bass was huge, and greater than I've heard from any jitter-reduction device—even the Digital Domain VSP, which provided an enormous bass improvement.

Although the Lens tightened up the double basses and bass-drum whacks in symphonic music, I found the most meaningful bass improvement it offered was in music with kickdrum and acoustic or electric bass. A great track for judging bass tautness, definition, and dynamics is "Wishing Well" from Michael Ruff's *Speaking in Melodies* (Sheffield CD-35). If the bass isn't well reproduced, the kickdrum loses some of its impact and power, the bass guitar smears into a continuum that makes it harder to hear pitch, and the attack of individual notes is blunted. The song's powerful rhythmic quality, along with the upbeat and energetic feeling from the musicians, is easily diminished if the bass isn't exactly right.

The Lens's effect on this track was remarkable. The kickdrum and bass

seemed to lock together in time and pitch. I could better hear the dynamic envelope of the kickdrum cut through the rest of the mix. The bass guitar sounded "tuneful," and more like a guy playing a bass guitar than an undifferentiated "low-frequency component" of the music. The way the Lens snapped everything together infused the music with a more upbeat and exciting quality. I've heard this track *lots* of times (it's a standard in my critical auditioning), but never as I heard it with the Lens in the system. There was just a greater feeling of people playing music, with more life and energetic drive.

Another way the Lens took my system a notch higher in performance was its resolution of fine detail. Listening to familiar recordings through the Lens revealed low-level information and detail previously unrealized. "Leather Cats," from Oregon's *Beyond Words* (Chesky JD130), was a good example of the Lens's resolution. Although I've listened to this disc extensively, I heard breathing, creaks, and other sounds I hadn't known were there. I didn't enjoy this record more from hearing the extraneous noises, but they did highlight just how much low-level detail the Lens could uncover.

What I did enjoy, however, were the musical benefits of this higher resolution. Subtle nuances that were lost or barely hinted at without the Lens were suddenly vivid, palpable, and alive. Ralph Towner's superbly recorded acoustic guitar on *Beyond Words* had more inner detail of the kind that you hear from the live instrument. The Lens's superior resolution made the guitar more lifelike and real, and less like a canned reproduction.

In addition to revealing more timbral detail, the Lens also made instruments more separate and distinct. The presentation provided a greater impression of individual instruments in space. This quality helped unravel complex passages: Quieter instruments could still be heard in the presence of louder ones. The Lens made it easier to follow individual threads, from woodwinds in symphonic music to sax and trumpet during unison phrases in jazz. A good example of the latter was the ensemble playing on Teodross Avery's *In Other Words* (GRP GRP-9788), in which this remarkable young sax player works out with trumpeter Roy Hargrove in some straight-ahead blowing. The Lens kept the sax and trumpet from congealing, and better maintained the two instruments' identities.

Throughout the auditioning, I had the

impression that instrumental timbres were portrayed with greater realism—acoustic guitar had more "guitarness," piano more "pianoness." Listen, for example, to the piano in the previously mentioned Istomin/Seattle recording of Mozart's Piano Concerto 21. The Lens made the piano sound more coherent and focused, while simultaneously taking off a bit of the glassy character on transient leading edges. I also heard this smoothing of timbres in other instruments. Acoustic guitar had less of a mechanical hardness and more warmth and beauty; woodwinds lacked the glare that tends to make them sound synthetic; and strings had a liquid sheen rather than a hard edge. This slight softening of timbres, combined with the resolution of fine detail, was, I concluded, responsible for the heightened sense of timbral realism with the Lens.

A higher-resolution presentation is often in conflict with a sense of ease and musical relaxation. Not with the Lens. Although the Lens made the sound more vivid and alive, it simultaneously decreased etch and the hard mechanical character that often overlays the music. The result was more music and less fatigue.

Putting the Lens in LaserDisc mode, which bypasses the memory and its jitter reduction, let me hear the difference in sound quality due to the more powerful RAM approach. With the Lens in LaserDisc mode, the sound was still better than with no Lens, but the magic was gone. The soundstage noticeably narrowed and became less deep, and the sense of transparent air between images was reduced. Instrumental textures lost some of their liquidity, and the trace of glare and mechanical hardness returned. The bass also softened, losing the super-taut quality that I'd been enjoying.

Most of my listening was in Dither 1 mode (bits 18, 19, and 20 dithered). I found that Dither 2 (bit 15 dithered) tended to close-in the presentation, slightly reduce clarity, and reduce top-octave extension compared to Dither 1.

AN AUDIO ALCHEMY COMPARISON

A logical point of comparison for the Lens is Audio Alchemy's similarly priced DTI-Pro 32 (\$1695). Both units are jitter-reduction boxes that offer "resolution enhancement," although via very different techniques. The Audio Alchemy approach of adding extra bits seems more sophisticated than simply dithering the signal. But the Lens's RAM-based

de-jittering can't be matched by a dual-PLL system such as that used in the DTI-Pro 32.

Both products improved the bass, tightened soundstage focus, better resolved low-level detail, and made the presentation bigger and more airy. The Lens excelled in the bass, which was tighter and better-defined than with the DTI-Pro 32. The Genesis box also produced smoother and more liquid instrumental timbres. I also thought the Lens was more open and extended in the upper treble, and produced a bigger soundstage. Overall, I preferred what the Lens did in my system.

BIZARRE PHENOMENA

If the Lens is indeed able to completely isolate the transport and its interconnect from a digital processor, it should make every transport and interconnect sound identical.

It didn't. The Mark Levinson No.31 still sounded better than the Sonic Frontiers SFT-1 and Parasound C/BD-2000, for the same reasons it sounded better without the Lens. Moreover, the SFT-1 was still more forward-sounding than the No.31 or C/BD-2000, and the Parasound transport's softish bass and more laid-back presentation remained with the Lens in the signal path. The Lens, however, reduced the magnitude of the differences between transports, leaving only traces of their musical characteristics. How the transports' jitter signatures got through the Lens's RAM and ended up at the DAC, where it influenced the sound, is a total mystery.

There's more. When Paul McGowan and Arnie Nudell visited, Nudell described the sonic benefits of taking a bulk tape eraser to CDs. McGowan and I were skeptical. We all went to the local RadioShack, where Nudell asked the guy behind the counter where the bulk tape erasers were kept. He asked if we wanted an eraser for audio or video tape. I jumped in and said "CD," which probably gave him fodder for jokes at the next sales meeting; "Some idiot wanted a bulk tape eraser for his CDs!"

Back at the house, we listened to Zappa's *The Yellow Shark* (originally Barking Pumpkin R2 71600, but now part of Ryko's FZ reissue series: Rykodisc RCD 40560) without the Lens in the signal path, then "demagnetized" the CD with the bulk tape eraser and listened to it again at matched levels. It was clearly different—and better—after being treated with the bulk tape eraser. The sound became more vivid,

the soundstage more transparent, and the apparent size of the hall increased. It was a larger difference than I hear between many digital interconnects.

We repeated the experiment on a new disc, but this time with the Lens between the Mark Levinson No.31 transport and the Classé DAC-1 processor. Although the difference was not as great as with the Lens out of the signal path, the bulk tape eraser still made the CD sound better.

I also had on hand two CDs made from the same master tape, but cut on two different mastering machines. The two CDs were verified to have bit-for-bit identical data. I also had jitter-analysis graphs of the two CDs' EFM signals: one disc had much higher jitter in its pits than the other disc. In a blind test, Nudell and McGowan instantly picked the disc with the higher measured jitter as sounding worse—even when played through the Lens.

First, why should demagnetizing a CD change its sound? And how does jitter in the pits of a CD end up at the DAC's word clock, where it changes the sound? And if the Lens is a perfect barrier to any jitter upstream of it, why could we still hear the difference between high- and low-jitter CDs, and the effects of demagnetizing the disc?

If anyone has the answers, I'm all ears.

MEASUREMENTS

I approached the Lens measurements from two perspectives: its effect on jitter at the word clock inside a digital processor, and how it changed low-level waveforms with its dither-generation function. First the jitter.

Fig.1 is the Theta Chroma 396's clock-jitter spectrum made by driving the Chroma with a PS Audio Lambda transport playing the CBS Test Disc. The test signal was a 1kHz, -90dB undithered sinewave. We can see the now-classic spikes of jitter energy at 1kHz and its harmonics, the result of the test signal creating interface jitter. The RMS jitter level, measured over a 400Hz–20kHz bandwidth, was 230 picoseconds.

Fig.2 represents the identical test conditions and signals, but with the Digital Lens between the Lambda transport and the Theta processor. The periodic jitter components are much lower in level (except the spike at 4kHz), and the spectrum is generally cleaner. The RMS jitter level also dropped from 230ps to 160ps.

Repeating the measurements with a Classé DAC-1 processor yielded less of an improvement in jitter performance—the DAC-1 had better jitter performance to start with. Fig.3 is the DAC-1's jitter spectrum when processing a 1kHz,

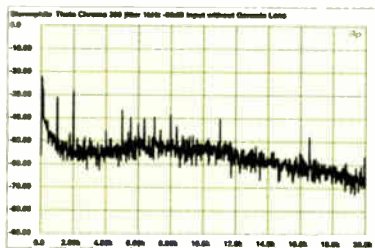


Fig. 1 Theta Chroma 396, word-clock jitter spectrum, DC–20kHz, when processing 1kHz sinewave at -90dBFS from PS Audio Lambda transport (linear frequency scale, 10dB/vertical div., 0dB=1ns).

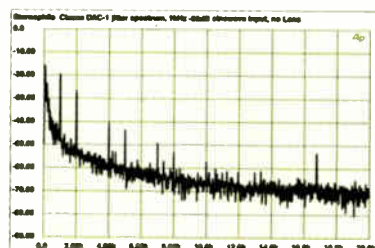


Fig. 3 Classé DAC-1, word-clock jitter spectrum, DC–20kHz, when processing 1kHz sinewave at -90dBFS from PS Audio Lambda transport (linear frequency scale, 10dB/vertical div., 0dB=1ns).

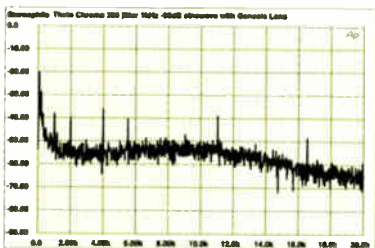


Fig. 2 Theta Chroma 396, word-clock jitter spectrum, DC–20kHz, when processing 1kHz sinewave at -90dBFS from PS Audio Lambda transport with Genesis Digital Lens in-circuit (linear frequency scale, 10dB/vertical div., 0dB=1ns).

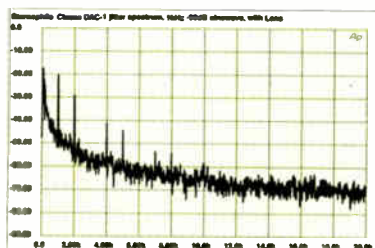


Fig. 4 Classé DAC-1, word-clock jitter spectrum, DC–20kHz, when processing 1kHz sinewave at -90dBFS from PS Audio Lambda transport with Genesis Digital Lens in-circuit (linear frequency scale, 10dB/vertical div., 0dB=1ns).

-90dB sinewave without the Lens. The RMS jitter level was 135ps. Note the rather high levels of signal-correlated jitter. Fig.4 is the same measurement, but with the Lens in the signal path. The spectrum is only slightly cleaner, but the RMS level dropped to 105ps.

Looking next at the Lens's effect on low-level waveforms, fig.5 is the Classé DAC-1's reproduction of a 1kHz, -90.31dBFS undithered sinewave with a 16-bit input signal. We can clearly see the three quantization steps at this level: 0, +1, and -1. Fig.6 is the same waveform, but with the Lens in the signal path and set to Dither 2 (dithering the 15th bit). This is a large amount of dither — not unexpected, considering you can hear hiss from loudspeakers when the Lens is in Dither 2 mode. Note the expanded scale, needed to show the high level of dither energy overlaying the 1kHz sinewave. Whether or not fig.6 represents an increase in fidelity to the

original signal is open to debate.

What really surprised me was fig.7, the Classé DAC-1's reproduction of this waveform with the Lens set to Dither 1. The Lens took in 16-bit data and output 20-bit data, with the lower three bits being dither. For some reason the waveform now appears to have *four* quantization steps, not three — as if some of the energy from the +1 level appears as the narrow spike *below* the -1 level. Note how narrow this new waveform component appears, seen as the negative-going spike between -50 μ V and -100 μ V. The signal's zero crossing axis also appears shifted from the zero horizontal division. Note fig.7's different scale; the waveform now traverses the range between \pm 100 μ V rather than fig.6's \pm 80 μ V. I can't think of any mechanism that would cause this behavior. Perhaps Genesis can provide some insight into this question in their Manufacturer's Comment.

Genesis supplied me with jitter measurements made on the Lens by Bascom H. King using his custom S/PDIF jitter analyzer. The Lens was driven by an S/PDIF signal generated by a device made by PrismSound that intentionally adds jitter to an S/PDIF signal. The signal was jittered by a 100Hz squarewave with a jitter amplitude of 10 nanoseconds (10ns). Fig.8 shows the jitter spectrum in the S/PDIF signal at the Lens

input. Note that the 100Hz jitter component coincides with the 0dB horizontal division, which is calibrated at 10ns. You can see all the odd-order harmonics of the 100Hz squarewave in the jitter spectrum on the S/PDIF signal.

The Lens's output jitter spectrum was plotted (fig.9) while the unit was being driven by this massively jittered signal. The Lens's total removal of interface jitter (see figs.11 and 12) is impressive. The Lens apparently does what it's designed to do: isolate the output from any incoming jitter. The residual jitter in fig.12 is the jitter analyzer's noise floor, which is in the single-digit picosecond range. (The spike at 120Hz is probably power-supply noise.)

Although the Lens appears from these S/PDIF measurements to eliminate jitter at its output, it doesn't eliminate jitter in digital processors. The Lens's output may be perfect or nearly so, but that doesn't mean your system will be jitter-free. Nonetheless, the cleaner word-clock jitter spectra and lower RMS jitter level measured in digital processors with the Lens connected correlated with the improvements in sound quality heard in the auditioning.

CONCLUSION

The Genesis Digital Lens is the most serious attempt to date at reducing jitter in outboard digital processors. Judging from the auditioning and measurements, Genesis's unique memory-based approach has achieved its goals.

The Lens's effect on the musical quality of my playback system was truly extraordinary. Adding the Lens rendered improvements in nearly every area of musical performance: soundstage size, bass definition and dynamics, clarity, detail resolution, and timbral liquidity. I heard no drawbacks when adding the Lens, only gains.

The Lens produced the kind of improvement that left me disappointed when it was removed. I enjoyed music much more with the Lens installed, particularly when discovering newfound musicality in my favorite recordings. Moreover, the magnitude of the Lens's increased musicality was greater than differences between many transports. This suggests that a moderately priced transport/Lens combination would be a better choice than a similar amount of money spent on a transport without the Lens.

The Genesis Lens has become an essential part of my playback system. If you audition one, I suspect that it will become a permanent part of your system, too. **S**

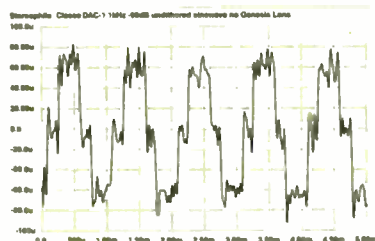


Fig.5 Classé DAC-1, waveform of undithered 1kHz sinewave at -90.31dBFS (16-bit data).

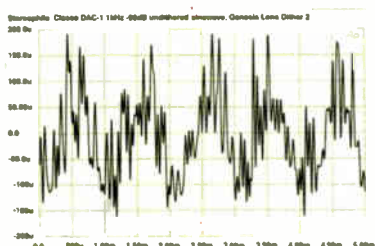


Fig.6 Classé DAC-1, waveform of undithered 1kHz sinewave at -90.31dBFS (16-bit data) with Genesis Digital Lens (Dither 2).

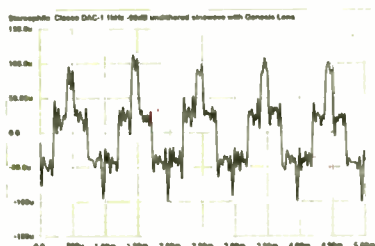


Fig.7 Classé DAC-1, waveform of undithered 1kHz sinewave at -90.31dBFS (16-bit data) with Genesis Digital Lens (Dither 1).

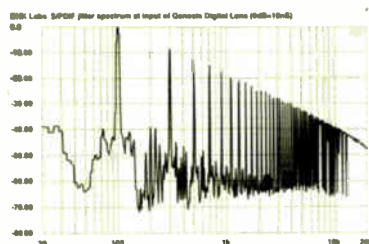


Fig.8 Genesis Digital Lens, word-clock jitter spectrum of S/PDIF input signal, DC-20kHz, measured with Bascom H. King jitter analyzer (0dB=10ns). Jitter signal is 100Hz squarewave with an amplitude of 10 nanoseconds (10ns).

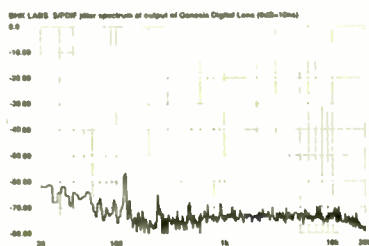


Fig.9 Genesis Digital Lens, word-clock jitter spectrum of S/PDIF output signal, DC-20kHz, under the same conditions of fig.8, measured with Bascom H. King jitter analyzer (0dB=10ns).

THE TRANSFIGURATION TEMPER

Michael Fremer wonders if this phono cartridge's patented ring-magnet design enables it to run rings around the competition.

Low-output moving-coil cartridge with a hard, anodized, reinforced aluminum cantilever; a PA, grain-oriented diamond stylus; yokeless ring-magnet design; and a "Multiple Density Progressive Suspension." Source impedance: 3 ohms. Recommended stylus downforce: 1.8 grams. Compliance: 15cu (1cu = 1x10⁻⁶ cm/dyne). Weight: 7.5 grams. Channel separation: 30dB or better, 200Hz–10kHz.

Frequency response: 20Hz–20kHz, ±1.5dB. Nominal output: 250µV (3.45cm/s, 1kHz). Recommended load: 1–47k ohms. Serial number of unit reviewed: 1663. Price: \$3800. Approximate number of dealers: 25. Manufacturer: Immutable Music Inc., Tokyo, Japan. US distributor: Sumiko, 3101 Telegraph Avenue, Berkeley, CA 94705. Tel: (510) 843-4500. Fax: (510) 843-7120.

The Temper is the second-generation Transfiguration cartridge, manufactured by Immutable Music, Inc. in Japan. The man behind Immutable Music, Inc., Seiji Yoshioka, has designed the most convincing-sounding cartridge I have heard in my system to date.

How does the Temper accomplish its magic? If you read my description of cartridge construction in the April '96 issue's review of the Clavis DC and AudioQuest Fc5, you understand the basics. The Temper's coils are wound on a 2mm by 2mm "Ultra Super" Permalloy former, which the company claims exhibits the "highest permeability" and the "lowest hysteresis distortion currently available."

The former/coil assembly sits directly inside the core of the ring magnet via a laser-cut square hole (fig.1). To the best of my knowledge, this construction is unlike that of any other cartridge. According to the manufacturer, the placement affords a very high level of magnetic efficiency, which allows the use of fewer coil turns to generate the same voltage, thus lowering the system's moving mass.

SETUP

I first auditioned the Temper on the Rockport Series 6000 airbearing arm mounted on the VPI TNT Mk.3 turntable, using both the Audible Illusions Modulus 3A preamplifier's built-in phono section, and the Audio Research PH3 outboard phono section. Later, I used both the Graham 1.5G/C and Rockport 6000 arms on the SOTA Millennium turntable (review to come).

Setup of the Temper is extremely difficult because you cannot easily see the cantilever from the front unless you look under the curved front face. And given that the cantilever is relatively short and rides fairly low, it is hardly easier to view the elusive shank from the

sides. Also, since the stylus almost hides from you when it's in the groove (or on the alignment device), dialing-in the Temper had me losing mine.

Otherwise, positioning requirements are routine, though—as with most high-performance cartridges—the Temper demands precision alignment to give you all it can. I got the best sound with the body tilted ever-so-slightly back from parallel with the record surface. As advertised, 1.8 grams proved to be the optimum tracking force.

SOUND

I knew the cartridge needed breaking-in, so initially I just played music and listened for the Temper's overall sonic character. Even without break-in, the Temper was remarkably free of any sort of grain structure in the upper mids or highs. Nor was there a hint of an etchy or sharp character, even on sibilants. The Temper wasn't and isn't an aggressive-sounding cartridge—but neither is it laid-back or soft-sounding.

Consider that the associated equipment I used for this review included the Modulus 3A tube preamplifier, Cary CAD-805 monoblocks, and Yamamura Millennium 5000 cables. No one has accused any of that gear of being "bright" or "analytical"—quite the opposite. Only the Audio Physic Virgo speakers have a rap in some circles of sounding "analytical."

During this preliminary auditioning I was disturbed by a quality I heard in the upper midrange and above: an "oily" sensation due to a lack of transient snap. There was, and is, a spectacular sense of an "acoustic bubble" on appropriately recorded material, but I didn't feel the cartridge had a "grip" on the top end: It seemed to smooth things over a bit. It didn't appear to be able to resolve information in the manner of some of the other cartridges I've reviewed. Nor did I initially find image solidity to be up to

the high standards set by both the Clavis DC and the AudioQuest Fc5.

But let's move past the considerable break-in period and get to what the Transfiguration cartridge has been doing ever since. The Temper, in either the Rockport arm or the Graham, presented as neutral a sonic picture as I've ever heard from a transducer. It sounded liquid and luxurious from the very highest to the very lowest frequencies. Its ability to portray both the sonorous midbass "bloom" of the larger stringed instruments (viola and cello) and the luxurious high-pitched glow of the violin was unsurpassed in my listening experience. Like the bouquet on a fine wine, it just kept coming at you.

The sense of the Temper "glossing over" transients disappeared after about 60 hours of break-in, leaving just the right balance of snap and grit and smooth shimmer to high-frequency transients. If you don't take the time to let the Temper break-in, you might conclude that it lacked low-level resolution, ambience retrieval, and inner detail, but you'd be wrong. Quite the contrary, in fact: Once it was ready to go, the Temper gave me more of those things than any of the other cartridges I've auditioned.

The Temper presented male and female voices with a convincing sense of body, head, and mouth. That included vocal sibilants, which were never



Transfiguration Temper MC phono cartridge

smothered or smoothed over; neither did they sound sharp or mechanical. They just sounded real.

Tonally, the Temper was neutral. It was neither warm, nor cool, nor glassy bright, nor dull, nor was it sluggish or fast or anything easily identifiable. It is not a cartridge intended to sound good on just one kind of music. Instead, it does them all well, which means it needs to be a great tracker.

There are a few other tonally neutral, "high trackability" cartridges I can think of, such as the later iterations of the Shure V-15, but they don't stir the soul like the Temper. Why not? For one thing, they don't have the Transfiguration's liquidity, body, and bloom. After break-in, the Temper was able to keep going "up" after the transient without getting lost in a high-frequency haze. It presented the snap of real instruments without adding an artificial-sounding electronic edge.

The Temper's ability to resolve the

timbral, textural, and dynamic character of low-level detail was unsurpassed in my experience. The perceived noise-floor was extremely low. Even at the lowest amplitude levels, the cartridge's overall character remained consistent in its purity, liquidity, and tonal neutrality.

I was going to try to get through an entire review without including my observations on an actual recording, because that has become a boring cliché, and if you're not familiar with the vinyl, what have you learned? *Nada*. I mean, if I say to you "Take Nebechna's Symphony in E on Libido Records with Pinchas Tukas and the Fairbanks Symphony Orchestra. In the third movement there's a flute glissando doubled by xylophone. I've never been able to follow each musical line separately until the Temper." So what? What does that really mean to you if you've never heard the record?

But I can't help myself. There's this two-record set I've spoken of previous-

ly in reviews that you really ought to find: *Mel Tormé and Friends Recorded Live at Marty's* (Finesse W2X 37484) is one of the most convincing small club recordings I've ever heard; all I can tell you is that the Temper's rendition of it was the most convincing yet: tonally, texturally, and especially in the sound of Tormé's voice and the decay at the end of words and phrases. It was possible to distinguish Tormé's direct voice into the mike and its low-level decay, the club's sound system and its decay, and the excitation of the room acoustic itself and its decay. The end result was the most convincing sensation of being at a live performance I've yet heard at home.

I don't know if that clarifies things for you, but everything happening behind the main event of Mel singing was portrayed with a much greater complexity through the Temper than through any other cartridge I've heard. With other cartridges, it felt as if either the room had dried up or I'd processed the recording with a reverb unit—which I hadn't.

In most other regards—soundstaging, front-to-back depth—the Temper was no better or worse than the best of the others. Which is saying a great deal. We've reached the point where all this talk of "the soundstage seemed wider and deeper" is approaching absurdity with regard to cutting-edge gear. How much bigger and wider *can* it get?

Even though this is a low-output cartridge, overall dynamics—especially bass dynamics—were superb: The Temper got the texture and tone of acoustic and electric bass correct—beautifully balancing the transient and harmonic overtones with supple control.

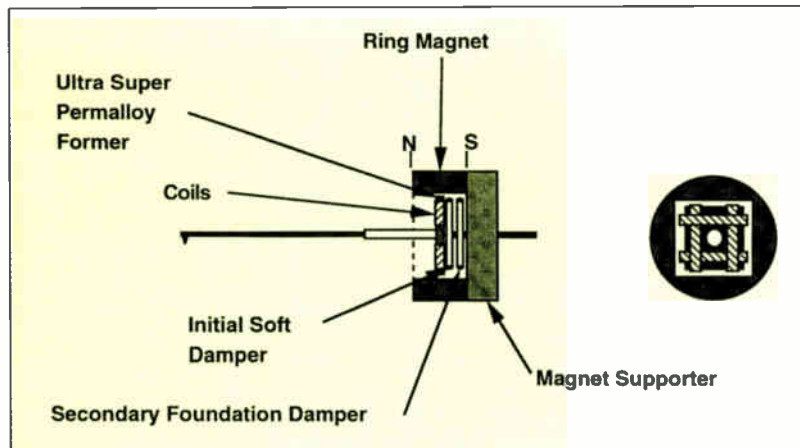


Fig.1 Transfiguration Temper ring-magnet generator

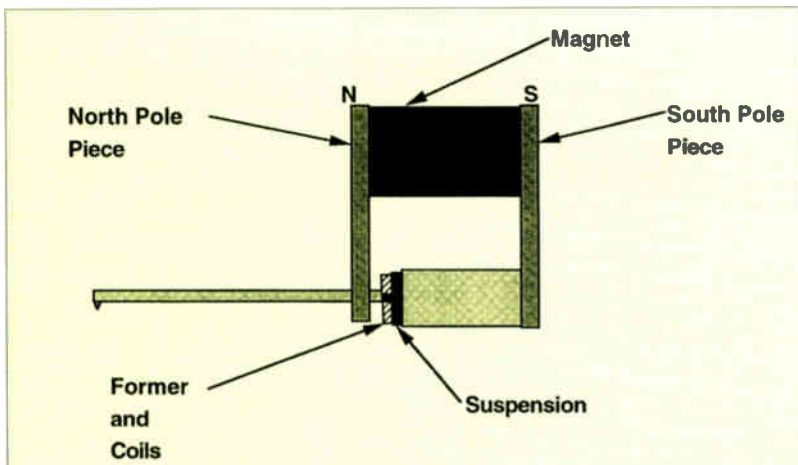


Fig.2 Conventional MC phono cartridge generator

PREAMPS

Did the Temper sound the same through the Modulus's phono section and the Audio Research PH3? *No!* So how can I be so certain of what I'm describing? I'm referring to overall character here, because everything else in the chain is talking. Through the Audible Illusions' phono section, the midrange was a bit thinner and the bass lost a small bit of control and detail, but the overall delicacy and low-level resolution were enhanced. Through the PH3 (full review to come) there was more midrange flesh on the bones, and a bit better bass definition, but somewhat less resolution and delicacy in the upper frequencies. Nonetheless, the overall character of the cartridge—its micro-dynamic resolution and astonishing low distortion—shone through

using either phono section.

As to which phono section was "better," I can't say. Neither suffered any glaring problems, they just presented things from slightly different perspectives.

ABSOLUTE SOUNDS

The week before I sent this review to Santa Fe, I went to two concerts, one at The Village Vanguard (Joe Lovano Quartet) and one at a small Long Island club called Stephen's Talk House (J.J. Cale).

At the former, I sat at the front table with the house sound-reinforcement system behind me. At the latter, I stood at the back of the room at the bar. At The Vanguard, the bell of Tom Harrell's flugelhorn was no more than three or four feet from my head. Lovano's sax was even closer. Behind and to my right was Billy Hart's drum kit, and Anthony Cox played an amplified stand-up bass next to him.

It was loud and it sounded "live" (duh!), but it was never bright, or thin, or antiseptic, or dull, or thick, or etched (save for Cox's bass, which, through the amp and speakers, took on a "faster" and more brittle tone than an unamplified stand-up bass would have). In other words, it never sounded like a CD—but damn if there weren't times I was reminded of my system playing records, especially with the Temper in there. This was for one particular reason: the smoothness and liquidity of the attack and decay of the sounds of the instruments.

No matter how hard Hart hit the drum kit, it shimmered in a sweet though raucous way, sending up huge clouds of sound that swirled over and around him in a big bubble, attacks and decays merging in the sonic mist. Harrell's horn produced a big, airy sound that, while brassy-sounding blowing right into my ear, was never hard, although it did produce a particular sonic excitation in me that filled my senses and seemed to swell my head. (Some would say that that's the last thing my head needs.)

Lovano's alto, tenor, and soprano saxes had delicate, feathery tones even as they were "reedy" and "brassy." The sound never hardened up or got etched. All of those sensations are what I hear with the Temper (on great recordings, of course), more so than with any other cartridge I've auditioned.

While I stood way back from the stage at the J.J. Cale show, which I thus heard as a mixture of direct-from-the-stage and through-the-PA sound, that

same sense of an "easy acoustic bubble" came rolling through my head: complex, yet totally coherent. And despite where I stood, each instrument's placement was quite apparent. Where do these people who say imaging and soundstaging don't exist listening to live music get that idea?

Maybe if you sit in the upper tiers of a concert hall you face a wall of mush, but down on the floor in a good seat? You can hear where things are coming from! I could close my eyes at The Vanguard and hear Hart's ride cymbal in one place and his splash cymbal elsewhere in space, and so could you.

That quality of a "coherent bubble" of ultimate transparency, the preservation of the harmonic envelope around every instrument and musical event, and the astonishing purity of tone are what set the Temper apart from other cartridges I've heard, and make it sound more like live music to me, in my system.

CONCLUSION

Before writing this review, I went back and auditioned a number of very-high-quality phono cartridges, including those I've already reviewed for *Stereophile*. I would be thrilled to listen to records with any of them. They all whomp every CD system I've heard. The art of cartridge design has reached a high, if expensive, level of sophistication.

Which one would make you happiest? I can't say. I went back to the Transfiguration Temper and tried to find the downside: How could anyone listen to it and not be amazed and impressed? No one spending \$3800 on a phono cartridge is going to be using it with shabby associated equipment, so let's leave that out of the equation. Even though the Temper is rated at 0.25mV (250µV), its perceived output seems lower than that of the similarly rated Clavis DC. If your phono section isn't quiet, and doesn't couple high gain with low distortion, you may not be happy with the Temper.

If you have RF or ground-loop problems, you'll have to solve those before you'll enjoy listening to the Temper. If you don't let it break in for a very long time, you might think the cartridge's ability to resolve inner detail and ambience is deficient. But if you give it time, I believe those reservations will vanish, though if I had to ascribe a particular "coloration" to the Temper, it would be a small but wide-ranging amplitude lift in the upper mids and lower highs.

While the Temper is currently my

favorite cartridge, in my system as it is now configured both the Clavis DC (which costs a mere \$1895) and the AudioQuest Fe5 (\$2550) are surely in the same league. Depending upon your system and your taste, either may prove to be more to your liking than the Temper. I could live happily with either of them, but of the three, the Temper would be my cartridge of choice—cost no object.

My taste isn't really that important, though. What is important is *your* taste and system. I hope I've given you a peek at what to expect from the Temper. While the Transfiguration sells for \$3800, the importer, Sumiko, offers a trade-in program: If you exchange any moving-coil cartridge that costs \$1000 or more at retail for a Temper, they'll lower the price by \$1000. In other words, there's a good chance you can get a Temper for around the same price as the 0.4mV-output AudioQuest Fe5, or about \$900 more than the Clavis DC. Whichever you choose, I think you'll agree with me on one thing: Given the right associated equipment, any one of them will sound more like real music than any CD system at any price! **S**



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MUSICAL DESIGN

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NAIM PREFIX PHONO PREAMPLIFIER

Steven Stone, with Wes Phillips

Phono preamplifier capable of being powered from three different power supplies. Voltage gain: 56dB at 1kHz. Input impedance: 470 ohms in parallel with 6.8nF (S-type); 560 ohms in parallel with 1nF (K-type). S/N ratio: 74dB, unweighted. Output voltage: 70mV. Output impedance: <10 ohms. Channel separation: 95dB at 1kHz. Dimensions: Prefix: 5" W by 4½" D by 0.5" H; Flat-Cap power supply: 17" W by 12" D by 2½" H; Hi-Cap power supply: 8" W by 12" D by 3½" H; Super-Cap power supply: 17" W by 12" D by 3½" H. Weights: Prefix: 1 lb; Flat-Cap: 11 lbs; Hi-Cap: 15 lbs;

Super-Cap: 27 lbs. Warranty: 5 years. Serial numbers of units reviewed: Prefix: 113066/110113; Flat-Cap: 103088; Hi-Cap: 101126; Super-Cap: not known. Prices: Prefix, \$700 with DIN connector to ARO tonearm; Flat-Cap power supply adds \$550; Hi-Cap power supply adds \$1350; Super-Cap power supply adds \$3900. Approximate number of dealers: 32. Manufacturer: Naim Audio Ltd., Southampton Road, Salisbury SP1 2LN, England, UK. US distributor: Naim Audio North America, 2702 W. Touhy, Chicago, IL 60645. Tel: (312) 388-6262. Fax: (312) 338-6202.

Naim is one of those companies that manages to find a different way of doing almost everything. The Prefix phono preamplifier is a case in point. It may look unique, almost bizarre, but it is actually a common-sense design that integrates beautifully with Naim's other products.

Like the Sears Roebuck catalogs of yesteryear, whose products you could choose based on performance and price, the Prefix gives you a choice of good, better, and best, depending on which power supply you select. The price ranges from \$1250 with the Flat-Cap power supply to \$2050 with the Hi-Cap power supply to \$4600 with the Super-Cap.

TECHNOLOGY

The Prefix is a slight variation on a tried-and-true Naim phono circuit that's appeared in the company's preamplifiers for 25 years. Managing Director Julian Vereker designed the circuit in 1971, and refined it for moving-coil cartridges in '74. The design goal was to create a phono stage that would remain stable without massive amounts of global feedback or a limited bandwidth, each or both of which would substantially reduce fidelity.

The Prefix circuit accomplishes its design objectives in several ways: First, the RIAA curve is divided into upper and lower frequencies, which are addressed by different parts of the circuit design. Second, the Prefix shortens the run from arm to preamp, thereby reducing the amount of RF noise being introduced to the circuit. The goal is to achieve maximum bandwidth combined with minimum noise.

The Prefix circuit's three separate parts together produce a phono preamplifier with approximately 56dB of voltage gain. The primary gain-stage uses five Zetex npn transistors, made to Naim's low noise specs, to amplify the whole wide-bandwidth signal. The signal then goes into an RC network to

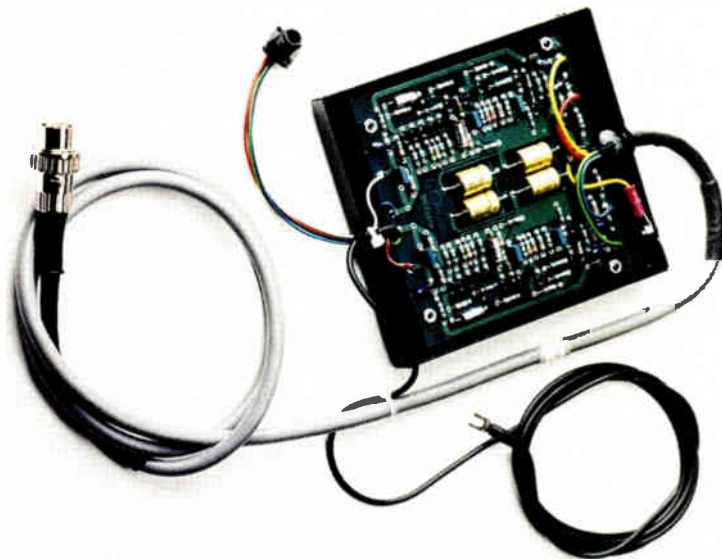
correct just the upper frequencies of the RIAA curve. A third gain block features a selective feedback loop to apply the proper RIAA curve for the lower frequencies. The result is an RIAA-equalized output signal at a nominal level of 70mV to feed the inputs of a line-level preamplifier.

The Prefix evolved from the Link, a small phono preamp made by Naim at the behest of Linn and designed as an electronic replacement for outboard MC cartridge transformers. When Naim introduced their Armageddon power supply for the LP12 (see Wes Phillips's review in February '96, Vol.19 No.2, p.145), they decided to "brush up" the Link, and the Prefix was born.

At first made only for friends, and on a very limited basis, the Prefix became a "real product" only about two years ago. Naim's Julian Vereker told me that since vinyl has now become an "enthusiasts' medium," Naim felt that potential owners would have the pre-

quisite sophistication to properly use the Prefix.

Unlike many phono preamps that have variable gain, input resistance, and input capacitance, the Prefix isn't intended to be a universal device. It was designed to work inside the Linn LP12 or German-made Phonosophie turntables with low-output moving-coil cartridges. The "S" version (made originally for the Supex cartridge) has a resistive load of 470 ohms. The "K" version (made to suit the Linn Karma and Troika cartridges) is set to 560 ohms, and the "E" version is suitable for EMT-based cartridges like the Roksan Shiraz. The Prefix is small enough to fit inside the Linn turntable; only the cable running to its power supply signals the Prefix's presence. It will work with other turntables—the VPI TNT, for instance—but will not nestle into these quite so elegantly. The Prefix comes supplied with either a Naim ARO or an SME/DIN connector, so it will attach to any tonearm with that



Inside view of Naim Prefix phono preamplifier

sort of termination. In my system it sits just underneath the Graham tonearm, supported on a Navcom puck.

FLAT-CAP SOUND

I began my sonic explorations with the least expensive version of the Prefix—\$1250 with the Flat-Cap power supply—and worked my way up. I've recently reviewed several phono preamplifiers in approximately the same price range as the base-price Prefix (see *Stereophile*, September 1995, Vol.18 No.9, p.151), so I'm somewhat familiar with the performance one should expect at this level.

The Prefix's primary attribute in this incarnation was its smoothness. The sound was suave and laid-back, perhaps even *too* laid-back. Dynamic energy seems to be somewhat attenuated. Both the Michael Yee PFE-1 and the Gold Aero dB-45 had more dynamic contrast and slam. On blockbuster recordings—like the latest Classic Records release to cross my desk, Tchaikovsky's Symphony 6, the "Pathétique," performed by Pierre Monteux and the Boston Symphony (Classic LSC-1901)—the "goosebump factor" was severely truncated; or, as B.B. King would say, "the thrill was gone...."

While not as dynamic-sounding as the competition, the Prefix was certainly its equal in terms of soundstage

size and depth, handling frequency extremes well, with plenty of air on top and good extension on the bottom. The Prefix was very quiet, except for a slight amount of RF breakthrough. I could hear an FM station very faintly if my system was turned up to maximum listening levels with my ear near the Dunlavy's tweeter. It *ticked*. The first Prefix unit I received had substantially more RF breakthrough, but a small change in the grounding scheme (something about a small loop of wire inside the Prefix being eliminated) reduced this to a minimal level. Depending on your geographic location, RF may or may not be a problem. Forewarned is forearmed.

HI-CAP SOUND

The much beefier Hi-Cap power supply really helped the Prefix come out of its shell, with far more dynamic punch, ease, and transient agility. On Tim and Mollie O'Brien's *Take Me Back* (Sugar Hill SH-3766), the raw power and majesty of Nick Forester's and Tim O'Brien's vintage Martin dreadnought guitars came through with the Hi-Cap, while with the Flat-Cap the transient attack was dulled and some energy lost. Tim's and Mollie's voices also had less grain and more dimensionality with the Hi-Cap, and bass extension was better.

SYSTEM

Analog source for this review was a VPI TNT Jr. turntable with outboard flywheel, mounted with a Graham 1.5 TC tonearm. Cartridges included the van den Hul MC-1 Super, Dynavector XX-11 low-output MC, Fidelity Research/van den Hul FR-1, Denon 103/van den Hul, and a Denon DL-SI. The turntable was supported by a Bright Star base and Townshend Seismic Sink.

Preamplifiers in-house were the Audio Research LS-5 Mk.II, Threshold T-2, Pass Aleph P, and Carver Lightstar Reference line-level units, with Vendetta SCP-2C and Gold Aero dB-45 outboard phono units used for reference. Power amplifiers were the Jeff Rowland Design Group Model 6, Manley Reference 240, and Pass Aleph 0. Speakers were the Dunlavy Signature SC-VI.

Interconnects included Straight Wire Virtuoso, Audio Magic Sor-

cerer, Synergistic Research Kaleidoscope, and WireWorld Eclipse (both balanced and single-ended). Speaker cables were Dunlavy Labs DAL-8Z, Audio Magic Sorcerer, Synergistic Research Resolution, and Audio-Truth Argent Hyperlitz.

Other accessories included Room-Tunes Ceiling Clouds, Acoustic Sciences Tube Traps, Arcici's Levitation stand, Shakti Stones, Fluxbuster, PAD break-in disk, Music and Sound ferrite beads, Audio-Quest ferrite clamps, NoiseTrapper power strip, Synergistic Research power cords, TARA Labs RSC Master power cords (with Pass Aleph 0), Coherent Systems EAU-1 Electroclear AC-line conditioner, Audio-Quest record brush, Gryphon Exorcist conditioning tool, Nitty Gritty record-cleaning machine, Radio Shack sound-pressure meter, Kleenmaster Brilliance CD cleaner, and a Corgi Toys James Bond Aston-Martin DB-5.

—Steven Stone

Steve Swallow's acoustic bass on the Gary Burton Quartet's *Duster* (RCA LSP-3835) sounded tighter, with more dynamic verve and punch. Also, Larry Coryell's big, blond Gibson L-5CES was more believable, especially when he turned down his amp to play acoustic-only chords behind Swallow's solo on "Ballet." The acoustic of RCA's famed Studio B came through better with the Hi-Cap, with more room ambience and separation between instruments.

Compared to the (unfortunately long-discontinued) Vendetta SCP-2C, the Prefix with Hi-Cap supply is a contender. The Prefix did have a bit more grain than the Vendetta, but was its equal in bass extension, soundstage width, depth, and dynamic power. The Vendetta had a slightly more forward presentation, with sound starting from a plane at the front of the speakers. The Prefix soundstage began several feet behind the speakers—more like Row E compared to the Vendetta's Row-B presentation. The Vendetta, with its hand-picked and -matched FETs, was quieter, without a trace of noise other than a very-low-level hiss when my ear was near the Dunlavy tweeter.

Which did I prefer? It depended on the material. On multitrack popular music and full orchestral recordings, I preferred the Vendetta's superior resolving power and ability to unravel dense mixes. With jazz, acoustic, and bluegrass, I prefer the Prefix's more laid-back presentation and slightly lower "electronic" signature.

SUPER-CAP SOUND

At the top of the Naim heap is the Prefix with Super-Cap power supply. Fortunate souls who already own a Naim 52 preamplifier, which comes with the Super-Cap, can just plug the Prefix into the back of the NAC 52. That makes the Prefix a mere \$700 bauble. Most of us don't have a Super-Cap lying around, so the \$4600 cost makes the Prefix/Super-Cap an expensive rig.

At almost twice the price of my reference Vendetta SCP-2C, one would expect substantially superior performance from the Prefix/Super-Cap. Alas, it didn't totally clean the Vendetta's clock. While the Prefix did excel in many sonic parameters, it wasn't dramatically or universally superior, and offered up no mind-numbing sonic revelations.

Granted, the Prefix/Super-Cap was a more natural-sounding phono stage than the Vendetta, and shed the last trace of grain that had still been present

with the Hi-Cap supply. This grainless presentation made the Vendetta sound slightly mechanical and electronic in comparison. Tori Amos's voice on "China" (*Little Earthquakes*, eastwest/Warner Bros. 7567-82358-1, German import LP) had a more lifelike quality through the Prefix, with no trace of electronic grain or glare whatsoever. On this dense mix the Prefix was equal, but not superior, to the Vendetta in dredging up low-level information. The Prefix still possessed the more distant perspective of its less expensive incarnations; the result was a soundstage that was less up-front than the Vendetta's.

While the Vendetta has always been a champion in bass extension, timbre, and slam, the Prefix was its equal. Phil Lesh's big Gibson EBO bass sound on "Brokedown Palace," from the Grateful Dead's *American Beauty* LP (MFSL 1-014), had excellent definition, with all the subtle dynamic shadings preserved. The double-bass drone at the beginning of Strauss's *Also sprach Zarathustra* (Fritz Reiner/CSO, RCA Victrola VICS-1265) was enough to make a monkey stare longingly at an obelisk. Even organist Berj Zamkochian's 16Hz pedal notes during Saint-Saëns's Symphony 3

(Charles Munch/BSO, RCA LSC-2341) emanating from Boston Symphony Hall's Aeolian Skinner organ were faithfully rendered by the Prefix. (This cut is also great for ironing out the wrinkles in your pant legs.)

The Prefix was more three-dimensional than the Vendetta, but lacked the Vendetta's explicit lateral imaging. With the Prefix, the horns on a 45rpm test pressing (cadged from Classic Records) of the last movement of Rimsky-Korsakov's *Scheherazade* seemed to start from farther back in the hall, but lacked the Vendetta's pinpoint imaging. With the SCP-2C I could almost count every bell on stage. The solo violin also sounded more palpable through the Prefix, but was more precisely located in space by the Vendetta.

The Prefix/Super-Cap combo did have better inner detail than its less expensive siblings, but still didn't supersede the Vendetta in this regard. On Lyle Lovett's "Church," from *Joshua Judges Ruth* (Curb/MCA 10475), background vocalists had slightly better clarity through the Vendetta. The Prefix did sound more natural, especially on Lyle's voice, lacking the Vendetta's slightly electronic signature. Granted, I have yet

to hear any phono preamp that bests the Vendetta at dredging up every iota of information from a record's grooves, but the Prefix came closer than anything I've heard.

—Steven Stone

MEASUREMENTS FROM JA

The Prefix sample measured was a K version and was used with a Hi-Cap power supply. The Prefix doesn't invert polarity. Its input impedance measured 484 ohms at 1kHz, and its voltage gain a healthy 55.7dB, again at 1kHz. Its output impedance was around 4 ohms at 1kHz and 20kHz, though this rose to 500 ohms at 20Hz. Prefix owners should make sure they use a preamp with line-level input impedances of at least 10k ohms, if the balance is not to become a little lean. The Prefix's actual RIAA error is shown in fig.1: The slight rising trend throughout the treble might be just audible, while the low frequencies start to roll off below 30Hz.

Despite its MC-compatible high sensitivity, the Prefix had low levels of noise. Its unweighted S/N ratio measured 52dB over a 22Hz–22kHz bandwidth, this improving to 60.5dB when A-weighted. (Both figures are refer-

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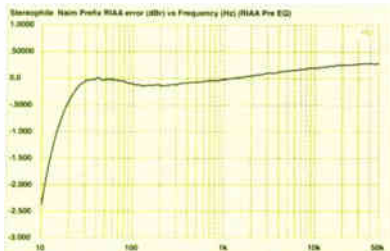


Fig.1 Naim Prefix, RIAA error at 3mV input at 1kHz into 100k ohms (0.5dB/vertical div).

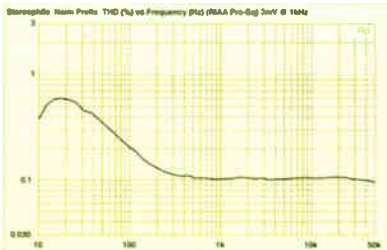


Fig.2 Naim Prefix, THD+noise vs frequency at 3mV at 1kHz into 100k ohms.

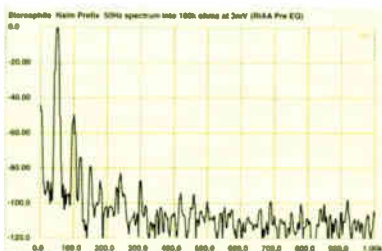


Fig.3 Naim Prefix, spectrum of 50Hz sinewave, DC-1kHz, at an input level of 427µV (linear frequency scale). Note that the second harmonic at 100Hz is the highest in level, at -48.7dB (about 0.33%).

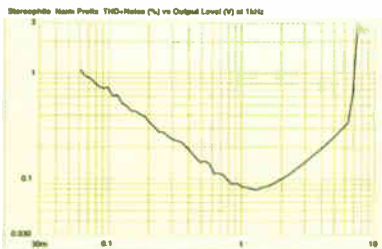


Fig.4 Naim Prefix, distortion (%) vs output voltage into 100k ohms at 1kHz.

enced to a nominal MC input level of 354µV at 1kHz.)

Fig.2 shows how the Naim's level of distortion and noise varied with frequency. The input level for this test was a high 3mV at 1kHz, which minimizes the effect of noise on the plotted distortion level. Cruising at a good 0.1% level over most of the audioband, the distortion rose somewhat in the low-frequency region, though not to any serious extent. Fig.3, taken with an input level of 430µV (equivalent to a 3mV input at 1kHz), reveals that the primary distortion component at bass frequencies is the benign second harmonic. Even at this very high input level, the second harmonic lies 48.7dB down from the fundamental (just above 0.3%). Power-supply components can be seen in this graph at 120Hz and 180Hz, but these are well down in level. (I experimented with all the various grounding arrangements before performing any measurements to minimize hum.)

The Prefix has excellent headroom. Fig.4 shows how the THD+noise percentage changes as a function of output voltage with a 1kHz input signal. Clipping, defined as 1% THD+N, is not reached until the output voltage is 7V RMS, equivalent to an input voltage of 12mV, which is 27.6dB above the nominal MC input level of 500µV. The overload margin at 20kHz was similar, though it did fall a little at 20Hz, to 21.4dB, which is still excellent.

—John Atkinson

describing the Naim Prefix and its associated power supplies, but I fear we come to slightly different conclusions regarding its merits. Not to beat around the bush, I seem to like it one hell of a lot better than he did.

Partially, I suspect, because he has a Vendetta SCP-2C and I don't. I admire the Vendetta and agree that it deserves the passionate praise of its adherents, but I find, ultimately, that I tire of its relentlessly "upbeat" presentation of the music—the more "laid-back" (or, as I'd put it, natural and unforced) presentation of the Hi-Capped or Super-Capped Prefix is far more to my taste.

I'm also made uncomfortable by "value" comparisons with a component several years out of production. The Vendetta *was* a good buy in its day—so good, in fact, that it was probably mispriced in relation to what it cost to manufacture. Considering the big jump in component parts prices, it would undoubtedly cost a *lot* more in 1996 bucks—probably something more or less in line with a Super-Capped Prefix.

As a Linn owner, I was able to take advantage of the Prefix's "mount-to-the-plinth" design, and I must say that keeping the cartridge's signal path as short as possible makes a lot of sense to me. Even out here in New Mexico, I noticed an immediate reduction in the RF-generated "haze" that so frequently overlays the music. Of course, this can't be solely attributed to the insertion of the Prefix at the end of the tonearm and keeping the low-level signal path short—I'm sure that other aspects of the Prefix's design also contribute to its RF rejection—but it sure can't hurt. And, since it deals with both step-up and phono EQ right at the 'table, you can run longer cables to your preamp, giving you greater latitude in placing your rig.

I lived with the Hi-Capped Prefix for a long time, mostly because I found its sound so satisfying, but also, I must admit, due to my confusion over the whole *Flat-Cap*, *Hi-Cap*, *Super-Cap* nomenclature. I thought I had a Super-Cap; rather, I thought the Hi-Cap was the top-of-the-line Naim power supply. Nothing in my listening seemed to contradict this conclusion. The presentation was natural-sounding, with lovely liquidity through the mids and up into the highs—which, in turn, were airy and quite grain-free. Bass was fulfillingly deep and taut. The flow and pace of my favorite records not only seemed intact, but seemed even more musically imperative than ever. Need I tell you? I was one happy camper.

SUMMARY FROM SS

The Naim Prefix is a reliable, time-tested design originally created for people who own Linn turntables and Naim electronics. It does, however, have appeal beyond those narrow confines. With a bit of ingenuity, it can be adapted to almost anything with an SME-type tonearm connector.

The three power supplies available for the Prefix each offer substantially different performance levels. With the Flat-Cap power supply, the Prefix is pleasant-sounding but not terribly exciting. The Hi-Cap gooses the Prefix up to performance on a par with the discontinued Vendetta SCP-2C, while the Super-Cap propels the Prefix into the rarefied megabuck category where even subtle improvements in performance come at substantial increases in cost. To the analog enthusiast, the performance may be worth the expense. In terms of value for dollar, the Prefix/Hi-Cap combination is a clear winner, but it's nice to have the option to chase after unicorns via the Super-Cap if the spirit so moves you.

Can one product merit Class C, B, and A ratings by merely changing its power supplies? If its name is Prefix, the answer is Yes. —Steven Stone

THEY MAY CALL IT PREFIX, BUT IT SURE LOOKS LIKE À LA CARTE TO WES

Steven has done an exemplary job of

Then, Naim Audio North America's Chris West dropped a bomb. "You ought to hear it with the Super-Cap, if you're impressed now," he suggested.

"Why? I already have a Hi-Cap"

"Sigh." Apparently, I'm not the only person this system has confused—but we got it all sorted out and I received a Super-Cap to audition.

Physically, the Super-Cap is hard to confuse with any of the other Naim power supplies. It's as large as most receivers, and I've owned lighter anvils (actually, it was a segment of rail cut from an abandoned C&O right-of-way, but you get the idea). The Super-Cap is one heavy mutha.

You reach a point where you get tired of summing up differences between components with phrases like "wider soundstage," "greater depth," "more profound intertransient silence," and "wider dynamic range"—but what can I do? That's what I heard.

And hearing, we audiophiles say, is believing. But there's belief and then there's *belief*: the difference between suspecting something's true and knowing it down to the molecular level of your being. The Hi-Capped Prefix is very, *very* good; the Super-Capped is,

quite simply, among the best phono preamplifiers I've ever heard.

This might be a good time to come back down to earth with a caveat or two. The Prefix doesn't give you a lot of flexibility. Steven mentions the "K" model (loaded to 100 μ V/560 ohms), as well as the "E" model (400 μ V/560 ohms), which is what I used with the extraordinary Sumiko Tranfiguration Temper cartridge. There's also an "S" model (100 μ V/470 ohms) intended for more general use. That's it, for choice—actually, Naim can customize these specs *somewhat*; consult your dealer—other than being able to have the Prefix accept either SME/DIN connectors or Naim's ARO mount. Six choices. That alone may eliminate the device from your short-list.

Gain could conceivably be a problem, although my experiences here were consistently favorable. At its nominal 250 μ V, the Temper isn't the lowest-output cartridge I've ever used, but it still demands a lot from a phono section. While I *did* have to crank my line-stage preamps a bit to achieve realistic volume, this wasn't a problem. In my houses (I moved during this audition) the Prefix was as silent as a tomb. Low-level detail was beautifully presented against a black velvet background, and dynamic contrasts were delineated vividly. I didn't experience anything like Steven's problem with faint radio breakthrough. If you have RF problems—or if, like my friend Ruben, you live in the path of some hospital's radio-paging system—you should try to arrange for a loaner before committing.

But if you *are* willing to accept a limited menu of cartridge options, the Prefix is capable of performance that puts it in a very select group of components. I did all of this issue's "Quarter Notes" auditioning with the Prefix. With the new discs I was startled by something that was missing—a "sound." From disc to disc, I was entranced by how individual each sounded. I was never conscious of any pervading character that could have been attributed to the Prefix itself.

As I indulged myself, throwing on every old favorite disc that whimsy dictated, I heard details that had never come to the fore before—even on 20-year-old, much-played and -beloved discs such as the early Tom Waits records. Even more, I was startled by how deeply I responded to their emotional gestalt.

Let me see if I can recall the chain of events correctly.... Ah, yes: I had attempted to listen to Holly Cole's CD tribute to Waits, *Temptation* (Metro

Blue CDP 7243), and found it completely *not* to my taste. Enough of this, sez I, and pulled out my LP of Waits's *Blue Valentine* (Asylum 162). The room immediately filled with stale cigarette smoke and blinking neon light. Waits, an old drinking buddy, was alternately breathing beerily bathetic tales of the underworld into my ear ("Romeo Is Bleeding") or indulging in strutting braggadocio ("Whistling Past the Graveyard"). Wow! Had I ever heard the acoustic bass swing so hard, or exist so palpably? No. Had Waits ever sounded so present? No. Had I ever been more affected by the plight of the little chippie with "\$27 and an Alligator Purse"? No. Had I had enough? *Hell no!*

That led to *Heart Attack and Vine* (LP, Asylum 295), the *Downtown Train* EP (Island 121S 253—Keith Richards on guitar! In my living room!), and, ultimately, to *Lost in the Stars* (A&M SP9-5104), on which Waits sings Weill's and Brecht's darkly cynical "What Keeps Mankind Alive?" The song's loathing and despair spoke to me in the most direct manner imaginable, and led, in turn, to my pulling out disc after disc of Weill, Lenya, and Eisler. The last song of the evening was Dave Van Ronk's bitter "Last Call" from *Songs for Aging Children* (Cadet CA 5004).

That session took me through a thread of 13 discs lasting seven hours and change. I got tired of sitting, but never of listening. If I hadn't had to go to work the next morning, I might have listened longer, but *Stereophile*, she is a jealous mistress.

Yeah, I know—the above is just a variation on the old "I pulled out record after record as I..." schtick, but, like most clichés, that one arose out of the need to express a universal truth: When dealing with something as powerful as music, anything that preserves the sense of wonder and constant rediscovery of grace is a *good* thing. For me, the Naim Prefix—in its Hi-Capped version and even more in its Super-Capped version—does that.

Is it the best out there? Undoubtedly not—for one thing, it imposes limitations on associated cartridges that many will not find acceptable. And it's expensive as well. But if you've got the jack and can live with a cartridge that the Prefix will accommodate, it will reward you with a never-ending voyage of discovery through your old and beloved records. Not to mention how it will introduce you to the wonders of new ones. For me, that's a-plenty.

—Wes Phillips

S



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PERFECTION

Jack English auditions the Perfectionist Audio Components Pro Reference III/10K preamplifier and Super IDOS AC line conditioner

Perfectionist Audio Components Pro Reference III/10K Audio Control Center (ACC) line stage. Tube complement: four 12AX7 tubes. Controls: tape/source, input selector, balance, volume, power. Inputs (all single-ended): five line-level; tape in/out. Outputs: two sets, single-ended. Frequency response: 10Hz–100kHz, ± 0.15 dB. Input impedance: >300k ohms at any volume control setting. Maximum voltage gain: 22dB. Maximum output: 28V RMS. Dimensions: 17.5" W by 12" D by 3.5" H. Weight: 20 lbs. Finish: black with gold engraving. Price: \$10,000 with phono preamplifier, rack, and power supply.

Perfectionist Audio Components Pro Reference III/10K phono preamplifier. Tube complement: four 12AX7 tubes. Inputs: one set, single-ended. Outputs: one set, single-ended. Voltage gain: 44dB. Input impedance: 47k ohms in parallel with 100pF. Input overload: 350mV. THD: <0.01%. S/N ratio: >90dB ref. rated output. Channel separation: >50dB, 20Hz–20kHz. Dimensions: 17.5" W by 12" D by 3.5" H. Weight:

20 lbs. Finish: black with gold engraving.

Perfectionist Audio Components Pro Reference III/10K High Isolation power supply. Internal line filtering: multi-regulated voltage references; PAC Power Cable. Dimensions: 17.5" W by 12" D by 3.5" H. Weight: 20 lbs. Available for 120VAC or 240VAC. Dedicated rack: brushed-gold finished aluminum; Zorbex/acrylic feet.

Perfectionist Audio Components Super IDOS (Isolated Digital Outlet Strip) AC power conditioner and noise filter. Price: \$500.

Common to all: Approximate number of dealers: 22. Manufacturer: Perfectionist Audio Components, P.O. Box 387, Malverne, NY 11565-0387. Tel: (516) 887-2708. Fax: (516) 887-6009. Internet: <http://gramercy.ios.com/idos/>.

THAT WAS THEN . . .

Outside, it was an absolutely beautiful Saturday morning. Inside, things were eerily quiet with tension lacing the air. The contenders had arrived some time before and were lounging about as life-giving current flowed through their soon-to-be-challenged circuit boards. Warm and well-rested, they were prepared. But what of the judges and jury? I was certainly ready for them with ample food and drink, a system that was performing optimally with no last-minute glitches, and enough LPs to set any audiophile's heart aflutter. There was little I could do but wait. Over the next few hours, almost a dozen deadly serious audiophiles would arrive. The battle would begin in earnest.

And that was how it started one morning over 13 years ago. A number of us had assembled what we believed to be a sampling of the finest preamps (and step-ups) available in the world at that time. We were going to spend the full day listening and judging. At the outset, each of us had preconceived notions and personal favorites. After all, these were our own preamps that were to be thrown into the fray. But let me go back a bit further.

Some time before this battle of the preamps, a mutual friend, Morris Goldberg, had introduced me to Larry Smith, who was gaining notoriety for the massive bases he was making for direct-drive turntables. When I was finally able to visit Larry, he proudly displayed his latest brainchild—a monstrous-looking, four-column speaker system. It sounded horrible! Being ever so polite, I was immensely grateful when the evening



Perfectionist Audio Components Pro Reference III/10K preamplifier

wound down to its inevitable end. As it turned out, Larry had assumed I was just another rock-loving crazy with no appreciation for things audiophile and had pumped up the bass and treble. That's what rockers preferred, right? No, I didn't expect to run into Larry again.

When the day of the battle arrived, I was more than a little surprised to find Jim Saxon¹ lugging a couple of boxes full of what turned out to be the original Perfectionist Audio Components (PAC) Pro Reference preamplifier into

¹ Jim now owns a high-end audio shop in Costa Rica.

my listening room. It was butt-ugly—period. There was a separate power-supply chassis (still rare at that time), with a huge umbilical. The look and feel of the preamp as well as its color combined to screech out: "Military surplus!" My negative expectations mounted with every passing minute. Once the preamp had been switched on, the tubes turned out to be noisy. Even the pots and switches made dreadful, unwanted noises. With prolonged dread, I expected something much like my audition of Larry's monstrous speakers. I was convinced the PAC preamp was not going

to mount much of a challenge.

But was I in for a surprise! The sonic performance of the Pro Reference was stunning—it blew us all away! It was the hands-down winner, each of us rating it as superior to our own carefully chosen preamps. The ungainly Pro Reference found a new home that day and it held center stage in my system for many years.

AND THIS IS NOW . . .

The latest incarnation of Larry Smith's preamplifier, the Pro Reference III/10K, represents more than 15 years of evolutionary development work on the same basic circuitry, reflecting a zealous adherence to a set of inviolate underlying principles. They begin with an unwavering devotion to the venerable vacuum tube—specifically the 12AX7A/ECC83. As the design has progressed, successively greater emphasis has been placed on issues of relative physical location, isolation, power-supply regulation and filtering, ventilation, wiring (including umbilical and power cords), sonic neutrality, accuracy, and dynamics, to name but a few.

The PAC III/10K is a huge monster of a preamplifier. It consists of three separate chassis (phono preamplifier, line stage, and power supply) bolted together in a dedicated aluminum rack. This ensures adherence to PAC's principles of physical separation, proper ventilation, and overall aesthetics. The package weighs approximately 65 lbs and stands just over a foot tall. Each chassis is curved, machined, and anodized, with the lettering hand-engraved and gold-filled. The stand is brushed-gold anodized aluminum, which blends well with the three preamp sections.

One PAC ALC (power cord) connects the High Isolation Power Supply (HIPS) to the wall AC supply. A second, smaller PAC ALC runs from the HIPS to the Pro Reference III phono preamplifier, and an umbilical cord connects the HIPS to the Pro Reference III Audio Control Center (ACC). A supplied set of PAC interconnect cables—twin-axial, multi-conductor silver wire with a Teflon dielectric and ground lead for proper shield connection and a list price of \$160/1m pair—connects the phono stage to the ACC. When plugged into the wall, the preamp maintains a constant low-level current flow.

Other than the power button—a nice push-on/push-off job with an LED at its center—the phono stage has no controls. There is one set of single-ended inputs and one set of single-

ended outputs, along with a grounding post. That's that. The ACC has five line-level inputs "controlled by a self-cleaning rotary selector switch." The latter has indicators for "Tuner" and "CD," with the other sources numbered to correspond to the input jacks. The phono stage can be plugged into any of the three numbered inputs. The remaining controls on the front include a tape/source selector, balance, and volume (all large round knobs). Both the ACC and HIPS units feature power buttons identical to that on the phono stage, though the one for the ACC actually functions as a mute switch.

For \$10,000, I think it fair to expect more features from a preamplifier. Many preamps at this price level offer remote control, polarity inversion, a true mono switch, and other user-friendly features. The PAC phono stage could also have offered loading options to accommodate a wider range of cartridges. In this context, the III/10K is essentially a bare-bones model, maximized for sound quality. While I agree that sonics are the most important concern, they are not the only thing that matters.

Ergonomically, the inconsistent orientation of the ACC's input and output sockets (*ie*, up and down, and side by side) is potentially hazardous. It was virtually impossible to remember what went where; I always had to inspect the rear of the preamplifier before connecting anything.

LET THE SHOW BEGIN . . .

The PAC III/10K was definitely one of the quietest tube preamplifiers I have ever used. I was impressed—but not entirely. While the preamp itself was admirably silent, the volume control was noisy. Might it have gotten dirty after traveling all over the country? Maybe. I can't rule out this possibility, but I also couldn't help but remember having similar frustrations with my original Pro Reference. No big deal, but not something you would want in a product this expensive. As long as I didn't touch any of the controls, however, the unit was exceptionally quiet for a tubed design, at almost any volume setting.

I began all of my initial evaluations using the PAC ACC's line-level inputs, listening primarily to CDs played on my Mark Levinson front-end (No.30.5 and No.31). The backgrounds were particularly quiet: dark edging toward black. The Pro Reference's ability to effectively handle this lower level of the

volume spectrum added an appreciable amount of emotion to pieces where volume gradations are part and parcel of the composer's intent; the "Volcano" movement from Hovhaness's *Mount St. Helens* Symphony (Delos DE 3137), for example.

In addition to the soft being soft, the loud was very appropriately loud! There was little doubt Hovhaness had been able to capture his subject matter in an almost you-are-there fashion. Large-scale dynamic swings were invariably attention-grabbing. Equally important, the Pro never lost its composure when things got really loud. One of my tests of this characteristic, accompanied by uproarious introspective laughter, was repeated plays of "Southbound Pachyderm" by Primus (*Tales from the Punchbowl*, Interscope 92553-2). As the volume went up, the music just kept getting louder, with no confusion, no hardening, and no loss of resolution.

Because the backgrounds were black, everything heard was the music itself, almost in stark relief. Sounds were precisely articulated with remarkable resolution of detail. A lovely illustration was Island's reissued 1977 recording *Pictures* (The Laser's Edge LE 1024). Mastered by Bob Katz using his proprietary hardware, and discovered through the never-ending progressive-rock pursuits of The Laser's Edge, this CD sounded simply superb. Percussion, in particular, was rendered with breathtaking precision. All of the electronic processing was laid bare, yet at the same time it was also clear why, from an artistic perspective, it had been used in each instance. Through the PAC preamp, it was obvious why everyone had gone to so much trouble to resuscitate this release.

The fine resolution was consonant with the preamp's fine performance in the time domain. Sounds started, sustained, decayed, and then stopped quickly and precisely. No matter how complex the material, each note or sound remained clear and clean, with great speed and articulation. With rapid-fire cascades of notes and sounds, Philip Glass made me feel the torment of the beast on "Les Tourments de la Bête" (*La Belle et la Bête*, Nonesuch 79347-2), while Art Zoyd forced me to experience the terror of the vampire (*Nosferatu*, Atonal ACD 3008).

Sounds were lovingly transformed into music. All was well. I'm sure you won't be surprised that my feet were tappin' on more than one occasion,

because the big Pro Reference was superb in conveying rhythm and pace, making it an ideal dance companion. (Okay, it might be a little ugly, but the evenings were still young.)

Nothing whatsoever was added to the music to distract my attention. Ah, but all was not perfect, as it rarely ever is. The Pro had two relatively minor shortcomings that also defined its character. The first was a slight softening in the treble. This was translated into softened bells and mildly subdued cymbals on the Hovhaness recording. On Cassandra Wilson's latest (*New Moon Daughter*, Blue Note 32861-2), this turned out to be a blessing in disguise. My copy was one of the very first released and suffered from a number of minor ills that were somewhat obscured by the soft top.

The second was a slightly reduced sense of mid/upper-bass weight. I do not mean to impugn the bass extension, which was fine, nor do I mean to imply any loss of clarity in the lower registers, which were excellent in this respect. There simply seemed to be some reduction in weight and oomph when listening for the propulsive impact of the Glass opera, the purposeful drive from the Island disc, or the smooth rhythmic glue offered up by the acoustic bass on Johnny Hartmann's *I Just Dropped By to Say Hello* (Impulse! MCAD-39105).

ON TO THE PHONO STAGE . . .

My early passes at the phono stage were all done using the PAC ACC without the IDOS. I was pleasantly surprised to hear the same general set of musically faithful traits as I had through the line stage by itself. As before, backgrounds were impressively quiet, dynamics were appropriately expansive, detail was resolved with precision, and transients were handled with alacrity. The better the recording, the better the musical results. Since many LPs sound superior to CDs, the overall presentation via a Versa Dynamics Model 1.2/Sumiko Transfiguration analog front-end was consistently more satisfying. Equally important, the phono stage had plenty of gain and worked very effectively with the somewhat low-output Sumiko Transfiguration.

As did CDs through the ACC, analog benefited from quiet backgrounds, which worked hand in glove with remarkable resolution of low-level detail. A great example was the Classic Records Buddy Holly reissue (MCA 11161). The PAC's transient and re-

solving capabilities were both fully exploited by the clapping percussive line from "Every Day." Each handclap was unique and minutely variant in time, making it clear that click tracks never did have a place in rock'n'roll. Holly's idiosyncratic warbling was crystal clear and in-the-room. The resolution of Holly's voice was captivatingly natural; indeed, this was consistently the case with all vocals. I listened to Janis Ian on her less-than-audiophile-quality recording *Stars* (Columbia PC 32857); the refined reproduction of overtones, breathing, and other sounds associated with singing all worked together to put her in my listening room. In a different vein entirely, I replayed "Don't Renege On Our Love" (Richard and Linda Thompson, *Shoot Out the Lights*, Hannibal 1303) to hear just how many ways Thompson could pronounce the word "reneege" and how unusual each sounded relative to my own pronunciation. Okay, I admit it. I got a little hung up on hearing things that had never been revealed quite so clearly in my system before by a preamp.

Once again, dynamic performance was stellar, and I was well pleased with the way the III/10K handled my R2D4 selection of Rachmaninoff's *Symphonic Dances* (Athena ALSW-10001). Soft passages were very soft; loud passages were very loud. Dynamic contrasts were explosive when appropriate, and all of the subtle level gradations were emotionally engaging. On music that insisted upon being really loud really often, such as Falco's 12" single of "Rock Me Amadeus" (A&M C12Y3001), the PAC was up to the challenge. Nothing changed in character except the volume. There was no loss of resolution, no hardening, and nothing offensive added to the performance. On music that required lower volume levels (eg, Kitaro, *Silk Road I + Silk Road II*, Gramavision 18-7019-1), the PAC was once again very much at home with its detailed yet smooth overall delivery.

As with the line stage, there was a mild softening of the treble, which took the form of a bit less jangle on guitars, somewhat reduced presence for triangles and cymbals, and a diminished sense of harmonic structures on upper-midrange sounds, such as female voices. Since I heard the same shortcoming with the ACC, it was impossible to say whether the phono stage was actually guilty of anything in this regard. Try as I might, I could not run the PAC Phono Preamp through my CAT SL-1 Signature line stage without invasive

levels of hum. I was therefore unable to isolate the source of specific phono-stage sonic characteristics.

Another characteristic that I was unable to separate from the performance of the ACC was a slightly lightweight midbass. This was apparent on elements as diverse as the bass lines from the MCA Buddy Holly recording to the orchestra's weight on Kabalevsky's *The Comedians* (RCA/Classic LSC-2398). This was noteworthy in that the Transfiguration cartridge has a particularly impressive bottom end.

The combination of the light midbass and slightly softened treble resulted in a less airy (top end) and spacious-sounding (bottom end) presentation. Normally open and expansive-sounding recordings such as Arvo Pärt's *Tabula Rasa* (ECM 1275) became a bit closed-down, although they still had very good dimensional characteristics in terms of depth, width, and overall stage size, coupled with an appropriate perspective. This held true with my reference ProAc Response Four speakers as well as with the intriguing Hales Concept Fives.

In a related way, the phono stage seemed to emphasize clarity and resolution of detail over richness and harmonic body. Everything sounded extremely precise and well-defined, but not sumptuous. Jon Hassell's "Chor Moire" (*Dram Theory in Malaya*, Editions EG EGM 114) was re-created with spectacular precision, whether the ping-pong stereo effects or the cacophony of sounds reminiscent of the Purist Audio Designs System Enhancer CD-R. Transients sounded quick, complex passages were resolved, and everything was kept tidily in order. On the flip side, things sounded less fleshy and substantive. The PAC's phono-stage character leaned a bit toward the ruthlessly revealing side of neutral, unlike older, stereotypical tube units.

THE FRONT-END MEETS PAC'S SUPER IDOS

Perfectionist Audio Components firmly believes that many things affect the sound of a system. When their pride-and-joy preamplifier is going to be part of that system, they want to control as many potential negative influences as possible. That's why they include their own interconnects and power cords as part of the III/10K package. Not convinced they had done enough, PAC also sent along a couple of their \$500 Super IDOS units. One of these units found its way to me thanks to the Sherlock Holmes-like efforts of Wes Phillips. The

Super IDOS (Isolated Digital Outlet Strip) is a rectangular box not unlike a power conditioner in appearance and appreciably more substantial than either PAC's IDOS or IDOS II outlet strips.² The Super IDOS includes an AC voltmeter to monitor the AC wall voltage, four outlets optimized for digital components, four outlets optimized for low-level analog components, and four analog outlets. PAC claims the unit effectively shunts digital noise generated within the system to ground.

As I began this phase of my testing, I looked lovingly at my analog and digital front-ends. There was my beloved Versa turntable. "No way!" I thought to myself. "Best leave well enough alone." Every time I had changed any of the multiple power cords—or sometimes sneezed—my hum problems would begin anew. I'd leave testing the PAC III/10K with the Super IDOS to my digital front-end—the Levinson pair. After all, the focus was supposed to be on *digital* noise. But I didn't really think this would be entirely fair. After all, the Levinson pieces sit at the top of the CI) food chain. What chance would the Super IDOS really have?

Expecting nothing, I sat back and punched a few buttons on the old remote. Hey! It was louder. Damn. I must have inadvertently turned up the volume. No, wait a minute. I never touched the volume, and while the Levinson remote can do plenty of things, there was no way it had pumped up the output. But the system was louder.

No, it wasn't—it just seemed so. After many back-and-forth comparisons over a number of evenings, it became apparent that what the Super IDOS had done was to effectively scrub away still more of the dreaded background grunge. As the underlying noise floor was lowered, the music became all the more prominent, rather than actually being louder, as I had thought at first.

I came to know and appreciate this effect, which was most immediately obvious on simple musical performances, such as Tuck & Patti's cover of the Beatles' "In My Life" (*Learning How to Fly*, Epic EK 64439). But I was astounded at how evident it was even on dense, loud, multitracked stuff like Sponge's *Rotting Piñata* (Work OK 57800).

With the removal of the low-level noise, many other things improved. Chief among them were improvements

in clarity and detail, which put an added auditory spotlight on everything musical. A great surprise was the enhanced delineation of Rodney Whitaker's bass work, as he hit most of the notes mimicking Teodross Avery's sax leads on "Mr. Womsey" (*My Generation*, Impulse! IMP1D-181). Another pleasant surprise—added resolution always leads to surprises—was the pairing of Felix Cavaliere with The Manhattan Transfer on "Groovin'" (*Tonin'*, Atlantic 82661-2). Having followed the career of the (Young) Rascals from the beginning, I have always been disappointed with the inability of their recorded catalog to capture the magic of their live performances or even come close to the down'n'dirty quality of the band. While this recording didn't have the band itself to capture, it did a great job at re-creating that fascinating Cavaliere voice.

SUPER IDOS ALL THE WAY . . .

The time had come to really hear what the Super IDOS could do. I decided to plug both the digital front-end and the Pro Reference III/10K directly into the Super IDOS, which itself was plugged into an Audio Power Industries Power Wedge/Power Enhancer combination. (Even with my courage at its maximum, I wasn't about to plug my Conrad-Johnson Premier Eight monoblocks into anything but the wall.)

This time I was sure there would be little or no effect *vs* running just the digital front-end through the IDOS. Once again, I was surprised, but only mildly. With the preamp plugged into the Super IDOS, there were still further reductions of noise, but this time the improvements were relatively minor.

The biggest change, as the noise floor was depressed even lower, into virtual obscurity, was added clarity of low-level information such as harmonic structures. This was true throughout the frequency spectrum.

King and Moore's "Man in the Oven" (*Impending Bloom*, Justice JR 0801-2) provided a great example of an acoustic bass sounding richer, clearer, and closer with the Super IDOS. Words like tighter, faster, fuller, and cleaner could be used with equal meaning and appropriateness. While audible, these effects were far from monumental and might be progressively less so depending upon the overall system resolution. In the mids, vocals (eg, Dire Straits, *Love Over Gold*, Warner Bros. W2-23728) sounded closer, clearer, and more natural.

The audible improvement was similar on the woodwind section from the Chicago Symphony's performance of Rimsky-Korsakov's *Scheherazade* (RCA 68168-2). This provided a wonderful example of fuller, more natural-sounding harmonics and overtone structures. In the treble, violin overtones and the triangle were similarly improved. To a lesser extent, dynamic contrasts were just a tad clearer. In essence, virtually everything sounded slightly more right because a little bit of something very wrong had been exorcised by the Super IDOS.

—Jack English

MEASUREMENTS FROM TJN

The output impedance of the PAC Pro Reference III's line stage measured 371 ohms. Its input impedance measured just under 134k ohms at maximum gain, increasing at lower settings of the level control—it measured just under 600k



Perfectionist Audio Components Super IDOS AC line conditioner

² Reviewed by Sam Tellig in October 1991 (Vol.14 No.10, p.81) and by Corey Greenberg in November 1991 (Vol.14 No.11, p.171).

—JA

ohms at unity gain. The output impedance at the tape outputs was just over 25 ohms with a 25 ohm source impedance and just under 600 ohms with a 600 ohm source impedance, a clear indication of an unbuffered output. Tape recorders plugged into the PAC's tape loop should be left turned on.

The DC offset at the PAC Pro Reference III's line outputs was 0.8mV in the left channel, 0.9mV in the right. S/N measured 73.2dB (22Hz–22kHz, unweighted, ref. 1V out). The line stage doesn't invert polarity assessed at its main outputs; the phono stage is also noninverting. Line-stage voltage gain (aux input to line output) measured 25.4dB. Unity gain was reached at approximately 11:50 on the level control. The phono-stage gain measured 43.7dB. Phono input impedance measured 41k ohms. Phono S/N measured 63dB (22Hz–22kHz, A-weighted).

The phono stage reached overload (1% THD+noise, assessed with an unequalized input) at 175mV at 1kHz, 407mV at 20kHz, and 14mV at 20Hz—good figures. (The variation with frequency is normal on this test and is a result of the RIAA phono equalization curve.)

The line-stage frequency response is shown in fig.1. It is very flat, the only anomaly being 0.8dB of volume-control mistracking at low settings of the level control (9:00 shown). The phono frequency response is shown in fig.2. There is sig-

nificant deviation above 20kHz, which varies with input level. But there is little to be concerned with in the audible range below 20kHz. (Since there is little or no energy on an LP at 80kHz, the rise visible at this frequency with a 10mV input might well be of little significance.) There is a small rolloff in the bass, however, which may subtly influence the sound—remember that JE consistently remarked on the unit's lightweight bass character.

The PAC's phono- and line-stage channel separation are shown in fig.3. This is good performance, with the rise in crosstalk at high frequencies likely due, as usual, to capacitive coupling between channels.

The variation in the line stage's THD+noise with output voltage (at 1kHz) is shown in fig.4 (maximum volume-control setting). The line stage will put out nearly 33V before reaching 1% THD+noise. The THD+noise vs frequency performance is shown in fig.5

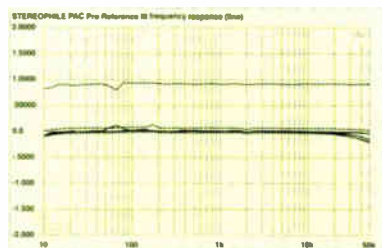


Fig. 1 PAC Pro Reference (from bottom to top): line-stage frequency response at maximum gain, unity gain, and with the volume control set to 9:00 (right channel dashed, 0.5dB/vertical div.).

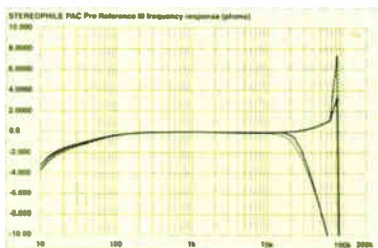


Fig. 2 PAC Pro Reference (from bottom to top above 20kHz): phono-stage frequency response at 53mV (1kHz) and at 10mV (1kHz) (right channel dashed, 2dB/vertical div.).

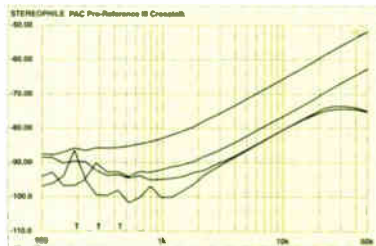


Fig. 3 PAC Pro Reference, crosstalk (from bottom to top at 1kHz): L-R, phono; R-L, phono; L-R, line; R-L, line (10dB/vertical div.).

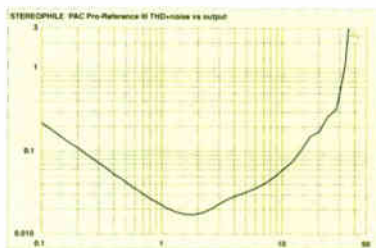


Fig. 4 PAC Pro Reference, line-stage distortion (%) vs output voltage into 100k ohms.

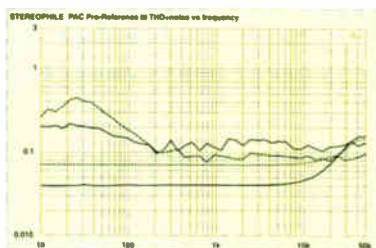


Fig. 5 PAC Pro Reference, THD+noise vs frequency at (from top to bottom): phono stage at 10mV (1kHz) input; line stage at 100mV input (right channel dashed).

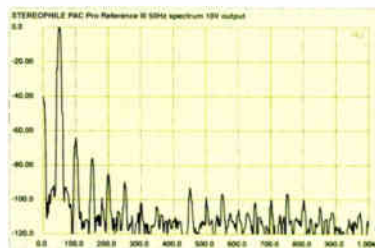


Fig. 6 PAC Pro Reference, spectrum of 50Hz sinewave, DC–1kHz, at 10V into 100k ohms (linear frequency scale).

—a very good result.

Finally, plotting the output spectrum of the Pro Reference III driving a 50Hz line-level input at a high output of 10V into 100k ohms produces the result shown in fig.6. All of the artifacts are below –60dB, with the second harmonic highest in level. At a lower output level—a more typical 2V, which is sufficient to drive most amplifiers to full output—the artifacts (not shown) were at least 10dB lower in level.

The test-bench results for the PAC Pro Reference III are very good. Only the unusual performance of the phono stage above audibility is worth noting.

—Thomas J. Norton

CONCLUSION

Having tried the PAC Super IDOS with a number of other digital front-ends and preamps not discussed in this review, I have been left very impressed. By itself, the Super IDOS is strongly recommended as doing exactly what PAC claims—it eliminates digital noise from overall system performance. This came as a pleasant and welcome surprise.

The Perfectionist Audio Components Pro Reference III/10K preamplifier is a bit too complex to sum up in a tidy sentence. For starters, \$10,000 is a significant sum for a preamp. Second, especially at this price level, I would like to see better ergonomics as well as additional features. Third, and surprisingly, the III/10K performs better when run through the Super IDOS. However, considered as a package—Super IDOS, ALCs, and PAC Interconnect, along with the Phono Stage, ACC and HIPS—the Pro Reference's sonic performance is stellar. It is strongly competitive with anything else I have heard. When it comes to sound quality, the PAC preamplifier offers truly world-class performance and merits a well-deserved place in Class A in *Stereophile's* "Recommended Components."

—Jack English

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FOUR ANGELS 'ROUND MY HEAD (ONE TO LISTEN, THREE TO PLAY . . .)

Wes Phillips listens to the Grado Reference Series One headphones through the Audio Alchemy HPA v1.0, McCormack Micro Integrated Drive, and the Melos SHA-Gold headphone amplifiers

Grado Reference Series One: Open-air, dynamic, supra-aural headphones. Frequency range: 12Hz–30kHz. Nominal impedance: 32 ohms. Sensitivity at 1 kHz: 96dB. Weight: 9 oz. Price: \$695. Approximate number of dealers: 510. Manufacturer: Grado Laboratories, Inc., 4614 Seventh Ave., Brooklyn, NY 11220. Tel: (718) 435-5340. Fax: (718) 633-6941.

Audio Alchemy HPA v1.0 headphone amplifier with HeadRoom Audio Image Processor. Output power rating: 1500mW (8 ohm load). Frequency range: DC–100kHz. THD: 0.004%. S/N ratio: >100dB. Maximum input voltage: 3.7V. Maximum output voltage: 6.5V. Maximum voltage gain: 8.8dB. Dimensions: 5.5" W by 4" H by 1.5" D. Power supply (Power Station One): ±12V, 800mA (external). Serial number of unit tested: none. Price: \$259 (with Power Station One); Power Station Three adds \$259. Approximate number of dealers: 150. Manufacturer: Audio Alchemy, Inc., 31133 Via Colinas #111, Westlake Village, CA 91362. Tel: (818) 707-8504. Fax: (818) 707-2610.

McCormack Micro Integrated Drive headphone amplifier/minimalist pre-amplifier/(very) low-wattage integrated amplifier. Outputs: two 1/4" stereo phone jacks

(front panel); 1 pair line-level RCA jacks (rear panel); 1 pair speaker binding posts (rear panel). Output power: 5Wpc (7dBV). Frequency response: DC–250kHz, –3dB. Absolute polarity: non-inverting. Inputs: 2 line-level via RCA jack. Input impedance: 20k ohms. Output impedance: 0.2 ohms, 1/4" stereo phone jacks; 100 ohms, line-level RCA jacks; 0.2 ohms, speaker binding posts. Dimensions: 9.5" W by 9" D by 3" H. Shipping weight: 8 lbs. Serial number of unit tested: 0416. Price: \$695. Approximate number of dealers: 75. Manufacturer: McCormack, 5421 Avenida Encinas, Suite J, Carlsbad, CA 92008. Tel: (619) 930-9550. Fax: (619) 930-9550.

Melos SHA-Gold vacuum-tube line/headphone amplifier. Tube complement: two 6DJ8s. Inputs: six line, one tape-loop. Outputs: one single-ended, amplified; one single-ended, passive; one balanced XLR. Maximum voltage gain: 18dB, single-ended; 24dB, balanced. Absolute polarity: non-inverting. Frequency response: 15Hz–200kHz, –1dB. Input impedance: 52k ohms. Output impedance: 15 ohms, line; 0.5 ohm, 1/4" stereo phone jack. Dimensions: 19" W by 17" D by 3.5" H. Shipping weight: 21 lbs. Serial number of unit tested: 512072335HAG. Price: \$1995. Approximate number of dealers: 35. Manufacturer: Melos Audio, Inc., 452 Lincoln Blvd., Middlesex, NJ 08846. Tel: (908) 302-2552. Fax: (908) 302-0507.

Years ago, I uncovered a piece of my father's secret soul. Hidden in the back of a closet was a treasure trove I'd give anything to possess today. It was my father's stash of mementos from his service in the Eighth Air Force during WWII: his A-2 leather and lamb's-wool flight jacket, a silk scarf with a detailed topographic map of his Theater of Operations imprinted on it, his "50 mission hat" (an Air Corps lid with the shaping frame removed, carefully crumpled through the middle so that every mother's son would know he was no FNG), his ruptured duck, and, thrust in one pocket, his old headsets—a pair of Bakelite earpieces held together with a leather-covered steel strap. They were funky-looking cans, but to me, they spoke of all of the nobility and courage displayed by the boys who flew over Fortress Europe. I don't actually remember ever plugging them into anything, but I sure wore them for years in every fantasy situation, from plucky French underground guerilla to *Wes Phillips, Space Raaaangerrr!*

I still have the ruptured duck and the scarf. The bloody, mud-encrusted jacket was cut off me by Emergency Room personnel, who decided that I was delirious when I insisted that I could stand the pain as they removed my swollen, fractured arm from the sleeve

—and who, no doubt, assumed my screams were caused by my arm being jostled. I don't have a clue what happened to the hat or the headset.

So it was like being reunited with an old, dear friend when I opened the wooden presentation box containing the Grado Reference Series One headphones. There was the same steel band covered in leather, connecting retro-looking mahogany canisters. The RS1s don't seem techno; they look like they belong to an earlier age.

À LA RECHERCHE DU TEMPS PERDU: THE GRADO REFERENCE SERIES ONE HEADPHONES

In one sense, these headphones do belong to an earlier age. When I visited Grado in Brooklyn last year, I was shown the facility, which harkens back to a time when small operations like it regularly made the stuff we used. Grado ain't no three-acre automated factory, that's for sure. It's located in a residential neighborhood, in a brownstone that was once John Grado's grandfather's produce store. These days, it's filled with lathes, winding machines, drills... the machine tools that it takes to produce Grado's cartridges and headphones.

The building whispered to me of a century of hard work; to John Grado, it



Grado Reference Series One headphones

must *scream*. "I started with [my uncle] Joe when I was 12 years old, sweeping the floors." Joe is the Grado who made the name an audiophile staple, manufacturing high-quality (and frequently *cheap*) phono cartridges. He also developed two different, superb, albeit quite unusual, tonearms—one in the '60s and one in the mid '80s. Before selling the company to nephew John, Joe designed and marketed a highly regarded series of headphones, the Grado Signature Series. "It was a challenge for us, knowing Joe was going to discontinue the Signature headphones," said John Grado. "We wanted to show that we were capable of innovating and being creative—everything I do was influenced by him, but I designed all of



LSP 1972 *Belafonte Sings the Blues*
Harry Belafonte



LSC 2489 *Dvorak: Symphony No. 2*
Monteux, LSO



BA 17012 *YEAH!*
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LSP 2438 *Desmond Blue*
Paul Desmond



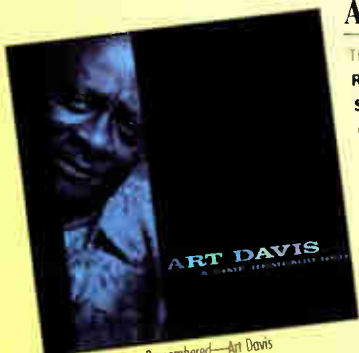
CS 8171 *King's Ah Um*
Charlie King



LSP 1993 *Chet Atkins in Hollywood*
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JP 4001 *A Time Remembered*—Art Davis

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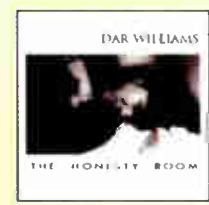
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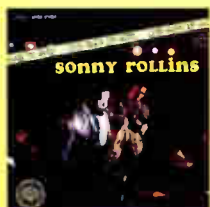
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ASD 608 *Folla: The Three Corners Hat*—DeBurgos, PCO



ASD 3284 *Rockmaninov: The Bells*
Previn, LSO



ASD 2448 *Bizet/Shchedrin: The Carmen Ballet*—Rozhdestvensky, Bolshoi



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These have been phenomenally well-received. The SR-60 redefined people's expectations in affordable headphones and were easily driven by the low-powered outputs of portable tape and CD players. The SR-80, SR-125, and SR-325 have all garnered praise from the audiophiles who use them. JA seldom travels without his SR-125s, and I number several Grados among my personal references. But the Reference Series One headphones represent a departure for Grado, by dint of both materials choice — wood! — and pricing.

"The idea of using wood just came to me one night," explained John Grado. "We went through quite a few species of wood before finding this mahogany — which type, we'll just keep our secret for the moment. When you're building speakers, you're supposed to want a dense, really hard wood — well, that's *not* mahogany. But it works really well — I don't always spend a lot of time figuring out why something works; sometimes I'm just satisfied that it does. Maybe the mahogany has a lower resonant frequency, or maybe its resonance just doesn't emphasize something in my driver — I'm not saying it would work in all cases, but it seems to work well with our driver."

I wondered what else makes the RS1 different from the rest of the line. "We

fine-tuned the driver," he responded. "We paint a formula on them to control resonance — we call it 'de-stressing'; in the RS1, we do it twice, and very, very precisely. We damp the chassis behind the magnet cover. We also put a perforated cap on the driver, which tunes it further. I don't really like the word 'tweak,' but every component of the RS1 is very carefully chosen and very precisely adjusted — by ear, of course. We design by listening, so these 'phones are a reflection of what we like, of what we hear." Indeed, nothing seems to be unintentional about the RS1: Grado's product literature makes much of the sonic effects of the width and thickness of the stainless-steel spring that connects the earpieces; the glue that bonds the spring to the earpiece assembly; the length of the height-adjustment rods; the rear-screen material; the type of wire and number of turns in the voice coil; the shape and thickness of the driver cap; and many other, seemingly small, er, tweaks.

A perpetual feast of nectar'd sweets where no crude surfeit reigns: I'd been building a backlog of interesting headphone-related products to review, so I took the opportunity of my examination of the RS1s as an invitation to an orgy of 'phone and 'phone-related listening. My primary source was the

Audio Research CD1 CD player, which played through the Audio Alchemy HPA v1.0, or the McCormack Micro Integrated Drive, or the Melos SHA-Gold. Kimber Kable KCAG connected the source to the headphone amps. Everything rested upon DH Cones and was plugged into an API Power Wedge 112. I used several pairs of headsets for comparison, including the Grado SR-80 and SR-125, Sennheiser HD-580 and '580 Jubilee.

While I listened to a wide range of music during the audition period, I'm going to focus my comments on two songs: "Rasd al-dhil Bashraf Sammai," from this month's "Recording of the Month," by the Eduardo Paniagua group (see Les Berkley's review in this issue), and "Third Uncle," from Brian Eno's *Taking Tiger Mountain (by Strategy)*, remastered and Super-Bit-Mapped on Virgin's *Eno Box II* (Virgin 3 V23Z 39114, 3-CD set). The Paniagua track (the whole disc, in fact) is a very special pairing of performer and recording. I received an advance copy a few months ago and just can't get enough of it — I've been playing it constantly. "Rasd..." is a killer track: The first 100 seconds are solo oud — the oud is an Arabian/Moorish instrument loosely related to the European lute — vigorously strummed, which is then submerged under one honking big frame drum (snared, or

JACK ENGLISH AUDITIONS THE GRADO REFERENCE SERIES ONE HEADPHONES

I'm an audiophile; worse yet, I'm a reviewer. It's my job to hear some of the most incredible audio gear on the face of the planet. So it isn't much of a surprise that I love the cutting-edge stuff!

I kept repeating thoughts like these in my mind like a mantra as I sauntered along, walking from Penn Station to Rockefeller Center one morning on my way to work. But as I did, I must have looked like the Cheshire Cat. My grin stretched from ear to ear. Deep in my shoulder bag was a RadioShack Optimus CD-3400 portable CD player: hidden in it was a Motown disc (MCD08058) containing not one but two of Duane Eddy's greatest albums — *Have Twangy Guitar Will Travel* and *\$1,000,000 Worth of*

Twang. I was in heaven, bouncing along to the long-forgotten rhythms of "Cannonball," "Ramrod," "Three-Thirty Blues," and a host of other favorites from my youth. The weather may have been dreadful and my workday had yet to begin, but I was at peace with the world.

I struggled through a day of endless meetings and voluminous memos. It was time to head home. With a lightened step and another foolish grin, I was joined by Booker T. and the MG's (*The Best Of...*, Atlantic 81281-2). So the commute was going to take an hour and half—who cared? I was home-ward-bound with the Memphis Sound!

So why was everything so great that day? After all, I listen to my portable CD players (I have four) an

average of three hours per day. The answer is that I was listening to the Grado Reference One headphones for the first time.

Okay, I've never used the Grados (or *any* headphones) in my reference system, nor have I listened to any audiophile-approved CDs or LPs on them. Yes, I'm sure any number of passersby have wondered aloud about the guy wearing these weird-looking headphones. But I have listened to a ton of music with the Grados and enjoyed every minute of it. It's rare that any audio product can come along and simply bowl me over. In this case, I yield. I just love these headphones! They have become my constant traveling companions. Thank you, John Grado—what's next? —Jack English



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hung with rattles) and a smaller clay drum. The final two minutes have an end-blown flute, rebec, and tambourines joining in cacophonously—all in a wonderfully reverberant acoustic. Dynamics, complex overtones, lots of timbral color, oodles of low-level detail—this one has them all.

“Third Uncle” is a straight-up rock-'n'-roll rave: a stuttering bass-line that's joined by walls of screaming guitar distortion, chanted vocals, and athletic drumming. As I remarked to my wife after listening to MoFi's remastering of Sonic Youth's *Gov*, “Is there anything louder than an intellectual with a big amp?”

“One with a Marshall stack!” Joan riposted. Can't rightly argue with that logic—and “Third Uncle” sounds like Phil Manzanera is playing through the biggest stack you've ever seen, er, heard.

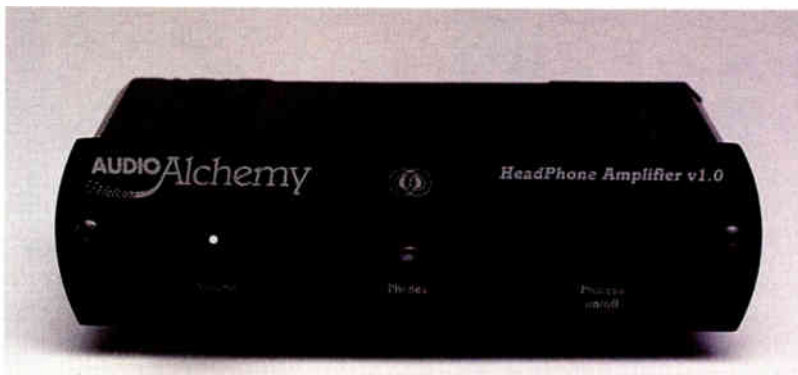
Citius, Altius, Fortius: The Reference Series Ones sound clean and dynamic. They portray music as an *active* art form, in that the tune really moves along through these cans. They have an immediate sense of warmth, detail, and dynamic *va-va-va Voom* that is well-nigh irresistible.

Through the Grados, the Paniagua track had incredible impact. The drums sounded huge and RIGHT THERE!, while the oud floated, warmly sustained by the weight of the air in the reverberant space. Eno's “Third Uncle” sounded massive and irrefutable, as if cops could break into crack-houses with it. *Kablam!* and they'd be in the living room.

But listening to those same songs with the \$450 Sennheiser HD-580 Jubilee revealed a few details that the Grados, as enjoyable as they are, obscured. The Paniagua Group's immense drum lost a lot of shuddering impact with the Jubilees, but hidden in all of the massive sound were telling minutiae, such as the rattles strung snarelike across the drum's membrane. The Grado, looser in the bottom octaves, emphasized that sense of slam, which, attractive as it was, did not truly reveal all that was on the recording.

Similarly, the attack transient on the oud sounded spectacularly vivid through the Grados, but the rapid decay of the string tone lacked particulars. The Sennheisers did not have that same level of excitement on the attack, but they did bring out a lot of gut-string warmth and room-informed decay.

The Sennheisers clearly revealed the analog origins of “Third Uncle” by passing through tape hiss undiminished. It



Audio Alchemy HPA v1.0 headphone amplifier

was barely audible through the Grados.

Spatial re-creation, such as it is when using headphones, is also not the RS1s' strong point. I might be tempted to ascribe that to the supra-aural nature of the beast—the transducer sits right on the ear—except for one thing: The Grado SR-80s and '125s, also supra-aural, both sound more spacious than the RS1. I'm no engineer, so take my conjecture with a grain of salt, but I have to wonder if—in their careful “de-stressing” of the transducer—Grado doesn't actually *over-damp* the diaphragm. This would explain the loss of spatial and ambient information and the blurring (obscuring, actually) of low-level detail.

Just one more thing. I'm your prototypical glasses-wearing geek, and I found the spring-steel headband intensely uncomfortable if I wore the headphones for any length of time. The band pressed the earpieces against my ears, where they dug into my glasses frames, which in turn clamped the nose-pads on my spectacles firmly into my nose. If you can follow that logic, you will understand me when I say that wearing the RS1s for prolonged periods made my ears and nose hurt.

Glancing over the above, I realize that I haven't sufficiently given the Reference Series Ones their due. I *enjoyed* listening to them because of the excitement and musical momentum they brought me. Despite some discomfort, I found them fun—and I do believe that that's what this music stuff is all about. But seven hundred clams is a lot of moolah, and Grado himself has set a very high standard with his more-affordable headphones—one that I wonder if he has truly surpassed with the RS1s. I find the SR-125s more extended and less colored (and have been told that the SR-325s are even better). On the other hand, I have some

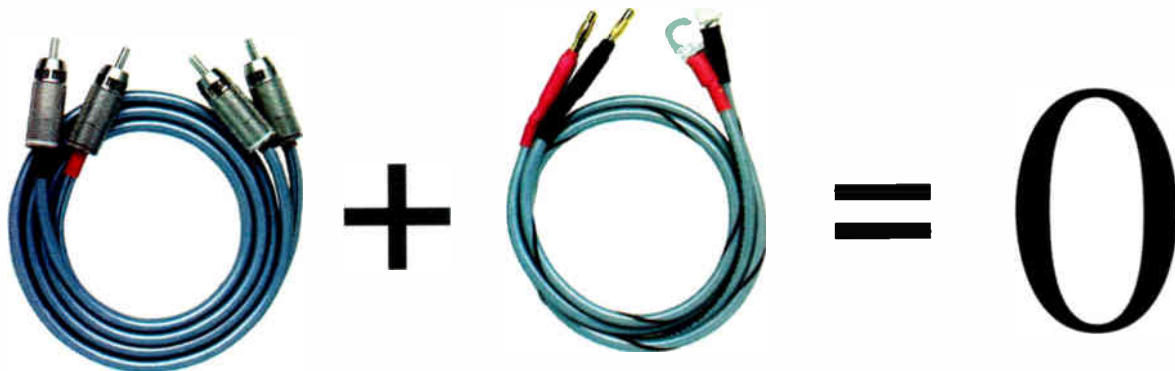
very savvy audiophile friends who are just ecstatic in their praise of the RS1s (see Jack English's sidebar to this review). If you value headphone listening enough to consider buying a reference dynamic, then you should audition the RS1s. But listen carefully and for a long time.

BETTER TO BE THE HEAD OF THE YEOMANRY THAN THE TAIL OF THE GENTRY: THE AUDIO ALCHEMY HPA V1.0 HEADPHONE AMPLIFIER

For headphone listeners, this is truly a golden age—we have multiple choices at many different price levels. During the course of this review, I had as many as five headphone amplifiers (and, in several cases, multiple power supplies) set up for comparison. Yet many people don't understand why we might want a headphone amp in the first place.

Here's a reason: I live with an intelligent, dynamic, *astoundingly* tolerant woman, who doesn't seem to mind (much) that I've turned every room of our house into a mad scientist's maze of wires, boxes, and speakers. Yet, having gone that far, she unreasonably refuses to be forced to share my job with me 24 hours a day. Sometimes she insists on sleeping. So I need to use headphones at certain times of the day (and night, of course)—even though I have access to some of the finest preamps on earth. None of which, I might add, sport a headphone jack. That's the most basic reason one might desire a headphone amp: simply to have a place to plug in your headphones.

But portable cassette and CD players, mass-market receivers and VCRs, laserdisc players and A/V receivers all typically boast headphone connections, so people who own those components don't need a headphone amplifier,



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right? True, you can plug a pair of 'phones straight in to those components, but their headphone sections are vestigial at best. The amplifying circuits aren't particularly powerful—or clean, for that matter. They lack clarity and cohesion, and they wash out a lot of tonal color—listen for any length of time and you'll be reaching for the analgesic bottle. Besides, a lot of us connect our LDPs to D/A converters for better sound, and you lose the benefits of that when you employ the laserdisc player's 'phone jack.

But the main reason you should consider using a headphone amplifier is the complexity of the task of driving headphones in the first place. Think about what conventional headphones *are*: moving-coil transducers with impedances that vary from 32 ohms to 600 ohms, with sensitivities that vary by as much as 27dB. That's a lot to ask a 27¢ op-amp chip to cope with.

Audio Alchemy's solution to this problem is, like all of their products, compact and well-thought-out. At \$259, the HPA v1.0 is the least expensive amp in this survey—and at 5.5" by 4" by 1.5", it's for darn skippy the smallest. It can fit in an audiophile's shirt pocket—if you take the pocket-protector out first. It comes with an outboard power supply, the Power Station One, but it can be used with AA's Power Station Three, which almost triples the PS1's 250mA output—and at \$259, also doubles the price. If you wish to use the HPA on the road, it runs off AA's Robyn I DC battery power supply, but—since the HPA runs in class-A—not for long (about two hours).

Connections are minimal. The rear panel has a mini-jack power-supply connection and two pairs of RCA jacks: source input and pass-through output (not affected by the volume control). This last is a thoughtful addition for those who must plug the HPA into their only tape loop; it means they still have the use of the loop for a tape deck. The front panel has a ¼" stereo phone jack in the middle, a fluted volume control knob to its left, and a button engaging HeadRoom's Audio Image Processor to its right. That's it.

Need I mention that, in a unit the size of a cigarette pack, the HPA v1.0's circuit paths are extremely short? The small chassis is packed with parts of amazingly high quality, given its list price. Voltage gain is via Analog Devices OP-275 op-amps running in pure class-A, while complementary pairs of Toshiba output transistors (also running

in class-A) handle the current gain for the discrete output stage. (These Toshiba's are also used in AA's OM-150 and OM-50A power amplifiers as pre-driver transistors.) The volume control is a precision-matched, conductive-plastic Dale potentiometer that has a seriously sensuous, silky feel—and is billed as having superlative tracking over its entire range.

I asked Audio Alchemy's Richard Liddell how they could afford to pack all of that into a product that was going to hit the street for \$200. "We tend to use as many of the same parts as possible—that way we know what they can do and we can buy them in enormous quantities, which makes them affordable." Not that I'm complaining, mind you.

You've noticed, of course, that the HPA has HeadRoom's Audio Image Processor; Audio Alchemy is one of only three companies licensing this technology. (The other two, Sonic Frontiers and Counterpoint, have not yet sent us products to review.) We've written at some length about HeadRoom's own units (Vol.17 Nos.1 & 2), paying specific attention to the effects of the AIP. For a detailed discussion of that process, refer to my review of the Home HeadRoom (Vol.18 No.1). Essentially, what the AIP does is spread the sound, giving a more realistic sense of lateral cohesion and avoiding that annoying left ear/center-of-head/right ear headphone signature. It adds a sense of depth as well. I find this circuit addicting and miss it when it's not there or not engaged. I think that all high-end manufacturers should consider it essential in a headphone amplifier, so I'm particularly pleased to see that several of them are beginning to use it—especially at this price point, where most companies would be looking for stuff to leave out.

Tota in minimis existit natura: The first thing I noticed when listening to the HPA v1.0 was the control that the amp manifested over the headphones. Its 6.5V output immediately asserted itself. The sound was big, dynamic, and warm—with lots of low-level information. Listening to the Paniagua Group's disc, I clearly heard great amounts of spatial detail (even more with HeadRoom's AIP engaged). I did find the HPA's warmth and that of the Grado RS1s combined to be far too much of a good thing, however. Ironically, this excess of richness served to leach liquidity from the sonic picture

—things sounded just too darn warm 'n'fuzzy to be believable. That big bass drum's attack was aggressive, but I could not hear the rattles clearly. Switching over to the Jubilees, I realized that the HPA/RS1 combo was obscuring detail, especially in the round fullness of the oud's string tone. The leaner midrange of the Jubilees (not necessarily their most endearing trait) and their superior bass tautness restored musical and low-level ambient information.

"Third Uncle" had drive and slam galore with both headsets, but sounded much more muscular with the Sennheisers.

Then I switched power supplies, having finally gotten my Power Station Three up and running. (Originally I had been sent a PS3 with a ¼A fuse, which proved to be incredibly persnickety driving my Audio Alchemy Digital Line Control preamp. I discovered, after blowing four fuses trying to drive the HPA, that this is the wrong value—it should have been ½A all along.) Switching to the Power Station Three, things just got *better*. The difference in bass was profound: tighter, more controlled, with better pitch definition. The highs also sounded sweeter, with less graininess and much better clarity in the differentiation of adjacent tones (and of similar consonant attacks like *p*, *b*, and *t*). Now we were talking!

Headroom: HeadRoom's own \$399 HeadRoom Supreme headphone amplifier seemed the logical comparison to the HPA v1.0/PS3. The portable HeadRoom can run off either a small wall-wart, or an external four-D-cell power pack. I prefer its sound with the battery pack, so I used that for my comparisons.

They were both very good, but the Audio Alchemy sounded just a shade coarser, with a bit of grit in the upper octaves. On the Eno track, this added an edge that was not out of keeping with the music—an effect that I enjoyed, even as I questioned its faithfulness to the signal. The Audio Alchemy controlled the headphones with greater authority, however, and propelled Brian Turrington's bass-line along like crazy.

The Paniagua track, of course, did not benefit in the same way from the Alchemy's edginess. There the leading edge of the plucked oud just sounded coarsened and somewhat fuzzy. The frame drum had greater body and slam, but its reverberation in the room sounded diminished. The HeadRoom was, to my ears, slightly but significantly better.

NEW YORK

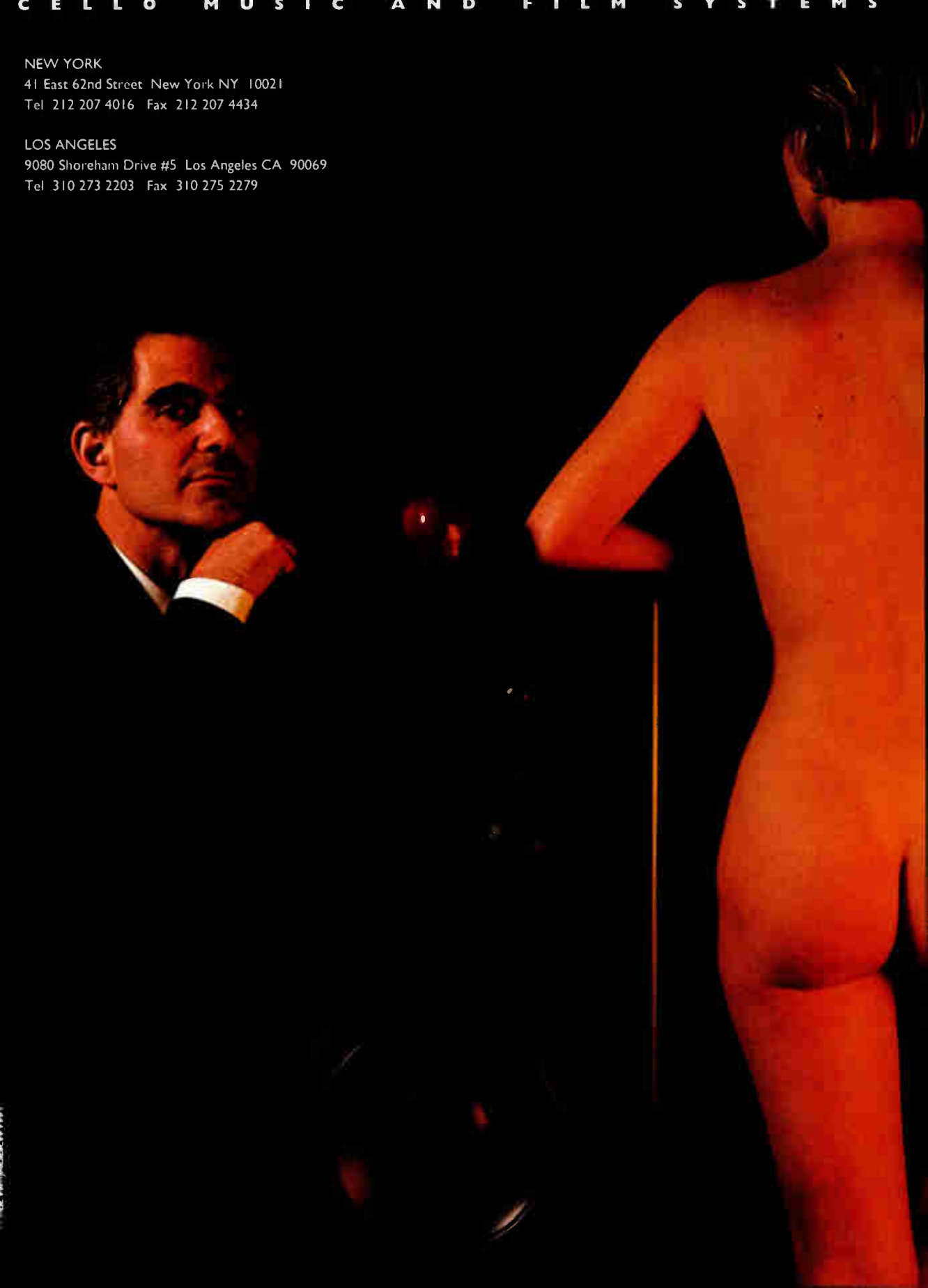
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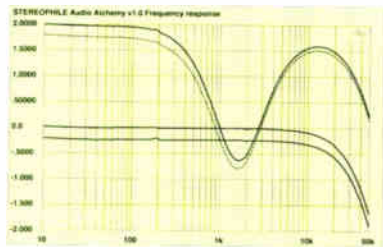


Fig. 1 Audio Alchemy HPA, frequency response at 1V into 100k ohms with HeadRoom circuitry engaged (top) and bypassed (bottom) (0.5dB/vertical div.).

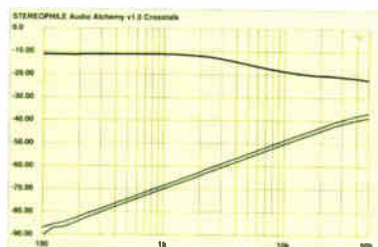


Fig. 4 Audio Alchemy HPA, crosstalk (from bottom to top at 1kHz): L-R, R-L, processing off; L-R, R-L processing on (10dB/vertical div.).

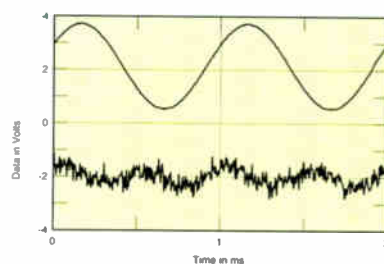


Fig. 7 Audio Alchemy HPA, 1kHz waveform at 4V into 40 ohms (top); distortion and noise waveform with fundamental notched out (bottom, not to scale).

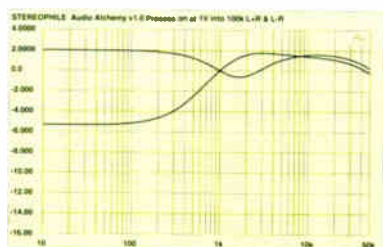


Fig. 2 Audio Alchemy HPA, frequency response at 1V into 100k ohms with HeadRoom circuitry engaged and driven by L+R signal (top) and L-R signal (bottom) (0.5dB/vertical div.).

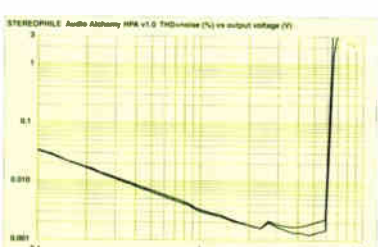


Fig. 5 Audio Alchemy HPA, distortion (%) vs output voltage into (from bottom to top at 5V): 150 ohms and 40 ohms.

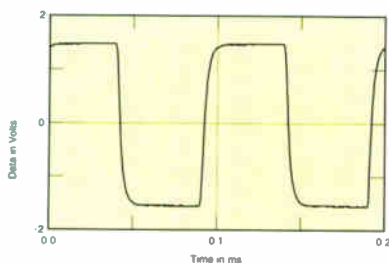


Fig. 3 Audio Alchemy HPA, small-signal 10kHz squarewave into 100k ohms.

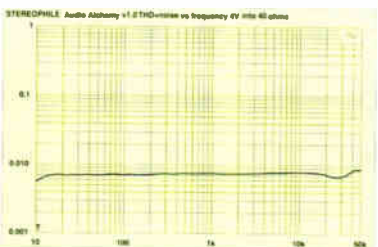


Fig. 6 Audio Alchemy HPA, THD+noise vs frequency at 4V into 40 ohms.

However, you need to consider a few things before deciding which you want. If you travel, the HeadRoom can play off of its battery pack for over 20 hours — which will get you pretty far around the world before you have to recharge. The Audio Alchemy, run by the Robyn power supply, will only play for a couple of hours. On the other hand, if you're going to add headphone capacity to an existing preamplifier, the HPA's pass-through is a real boon. I fed the signal from the AA's outputs into the SHA-Gold, compared them to the signal coming into the SHA-Gold straight out of the CD1, and heard virtually no difference. (I'm hedging here because I don't want you to lose all respect for me — the fact is, I was hard-pressed to detect *any* change.) This is another feature that I think every headphone amp should have, and it may well be enough to convince many of you to test-drive an HPA v1.0.

I also approve of the upgradability of the power supply. It's true that it can double the price of the unit, but you get to choose what level of performance you desire (or can afford).

All in all, Audio Alchemy's HPA v1.0 is well-thought-out and implemented. I found a lot to like in its sound and found several of its features indispensable. It's an impressive product at an affordable price.

— Wes Phillips

When in doubt, sing loud: All of the following measurements were made from the front-panel headphone output. The polarity of the Audio Alchemy v1.0 was noninverting. Its input impedance was 88.2k ohms, its output impedance 0.27 to 0.29 ohms, depending on frequency. S/N measured an excellent 105dB (22Hz–22kHz, unweighted, ref. 1V). DC offset measured 12.5mV in the left channel, 11.5mV in the right. The tracking of the Audio Alchemy's volume control was reasonably good, with a maximum left/right deviation of

0.5dB at half rotation and less. Maximum voltage gain was 8.9dB.

The Audio Alchemy's frequency response into a high-impedance load is shown in fig. 1. The response with the HeadRoom processing selected is plotted at the top; the latter is shaped in an attempt to compensate for the typical ear/headphone response. The frequency response is plotted again in fig. 2; this time the output of the left-channel response is shown with the left- and right-channel inputs both in phase and out of phase. Here the processing is seen to be quite similar to that used by HeadRoom (see JA's review of the HeadRoom headphone amplifier in the January 1994 *Stereophile*, p.173). The 1kHz squarewave response is nearly ideal and is not shown. The 10kHz squarewave (fig. 3), taken in the unprocessed mode (as were the remainder of the measurements below), is very good, with a good risetime, just a slight rounding of the leading edge, and no overshoot.

The Audio Alchemy's crosstalk is shown in fig. 4. Notice that the channel separation is considerably reduced in the processed mode (in much the same manner as it is reduced by loudspeakers in a room).

Fig. 5 plots the Audio Alchemy HPA v1.0's THD+noise vs its output voltage. Note that the maximum output is about the same with either a 40 ohm or a 150 ohm load, though there is a small (and probably insignificant) difference between the two loads just before the point at which the distortion begins to rise rapidly. The output is about 6.5V at clipping (1% THD+noise). This is over 1 watt into 40 ohms — more than enough to induce permanent ear damage with virtually any headphones.

The variation in THD+noise vs frequency for an output of 4V into 40 ohms is shown in fig. 6 — an excellent result. The distortion waveform (40 ohm load, 2V or 100mW output, 1kHz input) is shown in fig. 7. It is very low in

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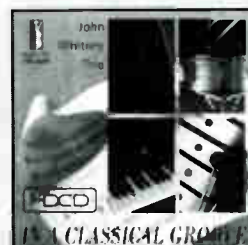
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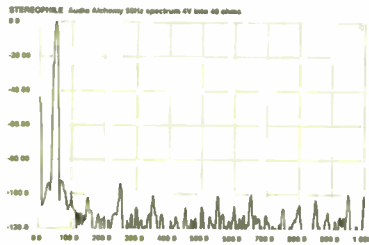


Fig.8 Audio Alchemy HPA, spectrum of 50Hz sine wave, DC-1kHz, at 4V into 40 ohms (linear frequency scale). Note that the fifth harmonic at 250Hz is the highest in level.

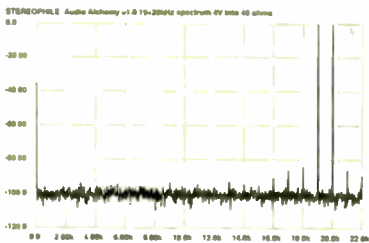


Fig.9 Audio Alchemy HPA, HF intermodulation spectrum, DC-22kHz, 19+20kHz at 4V into 40 ohms (linear frequency scale).

level and largely second-harmonic plus noise. Driving the Audio Alchemy with a frequency of 50Hz at an output of 4V into a 40 ohm load results in the distortion spectrum shown in fig.8. Even at this very high level, the distortion products are all below -90dB (0.003%). Similarly, fig.9 shows the output intermodulation spectrum for an input of 19+20kHz at a high output voltage; all the by-products are under -80dB (0.05%). The test-bench measurements of the HPA v1.0 were first-rate in all respects.

—Thomas J. Norton

A SOUND HEAD HAS NOT A SOFT PLACE IN IT: THE MCCORMACK MICRO INTEGRATED DRIVE

What, I hear you asking, is an integrated drive? The MID is part of McCormack's much-lauded "Micro" series (see my review of their Micro Line Drive in Vol.18 No.6), which are designed to offer the same dedication to quality as McCormack's full-size components, but at a lower price (and in a smaller package). The MID was initially the Micro Headphone Drive, sporting two ¼" stereo phone jacks on the front panel, a two-position input switch, and a volume control. The rear boasted two inputs and an output (controlled by the volume pot). It was designed to be a high-quality headphone amp and a minimalist preamp. In this configuration, I ran into it at the 1995 WCES

where—almost as a gag—Steve McCormack had made up a few ¼" stereo phone-plug to 5-way binding post connectors. He could, he explained, run small speakers from the headphone outputs. There was a serious purpose behind the joke, of course. Showing that the MHD could drive speakers spoke volumes for its ability to drive headphones.

I even got my hands on one of those units—and enjoyed it very much as a headphone amp and as a preamp. But before I could commit my thoughts to the care of WordPerfect, Joyce Fleming of McCormack Audio called to ask me to ship the unit back. Steve had changed the output MOSFETs and connected them to sturdy binding posts on the rear panel. Thus, the Micro Headphone Drive became the Micro Integrated Drive, capable of putting out 5Wpc.

That's a pretty insignificant amount of power—why bother? Well, I found lots of uses for it: You could hook it up to your computer and use it as part of a very-high-quality multimedia package; or you could use it as part of an office or bedroom system; you could even, as I intend to do at HI-FI '96, travel with it and a pair of small efficient speakers, to provide a little musical sustenance on the road. Besides, we live in a time when there are \$60,000 integrated amplifiers with just as little wattage—I'm sure that neither Joyce Fleming nor Steve McCormack would own up to it, but I suspect a satiric barb in there, somewhere.

Like the other Micro series components, the MID is handsome and very solidly constructed, and uses extravagantly expensive controls, parts, and

connectors. Remembering Audio Alchemy's response to the same question, I asked Steve McCormack how they kept prices reasonable while stuffing the Micros with costly parts. There was a long pause. "Actually," he said in a subdued voice. "I'm often accused, by [my partner] Joyce in particular, of putting in more than I should [given the price at which we sell them], but I just can't escape the desire to put in as much as I possibly can. When you're dealing with these price ranges, you *have* to make compromises, so it becomes a real matter of juggling what to trade off. When I have the opportunity to make something better, I find it impossible to leave it alone. It *does* dig into our profit margins, but I'm a happier guy."

Like the Micro Line Drive, the MID employs a combination of op-amps and JFETs. This gives McCormack "a lot of the convenience of designing with op-amps along with much of the same performance qualities that I hear from fully discrete circuits." Then, it feeds the signal into a complementary pair of MOSFETs fitted with a biasing circuit. "It's interesting how this changes its nature," states McCormack. "Now we've created a small power amplifier. Because it is a power amplifier, it's a marvelous line amplifier. It'll drive any sort of cable, any length of cable, any kind of input circuit—whatever. In some ways, it has made me rethink some of my ideas about building preamplifier circuits. It suggests that the ability to run a low-impedance load with a fairly serious amount of current may actually improve the performance of the MID as a preamplifier, whereas traditional thinking might suggest otherwise."



McCormack Micro Integrated Drive headphone amplifier

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Man likes marvelous things — so he invents them and is astonished: The McCormack is a marvelous headphone amplifier. It sounds fast and tight and liquid. Although some might find it a shade lean, I found its lack of warm'n'-fuzzy midrange a relief. I've already said that I miss the HeadRoom Audio Image Processor when it is not present, and so I did. But it's hard to cavil about the sound of the MID.

"Third Uncle" was meaty and propulsive; the opening stutter of bass was solid and almost physically present. *Dunt-dah, dunt-dah* and then in tightening intervals with the same motif *duntdahduntdahdunt-da...* through the McCormack, it sounded as solid as someone bouncing a quarter off a suitcase.

"Rasd..." was also served well. The big frame drum shuddered so that the air practically sizzled — an effect clearly articulated in contrast to the snares bouncing off the membrane. The silence at the end of the track left the ensemble's reverberation suspended in the air so palpably that it almost seemed like an imitation of itself — how could anything sound that perfect? I had a hard time keeping to the point while listening to the McCormack; one cut would stretch to two, two to a whole disc, and the disc would, more often than not, remind me of one other thing I'd like to hear. Can I complain about that? No! But it did stretch out the reviewing process.

I mentioned that some might find the MID lean-sounding — it certainly adds the least warmth of the three headphone amps reviewed here — but is it tonally correct? I think it is. It's fast and tight and as detailed as can be. Timbres do not seem simpler than they are, but exult in their quirky little signatures. By contrast, the Audio Alchemy's warmth is additive.

As a preamp, the MID also shines. Steve McCormack wasn't kidding about its ability to drive long cables into nearly any impedance — I regularly used my 60' interconnects, both to drive the MID as a headphone amp, from a remote source, and to drive amplifiers in different rooms.

No \$700 preamplifier has any business sounding this transparent. Period. And it takes charge of an amp like you wouldn't believe. Pair it with any adequately powered amplifier and say good-bye to flabby anything. Musical, that is — it won't put a six-pack on your abs. (Mine either, dammit.) Of course, it's pretty minimal — it only has two source inputs and lacks a tape output or

any other amenity. Except, that is, for that glorious sound. In reviewing the Micro Line Drive, I said, "It is capable of transparency and an immediacy that damned few megabuck preamps can aspire toward." That's equally true of the MID. If you don't listen to headphones, you'll get more flexibility from the MLD, but if you *do* listen to cans, the Micro Integrated Drive could be the way to go — if you don't mind plugging and unplugging sources.

So how is it as an integrated amp? Surprisingly good. Don't expect a lot of controlled bass or high sound pressure levels, though. But driving speakers with a sensitivity in the 88–92dB/W/m range, such as the RA Labs Black Gold References I used, it can really play some music. It images well, stays true to tonal color (other than lightness in the bass), and rocks like a little dickens. Earlier, I said I'm taking one to HI-FI '96 — when I get it there, I'm going to find the most efficient pair of horns there and just crank this sucker. I bet it'll wake the neighbors.

I don't know how many buyers looking for an integrated amplifier are going to consider the McCormack Micro Integrated Drive desirable, but the extra flexibility is practically free. Those of us wanting a reference-quality headphone amplifier, and possessing offices, computers, or multiple systems, *we're* the customers the MID was really targeted at — and, if I'm a fair example, we'll be staying up late just to think of places (and ways) to use this affordable little wonder.

—Wes Phillips

The height of art is to conceal art: All of McCormack's measurements were made from the rear-panel binding posts. It didn't invert polarity. Its input impedance at 1kHz was 274k ohms at full volume (slightly higher at lower settings of the control). Its output impedance was below 0.04 ohms at low and mid frequencies, increasing to a maximum of 0.125 ohms at 20kHz. The output impedance at the line outputs was 99 ohms in the left channel, 101 ohms in the right.

S/N measured an outstanding 108.7dB (22Hz–22kHz, unweighted, ref. 1V). DC offset measured 0.4mV in the left channel, 0.5mV in the right (0.1mV and 0.6mV, respectively, at the line outputs). The tracking of the McCormack's volume control was good, deviating no more than 0.17dB down to half rotation and 0.46dB at one quarter. Voltage gain at the maximum setting of the control was 5.7dB (low gain), 13.7dB (medium gain), and 27.1dB (high gain).

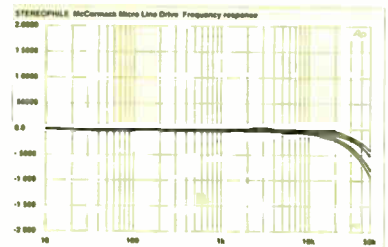


Fig. 10 McCormack Micro Integrated Drive frequency response at (from top to bottom at 50kHz): 1W into 8 ohms, 2.83V into simulated speaker load, and 2W into 4 ohms (5dB/vertical div.).

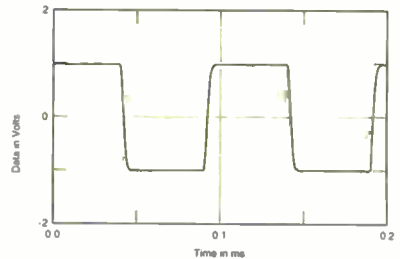


Fig. 11 McCormack Micro Integrated Drive, small-signal 10kHz squarewave into 8 ohms.

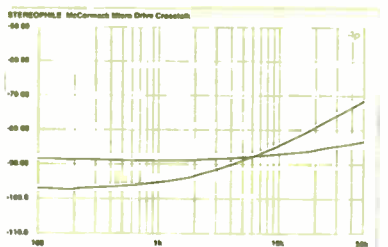


Fig. 12 McCormack Micro Integrated Drive, crosstalk (from bottom to top at 1kHz): L-R, R-L (10dB/vertical div.).

(The remainder of the measurements were taken at medium gain). Since the McCormack is designed to be used not only as a headphone amplifier, but also as a low-power amplifier for driving loudspeakers (and additionally as a minimal line preamplifier), I took a number of its measurements into typical loudspeaker load impedances. Fig. 10 shows its frequency response into 8 ohms, 4 ohms (the latter not recommended by the manufacturer), and our simulated real loudspeaker load. There is little to comment on here.

The almost perfect 1kHz squarewave response is not shown. The 10kHz squarewave (fig. 11) is a solid result, with very good risetime, minimal rounding, and no overshoot or ringing. The crosstalk is shown in fig. 12. The only thing worthy of comment here is the slightly different separation for each channel, which at these levels is unlikely to have any audible consequences.

Fig. 13 plots the THD+noise against

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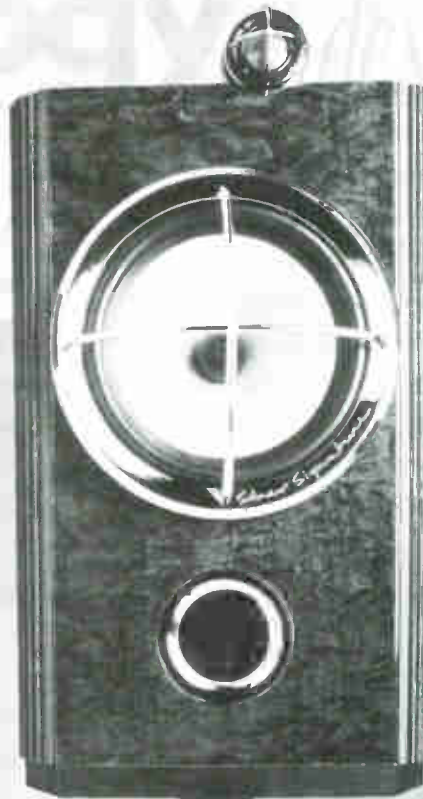
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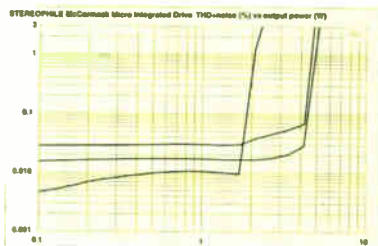


Fig. 13 McCormack Micro Integrated Drive, distortion (%) vs output power into (from bottom to top at 1W): 40 ohms, 8 ohms, and 4 ohms.

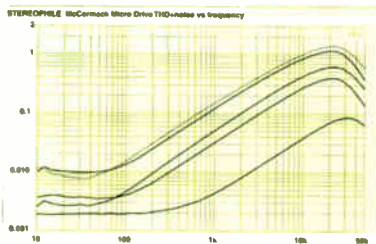


Fig. 14 McCormack Micro Integrated Drive, THD+noise vs frequency at (from top to bottom at 1kHz): 1W into 4 ohms, 1W into 8 ohms, and 100mW into 40 ohms (right channel dashed).

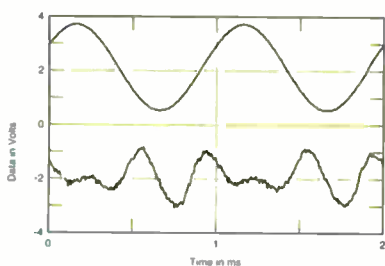


Fig. 15 McCormack Micro Integrated Drive, 1kHz waveform at 100mW into 40 ohms (top); distortion and noise waveform with fundamental notched out (bottom, not to scale).

the output power in watts of the Micro Integrated Drive. The 2W power output into a 40 ohm load will be more than adequate to drive virtually any headphones. Into 8 ohms, the McCormack's discrete clipping point (1% THD)+noise, 1kHz) was 4.8W (6.8dBW) into 8 ohms and 4.2W (3.2dBW) into 4 ohms, one channel driven. With both channels driven, the 8 ohm clipping was 2.7W (4.3dBW) left and 2.5W (4dBW) right. Into 4 ohms, the latter figures were 1.9W and 1.8W (-0.45dBW), respectively. (The AC line voltages for these measurements ranged from 115 to 117V.)

The variation of THD+noise with frequency for an output of 4V into 40 ohms is shown in fig.14. The THD is relatively high into loudspeaker loads, but notably better into a 40 ohm load at 100mW, this more typical of headphone use. The THD waveform at 100mW



Fig. 16 McCormack Micro Integrated Drive, spectrum of 50Hz sinewave, DC-1kHz, at 3.3W into 8 ohms (linear frequency scale). Note that the second harmonic at 100Hz is the highest in level.

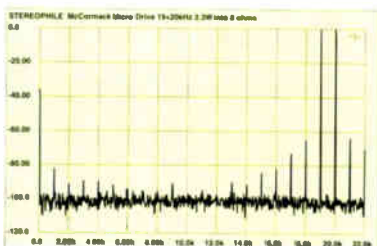


Fig. 17 McCormack Micro Integrated Drive, HF intermodulation spectrum, DC-22kHz, 19+20kHz at 2.3W into 8 ohms (linear frequency scale).

(1kHz input) into the same 40 ohm load is shown in fig.15. It is primarily second-harmonic, but with some higher-order components also present. At 1W into either an 8 ohm or a 4 ohm load, the primary component becomes third-order but with clearly evident higher-order components (not shown).

Driving the McCormack with a frequency of 50Hz at an output of 3.3W into 8 ohms results in the distortion spectrum shown in fig.16. All of the components are below -90dB (0.003%). Fig.17 shows the output intermodulation spectrum for an input of 19+20kHz at 2.3W into 8 ohms—just below the point at which clipping is visible on a 'scope trace. The artifact at 1kHz is at -82dB (0.008%); the largest artifact is at 18kHz, at -65dB or about 0.06%.

The test-bench measurements of the Micro Integrated Drive were excellent if your intent is to drive headphones. While it will likely perform adequately in driving loudspeakers for casual listening, its power limitations should caution against unrealistic expectations for that application.

—Thomas J. Norton

WHERE THEY STAND IS THE HEAD OF THE LINE: MELOS SHA-GOLD VACUUM TUBE LINE AND HEADPHONE AMPLIFIER

It's hard to know what to call the SHA-Gold. It is a superb headphone amplifier—maybe even the target all future

headphone amps need to shoot at—but it's also a full-function preamplifier. At two grand, it's not exactly a unit you'd add to your current system just to get a headphone connection... *Wait a minute!* What am I saying? I'm sure that there are folks out there who would add this to their existing reference systems as casually as I'd buy the Audio Alchemy—but they'd be missing out on a great line stage.

I could be wrong about the target audience for the SHA-Gold, but I suspect that it's, uh, me. That is to say, audiophiles with some budget limitations who want an essentially uncompromised preamplifier that also offers state-of-the-art headphone amplification. With tubes, preferably. And as long as you're at it, maybe even remote control.

The remote control is an outgrowth of the biggest difference between the SHA-Gold and Melos's original SHA-1 (reviewed in Vol.15 No.10 and still in production, with only minor changes): the "Photentiometer" volume control. Russ Novak described the Photentiometer in great detail in his April review of the Melos MA-333 Reference (Vol.19 No.4), so I'll just summarize here.

Melos's Mark Porzilli maintains that the performance of most state-of-the-art preamps is compromised by "270 degrees of convenience"—their volume controls. He points out that at 9:00, the average potentiometer has low resistance and capacitance and, relatively speaking, high rectification. Turn the control to 12:00 and you increase resistance and capacitance, but *reduce* rectification. This, of course, has an effect upon the signal. Many designers get around this by utilizing switched resistors, which Porzilli calls "Band-Aids." He claims that they just switch the problem into a different arena.

His solution? A heavy-metal (nickel and chromium instead of the more frequently used carbon), 100k ohm resistor is connected in series with a second, light-sensitive, cadmium-sulphide resistor adjacent to an 8V light bulb. This resistor changes its resistance in proportion to the brightness of the light shining on it. The brighter the light, the smaller the proportion of the signal voltage sent to the next amplification stage. This "Photentiometer," Melos claims, results in constant series resistance in the signal path and far less variation in capacitance over the control's entire range—and, lacking moving parts, it eliminates the partial rectification effects of switches and wipers.



Melos SHA-Gold headphone amplifier

The output buffer voltage on the SHA-Gold has been increased to 40V peak-peak, up from 8V in the SHA-1, which is associated with an increase in the stage's input impedance — to better than 10M ohms — “effectively ‘unloading’ the preceding tube amplification stage,” Melos claims. This, they say, results in an almost purely resistive load for the two 6DJ8s — which is theoretically ideal. Frequency response has been improved slightly, but the biggest change in the basic circuit is that voltage regulation has been increased “by a factor of about 1000,” according to Melos's George Bischoff. (I thought Bischoff was being uncharacteristically vague when he said this, but the 1000-fold figure is repeated in Melos's product literature, so I assume it's accurate — if extraordinary.) The regulators use LEDs as voltage references.

The SHA-Gold doesn't lack for inputs: It has six — including one line-level input marked “phono.” (I find this confusing, don't you?) There is also a tape loop, two single-ended outputs — one amplified, one passive — and a pair of XLR balanced outputs. An IEC-style AC plug allows for custom power cables.

It's rack-mountable, 19" wide with mounting slots at the corner. The front panel is striking. From left to right, it sports an on/off toggle switch; an illuminated window containing an analog balance-meter; a gold-plated, motorized volume control; a gold-plated source switcher; a ¼" stereo phone jack; and a tape monitor/source toggle-switch. In the upper right-hand corner there is an LED that blinks when the SHA-Gold is muted. Plugging headphones into the phone jack mutes the line outputs.

I popped the lid and looked inside. Once again, I was impressed by the level of craftsmanship as well as the quality of the parts. You expect a lot from a \$2000 component, and in the SHA-Gold you get a lot. I also wanted to see the light bulb, which was not readily apparent. So I turned off the

room lights and looked again. There's a lot of illumination inside the SHA-Gold: a row of red LEDs on the right side of the circuit board, two tubes, the bulb inside the balance meter — but I couldn't see the Photentiometer anywhere. Then, I ran the volume up and down, and there it was, mounted *under* the circuit board! Turn the volume up and it dimmed; turn it down, and the light grew stronger, shining greenly through the circuit board, throwing the traces into stark relief. Cool.

The remote control is a simple wand. At the top, it has a large red button, labeled “Power.” This does not, in fact, turn on the power; it disengages the mute function. Next down the wand is a pair of wedge-shaped controls, mounted one over the other, labeled “Channel.” These, it turns out, are the balance controls. Below them is another pair of vertically mounted wedges, labeled “Volume,” which — much to my surprise — actually control the volume. There is also a small button, labeled “Mute,” which engages (but doesn't disengage) the mute function. Got it? Good — it sure took me a while. I'm sure that Melos is sourcing this remote wand from somewhere — a TV, judging from the labels — but I think they should consider relabeling the functions.

Natus ad gloriam: Other than that, I have no real complaints about the SHA-Gold's performance. It is unquestionably superior to the original SHA-1 — as it should be, at twice the price. The SHA-1 sounds darker overall, but also manifests a hardness right in the critical midrange area — I have friends who swore the SHA-1 was as transparent as all get-out, but I could never ignore those two distractions.

Besides, if the SHA-1 was transparent, what would that make the SHA-Gold? Virtually nonexistent? *Hmmm, that has a nice ring to it...* Because the SHA-Gold — whether because of the Photentiometer or not, I can't say — disappears as completely as any preamp

I've ever heard, especially when used with the passive output. As always, with passive preamplification, you trade off some bottom-end authority for transparency, but I found the SHA-Gold traded less than most. (I was using 20' runs of XLO Type 3.1 Signature into a KSA-300S amplifier, which was driving Aerial 10Ts. The Krell KPS-20i/1 was my source. Even with the long cables, usually a real no-no with passive amps, I was getting spectacular bass and a fast, limpid top-end, brimming with low-level information.)

If you need to drive less efficient speakers, or a more capacitive cable, you'll want to use the active output — or the balanced, which yields an extra 6dB gain. It's not that big a sacrifice, although it does close down the top-end a tad. Either way, you hear exceptional soundstaging and way, way, into the music. The Paniagua track stood every hair on my body upright when played through the passive outputs of the SHA-Gold. The drum moved so much air that I could watch dust motes, shining in shafts of sunlight, get pushed out of the way by its passage — and then the preamp allowed me to wallow in the long, long decay. I heard minor intonation changes on the flute that had passed unnoticed previously, and the forward, almost relentless, momentum of the track's last two minutes was manifest.

“Third Uncle” just slammed. It was harder, better-driven, and solidier than I think I've ever heard it. I played it over and over, pogo-ing in the middle of my living room until I was breathless. (Not that it takes that long, these days.)

As a headphone preamp, I've never heard the SHA-Gold's equal. It has control, fast response, unbelievable liquidity, and that glorious, grainless tube spaciousness. I've stated that I miss HeadRoom's AIP and wish that high-end manufacturers would adopt it as a standard, but the SHA-Gold is so transparent and free from electronic artifacts that I wonder if it wouldn't be *too* revealing for the AIP. I'd love to do an A/B — but until I do, I wouldn't change a thing.

You have no idea what the real limits of your headphones' bass response are until you've heard them on the SHA-Gold, nor have you a clue what those overtones *really* sound like. All of the drive and transparency that the unit manifests as a preamp are equally obvious when it is used as a headphone amp. It really clamped the Grados under its control, vastly reducing the flabbiness of the bass and improving their articulation of timbre down un-

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der. They still sounded rolled-off on top, though. The 580 Jubilees always sound taut in the bass, but the SHA-Gold gave them greater body than I've heard them manifest previously. On the other hand, their midrange leanness was thrown into high relief by the Melos's liquidity and transparency. Surprisingly, my HD-580s and the Grado SR-125s sounded the most natural and least compromised through the SHA-Gold.

Melos has real winner in the SHA-Gold. As a line-stage preamplifier, it is at the very top of the heap. \$2000 should, and can, buy a lot of preamplifier—there's awfully fierce competition at that price point. The Melos belongs on any preamp shopper's short-list. But if you listen to headphones *and* you need a reference-level preamp, I can't think of another choice: It stands alone—way out front.

—Wes Phillips

Too much of a good thing is wonderful: The Melos's measurements presented here were taken from the front-panel headphone jack unless otherwise stated—since the SHA-Gold was reviewed primarily as a headphone amp. Selected measurements, however,

were also made from the back-panel preamp outputs.

The Melos was noninverting, both from its headphone jack and its main outputs. (Using its balanced output, pin 2 was wired to be positive, pin 3 negative.) Its input impedance was 82k ohms. Its output impedance was 0.53 ohms at the headphone jack, 21 ohms from output 2.

The S/N ratio measured 81dB from the front jack, 73.6dB from output 2, and 67dB from output 1 (all 22Hz–22kHz, unweighted, ref. 1V). DC offset measured 2mV left and 8.9mV right from the headphone jack, 7mV/5.9mV from output 2, and 2.1mV/2.2mV from output 1. There was considerable fluctuation in the readings, due to very-low-frequency noise, as is typical in tube designs (the figures given were the measured maximums).

The tracking of the Melos's volume control was good: the left and right outputs had a maximum of 0.39dB deviation at half rotation of the volume control. Voltage gain at the maximum setting of the control was 18.6dB at the headphone jack, 19.2dB at the balanced output, 13.2dB at output 2, and –2.3dB at output 1 (the “passive” output).

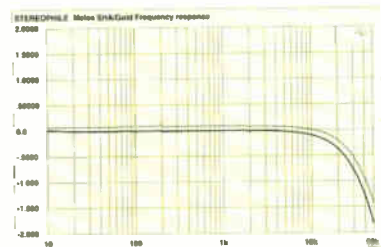


Fig. 18 Melos SHA-Gold, frequency response at 1V into 100k ohms (0.5dB/vertical div.).

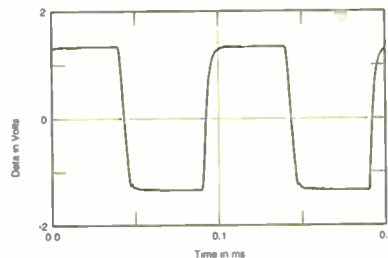


Fig. 19 Melos SHA-Gold, small-signal 10kHz squarewave into 100k ohms.

The frequency response of the SHA-Gold into a high impedance load is shown in fig.18. The 10kHz squarewave response is shown in fig.19. The latter has good risetime and the typical slight rounding at the top leading-edge cor-

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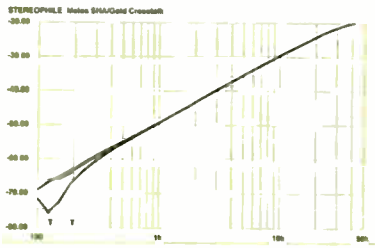


Fig.20 Melos SHA-Gold, crosstalk (from bottom to top at 100Hz): L-R, R-L, output 2; L-R, R-L, headphone jack (10dB/vertical div).

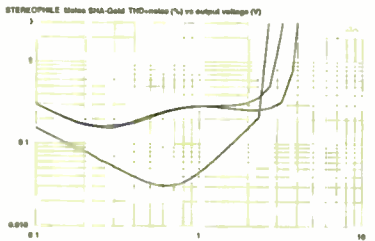


Fig.21 Melos SHA-Gold, distortion (%) vs output voltage into (from bottom to top at 2V): 100k ohms, output 2; 150 ohms, headphone jack; and 40 ohms, headphone jack.

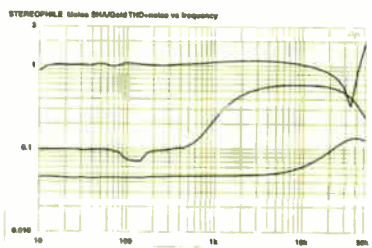


Fig.22 Melos SHA-Gold, THD+noise vs frequency at (from top to bottom at 1kHz): 3V into 40 ohms, headphone jack; 300mV into 40 ohms, headphone jack; and 1V into 100k ohms, output 2.

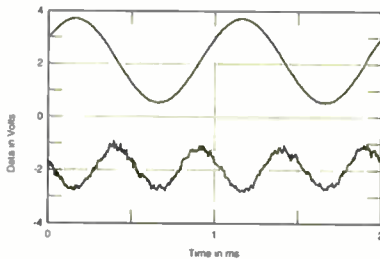


Fig.23 Audio Alchemy HPA, 1kHz waveform at 250mV into 40 ohms (top); distortion and noise waveform with fundamental notched out (bottom, not to scale).

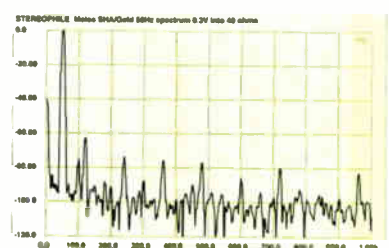


Fig.24 Melos SHA-Gold, spectrum of 50Hz sinewave, DC-1kHz, at 300mV into 40 ohms (linear frequency scale). Note that the second harmonic at 100Hz is the highest in level but that the spectrum is dominated by an AC supply harmonic at 120Hz.

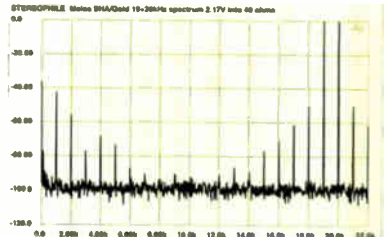


Fig.25 Melos SHA-Gold, HF intermodulation spectrum, DC-22kHz, 19+20kHz at 2.17V into 40 ohms (linear frequency scale).

ners associated with the ultrasonic rolloff seen in fig.18. At the bottom leading-edge corners, the slight notching seen is not a measurement or printing artifact, it was also visible on an analog oscilloscope trace. I have no ready explanation for it, other than a slight oscillation that only occurs in the negative portion of the signal. It is also just barely visible in the 1kHz squarewave response (not shown), which also has a *very* slight overshoot at the top leading-edge corners, but good risetime and no visible ringing.

The SHA-Gold's variation of channel separation with frequency is shown in fig.20. It is only fair as preamps go, but the crosstalk is well-matched between channels. The somewhat lower-than-average separation, particularly at high frequencies, should not be of audible significance.

Fig.21 plots the variation in THD+noise with output voltage of the Melos SHA-Gold into 40 and 150 ohm loads (headphone output) and a high-impedance load (output 2, unbalanced). The headphone output voltages should be more than sufficient to drive any typical headphones to extremely high levels. The line-stage output clips at 2.5V, lower than expected, but sufficient to drive any power amplifier to full level.

The Melos's THD+noise level is plotted against frequency in fig.22 for outputs of 3V and 300mV into 40 ohms. As expected from fig.21, the 3V distortion is moderately high, but this

level is well above that likely to be required by most headphones. The THD+noise vs frequency plot for an output level of 1V is also shown for output 2 (unbalanced, left channel). This is suitably low. The THD waveform at 250mV into 40 ohms (1kHz) is shown in fig.23. It is heavily second-harmonic. As the output level increases to 2V (not shown) higher harmonics begin to appear, but the second-harmonic component remains dominant.

Driving the Melos with a frequency of 50Hz at an output of 300mV into 40 ohms results in the distortion spectrum shown in fig.24. Power-supply products predominate (120Hz, 240Hz, 360Hz, etc). The largest artifact of the 50Hz input signal is the second-harmonic (100Hz) at -75dB (about 0.017%). Fig.25 shows the output intermodulation spectrum for an input of 19+20kHz at 2.17V into 40 ohms, just prior to visible clipping of this waveform. The difference component artifact at 1kHz is the highest in level, at -42.5dB or about 0.8%. This is a satisfactory, though not particularly notable, result.

The test-bench measurements of the SHA-Gold were reasonable, though it did not perform as well on an objective basis as the other headphone amplifiers reviewed by WP in this issue. The technical results suggest that headphones with impedances above 40 ohms are best suited for use with the Melos.

Certainly, WP did not have anything negative to say about the preamp's subjective performance.

— Thomas J. Norton

AUREA NUNC VERE SUNT SAECULA

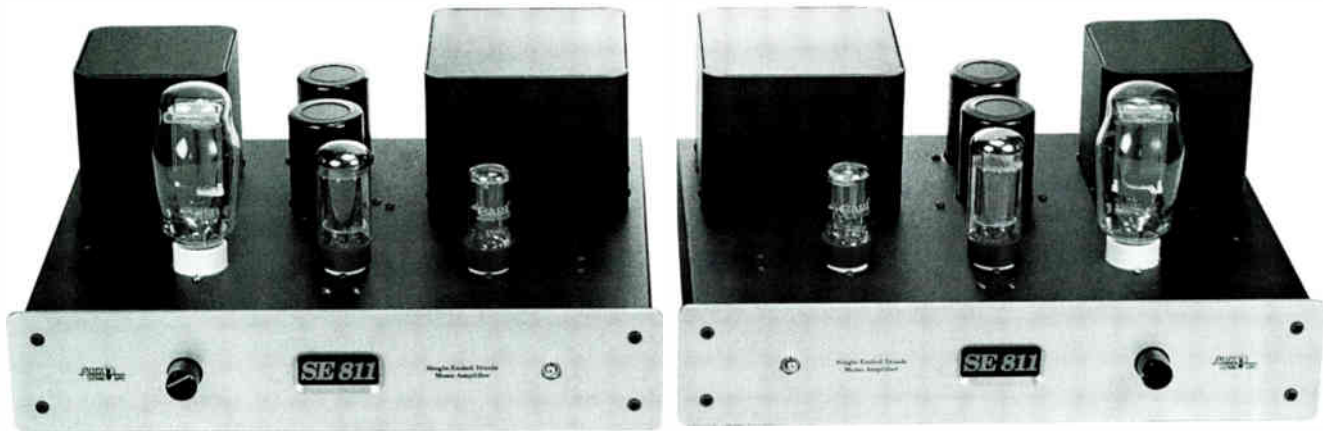
If you're a headphone user, it's hard not being happier than a pig in a corn-crib these days. Grado is offering not just one, but a whole line of reference-quality headphones, and Audio Alchemy, McCormack, and Melos all have designed superb headphone amplifiers at three very different price points. If you've got the *gelt*, go for the SHA-Gold. But at one-third the price, the McCormack offers rarefied performance and an entry into transparency heaven. And for less than half the price of the MID, Audio Alchemy's HPA v1.0 extracts music from your favorite discs that you'd *never* hear straight out of your receiver, CD player, or cassette deck. It's hard to lose, with choices like this. Now truly is an age of gold.

— Wes Phillips



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ACARIAN SYSTEMS ALÓN V LOUDSPEAKER

Russell Novak

Three-way, floorstanding loudspeaker system. Drive-units: 10" bass driver in sealed enclosure; 5" midrange unit and 1" metal-dome tweeter on open baffle. Crossover frequencies: 400Hz, 3.5kHz. Frequency response: 34Hz-25kHz, ± 3 dB. Sensitivity: 87dB/W/m. Nominal impedance: 8 ohms. Minimum impedance: 4 ohms. Dimensions:

49.5" H by 12.75" W by 15.5" D. Weight: 95 lbs each. Serial numbers of units reviewed: 0406/0407. Price: \$4950/pair in black ash, natural oak, American walnut; \$5850/pair in Santos rosewood. Approximate number of dealers: 60. Acarian Systems, 15 Woodview Drive, Nesconset, NY 11767. Tel: (516) 737-9369. Fax: (516) 981-3476.

At the 1995 Winter CES in Las Vegas, Acarian Systems' Alón Vs occupied one of the very large rooms in the Sahara Hotel Tower. From the middle of the room they threw a wall-to-wall image at least 25' wide, and completely filled the space to the rear wall with layered sound. This was surprising, as these floorstanders are of relatively modest size.

The V represents a significant refinement over its predecessor, the Alón IV. The IV received rave reviews¹ when it was introduced in 1992 to establish the trademark qualities now associated with the Alón line: large soundstage, prominent midrange response, and a very dynamic, upfront presentation with plenty of bass impact. I liked the IV, but felt its upper midrange and bass could be too prominent with a lot of recordings. The V is said to retain most of the bass extension of the IV, but is more controlled. The midrange unit and tweeter are also new.

Carl Marchisotto, designer and president of Acarian Systems, has aimed the V at the audiophile ear, *ie*, audio-only or combination audio/Home Theater installations. With its smaller woofer, he feels the V will fit better in average-to-small listening areas that might be overloaded by the bass output of a pair of IVs. He continues to recommend the IV for Home Theater installations in which drama and larger rooms are the rule.

DESIGN & TECHNOLOGY

The Alón V's woofer cabinet is made of 1.25"-thick (1.5" for the front baffle) double-walled MDF with two layers of damping pads, plus internal bracing. The speaker's removable base allows the user to get at internal parts without removing the drivers. The Q of the infinite-baffle woofer/cabinet combination is 0.75; Carl Marchisotto feels this gives superior speed to the woofer.

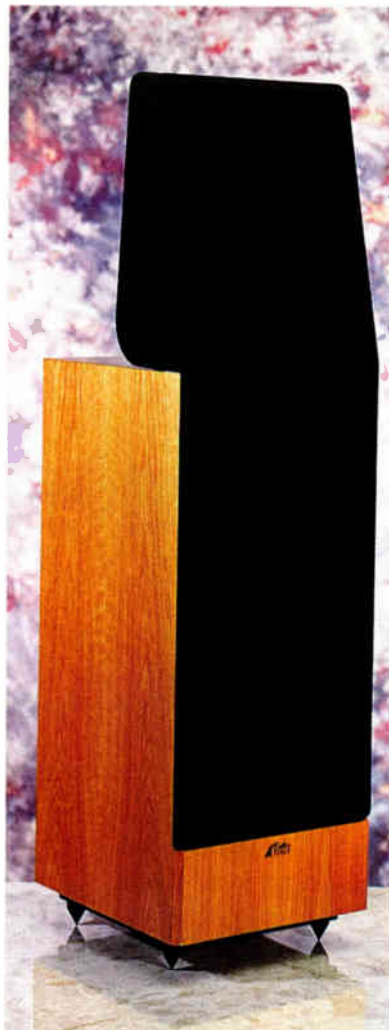
The low-distortion, long-throw bass driver was designed especially for Acar-

ian Systems. A long-fiber, felted cone material was chosen for its very high stiffness-to-mass ratio and good inherent damping. According to Marchisotto, this cone imparts less coloration than driver cones made of polypropylene or aluminum, which can have prominent sonic signatures.

The tweeter and midrange driver are mounted on a small, flat baffle, braced at the back, that stands atop the woofer cabinet. The drivers operate as dipoles, radiating from both front and rear; this can give the speaker a more open sound than when the drivers are mounted inside a cabinet. Marchisotto states that when smaller drivers are mounted inside the woofer cabinet, as in most designs, distortion-causing vibrations are transmitted to the midrange and tweeter in four ways: 1) enclosure panel resonance; 2) enclosure air-column resonance (standing waves produced inside the box); 3) delayed resonance caused by sound re-transmitted through the cone after reflecting off the enclosure; and 4) trapped air forcing the driver to resonate within its bandpass (*ie*, a midrange driver mounted in a box might have a resonant frequency at around 200Hz; however, if mounted on a baffle in free air, as in the Alón V, it resonates *out* of its bandwidth, at around 50Hz).

With its gently curving edges, felt collar around the tweeter, and half "hood" behind the tweeter, the baffle's odd figure-8 shape is designed to minimize diffraction from its face. In a conventional design, sound is thrown back at the listener from the sharp edges of the baffle, affecting imaging. In the Alón V, off-axis sound "wraps back" to the rear of the speaker and is not reflected back at the listener. The baffle sits back from the front of the cabinet to provide a degree of time alignment with the woofer, and is angled back to provide time alignment between the tweeter and midrange. [Staggering the drive-units does not in itself provide time alignment unless the crossover phase response is also taken into consideration. — Ed.]

The midrange driver uses a paper cone with two layers of plasticizers. As with the bass driver, Marchisotto opted for the highest stiffness-to-mass ratio. He feels this combination is very light, sonically neutral compared to polypropylene or Kevlar, and maximizes control over the cone. A small hole in the dustcap is said to improve phase response and equalize air pressure at the coil. Instead of conventional ceramic



Acarian Systems Alón V loudspeaker

¹ Robert Deutsch reviewed the Alón IV for *Stereophile* in February 1993 (Vol.16 No.2). —JA

magnets, a cobalt magnet structure was chosen for lower distortion.

The aluminum-dome tweeter's resonant frequency is out of its bandwidth and is therefore theoretically inaudible. An open plastic-cage structure to the rear of the tweeter holds a sound-absorbing pad positioned to prevent off-axis high-frequency information from diffracting off the top of the cabinet.

The crossover uses damped second-order filters for all the drive-units, to give slopes between 6dB and 12dB/octave: a low-pass for the woofer, a bandpass for the midrange, and a high-pass for the tweeter. High-quality parts are used, including polypropylene capacitors and oxygen-free copper Litz wire for the coils (inductors). There is no circuit board, and wiring is point-to-point.

For reasons discussed below, Acarian's own Black Orpheus speaker wire (\$550/10' tri-wire set) may be considered part of the design. The wires running to the bass drivers are 13-gauge silver-clad copper, while the pairs connected to the tweeter and midrange are a 13-gauge combination of stranded copper and silver-clad copper wires. Each wire is jacketed individually. Marchisotto subscribes to a hypothesis I've heard advanced by other wire manufacturers: The lower the capacitance of the wire, the lower the coloration.

MIXING & MATCHING

Marchisotto knows his wires. Setting up

the speakers in my apartment, he brought in the latest interconnect from Discovery Cable (tel: (908) 359-2485) and his own speaker cable, the reasonably priced Black Orpheus, in a tri-wired configuration. After giving a good listen to the manufacturer's preferences, I spent some time experimenting with other brands of wire. After all, not everyone is prepared to replace expensive wire at the same time one is dropping thousands on a speaker system. The good news is that nothing made the speaker sound bad.

I tried bi-wiring with TARA Labs RSC Master Generation 2 speaker cable and a WonderWire jumper between the midrange and tweeter binding posts, and got good results. In fact, the overall speaker performance remained largely the same. The sonically neutral RSC gave marginally cooler sound due to a consideration I'll describe presently. Though a tiny bit of detail may also have been lost due to the jumper, further listening confirmed that the V will make changes plain to the ear without its sound ever getting ugly.

Substituting other interconnects for Discovery Cable became a completely predictable exercise. The sonic characteristics identified with each brand over long experimentation with other system configurations were perfectly replicated. Kimber Kable KCAG was beautifully extended in the highs, and had excellent control of the bass region

and a lively midrange. Music Metre Signature provided a lovely amber-colored presentation, warm bass, forgiving treble, and a rich midrange. TARA Labs RSC Generation 2 was dynamic, and neutral from top to bottom. Consistency is a trademark of the Alón V; it seemed to have no quirky reactions to wire, and got along with most.

Ultimately I came back to Discovery Cable interconnect and Black Orpheus speaker wire because they matched *this speaker* best, sounding slightly sweeter and more liquid and having a wider soundstage than some combinations. If you have the bread, listen to these wires; if not, don't worry about it.

SYSTEM

Front-End: Sonic Frontiers' superb SFT-1 digital transport drove a Monarchy 22B DAC via Illuminati single-ended digital coax. Sonic Frontiers claims vanishingly low jitter for the SFT-1; if jitter be the source of much digital nastiness, SF has a winner. None of the traditional CD tweaks (mats, sprays, even an outboard re-clocker) could be heard to have any effect on the sound. That tells me the transport is doing its job. The Monarchy DAC continues to impress with its dynamics, soundstaging, smoothness, and bargain price (still around \$1000). The Illuminati cable, already commented on by JS in the May issue (p.195) and now available in two AES/EBU models, allowed sweetness,

VACUUM TUBE LOGIC MB-300 & MB-450 SIGNATURE MONOBLOCK AMPLIFIERS

The VTL tubed monoblocks mated so well with the Alón V that I wanted to reacquaint *Stereophile* readers with them, and comment on developments since J. Gordon Holt first reviewed the amplifier in October 1988 (Vol.11 No.10).

Though the sweet, liquid, holographic quality of triode tube operation has often been written about, it remains difficult to describe unless you've lived with it in your own system. It's...seductive. Detail is presented in a casual, graceful manner that sounds natural and real. The music simply *exists* in space. You don't tire of the sound as it continues to surprise and charm. In a quiet, darkened listening room there are few experiences quite so magical. I believe that

the Alón Vs provided the venue for the full character of these amplifiers to emerge.

The problem historically has been the lowered power of triode operation and its marginal ability to handle dynamic peaks with insensitive speakers. That has not been a valid concern for several years now, as several companies are producing high-powered triode amps.

I remember auditioning the VTL 225 with the Mirage M-1 speaker six years ago. It sounded smooth but distant, and bass definition was a problem. The big Mirage is very current-hungry and needs a muscular solid-state amp to gain full control. With the newer M-1si in my living room and the VTL MB-300s on hand, I

took the opportunity to experiment. I was astonished by how well these amps disciplined and directed the speaker. A well-controlled speaker actually does the opposite of what the word suggests: Dynamics and bass response have that casual, natural, almost offhand feel that indicates sufficient power is available—even in triode mode.

The neat thing about the VTL is that it can be switched between triode (250Wpc) and tetrode (nearly 500Wpc) operation with a flick of two switches on the front panel. The earlier model ran in tetrode mode only at 350Wpc. You don't lose a lot in tetrode mode—a bit of stage width, a bit of liquidity and sweetness—but you gain much added power for those thun-

transparency, delicacy of timbre, and stage width to emerge. Finally, the Clear Image Audio T4 Power Line Isolator gave me the cleanest AC I've heard, with no discernible effect on the components.

Amplifiers: Through the kind offices of Dan D'Agostino and Luke Manley, I was able to obtain two state-of-the-art amplifiers of very different breeds: the Krell KSA-300S and the Vacuum Tube Logic VTL MB-300. In this tale of two amps lies the key to the Alón V's ultimate performance.

Straight out of the box, the V had two characteristics that should be taken into account when matching equipment. Measured from the listening position, the speakers showed a broad plateau in the midrange frequency response, averaging between 2.75 and 4dB high between 630Hz and 1.25kHz. The Vs are a bit reticent in microdynamics and do not "bloom"—*ie*, become fully dynamic—until a music-listening level of around 80–85dB, which may be a bit high for apartment dwellers.

Though it wasn't always troubling, that broad midrange peak was audible on about half the recordings in my collection. To maximize performance I began with the Krell amp and tried all combinations of preamplifiers I had on hand: the Melos 333 Reference, the Sonic Frontiers SFL-2, and a passive shunted volume control. The peak was least prominent with the Melos, fol-

lowed by the SFL-2. But as the SFL-2 sounds more dynamic, and therefore worked better at lower listening levels with this speaker, I opted for it. As both the Melos and Krell have similarly distant perspectives, the sound became a bit too distant and uninvolving for my tastes when either was used with the Alón V.

Next came one of those anomalies that makes the optimization of a high-end audio system a black art. With the SFL-2 preamp, I substituted the VTL 300 running in triode mode for the Krell. The VTL measured virtually the same as the Krell—and I mean top to bottom—yet they sounded significantly different.

Listening with the Krell, I was reminded (if not exactly offended) by less than well-recorded material that the Alón V had a midrange peak. It could be heard on good material, too. Solo piano on Debussy's *Suite bergamasque* (François Thiollier, Naxos 8.553290) sounded slightly hollow and nasal; the upper range of Sinatra's voice on *Only the Lonely* (Capitol CDP 7 48471 2) was more prominent than I know it to be. With the VTL 300s, Thiollier's liquid piano tone lost the nasal coloration and Sinatra's voice was restored to its normal balance. The tube amplifier seemed capable of ameliorating the Alón V's midrange characteristic. Why this should be so when these speakers measure the same with both amplifiers, I'll leave for the engineers and theoreticians

to decide. But the VTL monoblocks were clearly the order of the day with these speakers.

LISTENING

The Alón V reflected changes in hardware and software so well that I'm tempted to review associated components rather than the speaker itself—such was the degree of audible change accompanying changes in system configuration. This is a tribute to the speaker.

Soundstage: While the width and height of the soundstage remained largely the same with each amp and preamp tried, the apparent depth perspective changed radically. With the Krell '300S and/or the Melos Reference preamp, I got a Row 20 presentation. With classical music (Novak, Serenade in F, Marco Polo 8.223649), the orchestra could be perceived as a whole unit. Sound emerged from a silent background, and one had a good sense of cohesiveness. Spotlit guitar work in front of an orchestra (Rodrigo, *Concierto de Aranjuez*, Naxos 8.550729) was beautifully rendered and tonally sweet.

With the VTL amps and the SFL-2 preamp, the speakers brought me to Row 10. Separation between instruments and orchestral sections increased. Microdynamics improved due to the closer positioning, and consequently the tempo of the music better asserted it-

derous Saint-Saëns Organ Symphony crescendos. However, I rarely needed that power with the Mirages, and never needed it with the Alón Vs.

Luke Manley tells me there have been substantial changes to the MB-300 since it was first introduced. The current version's overall circuit topology is similar, but a 6350 has replaced the 12BH7 phase-splitter tube. The 6350 has a higher amplification factor and transconductance, higher current, and lower impedance. Manley feels it smooths the sound compared to the original MB-300. One circuit board with tighter, simpler circuitry replaces two boards on the original model; this is said to result in a lowered noise-floor.

The main reason for the power increase is the all-new Signature output transformer. There's an art and a science to winding transformers, and tube devotees will note the changes

here. Manley states that they've increased the number of sections in the transformer, which improves couplings between windings and increases efficiency by lowering insertion loss (whew!). The primary impedance of the transformer is more closely matched to the plate impedance of the output tubes for more efficient current transfer to the speaker.

More windings and better winding-to-winding couplings are claimed to give a wider frequency response, especially at the top end. Manley reports that the amp measures flat from 20Hz to 25kHz at full power. The larger transformers also allow more output current—the 1988 version of this amplifier could deliver 6.6 amps, while this version will do 11 amps—which might account for the vast improvement in performance with my Mirages. VTL uses 9-gauge wiring in their Signature transformers

to give a 20-amp capability.

There will have been some cosmetic changes to the MB-300 by the time you read this. Tube biasing will become an internal procedure—it's currently accomplished with a switch and meter on the front panel and a screwdriver adjustment at each output tube—and an additional power supply will be included for the driver stage. Total power output will remain the same. The model number will become the MB-450 Signature and the price will increase to \$6990/pair.

Audiophiles who have read about but not yet heard a high-powered triode amplifier in their own homes need to do so. Get friendly with a tube head; make him loan you his amp for the weekend. If your speakers are capable, the improvements in sound quality should not be subtle.

—Russell Novak

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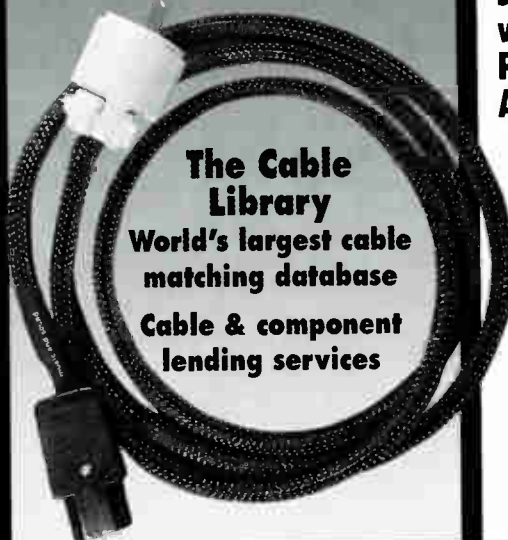
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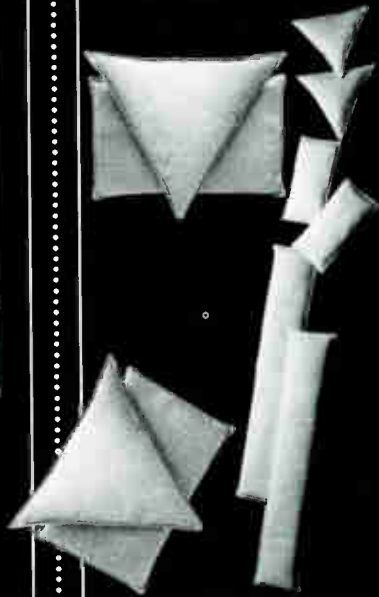


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self. This was especially apparent on Munyungo Jackson's *Munyungo* (VTL VTL002), which has a number of rhythmic elements pulsating behind a swinging piano solo.

Image height was right with the Alóns driven by the VTLs. Singers seemed about 5–6' tall and naturally recorded orchestral music appeared at the height of the drivers, while ambient information simply billowed within the front of the room. The Alón Vs always generated a nicely layered image in the room. It began about an inch in back of the drivers and ran back to the rear wall and corners in a manner so convincing that I was briefly astonished to hear Munyungo yelling "Oye, samba!" from the right rear corner of the room. The more I brought the Vs out from the wall, the larger the soundstage projected. I ended up with the cabinets 6' from the rear wall and 3' from the sides, with foam baffles at the side walls to diminish early reflections. I sat 9' away from the speakers, 4' from the wall behind me.

Get the *Blade Runner* soundtrack (Vangelis, Atlantic 82623)—it has neat sound effects with which one can judge changes in soundstage. The Alóns generated an enormous "soundstage" (one that probably never took place outside of Vangelis's synthesizer) with this recording. There's a telephone "busy signal" buried deep in the right channel at 0:17 that shifts outside the right speaker to a greater or lesser extent as associated components are switched. The piano in Clark Terry's recording of "Pennies from Heaven" (*Portraits*, Chesky JD2) does a similar thing in the left channel. The wider your stage, the farther outside the left speaker that image will move. If soundstaging is your thing, you'll love these speakers.

Dynamics: As I stated above, the Alón V's microdynamics were a minor problem. The preferred amp and preamp compensated nicely, as did the choice of DAC. The presentation remained refined, never out of control. The speaker will never move as much air as something with multiple drivers and a large speaker/room interface, but it's satisfying, and has dignity and decorum.

Tonal quality: With only a 10" bass driver and a moderate-sized box, it's surprising how low these speakers go—in my room, flat to 25Hz. Bass presentation was controlled and notes were well-delineated; the speaker will never "woof" you out of the room.

The midrange sounded very uncolored, but, as noted earlier, there's a broad peak in this region. It can be dealt with, however. The treble was clean and sounded extended, but I also detected the quality of forgiveness in the speaker: Bright recordings with bright wires and bright components failed to drive me from the room. This is important for audiophiles whose libraries are selected on the basis of artistic performance and must put up with some marginal-sounding discs. The tweeters were very sweet on good tube or transistor amps, and provided sufficient low-distortion, upper-octave information to allow me to focus on instrumental placement and ambience cues.

DO YOU TWEAK?

The Alón V will be a tempting object of affection for tweakers. The free-standing baffle holding the midrange and tweeter drivers suggests experimentation with the application of resonance-absorbing material. Mortite (available at hardware stores), Sorbothane, or any removable deadening material might be applied to the baffle rear. Proceed carefully, listening and measuring as you go. Carl Marchisotto points out that application of damping materials can result in resonances being shifted to a less desirable part of the frequency spectrum; consider this cheap tweak an experiment and a possibility, not an ironclad recommendation.

—Russell Novak

MEASUREMENTS FROM JA

I estimated the Alón V's B-weighted sensitivity to be 86dB/W/m, which is about average. The impedance (fig.1) dips to 4 ohms in the upper bass and lower midrange, the former region associated with a moderately high electrical phase angle; as these are frequency regions where music has a lot of power, a good 4 ohm-rated amplifier should be used. The impedance peak at 40Hz indicates the tuning of the sealed woofer enclosure—rather high in fre-

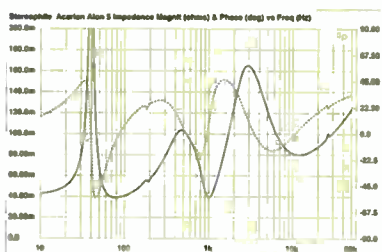


Fig.1 Alón V, electrical impedance (solid) and phase (dashed) (2 ohms/vertical div.).

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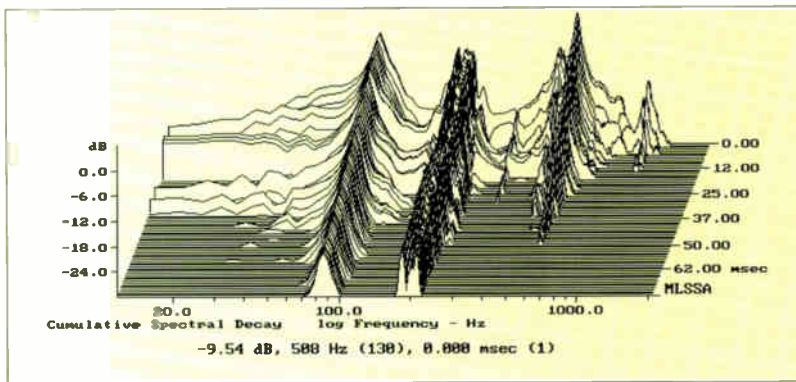


Fig. 2 Alón V, cumulative spectral-decay plot of accelerometer output fastened to the midrange/tweeter baffle just below the drive-units (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).

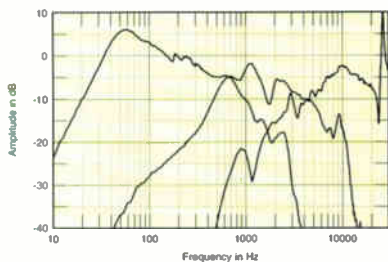


Fig. 3 Alón V, acoustic crossover on midrange axis at 50", corrected for microphone response, with nearfield woofer response plotted below 300Hz.

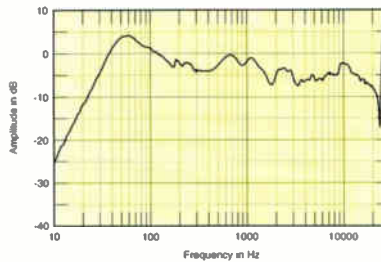


Fig. 4 Alón V, anechoic response on midrange axis at 50", averaged across 30° horizontal window and corrected for microphone response, with nearfield woofer response plotted below 300Hz.

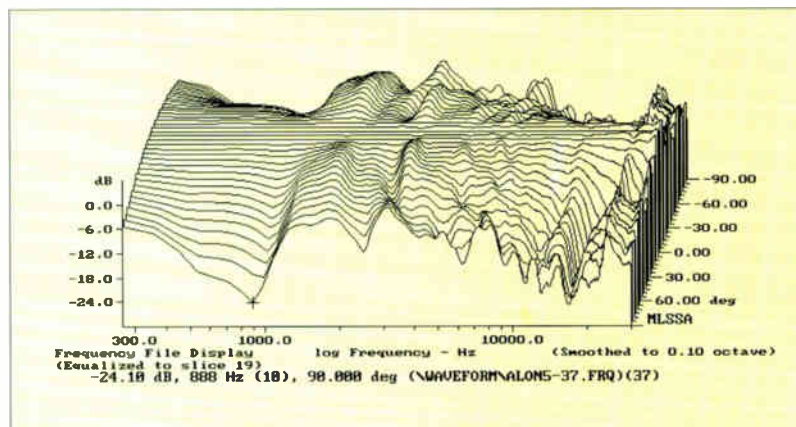


Fig. 5 Alón V, horizontal response family at 50", normalized to response on tweeter axis, from back to front: differences in response 90°-5° off-axis; reference response; differences in response 5°-90° off-axis.

quency for the size of the speaker.

Two wrinkles can be seen in the impedance traces. The one at 26.4kHz is due to the tweeter's "oil-can" resonance and is inconsequential. The second, around 185Hz, implies that there is a major cabinet resonance in this region. Fig. 2 shows a cumulative spectral-decay plot calculated from the output of a simple PVIDF plastic-strip accelerometer stuck to the open baffle just below the

midrange unit. In fact, two strong resonances between 180Hz and 210Hz can be seen in this graph; the one at 184Hz was also present on all surfaces of the woofer cabinet. An even stronger resonance is visible at 80Hz, while one much higher in frequency lies at the cursor position, 578Hz. Neither of these modes could be detected on the woofer box. The effect of these resonances will be minimized by the small radiating area

of the open baffle; however, the strong 184Hz resonance of the woofer enclosure might produce a feeling of mid-range congestion at high playback levels. As RN suggests, it might be worth experimenting with damping materials.

Fig. 3 shows the individual responses of the Alón V's three drive-units. As suspected from the impedance plot, the woofer is tuned to quite a high frequency. Its output peaks between 40z and 70Hz, rolling off at 12dB/octave below that region, and more gently in the midrange. In a room, boundary reinforcement will extend the low frequencies somewhat—RN found that he could get flat response down to 25Hz—but this speaker will never fully satisfy bassheads. The shape of the woofer curve might suggest some upper-bass heaviness, but RN was not bothered by anything amiss in this region. Note also that the woofer cabinet resonance at 184Hz is strong enough to introduce a small notch and peak into the woofer's output.

The woofer appears to cross over to the midrange unit just below 700Hz, though there is some overlap between the drivers. The midrange unit itself has a couple of narrow peaks and dips in its passband before crossing over to the tweeter above 3kHz, again with significant overlap. The tweeter's ultrasonic resonance rises 15dB above the nominal reference level, but at 26.4kHz this will only disturb bats and very young children, neither of whom have sufficient disposable income to afford the Alón V.

Fig. 4 reveals how these individual drive-unit outputs sum on the midrange axis at a distance of 50". (I chose the midrange axis for this measurement because this is 37" from the floor, a typical listening height.) Individually, the midrange and treble regions are fairly flat and smooth, particularly the treble. The latter is shelved-down by 4-6dB, however, which explains the speaker's rather forgiving nature. The low midrange is also a little shelved-down, giving rise to the upper-midrange prominence in the Alón V's balance noted by RN.

Vertically (not shown), the Alón V's balance doesn't change too much as long as you sit with your ears somewhere between the tweeter and woofer axes, 37"-43" from the floor. Above or below that region, suckouts appear in the midrange/tweeter crossover region, rendering the sound too hollow. Laterally (fig. 5), the V offers pretty smooth, even dispersion in the treble. A big dipole notch develops in the midrange

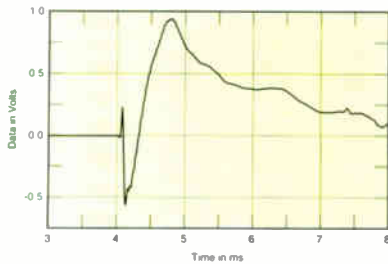


Fig.6 Alón V, step response on midrange axis at 50° (5ms time window, 30kHz bandwidth).

unit's off-axis output, however, which suggests that the degree of the V's upper-midrange energy can be ameliorated by careful experimentation with room placement.

The Alón V may have a slanted-back baffle and physically staggered drive-units, but by no means is it a time-aligned design. Looking at the step response on the midrange axis (fig.6), the small, positive-going spike just after the 4ms mark is the tweeter output; the larger, negative-going spike that follows is the output of the midrange unit; and the slow, later-arriving, positive-going step is the woofer. The tweeter and woofer are connected in positive acoustic polarity; the midrange unit is connected with inverted acoustic polarity in order to achieve a flat response through the crossover regions. So don't judge loudspeakers by their appearances—the choice of crossover filters has as large an influence on whether a speaker is time-aligned or not as the physical layout of the drive-units.

Finally, the Alón V's waterfall or cumulative spectral-decay plot (fig.7) is impressively clean throughout the upper midrange and treble. As a result, and as RN found, this speaker will have very good presentation of recorded detail.

—John Atkinson

CONCLUSIONS FROM RN

After living with Alóns for over six months, I had to think long and hard about replacing my Mirage M-1si speakers. My ultimate decision not to do so was based partially on short-term economics, some tradeoffs in sound quality and presentation, and the desire to upgrade by several levels when I finally take the plunge.

What niche in the market will the Acarian Alón V fill, and who should buy it? For all the excellent qualities listed above, I would not encourage someone who already owns a \$5000 pair of speakers to turn over one set for another. However, I believe the V presents a par-

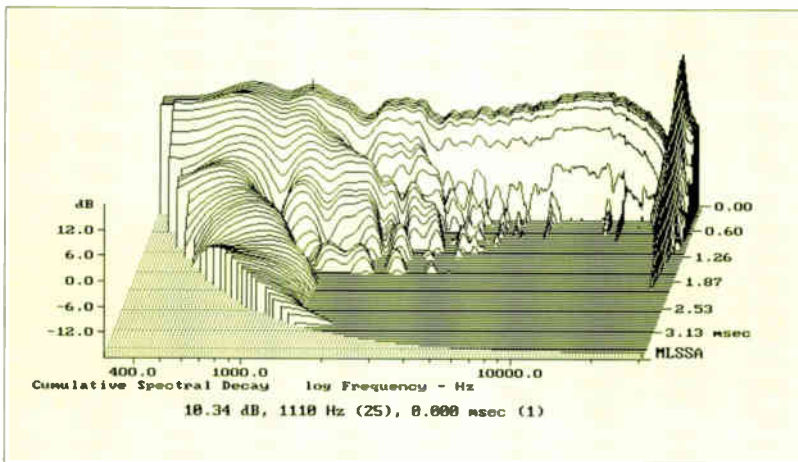


Fig.7 Alón V, cumulative spectral-decay plot at 50° (0.15ms risetime).

ticular opportunity for the audiophile who currently owns an entry-level system: It will clearly reflect subsequent system changes, giving the owner a reliable yardstick for total system improvement. It is also mildly forgiving when it comes to associated components; the V should remain listenable while your system is built or re-built around it, enhancing enjoyment as you go.

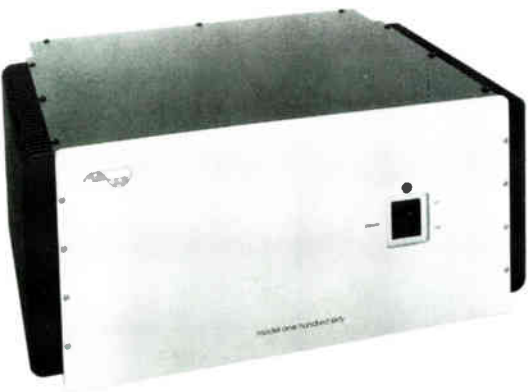
If you don't plan to spend ten grand

on speakers, I enthusiastically recommend the V. It's largely accurate, images like a champ, and responds to the smallest changes in associated components, wires, and tweaks. The Alón provides the potential for sound that is very near the state of the art. Its minor shortcomings can be worked with if you like its sound: sweet, precise, refined, and controlled, with a large, airy soundstage.

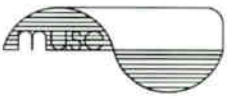
—Russell Novak

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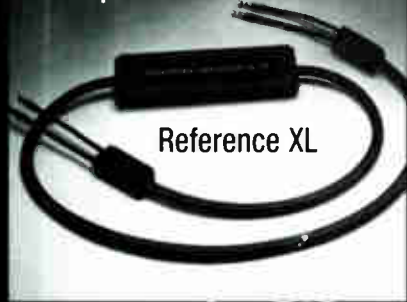
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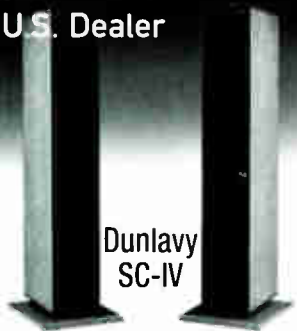
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C.E.C. TL 2 CD TRANSPORT

Steven Stone

Belt-drive CD transport with remote control. Digital outputs: Coaxial S/PDIF (RCA 75 ohm), AT&T optical (ST-type), balanced AES/EBU (XLR). Power consumption: 10W. Dimensions: 15.6" (400mm) W by 4.1" (105mm) H by 14.8" (380mm) D. Weight: 20 lbs. Accessories: Remote control, RCA cord, and 510gm disc stabilizer.

Serial numbers of review samples: K4700012, E4Z00343. Price: \$2995. Approximate number of dealers: 65. Manufacturer: Chuo Denki Co., Ltd., 1919 Nagayatsu Yoshimi-Machi i Hiki-gun, Saitama-Ken, Japan. US distributor: Parasound Products Inc., 950 Battery Street, San Francisco, CA 94111. Tel: (415) 397-7100. Fax: (415) 397-0144.

Several years ago, at a Consumer Electronics Show party in a Chicago blues bar, a retailer told Michael Fremer and me that our job as reviewers was to tell the public what was best. My reply, sharpened by several Leukenkugels, was, "You got it all wrong, buddy. Our job is to tell you all about a component, and let you decide if it is best for you. And, by the way, invade my personal space one more time and I'll deck ya."¹

You see, some people just don't get it. No, scratch that. *Most* people just don't get it. They think that the point of a review is whether or not the reviewer has a favorable opinion of a piece of equipment.

Bzzzt. Wrong.

The reviewer's personal likes and dislikes should be irrelevant to a truly well-written review. A reviewer's opinion of a product is far less important to you than *your* opinion. My job isn't to supply you with opinions, but to furnish you with an accurate description of the component's ergonomic and sonic characteristics so you can make up your *own* mind as to whether a product will be to your liking.² As Pearl Harbor (of Pearl Harbor and the Explosions) once said so eloquently, "Don't follow me; I'm lost too." Any reviewer or audio expert who thinks he or she knows what's good for you is no better for your future than a politician with a similar attitude.

On to the review at hand. Trickle-down theory isn't limited to the economy. Here's hoping that in technology it's a tad more successful than in the fiscal arena. The C.E.C. TL 2 shares the philosophical basis of its bigger, far more expensive brother, the C.E.C. TL 1 (reviewed by Robert Harley in Vol.16 No.7 and Jonathan Scull in Vol.17 No.5). Rather than the direct-drive system

used by most CD transports on the market, C.E.C. uses a belt-drive system to spin the disc. (Back to the future?) Luckily for the consumer, the TL 2 isn't merely an exercise in anachrophilia—the folks at C.E.C. have some sound and sensible reasons for using belt drive.

DESIGN & ERGONOMICS

The C.E.C. has an austere exterior that will charm some folks and turn off others. Muse Kastanovich's first words upon spying the TL 2 were, "Cool looks." My wife's were, "That's really dull." I'm in the middle—I think it's cool and dull at the same time. The TL 2's flat-black finish has a decidedly industrial feel. The front panel sports an On/Off switch, Stop and Play/Pause buttons, and two Skip Track buttons. The green display panel has a play indicator, pause indicator, time display, memory indicator, track-number display, and repeat indicator. That's it for the front panel.

The TL 2 is a top-loading machine. The transport opening has its own sliding Plexiglas door, which must be fully closed for the machine to operate. (99½% closed just won't do.) The TL 2 has digital outputs on the back for ST optical, coaxial electrical S/PDIF, and AES/EBU. Something for everybody.

The remote control has all the standard features, plus a memory button in case you forget where you put your glasses or wish to hear Cut 5 as Cut 1 (this is great if you're listening to opera and want to find out what's gonna happen in the end). Make sure you put

fresh premium batteries in your remote control—mine came with old wussed-out third-world batteries that lowered the remote's range to about 6" from the front-plate. With fresh bunny batteries the remote worked fine up to 35' away. The angle of acceptance for the remote is about 25° off-axis—reasonable, but not fantastic, performance.

The TL 2 comes with its own set of gold-plated spiked feet, and cups for the feet to sit in so they don't leave their mark on your shelf. Since the TL 2 is a top-loading design, its CD drawer is much easier to access if it's on the top shelf of your equipment cabinet—otherwise, make sure you allow at least 3" of clearance, or you're gonna drop and scratch a lot of CDs getting them in and out (where's that CD flipper I reviewed back in Vol.16 No.10?).

Rather than rotating the CD with a servo-controlled motor attached directly to the spindle, the C.E.C. TL 2 uses a belt that decouples the motor's vibration from the CD. Less vibration equals fewer digital read-errors. C.E.C. also feels that they can make a better spindle bearing with this design—a spindle can have less sideways motion, wobble, and slop when its only function is to serve as an actual spindle, not a device for passing rotational energy to the transport platform.

Coupled with this belt-drive system is a disc stabilizer, which weighs about 1 lb and sits on top of the CD. This stabilizer's flywheel effect results in a very stable rotation, allowing the motor to be a low-torque type that can achieve very



C.E.C. TL 2 belt-drive CD transport

¹ I can get testy a couple of days into a CES.

² Just the other day a marketing guy told me over the phone, "No, I haven't seen a copy of your review yet; I hope it was a good one." My pat reply was, "All my reviews are 'good.' That's because my reviews are accurate descriptions of the intrinsic qualities of the component." How's that for ego?

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smooth changes in velocity.

The final technological fillip in the C.E.C. TL 2 formula is the isolation of the CD from external vibrations, not only with the disc stabilizer, but also with the 5mm-thick extruded-aluminum chassis and gold-plated brass spikes I mentioned earlier. Does this vibration isolation work? It took quite a bit of rapping, tapping, and yanking to finally knock the TL 2 out of its groove while playing a CD, so I guess the isolation scheme is pretty successful. The TL 2 is a bit large to use while jogging, however.

SOUND

To compare my reference PS Audio Lambda CD transport and the C.E.C., I used both RCA and AT&T ST optical connectors to tether the transports to the EAD DSP-9000 D/A. I didn't use the AES/EBU connections because I didn't have two identical digital XLR-fitted cables. In comparing two devices, it's important to avoid introducing any extraneous variables—I learned that in junior-high chemistry class, about the same time I learned you can mix stuff together to make really bad smells. While there were some minor differences between RCA coaxial and ST optical connections with each transport, these differences were slight indeed. With both transports the ST optical connector was somewhat superior: Harmonic balance through the optical cables sounded more natural, with less of a mechanical edge and a bit more dimensional reality.

I did hear some differences between the C.E.C. TL 2 transport and the PS Audio Lambda transport, but they were so slight through the EAD DSP-9000 D/A that changing the connecting hardware on a pair of interconnects would seem, in comparison, to produce a sonic difference of cataclysmic proportions.

After I finished my listening sessions with the TL 2, I reread Robert Harley's and Jonathan Scull's reviews of the C.E.C. TL 1 to see what my peers had noticed when comparing transports. I was aghast at the large sonic differences they described between different transports, and in JS's case, between cables, spikes, and even Shun Mook resonance devices used with these transports. Either a) I'm becoming deaf, b) JS and RH are two *really* ultra-creative writers; c) the EAD D/As I tested have such good jitter-reduction interfaces that differences between sources and tethering schemes are extremely attenuated; d) both my stereo systems are low-res-

olution at best; or e) there are no longer vast differences between high-quality transports.

Let's assume for a moment that a) is not possible, b) is a kettle of worms that life is too short to explore, and d) is ridiculous since I can hear differences between cables, interconnects, cartridge VTA, different preamps, switching from Triode to Tetrode settings on the Manley Reference amps, and different pressings of the same LPs through both of my systems. That leaves only c) and e) as possibilities.

Perhaps the EAD products with their Digital Flywheel jitter-reduction systems are obscenely successful at reducing differences in jitter between various transports. It's quite possible. The only other explanation for the infinitesimal³ differences I heard between my reference PS Audio Lambda and the C.E.C. TL 2 is that they're nearly identical-sounding transports. Is that possible? At least as possible as me waking up tomorrow morning able to play guitar like Eric Clapton. Uh-huh.

So where does all this gratuitous intellectual violence leave us? With a bloody short sound section, that's what—this, after many hours of A/B-ing to the point that there are certain CDs that I wouldn't mind *never, ever hearing again as long as I live*,⁴ and some household tasks (such as removing all the cat hair from the entire expanse of my 10' by 12' semi-antique Saruk rug with a Dyna-Clear tube-socket brush) that look more appealing than comparing transports.

The most noticeable difference between the C.E.C. and PS Audio transports was in the area of bass dynamics. The PS Audio consistently displayed more contrast, impact, and dynamic punch on mid- and low-bass information. Whether it was the bass line on Michael Ruff's *Speaking in Melodies* (Sheffield Lab CD-35) or the low harmonics of Noreen Cassidy-Polera's piano on *Cellist's Holiday* (Audiofon CD 72046), the sound came through on the Lambda transport with more dynamic articulation and drive than on the C.E.C. unit. This difference was apparent through both RCA coax and ST

optical connections.

The midrange, on the other hand, sounded ever so slightly more natural through the TL 2 transport. William De Rosa's cello on *Cellist's Holiday* sounded a bit more liquid and harmonically correct. Let me emphasize that this difference was minor; on the Michael Ruff CD I couldn't discern any differences in the midrange whatsoever.

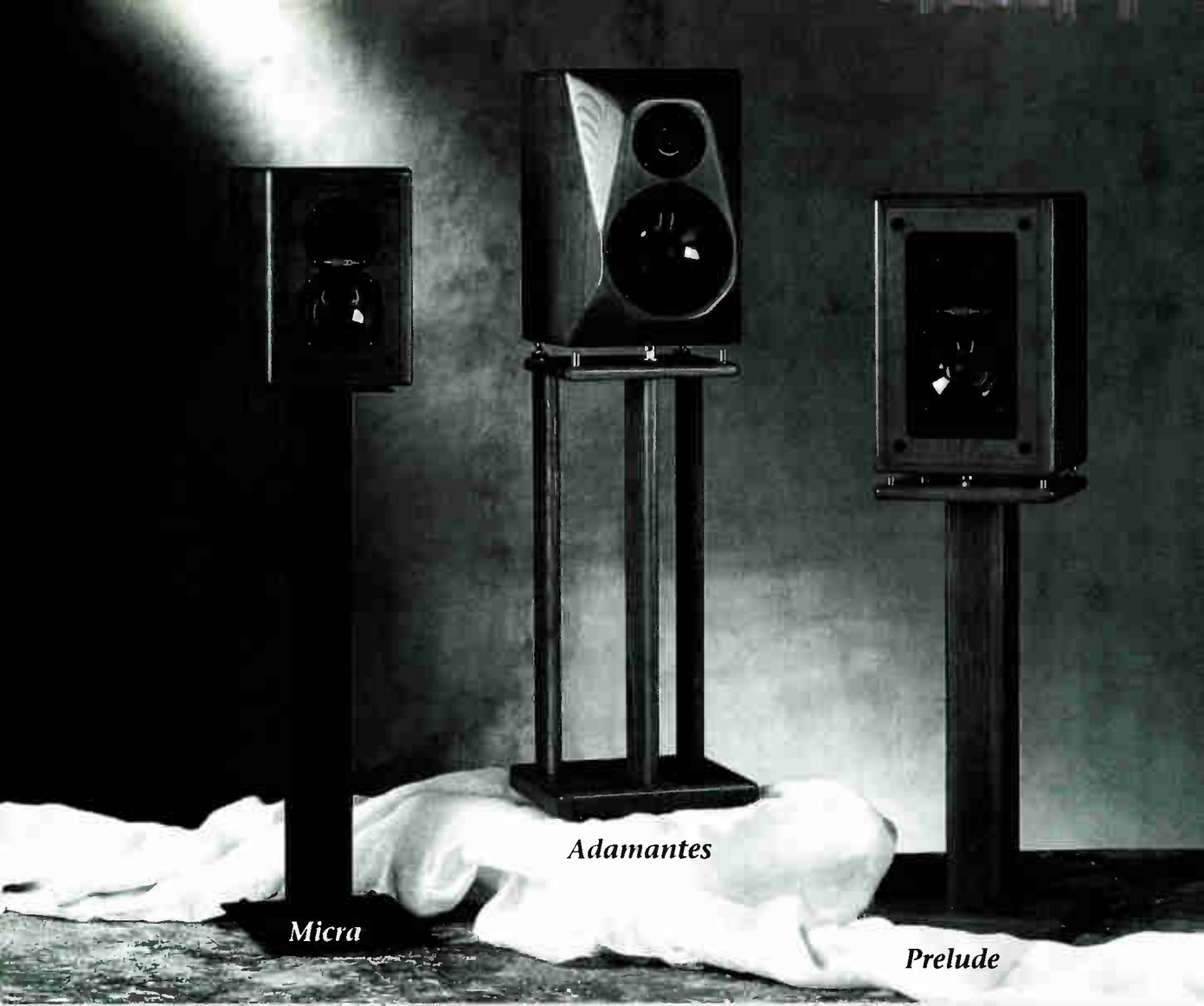
Dimensionality—soundstage width, height, and depth—were also identical between the two transports. As an act of utter masochism and self-abasement, at the end of my test period, after spending hours doing A/Bs, I labeled the four inputs I was using on the EAD DSP-9000 “1,” “2,” “3,” and “4,” and had my wife switch between them, noting her selections as she went. Meanwhile I wrote down which source I thought I was listening to. I flunked the test, achieving an accuracy rate of only 15%. In other words, flipping a coin would have been a more accurate way of telling which input had been selected.

Should I shoot myself now or wait till after dinner? I guess it depends on what's being served. Before taking any rash action, I did more A/B-ing with known sources, and heard the same differences noted earlier in the review. I guess the moral is that you should never do any critical listening while your wife is in the room, or that the emotional pressure of blind testing can make you less capable of hearing subtle differences than when you're in less stressful listening situations. After participating in blind speaker tests in Santa Fe a couple of years back, I believe the latter theory to be true. It's almost as bad as trying to listen to a system at CES with the manufacturer breathing down your neck, expecting you to say something insightful after two minutes of listening. “Uhhhhhh, nice rhythmic drive.”

One undeniable and consistent difference between the PS Audio Lambda and the C.E.C. TL 2 is that the TL 2 takes longer to start to play the first track of a CD. It also takes longer to jump from track 1 to track 4. I suppose this is due to the TL 2's drive system; it just doesn't come up to speed as fast as the PS Audio. Though slower, it's not *com* slower; it's not like you can hum all of “The Star-Spangled Banner” backward while you're waiting, but serious Type A personalities may find the lag stressful. The overall reliability of the TL 2 was impeccable, without any glitches or peculiarities throughout the several-month test period. While this may be disappointing to the tweaks in the audi-

³ An infinitesimal difference is one that is so small that it's almost nonexistent.

⁴ I'm of the opinion that the only proper way to compare transports is via real-time A/B testing. You've got to have two identical CDs playing at the same time on both transports, and go back and forth between them to identify differences. Relying on your sonic recall ability—playing the same disc in each player separately and then comparing notes—is a far-too-imprecise methodology. There are only a few discs in my collection that I have as doubles. During testing they wore out their welcome.



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ence, the TL 2 can be set up and then ignored. I find that admirable.

UH-OH

About two weeks after I thought I'd put this review to bed, I received a panic call from Parasound. Seems a prototype TL 2 had been hand-delivered to Robert Harley while he was in Santa Fe.⁵ They were right. The unit I had reviewed had come from RH's bottomless digital stash. Expletives deleted. Right after CES, Parasound next-day-aired me a current production model (serial number E4Z00343).

This new sample was certainly not the same as the transport I originally reviewed. It sounded noticeably superior to the prototype. The next time any manufacturer sends me (or any other *Stereophile* reviewer) a *prototype* and it falls into my hands, I'm gonna *torch* it!

CHANGES

So how does the "real" C.E.C. TL 2 differ from the prototype? According to

5 My policy is that any sample of a product that arrives in our hands is assumed to be intended for, and suitable for, review. We don't do consultancy work, nor do we advise manufacturers on how their products could be made to sound better other than via the mechanism of a formal review. —JA

Richard Schram, Parasound's fearless leader, there are many small differences between the units. Supposedly, the production model has more precise parts values than does the prototype. Many parts have been changed to try to achieve a far more accurate and better-standardized performance. (On exactly what parts had been changed, Parasound was mute. I suppose I could have cracked both units open and done the old A/B thing, but I'm not a budding audio designer, so I don't really care exactly what was changed.)

NEW SOUNDS

Returning to square one, I was mortified to find that, yes, even through the EAD DSP-9000 III, transports can sound different. My apologies to RH and JS for doubting their infinite wisdom. I am mud beneath their feet.

Compared to the prototype unit, the production C.E.C. TL 2 was not only smoother throughout the midrange, but more dynamic, with a wider and deeper soundstage, better bass dynamics, and finally, superior inner detail. On the Michael Ruff CD *Speaking in Melodies*, Ruff's voice sounded less mechanical, with a more natural timbre, especially in his upper registers.

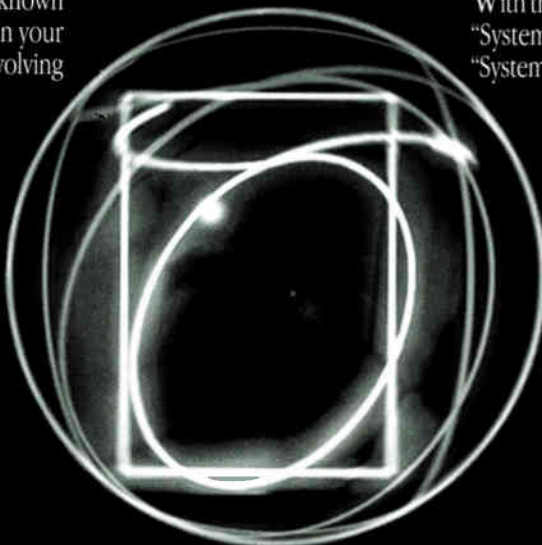
Upper-frequency information, for example the cymbals, had noticeably more air and less of a harsh leading edge.

The most shocking difference between the original unit and the current one was the presentation of bass information. Not only did the new TL 2 sound more dynamic on drum strokes, but the bass had more impact and more precise tonality.

After the new TL 2 made mincemeat of the original sample, I moved it into my large listening room to do battle against the PS Audio Lambda. Once again, it was immediately clear that I was listening to a very different transport. Compared to the Lambda, the C.E.C. sounded consistently more natural. Whether it was the saxophone solo on "Inca Roads" from the Omnibus Winds' *Music by Frank Zappa* (Opus 3 19403) or Elaine Spitari's voice on "Walk the Dust" from KBCO's *Live at Studio C: Volume 1*, the C.E.C. was slightly more relaxed in the midrange, with a hair less mechanical tonality. The acoustic bass on "If I Had a Million Dollars" by the Barenaked Ladies (*KBCO Live at Studio C: Volume 4*) had more punch and weight through the C.E.C. Most of these dif-

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ferences weren't huge; however, they were consistent on many different sources.

On especially well-recorded material done in natural acoustic spaces (pop music need not apply), the C.E.C. had the ability to unravel slightly more spatial information. On the Opus 3 Zappa CD, the rear and side walls were better defined, with slightly more dimensional layering between instruments. On *Cellist's Holiday*, I could also make out slightly more dimensional and spatial information.

With the production TL 2, in blind tests administered by my oh-so-unbiased wife, I was able to consistently identify the small differences between the two transports. I'm not sure that I can confidently say that the sonic differences between the two units is worth the cool thou difference in price. A grand buys a lot of CDs, concert tickets, a super-premium cable or two, or a

really nice equipment stand.

SUMMARY

The moral of this review is simply this: Don't be bullied by some expert (including and especially yours truly) into spending a lot of money on a transport unless: a) you like the way it looks and performs so much you don't care if it sounds any better than your current unit; or b) you actually hear an improvement in the performance of your digital front-end with it installed. While the prototype TL 2 produced practically no sonic improvement over my reference PS Audio Lambda transport, the actual production-model unit was certainly better. A thousand dollars better? Perhaps it all depends on your disposable-income level. Bottom line: The C.E.C. TL 2 is the best transport I've had in my system. If you have \$3k to spend on a CD transport, the TL 2 should certainly be on your audition list. **S**

SYSTEM

The following equipment was used for this review:

Reference digital front-ends were the PS Audio Lambda CD transport and Sony D-7 DATman connected via coaxial, AES/EBU, TosLink, and AT&T optical connectors to EAD DSP-7000 Series III or DSP-9000 Series III D/A processors.

Preamps in-house were the Threshold T-2 and Carver Research Lightstar Direct line-level units, and no preamp at all with the EAD DSP-9000 III, which has a digital-domain volume control. Power amps were the Manley Reference 240, Rowland Model 6, and Pass Aleph 0. Speakers were the Dunlavy Signature SC-VIs in my large room, and the Avalon Eclipses in my small room.

Interconnects (all balanced) included Audio Magic Sorcerer, Synergistic Research Kaleidoscope, and WireWorld Eclipse. Speaker cables were Dunlavy Labs DAL-8Z or Audio Magic Sorcerer (with the Dunlavys), and Synergistic Research Signature 2 and 3 (with the Avalons), in 8' lengths. Digital cables were Mod Squad Wonder Link 1 coaxial, Audio Magic Sorcerer coaxial, TARA Labs RSC Master AES/EBU, and AudioQuest, Parasound, and Sony fiberoptic cables with ST

connections.

Other accessories included RoomTune CornerTunes, EchoTunes, and Ceiling Clouds; Acoustic Sciences Tube Traps and Shadow Casters (in small room); Arcici Levitation stand (in large room); RoomTune Just-a-Rack; Arcici Superstructure II; Soundstyle X503; and Billy Bags amp stands. All major components were on Bright Star Audio Big Rock bases and Little Rock top-plates (in small room). Also in use were Shakti Stones; FluxBuster; PAD break-in disc; Music And Sound ferrite beads; AudioQuest ferrite clamps; Noise-Trapper Power Strip; Synergistic Research power cords (with Manley Reference 240 amps and PS Audio Lambda transport); TARA Labs RSC Master Power Cords (with Pass Aleph 0 amps); Marigo AC cord (with C.E.C. TL 2 transport); 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 Brilliantize CD cleaner; and a 1992 Gibson J-1000, one of only 73 produced at the Boseman, Montana factory. — Steven Stone



"Simply Stunning"

—Tom Miller,

The Audio Adventure, July, 1995

"That the Petite can reach the summit of small loudspeakers is due to its bass, which is more like that of a medium sized speaker than that of a mini."

—Y.K. Chan,

Audiophile Magazine, June, 1995

"Let's just dub them 'first among equals'."

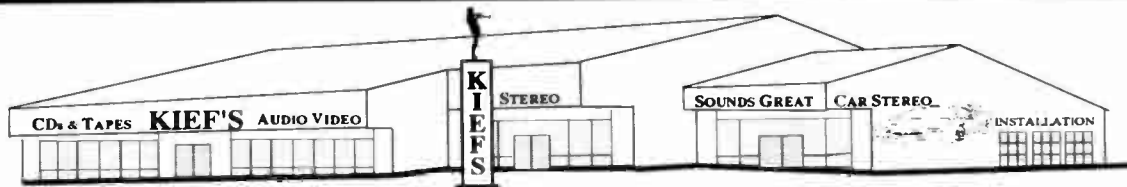
—Wes Phillips,

Stereophile, Vol. 19 No. 1, Jan., 1996

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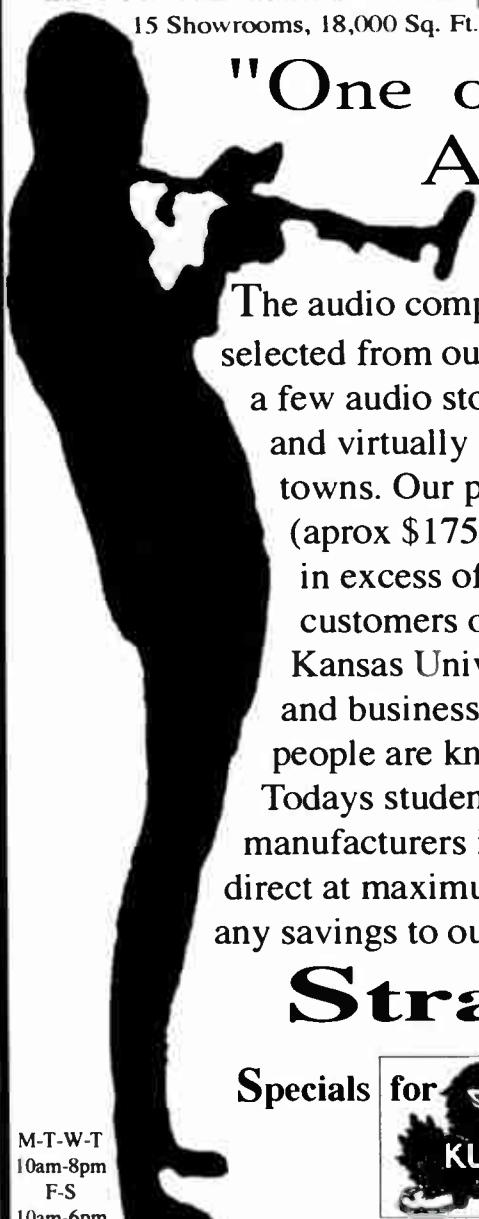
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FOLLOW-UPS

WILSON AUDIO SPECIALTIES WITT LOUDSPEAKER

Every time we assemble "Recommended Components," there are loose ends that bother us, bother the readers more, and bother the manufacturers most of all. Where to put the \$8888/pair Wilson WITT speakers in the April listing was a case in point. Tom Norton's January review (Vol.19 No.1, p.177) was almost uniformly positive, but when I asked him if the speaker should go into Class A, along with the similarly priced B&W Silver Signature and Thiel CS7, he shook his head. "It doesn't do quite enough for me," he explained. Martin Colloms, co-author of that review, was less reticent: "Wilson's most completely balanced design to date," he raved, adding that the WITT was "undoubtedly a full-range Class A component at a wholly realistic price."

I "solved" the impasse by putting the speaker into high Class B and asking Mark Goldman of Wilson Audio Specialties for a further pair of review samples. "Better than that," said Mark, "I'll bring a pair out with me from Utah and set them up in your listening room."

And so he did, carefully explaining what he was doing as he zeroed-in on the WITTs' optimal positions by listening to how the room affected the sound of his voice. Fig.1 shows the resultant averaged in-room frequency response measured at the listening position: a slight excess of bass and mid-treble, but amazingly flat overall. For serious listening I used my usual Mark Levinson digital and Linn analog front-ends; amplification was Mark Levinson No.38S and No.333, with a Meridian "digital volume control" also seeing service; speaker cables were MIT MH-700 CVTs.

When I had auditioned the WITTs in Martin's listening room, I had been bothered by a residual "cupped-hands"

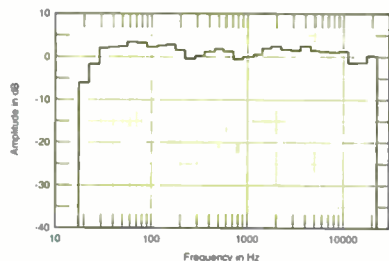


Fig.1 Wilson WITT, spatially averaged $\frac{1}{3}$ -octave response in JA's room.

coloration. I couldn't detect any of this character in my own room. But Tom's description of the WITTs' sound was right on: a huge soundstage, a superbly palpable midrange, a rather laid-back treble, and a noticeable bottom-heaviness, with a somewhat restricted low bass. While TJN had commented on how loud the Wilsons went without sounding stressed, I became increasingly enamored of this aspect of the speaker's sound. There was a freedom from grain and strain that allowed me to hear deep into the recorded soundstage and allowed the speakers to get out of the way of the music. Without listening fatigue, my music sessions tended to last a long time.

The Puppy Paws (\$320/eight) are essential to get the best from the WITT. With them, the bass was the tightest I have heard in my room, kickdrum appropriately punching the air, while bass guitar attack wasn't blurred by reflex boom and sogginess. And did I say that the soundstage was huge? It was. And that the speaker is superbly transparent? It is.

Now that I've heard the WITT for myself, I have to conclude that it crosses that magic border: This is a true Class A loudspeaker. —John Atkinson

MERIDIAN 518 DIGITAL AUDIO PROCESSOR

Reader Gregory Connes of Tampa, Florida took exception to my January review of the \$1650 Meridian 518 Digital Audio Processor (Vol.19 No.1, p.249): "Shame on you for missing the point..." he thundered. "You allude to Meridian's claim that, when used as a digital preamp, the 518 can sound 'frighteningly good,' but you didn't have time to use it as a preamp! How long could it have taken to hear what for most of us is the most compelling reason for CD-only users to own this piece: the elimination of a compromising analog stage?"

With apologies for the lateness of this Follow-Up, here is my opinion of the sound of the Meridian 518, used as a "preamp" between Mark Levinson No.31 CD and Panasonic SV-3700 DAT sources and my Mark Levinson No.30.5 processor, which in turn fed a Mark Levinson No.333 power amp driving Wilson WITT speakers. Interconnects were balanced AudioQuest Lapis; speak-

er cables were MIT MH-770 CVT. The Meridian was set to take in 16-bit words and output 20-bit words using its Shape D noise-shaping—note that your DAC *must* have an internal data path with more than 16 bits—and was used to adjust volume and to switch between the two sources.

The sound was indeed "frighteningly" good! All audiophiles say that what they want is "accuracy," but then there is nowhere for problems to hide. Is that what we *really* want? I was reminded of the scene between Tom Cruise and Jack Nicholson in *A Few Good Men*, where Cruise explains that he is just looking for the truth. "The truth!" bellows Colonel Jack. "You can't *handle* the truth!"

Without an analog preamp, even an excellent one, in the chain, I was more aware of recorded background noises that had previously gone unnoticed. On *Stereophile's* Robert Silverman Liszt CD, for example, there are some children playing in the far distance at the end of *Liebestraum*. They don't get in the way of the music—but I'd never heard them before. On old recordings, like a '60s Delius collection (EMI Studio CDM 7 69534 2), I started to hear things, like analog tape squashing, that used to be smeared over into pleasantness.

But on high-quality recordings—the new Brahms Violin Sonata reading from Arturo Delmoni on John Marks Records (JMR 2), for example—the Meridian 518 just allowed the music to soar, sweeping me away with it. It doesn't get any better than this!

At 0dB (unity gain), I could hear no difference between the Meridian 518 in the chain or out, other than the general improvement in the sound's tangibility that I reported on in January. However, I found that adjusting the volume below -12dB took away some of the magic. (Some of it could be recovered by setting the 518 to add pre-emphasis.) Whether you can get away with this limited volume-range adjustment will depend on the gain structure of your system. With the relatively low-sensitivity WITTs, 0dB was very loud, but not uncomfortably so with pure-sounding recordings. Your mileage may vary, particularly if you have high-sensitivity speakers and a small room. But if you can get away with it, Meridian's 518 digital preamp will take your system to the next level.

—John Atkinson

S

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Kimber's entry level interconnect exhibits simple, elegant construction. This product really demonstrates the adage, "less is more". A lean, mean, stripped-down interconnect that offers hotrod performance at Moped prices. PBJ uses the same braid geometry as the esteemed KCAG but with VariStrand™ copper conductors. The connectors are in fact identical to those found on our most expensive interconnects. PBJ-real world performance in a "no frills" package. And like the other PBJ (Peanut Butter & Jelly) Mom says, "Just eat it (and shush up), it's good for you!"

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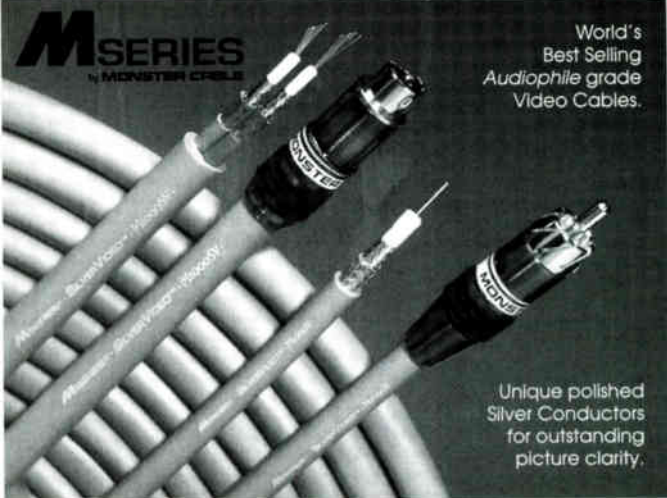
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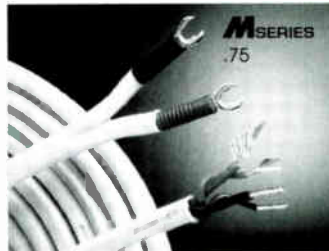
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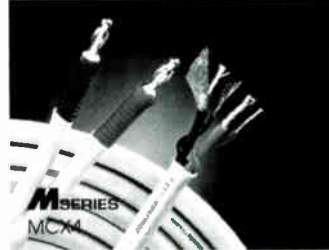
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The M .75 uses state-of-the-art speaker cable technologies for audiophile performance at a non-audiophile price...\$5 / ft. or *Priced per pair!*
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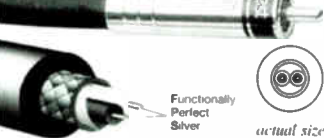
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Interconnects and Speaker Cables Stereophile Recommended Component

22 awg FPS Silver
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 Foam Insulation
 Foil / Mylar / Foil Shield
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AQ VIDEO / DIGITAL Z™, double balanced, solid FPC-6 Copper. Resistance welded RCA.

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22 awg FPC-6 Copper
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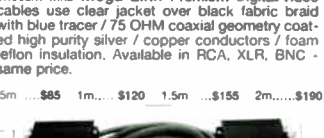


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 3m pr...\$297 4m pr...\$363 5m pr...\$429 6m pr...\$495
 w / XLRs 5m pr...\$167 1m pr...\$200 1.5m pr...\$233

AQ RUBY X 2™, double balanced, solid FPC copper, polypropylene.

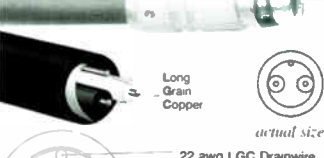


Functionally Perfect Copper 99.9999%

22 awg LGC Drainwire
 22 awg PFC Copper
 Polypropylene Insulation
 Foil Shield
 PVC Jacket (UL CL2)

5m pr...\$84 1m pr...\$98 1.5m pr...\$112 2m pr...\$126
 3m pr...\$154 4m pr...\$182 5m pr...\$210 6m pr...\$238
 w / XLRs 5m pr...\$141 1m pr...\$155 1.5m pr...\$169

AQ TOPAZ X 2™, double balanced, polypropylene solid LGC.



Functionally Perfect Copper 99.9999%

22 awg LGC Drainwire
 22 awg LGC Copper
 Polypropylene Insulation
 Foil Shield
 PVC Jacket (UL CL2)

5m pr...\$57 1m pr...\$65 1.5m pr...\$73 2m pr...\$81
 3m pr...\$97 4m pr...\$113 5m pr...\$129 6m pr...\$145
 w / XLRs 5m pr...\$117 1m pr...\$125 1.5m pr...\$133

AQ TURQUOISE X 2™, double balanced, solid LGC, UL CL-3.



Functionally Perfect Copper 99.9999%

22 awg LGC Drainwire
 22 awg LGC Copper
 Primary PVC Insulation
 Foil Shield
 PVC Jacket (UL CL2)

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 3m pr...\$55 4m pr...\$63 5m pr...\$71 6m pr...\$79

AQ JADE™, Symmetrical Coax, solid LGC, UC CL-3.



Long Grain Copper

22 awg LGC Copper Neg.
 22 awg LGC Copper Pos.
 Primary PVC Insulation
 PP Filler
 Foil Shield
 PVC Jacket (UL CL2)

5m pr...\$22 1m pr...\$25 1.5m pr...\$27 2m pr...\$30
 3m pr...\$35 4m pr...\$40 5m pr...\$45 6m pr...\$50

audioquest Speaker Cables

AQ MIDNIGHT™, uses sixteen solid FPC conductors. Each conductor uses polyethylene insulation over FPC copper. The extremely long grain structure of FPC copper greatly improves naturalness and dynamics.



Functionally Perfect Copper

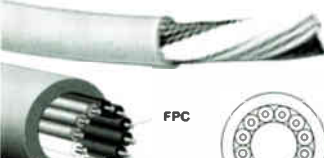
22 awg FPC Copper
 18awg FPC Copper
 Primary PE Insulation
 PP Filler
 Mylar Binder
 PVC Jacket (UL CL2)

Midnight 3, Dark Blue...\$18 / foot
 Factory prep. 8' pr...\$351 10' pr...\$415 12' pr...\$479
 Custom prep. 8' pr...\$316 10' pr...\$360 12' pr...\$445
 Single Bwire 8' pr...\$330 10' pr...\$395 12' pr...\$480
 Double Bwire 8' pr...\$592 10' pr...\$720 12' pr...\$848



AQ CRYSTAL™, uses twelve solid conductors, spiraled together in a Hybrid Hyperlitz array. Six conductors are 18 awg LGC copper and six are 20 awg FPC copper. The FPC copper acts like a bypass, allowing most of the high frequency benefits of this superior material. The less expensive LGC copper provides bulk, so Crystal provides a powerful full range sound. Together the LGC and FPC allow Crystal to have extraordinary performance at a reasonable price.

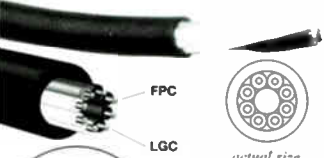
Single Bwire
 Double Bwire



FPC
 LGC

20 awg FPC Copper
 18 awg LGC Copper
 Primary PE Insulation
 PP Filler
 Mylar Binder
 PVC Jacket (UL CL2)

AQ Crystal, Slate Blue...\$9 / foot
 Factory prep. 8' pr...\$219 10' pr...\$255 12' pr...\$291
 Custom prep. 8' pr...\$204 10' pr...\$240 12' pr...\$278
 Single Bwire 8' pr...\$219 10' pr...\$255 12' pr...\$290
 Double Bwire 8' pr...\$368 10' pr...\$440 12' pr...\$512

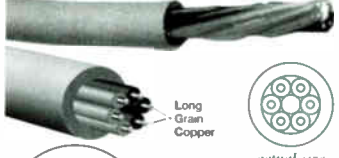


AQ INDIGO™, 8 conductor Hybrid Hyperlitz with FPC / LGC coppers. Crystal's "little brother."

Indigo 2, Dark Blue...\$6 / foot
 Factory prep. 8' pr...\$171 10' pr...\$195 12' pr...\$219
 Custom prep. 8' pr...\$156 10' pr...\$180 12' pr...\$204
 Single Bwire 8' pr...\$170 10' pr...\$195 12' pr...\$219
 Double Bwire 8' pr...\$272 10' pr...\$320 12' pr...\$368

audioquest Speaker Cables

AQ TYPE 8™, 6 conductor Hyperlitz / LGC copper.



Long Grain Copper

13 awg
 18 awg LGC Copper
 Primary PE Insulation
 PP Filler
 Mylar Binder
 PVC Jacket (UL CL2)

Type 8, Slate Blue...\$4 / foot
 Factory prep. 8' pr...\$114 10' pr...\$130 12' pr...\$146
 Custom prep. 8' pr...\$100 10' pr...\$118 12' pr...\$132
 Double Bwire 8' pr...\$175 10' pr...\$207 12' pr...\$239

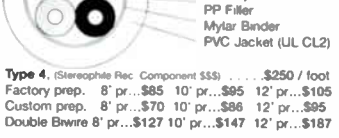


AQ TYPE 4™, 4 conductor Hyperlitz / LGC copper.

SMALLER
 LARGER

15 awg
 18 awg LGC Copper
 Primary PE Insulation
 PP Filler
 Mylar Binder
 PVC Jacket (UL CL2)

Type 4, (Stereophile Rec. Component 555)...\$250 / foot
 Factory prep. 8' pr...\$85 10' pr...\$95 12' pr...\$105
 Custom prep. 8' pr...\$70 10' pr...\$86 12' pr...\$95
 Double Bwire 8' pr...\$127 10' pr...\$147 12' pr...\$187

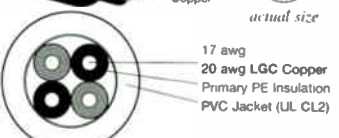


AQ TYPE 2™, 4 conductor Hyperlitz / LGC copper.

Long Grain Copper

17 awg
 20 awg LGC Copper
 Primary PE Insulation
 PVC Jacket (UL CL2)

Type 2, Burgundy Satin...\$1 / foot
 Factory prep. 8' pr...\$63 10' pr...\$69 12' pr...\$75
 Custom prep. 8' pr...\$50 10' pr...\$56 12' pr...\$62
 Double Bwire 8' pr...\$100 10' pr...\$112 12' pr...\$124

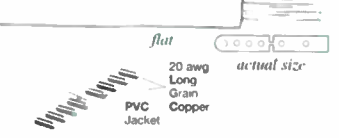


AQ F-18™, 4 conductor Hyperlitz / LGC copper.

flat

20 awg Long Grain Copper
 PVC Jacket

F-18, White, 14 AWG...\$1.95 / foot
 Custom prep. 8' pr...\$52 10' pr...\$60 12' pr...\$68
 Double Bwire 8' pr...\$104 10' pr...\$120 12' pr...\$136



AQ F-14™, 2 conductor Hyperlitz / LGC copper.

20 awg Long Grain Copper
 PVC Jacket

F-14, White, 17 AWG...95c / foot
 Custom prep. 8' pr...\$36 10' pr...\$40 12' pr...\$44
 Double Bwire 8' pr...\$72 10' pr...\$80 12' pr...\$88

JERRY RASKINS NEEDLE DOCTOR

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Virtuoso
Lifetime Warranty

STRAIGHT WIRE VIRTUOSO Reference Interconnects use individually insulated ultra pure 15% silver / 85% copper conductors & microporous foam teflon insulation. XLR same price. *Priced per pair!*
.5m.....\$300 1m.....\$450 1.5m.....\$600 2m.....\$750
3m.....\$1050 4m.....\$1350 5m.....\$1650 6m.....\$1950
VIRTUOSO Reference Speaker uses pure 15% silver / 85% copper conductors. \$50 / ft. *Priced per pair!*
5 ft.....\$650 8 ft.....\$950 10 ft.....\$1150 12 ft.....\$1350
Double Biwire: 8 ft...\$1900 10 ft...\$2300 12 ft...\$2700



Maestro II
Lifetime Warranty

STRAIGHT WIRE MAESTRO II Reference Interconnects (Stereophile Rec. Comp.) Certified coated copper conductors. XLR same price. *Priced per pair!*
.5m.....\$195 1m.....\$275 1.5m.....\$355 2m.....\$435
3m.....\$595 4m.....\$755 5m.....\$915 6m.....\$1075
MAESTRO II Reference Speaker Cable (Stereophile Rec. Comp.) has 384 strands of 32-gauge certified coated copper. \$30 / ft. *Priced per pair!*
5 ft...\$360 8 ft...\$560 10 ft...\$680 12 ft...\$800 15 ft...\$980
Double Biwire: 8 ft...\$1120 10 ft...\$1360 12 ft...\$1600



Rhapsody II
Lifetime Warranty

STRAIGHT WIRE RHAPSODY II Premium Interconnects use OFHC. XLRs same price. *Priced per pair!*
.5m.....\$120 1m.....\$150 1.5m.....\$180 2m.....\$210
3m.....\$270 4m.....\$330 5m.....\$390 6m.....\$450
RHAPSODY II Premium Speaker Cables use 11 gauge coated OFHC conductors. \$15 / ft. *Priced per pair!*
5 ft...\$360 8 ft...\$560 10 ft...\$680 12 ft...\$800 15 ft...\$980
Double Biwire: 8 ft...\$1120 10 ft...\$1360 12 ft...\$1600



Encore
Lifetime Warranty

STRAIGHT WIRE Encore Premium Interconnect uses OFHC coated conductors. *Priced per pair!*
.5m.....\$80 1m.....\$100 1.5m.....\$120 2m.....\$140
3m.....\$180 4m.....\$220 5m.....\$260 6m.....\$300
Encore Premium Speaker Cables use 12 gauge coated OFHC conductors. \$8 / ft. *Priced per pair!*
5 ft...\$112 8 ft...\$160 10 ft...\$192 12 ft...\$224
Double Biwire: 8 ft...\$320 10 ft...\$384 12 ft...\$448

STRAIGHT WIRE Duet Biwire Speaker Cables use (12) 18 awg coated OFHC cond. \$12 / ft. *Priced per pair!*
5 ft...\$164 8 ft...\$236 10 ft...\$294 12 ft...\$332
Single Biwire: 8 ft...\$171 10 ft...\$229 12 ft...\$248
Double Biwire: 8 ft...\$472 10 ft...\$568 12 ft...\$664

Octave Biwire Speaker Cables use (8) 18 gauge coated OFHC conductors. \$8 / ft. *Priced per pair!*
5 ft...\$112 8 ft...\$160 10 ft...\$192 12 ft...\$224
Single Biwire: 8 ft...\$108 10 ft...\$128 12 ft...\$148
Double Biwire: 8 ft...\$320 10 ft...\$384 12 ft...\$448

Sextet Biwire Speaker Cables use 6 OFHC 14 gauge conductors. \$5 / ft. *Priced per pair!*
8 ft...\$100 10 ft...\$120 12 ft...\$140 15 ft...\$170
Single Biwire: 8 ft...\$108 10 ft...\$128 12 ft...\$148
Double Biwire: 8 ft...\$200 10 ft...\$240 12 ft...\$280

Quartet Biwire Speaker Cables 4 OFHC 14 gauge conductors \$3 / ft. *Priced per pair!*
8 ft...\$63 10 ft...\$75 12 ft...\$87 15 ft...\$105
Single Biwire: 8 ft...\$63 10 ft...\$83 12 ft...\$95
Double Biwire: 8 ft...\$126 10 ft...\$150 12 ft...\$174

002a



Shakti Stone...\$230

The *Shakti Stones*, a Recommended Component in the April 1996 *Stereophile*, neutralizes EMI, RFI and other ultrasonic distortions that are generated by component power supplies, digital clocks, and external sources. This effective system enhancing device contains patent pending ultra-sound filter technology in a poured stone enclosure depend to fit easily and attractively on most components. At \$230, you will want *Shakti Stones* throughout your system.



Audio Synthesis Passion...\$1199

Standard, unbalanced *Passion* unit now all Vishay. Three inputs plus a direct input/tape output. Stereo 31-step attenuator. Silver wired. All WBT. (See *HiFi News* April '93 for Martin Colloms' review).



ElectraClear EAU-1 ultimate power conditioner \$395
"I hate to admit it, but this thing actually works; in fact, darn well...even my non-audiophile colleagues in the *National Symphony* were impressed by the musical improvements this black box delivers." *Lipin Lipnick, Stereophile, August 1991.*



AudioControl
C-101 10 bands of octave equalization; built-in pink noise generator; calibrated lab grade microphone; realtime spectrum analyzer; + or - 15 dB sliders. \$459



The Richter Scale (Stereophile Rec. Comp.) 6 bands 1/2 octave equalization from 22.5 to 125 Hz, sweep warble tone test generator; rumble reduction circuit \$349

AudioPrism FM Antennas
are all Stereophile Rec. Comp.

AP-7500 7' tall, FM only, black finish \$295

AP-8500 5' tall, Omni directional w/remote; FM only, black finish \$495



DISCOVERY CABLE

Plus Four
Interconnect is a totally new geometry utilizing 4 conductors with both foil and braid shields for superior performance and musicality. XLR same price. *Priced per pair!*

Plus Four .5m.....\$550 1m.....\$650 1.5m.....\$750 2m.....\$850
Signature .5m.....\$380 1m.....\$450 1.5m.....\$520 2m.....\$590
Discovery .5m.....\$200 1m.....\$240 1.5m.....\$280 2m.....\$320
TC-One .5m.....\$60 1m.....\$80 1.5m.....\$100 2m.....\$120
Signature top-of-the-line Speaker Cable is the latest addition, and a totally new design. \$36/ft. *Priced per pair!*
Signature 6ft.....\$450 8ft.....\$600 10ft.....\$750 12ft.....\$900
1-2-3 6ft.....\$280 8ft.....\$320 10ft.....\$400 12ft.....\$480

audiquest RF Stoppers
10mm Ferrite clamp minimizes JFI.....\$39/8 pc
Sr.....\$60/4 pc

AUDIO Alchemy

DLC remote controlled pre-amplifier Four-input, two-output (includes PS1) \$299



DDE v3.0 (includes PS4) Premium, HDCD-compatible O-to-A converter - can be configured for digital domain remote control with optional 89C51 Microprocessor and RW*1 Remote Wand \$739



Ultra-Dac Single-chassis combination DITB/DTI*Plus The "complete OAC solution" with special version PSU, PowerStation Three*Ultra \$439

DITB (now with PS1) Digital Decoding Engine v1.1 - High performance, Crystal Semiconductor-based One-bit D-to-A Converter; discrete passive integrator \$199



DAC*MAN Dual input, high-value DAC, includes 1m set of Analog Cables made for Alchemy by Tara Labs.....\$119



DDS Pro Reference quality, twin-chassis CD Transport with Pioneer "Stable Platter" mechanism, ultra low jitter master clock oscillator circuit, FS Bus Standard output, multi-regulated high-current power supply \$1395



DDS III Sony-based CO Transport/Player with mechanically and electrically-isolated, damped sub-systems; contains extensive AC line filtering \$449



ACD II Sony-based CO Player/Transport with coaxial output and fullfunction remote control, including volume adjust \$389



DTI*Pro (includes PS4) Digital Transmission Interconnect-Precision "de-jittering" instrument with 32-bit, floating point, Resolution Enhancement SDSP computer and upgradeable software \$1485



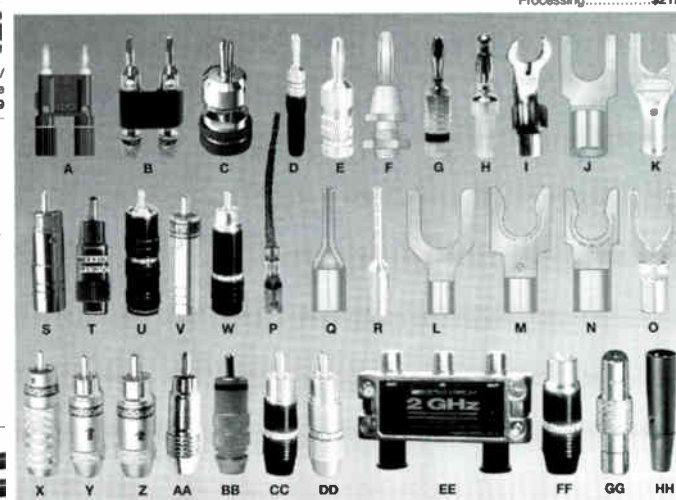
DTI v2.0 (includes PS4) Similar to DTI*Pro but without the resolution enhancement system \$539



DTI*Plus dual-input "de-jittering" comp. w/twin PLL & 5Hz bandwidth \$245



HPA v1.0 (includes PS1) Outstanding, Class "A" Headphone Amp with HeadRoom Special Image Processing.....\$219



A AQ Double Direct-Gold Bananas \$30 / 2 pc set
B Phoenix Gold Dual Banana Plug \$9 each
C Monster Cable X Terminators \$30 / 2 pc set
D SW Delux Locking Banana Plugs \$30 / 4 pc set
E SW Delux Single Banana Plugs \$25 / 4 pc set
F AQ Single Silver or Gold Banana \$18 / 4 pc set
G Reskin Deluxe Gold Banana Plug \$7 / 2 pc set
H SW Crimp-on Single Bananas \$10 / 4 pc set
I Phoenix Crimp-on Single Banana \$8 / 4 pc set
J KimberKable Post Master \$14 / 2 pc set
K AQ 814 Silver or Gold Spade 1/4" \$15 / 4 pc set
L SW Spade / Jumbo Spade \$69 / \$10 / 4 pc set
M AQ Direct Silver or Gold Spade 3/16" 75¢ / each
N AQ Direct Silver or Gold Spade 1/4" 75¢ / each
O AQ Direct Silver or Gold Spade 3/16" 75¢ / each
P SW Gold Spade mini 75¢ / each
Q Phoenix Flexi-Connect Pins \$9 / 4 pc set
R SW Gold Pins \$1 / each
S AudioTruth Lapis & Diamond R.C.A. \$150 / 4 pc
T AudioTruth Opal & Emerald R.C.A. \$100 / 4 pc
U KimberKable RCA Plug \$50 / 2 pc
V SW Gold Locking RCA Plug 10.5 mm \$16 / 4 pc
W AQ Quartz RCA Plug 9mm \$80 / 4 pc
X SW Gold Teflon RCA Plug 8mm \$9 / each
Y AQ Topaz / Ruby R.C.A. \$30 / \$35 / 4 pc set
Z AQ Turquoise RCA Plug 7mm \$25 / 4 pc set
AA AQ Jade RCA Plug 7mm \$20 / 4 pc set
AB Reskin Gold Special R.C.A. \$33 each
BB Reskin Silver Satin R.C.A. \$3 each
CC SW Gold RCA Plug / Black Barrel \$3 / each
DD SW Gold RCA Plug / Silver Barrel \$3 / each
EE Monster 2-Way Splitter \$14** / each
FF SW Gold Female RCA \$3 / each
GG Reskin Deluxe Gold Dual Female RCA \$5 / ea.
HH SW Neutrik Gold XLR Plug \$12 / each

Nitty Gritty
Made in U.S.A.

Purifier 2
16 oz. \$14
1/2 gal. \$34
1 gal. \$59

Purifier 1
16 oz. \$14
1/2 gal. \$34
1 gal. \$59

MODEL 1.5 Automatic scrubbing, automatic rotation, slide-out waste fluid tray ...\$335

MODEL 1.5 FI Auto fluid application, auto-scrub, auto rotation, vinyl wood grain cabinet ...\$399

Dustcovers
DC2 ...\$34**
DC1L ...\$19**
DC1 ...\$17**

Vac-Sweeps
4 pc ...\$12**

Spindle Kit
2 pc ...\$12**

45 Adapter ...\$29**

78 Adapter ...\$12**

Record Brush ...\$12**

MODEL 1.0 Manual application of fluid, manual brushing & rotating during vacuuming ...\$199

RECORD MASTER cleans 45s, 78s, & LPs manually with built-in adapter ...\$219

A. S-711 Head Cleaner 2 oz. ...\$99

B. ProGold Mini Spray 15g ...\$89

C. ProGold GS Spray ...\$159

D. ProGold G100 Spray ...\$249

E. O2 Blocker Spray 2oz. ...\$69

F. Galaktos CD clean/Treat. ...\$99 / set

G. AQ Laser Guide ...\$29

H. AQ Ultra Connect ...\$39

I. A.R.T. Q-151 ...\$50

J. A.R.T. TR 30 ...\$50

Power Conditioners

clean line Voltage #83 ...\$549

3 outlets: 16 analog, 2 digital/video; on/off switch controls all outlets; lightning protection; 1-240 watt switched d/s duplex; 15A circuit breaker; custom powered cord.

clean line junior #11 Analog ...\$229

1-1800 watt unswitched outlet; 15A circuit breaker; custom fixed power cord.

clean line junior #11 Digital ...\$299

1-240 watt unswitched digital/video outlet; 2A circuit breaker; custom fixed power cord.

CLOSEOUT! Limited Supply

MUSIC HALL CD 32 ...\$189

discwasher 6 oz.

Deluxe CD HydroBath ...\$49

CD Laser Lens Cleaner ...\$17

CD Scratch Remover & Polish ...\$11

Sonic Circles Stabilizer Rings \$8 / 5 pc \$11 / 10 pc \$25 / 25 pc

Socket Savers ...\$16** 2 pc

Gold Aero Tubes ...\$69 / 2 pc

Tubesox ...\$69 / 2 pc

Sovtek Tubes ...\$69 / 2 pc

MIDAS tube dampers ...\$89 / call

CD STOP LIGHT

\$15 ea / 2 for \$14 ea / 3 for \$13

Hubbell \$19** each or 2 / \$25

BLU-TACK \$9**

The Postman \$19**

Bang & Olufsen

Beocom 1400 High Fidelity Telephone ...\$100

BEST SELLER

XLO Reference Recordings

SOUND CHECK Alan Parsons & The Beatles ...\$40

High End Audio ...\$40

Reading about transparency or focus takes you so far. The Ultimate Demonstration Disc is an "aural dictionary" ...\$15

IT'S BACK! The famous XLO Test & Burn CD! Has playing this disk will improve the sound of your stereo or home theatre system! ...\$30

LAST

#1 Power Cleaner ...\$25 (1/2 oz) ...\$145 (4oz)

#2 Record Preservative ...\$25 (2 oz) ...\$145 (16oz)

#3 Record Cleaner ...\$18 (2oz) ...\$50 (1 gal.)

#4 Stylus Cleaner ...\$14 (2oz)

#5 Stylus Treatment ...\$22

Record or Stylus Brush ...\$2

LAST COMBO KITS

#1 & #2 ...\$48

#2 & #3 ...\$39

#1, #2 & #3 ...\$63

#4 & #5 ...\$39

#1, #2, #3, #4 & #5 ...\$99

CD Cleaner ...\$169** (1 oz)

DIGI-LAST™ CD Protective Shields ...\$12 / 20 pc

RoomTune

Tune Pack

TP \$285 10 PC

Mini Tune Strip **TS \$179** 25/TA

Corner-Tunes **CT \$89** SET OF 4

Mini Corner-Tunes **MT \$59** SET OF 4

Echelon **ES \$45** SET OF 3

New Echelon **NE \$29.95** SET OF 3

AQ Big Feet (up to 40 lbs) ...\$60

AQ CD Feet (up to 20 lbs) ...\$39

AQ Self Stick Sheet (6" x 6") ...\$15

MICHEL GREEN'S AUDIO POINTS

Standard 1.0 "1x1" ...\$59 / 3 pc

Large 1.5-1/4"x1-1/8" ...\$99 / 4 pc

Large 2.0-1/4"x2" ...\$135 / 4 pc

Audio Prism

Iso Bearings

Large ...\$64** / 3 pc ...\$28** / ea

Small ...\$54** / 3 pc ...\$18** / ea

Bedini

#1 TWEAK FOR '96

UltraClarifier tabletop Model reduces finger fatigue. "Anyone can easily hear distinct differences in sound quality." HIGH FIDELITY MAGAZINE (Sweden) April 1993 "My favorite." ...\$119

Bedini

CD Clarifier handheld compact disc clarifier ...\$35

Battery Eliminator AC power supply plugs into wall socket ...\$19

"I have to admit that it makes CDs sound better." SENSIBLE SOUND MAGAZINE, September 1993. Steven Baird

SOTA Made in U.S.A.

Record Cleaning Machine ...\$599

Restores your precious LP records to like new condition with the SOTA Record Cleaning Machine; you will experience the full sonic potential of your precious records.

B-Tech

BT24 links 3 devices in combination. ...\$60

Gryphon Exorcist

Dispels magnetic build-up in sensitive audio circuits...\$150

mobile fidelity sound lab

4LPs for \$75
1LP for \$23
Double LP for \$33

4CDs for \$89
1CD for \$23
Double CD for \$38

Soul Of The Ballad HANK CRAWFORD

GERRY MULLIG meets BEN WEBSTER

CAT STEVENS *Tower and the Precip*

SONIC YOUTH

NIRVANA

RoomTune Video Rack Lowboy 20" H x 24" D x 53" W; 84 lbs ...\$399

RoomTune Deluxe Justatrack DJR 36-R 27" H x 15.75" D x 23.75" W; 102 lbs ...\$379

RoomTune Clamtrack CR24-2 24" H x 15.75" D x 23.75" W; 84 lbs ...\$289

RoomTune Basic-Rack BR24/4 24" H x 15.75" D x 23.75" W; 32 lbs ...\$160

B-Tech BT-9 "High-logic Speaker Stands" 36" H; holds up to 20 lbs ...\$375

F. R.T. VPI Tune-Table VPI-TT 24-3 24" H x 21" D x 31" W; 82 lbs ...\$55

RoomTune Basic-Rack Speaker Stand 16/20/24" Top Plate 6.5" x 7.5" 19 lbs ...\$120

RoomTune Clamtrack CR36-R 36" H x 15.75" D x 23.75" W; 120 lbs ...\$309

J. B-Tech Balljoint-type Bracket supports speakers up to 13 lbs; black/white ...\$38

J. B-Tech Ultra-Grip Speaker Bracket supports up to 15 lbs; swivel/tilt; black ...\$65

K. RoomTune BR36/36" H x 15.75" D x 23.75" W; 48 lbs ...\$240

L. RoomTune Video Basic Rack 20" H x 19" D x 28" W; 41 lbs ...\$144

M. RoomTune BR35/35" H x 15.75" D x 23.75" W; 42 lbs ...\$65

RIKOSS electrostatic

Koss QZ / 2000 reduction microphone noise reduction technology removes outside noise & reduces listener fatigue. Great for air travel ...\$179

Koss ESP 950 ...\$599

The invariable electrostatic stereoheadphone is PORTABLE. It comes complete with its own carrying case and separate battery pack. "My favorite!"

SENNHEISER HD580 ...\$299

Bright Star

Isolation Platforms

Big Rock ...\$175

Big Rock 2/3/4 ...\$149/\$125/\$99

Little Rock 1/2/3 ...\$129/\$179/\$79

Stereophile Rec. Comp. Made in Germany

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SOTA
MILLENNIUM Turntable \$6400

KUZMA



Made in Slovenia
Stabi Referenc \$6325

COSMOS
Made in U.S.A.



SOTA
COSMOS Turntable \$4500
NOVA Turntable... \$2695 Star Turntable.....\$2395

KUZMA
Made in Slovenia



Stabi \$2200

SAPPHIRE



Made in U.S.A.
Handcrafted
SAPPHIRE Turntable ... \$1595

Stabi \$2200



Made in Czech Republic
Pro-ject 8 w/ADC XT cartridge \$599
Pro-ject 8 w/Blue Point Special cartridge \$749

SATELLITE



Made in U.S.A.
SATELLITE Turntable Satin Black \$875

Made in Czech Republic



Pro-ject 1.2 w/ADC XT cartridge (diamond) ... \$349
Pro-ject 1.2 w/Blue Point cartridge \$435

COMET



Made in U.S.A.
Gloss Black Acrylic
COMET Gloss Black Acrylic w/ cartridge \$629
COMET Gray Matrix / Satin Black w/ cartridge \$579
COMET Gray w/ Sumiko Blue Point Special \$749

DENON



Made in Japan
DP47F w / cartridge ... \$599

MOONBEAM



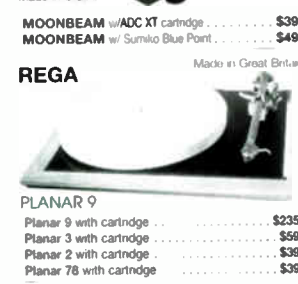
Made in U.S.A.
MOONBEAM w/ADC XT cartridge \$399
MOONBEAM w/ Sumiko Blue Point \$499

DENON



Made in Japan
DP23F w / cartridge \$399

REGA
Made in Great Britain



PLANAR 9
Planar 9 with cartridge \$2350
Planar 3 with cartridge \$599
Planar 2 with cartridge \$399
Planar 78 with cartridge \$399

DENON



Made in Japan
DP7F w / cartridge \$299

DUAL



Made in Germany
Includes Cartridge
CS415-1S..... \$299 CS435s..... \$399

DENON



Made in Japan
Includes built-in phono pre-amp.
DP25F w / cartridge \$150

Made in Germany
THORENS Prestige \$14,500



Made in Germany



TD-520 w/SME-312...\$3799 TD-520 w/T990 ...\$1799

Made in Germany



TD-320 MK III suspension w/auto-lift \$775

Made in Germany



TD-318 MK III suspension / w/auto-lift ... \$599

Made in Germany



TD-280 MK IV features new suspension ... \$425

Made in Germany



TD-180MK III 3-speed (33, 45, 78) \$425

Esoteric Sound



3-Speed turntable; plays 33, 45, 78 RPM
Vintage 3-Speed...\$345; RA8 3-Speed.....\$275

Made in Japan



Kenwood KD-291R / KD-492 F \$99 / \$189
JVC AL-A151 semi-automatic \$120

New MC Demagnetizer only \$199



Benz MC Demagnetizer
AESTHETIX

Aesthetix Benz Demagnetizer ... \$199
Improving your phono cartridge's performance is as simple as ABCD - I, the Aesthetix Benz Cartridge Demagnetizer. The first American designed and manufactured cartridge demagnetizer, the ABCD - I, is the affordable way to assure top performance from your analog front-end. Once a week, simply plug in your turntable leads to the ABCD - I and activate the gentle ramp up and down cycle of the ultra-pure demagnetizing signal. "Everyone who's into analog is sure to want one of the cute battery-powered cartridge demagnetizers from Aesthetix."

Record Clamps



THE PIG RECORD GRIP ... \$12
SOUTHER CLEVER CLAMP ... \$30
SOTA I CLAMP "My favorite" ... \$50
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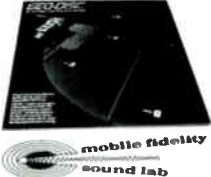
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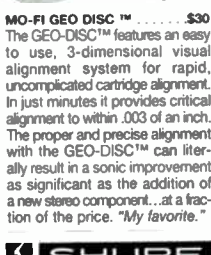
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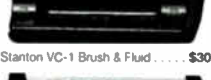
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Though Mahler's Fourth Symphony (written in 1902, revised 1911) begins with the jangle of sleigh bells, this brief, three-measure introduction creates an undercurrent more anxious than cheerful. (After all, this isn't Leroy Anderson.) Almost immediately, a singing G-major violin theme appears, accompanied by bluff pizzicatos; this is the genial first subject of the opening movement, in which the composer predictably reserves a few surprises to liven up its basic sonata structure. The second subject is a broad, lyrical cello theme, while piquant staccato reeds introduce the third subject, at the end of which the sleigh bells lead to a warm, relaxed string codetta.

The music takes a darker turn as the sleigh bells and a solo violin herald the development, which combines various thematic fragments transmuted into the minor mode, its mood of unease lifted but not dispelled by a jaunty A-major flute theme over busy string trills.

A sudden shift back to G brings a triumphant climax, with irresistibly swinging dotted rhythms in trumpet and horn. At its peak, discordant minor harmony crashes in once more; unison reeds reintroduce the first theme as the music disintegrates into descending running figures and, finally, a pregnant silence. After a brief pause, the strings pick up the theme where the reeds left off, as if nothing had happened—an innovative dramatic stroke, as is the return of the brass climax to cap this de facto recapitulation. The other themes return more or less rou-

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tinely, and an extended coda closes the movement.

The second movement serves the formal functions of a Scherzo, although it isn't officially labeled as such. The eerie quality of the angular, chromatic first subject is enhanced by the employment of a solo violin, *scordatura*—that is, with its strings deliberately tuned one tone higher than normal, producing an aggressive, unsettled tonal effect. This group alternates with a cheerful, *Ländler*-derived "Trio" section, whose clarinet theme recalls the rustic tone of the opening; a highlight of the movement is this theme's unexpected blossoming into glowing D major (at cue 11).

The third movement, labeled "*Ruhevoll. Poco adagio*," encompasses some of Mahler's most sublimely lyrical moments. The first theme, a long-breathed G-major melody introduced by divided cellos and violas, rises through the strings as the textures fill out. The second subject is introduced by sobbing oboe accents in the minor, moving through a sweetly lyrical violin motif, its yearning upward leaps graced by *portamentos* before rising to desolate climaxes. Both themes return in embellished, varied forms, in a manner similar to the *Adagio* of Beethoven's Ninth; at the first theme's second return, a series of terraced accelerations culminates in a firm unison horn statement. The peaceful string-dominated passage that follows proves a temporary lull, as forte violin pickups abruptly yank the music into a triumphant E-major climax whose open textures and brass calls suggest a kinship with that of the first movement. Now it's time for the movement's real coda, which fades out gently, settling not on the "home" key of G, but on D; is this an early example of the composer's "progressive tonality"?

No; the amiable, sauntering G-major clarinet theme that opens the Finale effectively resolves the tension implicit in the *Adagio's* conclusion—a point sometimes blurred by conductors or producers who allow too long a pause between these two movements. This movement is a soprano-and-orchestra adaptation of Mahler's own "Das himmlische Leben," a song from the *Des Knaben Wunderhorn* ("Youth's Magic Horn") collection of folk poetry. The verses provide a child's-eye view of heaven, in which its denizens prepare a feast: St. Peter catches the fish, St. Martha is the cook, the angels bake the bread, Herod is the butcher (grisly idea, that), and St. Cecilia leads the court musicians. The composer directs the sopra-

no to sing in a childlike manner and without parody; the main motifs are the opening clarinet theme and a more violent, menacing tutti based on the first movement's introduction. Serenity wins out in the symphony's closing E-major strophe and coda (*there's progressive tonality for you!*).

The symphony's melodic appeal, varied orchestral colors, and relative brevity (most recordings run under an hour)

have made it among the most popular in Mahler's output (along with Symphony 1, the choice of those allergic to singing). The music is harder to perform than it sounds, however, especially the first movement, with its sometimes quick transitions between differently paced themes. The overall pattern that emerges is that the earlier performances are better disciplined. The third bar of the work offers a test case: The indicated ritard is

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Inoue/Kenny/RPO	RPO CDRPO 5007	59:08	59:08	1989	DDD	M	—
Järvi/Finnie/R5NO	Chandos 8951	57:08	76:25	1990	DDD	F	Wayfarer Songs
Karajan/Mathis/BPO	DG 415 323-2	60:12	60:12	1978	ADD	M	—
Klemperer/Hobarth/ Berlin RSO	Originals SH 824	50:57	66:05	1956	ADD	F	Beethoven: Overtures
Klemperer/Schwarzkopf/ Philharmonia	EMI 69667	54:54	54:54	1961	ADD	M	—
Kubelik/Morison/BR50	DG 431 165-2	51:50	51:50	1967	ADD	B	—
Ludwig/Schlemm/ Staatskapelle	Berlin BC 2119-2	50:49	50:49	1957	ADD	M	—
Maazel/Harper/Berlin RSO	fnac WM 321	58:37	58:37	1969	AAD	F	—
Maazel/Battle/VPO	Sony 44908	60:55	60:55	1983	DDD	M	—
Neumann/Hajóssjová/ Czech PO	Supraphon 111975-2011	55:47	55:47	1980	ADD	F	—
Previn/Ameling/ Pittsburgh SO	EMI 65179	56:53	75:30	1978	ADD	M	Schubert: Songs
Reiner/della Casa/CSO	RCA/Classic LSC-2364			1958	AAA	F	—
Salonen/Hendricks/LAPO	Sony 48380	58:10	58:10	1992	DDD	F	—
Sinopoli/Gruberova/ Philharmonia	DG 437 527-2	58:03	58:03	1991	DDD	F	—
Skrowaczewski/Hargan/ Hallé	IMP PCD 972	61:01	61:01	1991	DDD	B	—
Solti/Stahman/RCOA	London/Classic CC 1031	54:06	54:06	1960	A?D	M	—
Solti/Te Kanawa/CSO	London 410 188-2	54:34	54:34	1983	DDD	F	—
Szell/Raskin/CO	Sony 37225	57:56	57:56	1965	ADD	M	—
Szell/Raskin/CO	Sony 46535	57:56	75:08	1965	ADD	B	Wayfarer Songs
Szell/Raskin/CO	Sony 42416	57:56	73:41	1965	ADD	M	Mozart: <i>Exsultate</i>
Tennstedt/Popp/LPO	EMI 64471	54:53	4:55:28	1982	DDD	M	Syms. 1-3
Walter/Halban/NYP	Sony 64450	50:16	67:33	1945	ADD	M	8 Songs
Walter/Seefried/NYP	M&A CD-656	52:54	73:27	1953	AAD	F	R. Strauss: <i>Tod u. Verkl.</i>
Walter/Schwarzkopf/VPO	M&A CD-705	59:20	101:50	1960	AAD	F	3 Songs: Schubert: Sym. 8
Wit/Russell/ Polish Nat'l. RSO	Naxos 8.550527	56:54	56:54	1992	DDD	B	—

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handled in various but successful ways in the older accounts (and in the newer ones by older conductors), while in the newer ones the clarinet run and the flute-and-bells chords tend to come unglued, sometimes dramatically (cf Järvi, Hirokami, Casadesu). Insufficient

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rehearsal time? Conductorial indifference? Sign of the times? Similarly, the “codetta” passage in the first movement calls for an immediate relaxation of tempo and mood, but it doesn’t always happen that way (best are Reiner, Bernstein, Previn, Haitink III, and Hirokami).

Historical documents include a Welte-Mignon piano roll of the Finale played by Mahler himself (available on Golden Legacy GLRS 101). It has curiosity value, but typically sheds little light on contemporary performance practice; the piano action sounds stiff, with a limited dynamic range, and the touch is uneven in the semiquaver runs (this doesn’t sound like *rubato* to me). More to the point are performances by the composer’s disciples Bruno Walter, Otto Klemperer, and Jascha Horenstein. Of the three currently available Walter recordings (still another, with the Vienna Philharmonic from 1955, was available in Europe as DG 435 334), the 1945 studio recording and 1953 concert, both from New York, are similar in their detailed textures and moderate but firmly propelled tempos (though the “Codetta” episode is pushed and restless). The Sony studio account is more clearly recorded and better controlled, but Desi Halban is a mediocre soloist; Irmgard Seefried in the fuzziest concert recording is more assured technically as well as more communicative. The 1960 performance, from Walter’s Vienna farewell concert, can be dis-

missed: the tempos are slow and enervated, the violins sound scrawny, and Elisabeth Schwarzkopf’s mannered performance is the antithesis of the composer’s instructions.

Klemperer, in a 1956 concert, is forthright to the point of running sections of the first movement together (Walter, too, does this), with incorrect dynamics, tempos frequently accelerating as they proceed, and markings such as *Ruhig* (restful) generally ignored. His studio account boasts magnificent, crisply accented Philharmonia playing, with divided violins serving to enrich the counterpoint. The first two movements have a steady, familiar late-Klemperer gait, but the *Adagio*, more like an *Andante*, is a bit pushed and unfeeling, while the baleful Schwarzkopf again compromises the dramatic Finale. Jascha Horenstein’s early-’70s stereo account, despite a lightweight orchestral sonority (or recording), is a model of proportion, scrupulously executed, with a singing line and wonderful forward wind detail. (This recording, Unicorn Souvenir UK CD 2024/25, is currently out of print in the US; Unicorn-Kanchana may reissue it. It has also been available on a Classics for Pleasure CD in the UK and an Angel Eminence LP in the US, both currently unavailable.)

Toscanini never conducted Mahler’s music, but the recordings of George Szell and Fritz Reiner emulate the Maestro’s razor-sharp discipline and textual fidelity. Szell provides fiendishly precise ensemble (save for a few brief tempo disagreements within the orchestra), meticulous accenting, and impeccable balances, ensuring stupendously clean detail—in the Scherzo, you can even hear the chords created by the moving string lines. The Clevelanders’ trim strings and perfectly blended reeds are a pleasure, and there is plenty of feeling, especially in the gracious, *Ländlerisch* Trio sections; the transfer is vivid. RCA has discontinued Reiner’s CD in the US (it’s available in Europe), but Classic Records has issued an audiophile LP facsimile of RCA Living Stereo LSC-2364 on silent vinyl; the remastering brings a tighter bass focus and more brilliant bells and triangle to the dryish sound familiar from the original. Once past a charmless introduction, Reiner shapes an impressively detailed reading centered on a spacious, dignified *Adagio* that rises to impassioned climaxes. The CSO provides lovely, rich string textures and light-fingered, delicate woodwinds; Lisa della Casa is a firm-voiced if unimaginative soloist.

Though many people still automatically think *Bernstein* when they hear *Mahler*, and his two versions are winning in their passionate commitment, neither is quite a first choice: there are some artsy ritards (not confined to the Trio), and a consistently rushed treatment of the first movement’s climax that undercuts its power. The NYP recording is colorful and sensitively phrased, with an especially beautiful solo oboe, though Bernstein’s intensity results in some overloud playing and exaggerated accents. His Amsterdam remake has a more lucid first movement, a flowing *Adagio* (fortunately not dragged, as the aging Bernstein was prone to do), and a mobile, fresh Finale in which he carries the composer’s wishes to their logical conclusion by using a boy treble (Helmut Wittek, who on records works out as well as grown-up soprano Reri Grist); there’s some Concertgebouw resonance around solo instruments, but the ensemble acoustic sounds dry.

Over the years, this symphony has consistently drawn an attractive, relaxed response from Sir Georg Solti. His earlier recording has recently reappeared on a minimally documented Classic Compact Disc reissue of the original

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Decca/London LP; orchestrally it’s still one of the best—rhythmically firm but unpressured, crisply articulated with clear, detailed textures, and evoking mystery and drama in the *Adagio* as well as warmth. Sylvia Stahlman’s acidulous timbre disappoints in the Finale; the sound is clean, with some boomy basses and an occasional odd hollowness to

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the horns. Solti's remake follows a similar pattern; the Chicago orchestra produces a higher-powered tone than the Concertgebouw, so that the playing is sometimes too loud for *piano*, but the overall effect is still one of relaxed musicality. Dame Kiri, despite her weak lower-middle, is an alert, sensitive, creamy-toned soloist. (Certainly, if you want the CSO on CD, Solti is preferable to Levine, whose relentless intensity and spotlight reeds produce a grim insistence out of place in this radiant music, despite Judith Blegen's excellent singing; it's out of print anyway.)

Bernard Haitink's interpretive development and growth can be traced through three recordings of this music. His 1967 version is shipshape but too sober, disregarding indicated tempo adjustments in the first two movements and uniformly gray in sonority—perhaps partly a recording problem. (This sonic grayness afflicts de Waart's account, also recorded in the Concertgebouw—an attractive and well-proportioned performance, although Charlotte Margiono makes heavy weather of the Finale.) Haitink's first digital remake is more characterful, more willing to adjust tempos between themes; detail is clearer, with more colorful reeds (assisted by the multimiting) and lighter, less resonant basses. His incisive Berlin edition may just be one of his finest outings ever, injecting still more variety into his basically straight approach; he captures all of the *Adagio's* high drama, and draws silky, dark sonorities in the Finale, with Sylvia McNair a deft soloist. (The Berlin orchestra sounds equally affecting in those movements on the deleted Karajan, which also has splendid singing from Edith Mathis; but the ensemble in the first two movements is occasionally slippery.)

Audiophiles will undoubtedly favor one of Denon's two entries with their exceptionally clear engineering. Inbal's is well-paced and well-integrated, with smoothly singing strings and a refined overall tone quality, but he underplays the accents, which, coupled with the low level and distanced perspective, shortchanges the drama. Jun-Ichi Hirokami's recent issue sounds even more vivid, registering joyous climaxes and subtle orchestral contrasts equally well. Hirokami takes lots of care over matters of structure as well as of balance, but his *Adagio* is a bit square and short-winded; the RPO's sonority is unusually rich and full, undercut by the odd ensemble or tempo inconsistency.

Not to be lost in the shuffle is André

Previn, who realizes the expressive implications of detail within the warm, cushioned orchestral sonority that marks his best work. The climaxes blossom attractively, while the *Adagio's* opening fairly bathes in luxuriant string tone. There's ample strength as well—only the *Adagio's* terraced accelerations feel spineless—and the moderate tempos strike an unusually thoughtful note in the outer movements; the colorful recording has good depth and presence.

Kubelik and Abravanel, among other

HIROKAMI'S
RECENT DENON
RECORDING IS
VERY VIVID,
REGISTERING
JOYOUS CLIMAXES
AND SUBTLE
ORCHESTRAL CONTRASTS
EQUALLY WELL.

Mahler cyclists, deliver similar performances: briskly paced (sometimes too much so), with airy, buoyant textures. Kubelik runs sections of the first movement together, and his Bavarians sound a bit unpolished; Abravanel, despite almost precipitous tempos and some raspy string attacks, maintains a more consistently *cantabile* feeling. Tennstedt is also in a hurry in the first two movements, improving in a warm, flowing *Adagio*; his detailed response notwithstanding, the rhythm is loose-limbed, the playing disappointingly scruffy, and the sound lacks depth and fullness.

Sir Colin Davis has improved the Bavarians markedly since the Kubelik days: the reeds are better matched than before, and the solo horn tone has real velvet. His broad reading combines polished elegance and rugged strength—if only he hadn't burdened the latter two movements with agogics, tenutos, and *Lufi-pausen*, some of which work, all of which distract. Maazel's straighter Vienna account is similarly spacious; the soft-edged attacks and transparent textures are appealing, but the sonics are less present and impactful. His earlier, more disjointed recording is superfluous, save for Heather Harper's soprano solo.

Neeme Järvi has the right sort of textures, with forward reeds and horns over a body of warm strings, but suffers from some poky tempos and sloppy coordination as well as a miscast contralto in the Finale—the notes are all there, but the color's wrong, like a French horn playing a clarinet solo. Esa-Pekka Salonen gives a decent overview, but the first movement is an amiable runthrough that ignores the development's shadows, while the *nubata* Trio comes off as inappropriately sophisticated; Hendricks is an airy, fluttery soloist. Giuseppe Sinopoli, typically, points up numerous individual felicities without a real overview; the orchestral playing ranges from deft to rough, Gruberova sounds worn in the Finale, and the sound is peaky in tutti. Neumann benefits from the distinctive Czech string tone, especially warm and pleasing in the lower midrange; but the rhythms can be square, and the wind tone is peculiar when not actually mistuned.

The biggest disappointment is Christoph von Dohnányi's: a conventional performance, indifferently played by a great orchestra. Ludwig's is square and sometimes hasty, except in a flowing *Adagio*, while Anny Schlemm sounds peculiarly dark and covered; Skrowaczewski's climaxes are too frequently soft-edged and weakly profiled, with some slow-motion and unstable tempos; Inoue's soft strings and horns sound too recessed (this sounds like an aesthetic choice, not a recording problem)—it doesn't even sound like the same orchestra as Hirokami's; questionable tempo relationships and bits of poor ensemble spoil the first movement of Casadesu's lyrical reading.

In the lowest price ranges, those who dislike Szell (in Sony's Essential Classics configuration) may enjoy the smooth, shimmering string playing in Antoni Wit's exceptionally well-prepared, musical performance (although the clarinet lick just before the first-movement recap doesn't happen). This is preferable to the previously cited Kubelik, or to Haenchen's comparatively routine reading. The unlisted Nanut (Stradivari SCI) 6050, 54:18) offers a cheap alternative to Bernstein for the boy-soprano option, but I haven't heard it.

As for overall recommendations at full price, I'd take Haitink/Berlin, Bernstein/DG, or (depending on your taste in singers) either of Solti's recordings. At midprice, the Previn can stand with the very different Szell. **S**

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RECORD REVIEWS

RECORDING of the MONTH

Selected by RL, JA, and WP

It seems to me that the best performances of medieval music have in them a touch of sadness even when, as here, the tunes are played with affection, enthusiasm, and joy. Partly, of course, this is a modern-day response on the performers' parts: to be truly involved in the music, they must lament, if only a little, the loss of the age that produced it—in this case, Spain before the *Reconquista*. Nor is this view entirely new. Legend says that there are still families in Morocco who hold the keys to their houses in Spain, and the literature of the Middle Ages is full of longing—*amor de lonh*—for the Golden Age. For many throughout subsequent history, Moorish Spain embodied this ideal, a vision of Hebrew philosophers and Arab poets in flowing caftans, the halls of the Alhambra resounding with their voices while dancers spun to such passionate music as Eduardo Paniagua and his ensemble play for us. Cruelly, this is not the true picture, but then *all* pictures lie.

But what a marvelous evocation of this spirit Paniagua has created in this, his second disc for M•A Recordings. (His first, *Calamus: The Splendour of al-Andalus*, was *Stereophile's* May 1995 Recording of the Month.) With gorgeously varied



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instrumental textures, complex rhythms, and unerring choice of material, they open up our journey through the Spain of the Five Kingdoms. In their hands,

the music truly lives again. These are not tourist resorts we are going to, but real places where people danced, laughed, gambled, made love, and created art for the same reason we do today—because they could not do otherwise and live. The music they made, as realized on this disc, is neither quaint nor funny, although it has that *strangeness* that delights us in all art, whether old or new.

Paniagua and his collaborators use many instruments, all researched from medieval illustrations or descriptions: ouds, psalteries, flutes, chalumeau, bagpipes, and the widest range of percussion you can imagine, from cymbals to tambours to drums. All of this is beautifully recorded: Finger cymbals shimmer in the air, plucked strings blossom in beautiful warmth and roundness, and drums have skins and volumes of air inside them and *lots* of bass impact and punch. The best thing, though, is the wonderful sense of space (from digital!), the portrayal of instruments played in a vast room with a hugely long decay that never blurs the performance. Lately, I've gotten to hear a lot of recordings that exemplify the whole high-end thing; this is one of the best of them.

—Les Berkley

BEETHOVEN: Triple Concerto, Op.56; Fantasy for Piano, Chorus, & Orchestra, Op.80

Daniel Barenboim, piano; Itzhak Perlman, violin; Yo-Yo Ma, cello; Daniel Barenboim, Berlin Philharmonic

EMI 55516 2 (CD only). John Fraser, prod.; John Kurlander, eng. 11D1. TT: 55:13

For many years, the "Triple" Concerto was a stepchild among Beethoven's more auspicious works—often dis-

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missed as trifling. Today this view has shifted, partly because the advent of LP has led to the music becoming better known and thus better understood. If not among Beethoven's most sublime scores, it remains a significant middle-

period masterpiece: lyrical, assertive, and masterly in its incorporation of Baroque concerto-grosso principles into the grand design of Classical structures.

This new recording of the work, strongly individual yet eminently stylish, can hold its own with the best. Indeed, it represents the finest Beethoven performance I have ever heard

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from Barenboim, who, as pianist and conductor, is a central figure here. Striving for grandeur but remaining unmanly, he projects with his collaborators a majestic first movement, at once gentle, soaring, and imposing. With Perlman and Ma providing virtuosic playing enriched with gorgeous tone and phrasing, this collaboration suggests (more than most others) how rightfully this work belongs beside Beethoven's G-Major and "Emperor" piano concertos and his Violin Concerto. Rarely, in fact, has the finale emerged with the kind of vibrant toughness it has here, a toughness made all the more striking by being juxtaposed to an unusually expansive slow movement.

The Choral Fantasy is also impressive. Those who delight in its peculiar brand of humorous improvisational lunacy may find this reading a bit too controlled, but the approach works. EMI's in-concert engineering, if realistic in perspective, suffers at times (most in the Fantasy) from the slight harshness of string tone often attributed to digital technology. Still, this release is warmly recommended.

—Mortimer H. Frank

DEBUSSY: *Nocturnes, Première Rhapsodie, Jeux, La Mer*

Pierre Boulez, Cleveland Orchestra & Chorus
 DG: 439 896-2 (CI) only. Karl-August Naegler, prod.; Klaus Behrens, Stephan Flock, Rainer Maillard, Andrew Wedman, engs. DDD. TT: 70:58

RAVEL: *Daphnis et Chloé, La Valse*

Pierre Boulez, Berlin Philharmonic; Berlin Radio Choir
 DG: 447 057-2 (CI) only. Karl-August Naegler, prod.; Jobst Eberhardt, Klaus Behrens, Wolf-Dieter Karwatky, engs. DDD. TT: 70:46

Boulez, Debussy, and Ravel would promise to be an almost unbeatable combination, the Debussy album in fact having already garnered a Grammy award a few months ago. Previous recordings by Boulez of the Debussy *Nocturnes, La Mer,* and *Jeux* are still in the Odyssey catalog, but the newer recording (with a fine Clarinet Rhapsody) reveals greater clarity and transparency in the Cleveland Orchestra pickup. That said, there are problems that the listener may want to consider. In spite of Boulez's exquisite sense of balance and extraordinary sensitivity to instrumental sonorities, I find his interpretations emotionally noncommittal. His no-nonsense Debussy is about as far away from the glamor and voluptuousness of Stokowski, for example, as one could imagine. The wordless sirens of the third *Nocturne* might strike seafarers as beautifully etched curiosities, but are



Pierre Boulez at 70, on two new DG releases: noncommittal Debussy, hot-blooded Ravel.

hardly the beckoners of promised sensualities. Furthermore, until its final movement, *La Mer* effects little tension or excitement.

In contrast, Boulez's Ravel, with the Berlin Philharmonic, is a more hot-blooded affair. This *Daphnis* (he had previously recorded the ballet for Columbia with the New York Philharmonic, nla) and *La Valse* have all the passion and excitement one could want—winners in all respects. True, there is evident directorial control, without that off-the-top-of-the-wall exuberance that Charles Munch often brought to these scores, but this is an important disc, one in which *La Valse* actually conjures up charm before its final peroration, and *Daphnis* tells its classical story with almost visceral dynamism. The reproduction, however, might be a slight deterrent for some: In addition to partial opacity at very loud climaxes, the microphone pickup rather unnaturally displays a semi-distant orchestra in an all-too-empty auditorium.

—Igor Kipnis

MacMILLAN: *Visitatio Sepulchri*, **Busqueda*
 Ivor Bolton, James MacMillan, Scottish Chamber Orchestra
 Catalyst 62669-2 (CI) only. Colin Matthews, prod.; Tony Faulkner, eng. DDD. TT: 69:00

MacMillan's *Visitatio Sepulchri* is a sacred opera based on the medieval liturgical drama, with the addition of two chants from the Catholic liturgy. It tells of the angels conveying the news of Jesus's resurrection as they stand before the empty tomb. It is scored for chamber orchestra and seven singers—three male and three female angels, plus a cantor whose part is written in *Sprechgesang*. Framed by an orchestral prelude and a setting of the *Te Deum*, one might be forgiven for expecting a piece of "monastic austerity" à la

Pärt, but MacMillan is a composer of vibrant colors and textures, of vital rhythms and dense layers of sound; both the performers and the recording team understand and realize his singular complexity excellently well.

This work is coupled with one of equal dramatic intensity—a piece of music-theater named *Busqueda*—which uses as its libretto fragments of the Latin Mass and the lamenting poems of Argentinian women whose children have been taken by the secret police. (*Busqueda*, meaning search, is the name of a group in Oxford, England, whose aim is to trace the politically annihilated.) It is given by three sopranos, 17 instrumentalists, and a speaker, all of whom have an obvious commitment to the wider implications of this work's cause.

—Barbara Jahn

PROKOFIEV: *Romeo and Juliet: Scenes*
 Michael Tilson Thomas, San Francisco Symphony
 RCA 68288-2 (CI) only. Andreas Neubronner, prod.; Markus Heiland, eng. DDD. TT: 78:10

Recorded and issued during the debut season of Michael Tilson Thomas in his new role as Music Director of the San Francisco Symphony, this release also serves to inaugurate MTT's new contract as an exclusive RCA Red Seal artist. MTT brings with him the Miami-based New World Symphony, of which he remains Music Director, as well as the London Symphony, from which he has stepped down from Chief to Principal Guest Conductor.

For this new recording of *Romeo and Juliet* excerpts, MTT has left Prokofiev's own three concert suites in the library and constructed his own suite. The first to do this on recording was Leopold Stokowski in an as yet unreissued early-'50s stereo recording with the NBC Symphony players for RCA. Recent recordings along these lines include those of Pesek/Royal Liverpool on Virgin Classics, Salonen/BPO on Sony, and Dutoit/Montréal on London. Each of these conductors has had his own ideas with regard to content and continuity. MTT sees his version as an alternative to the full score: He provides nearly all of Act I as a symphonic exposition, the essentials of II as a kind of dance suite, and a condensed III and IV in which melodic factors culminate in a *Liebestod*. Even among recordings of the complete ballet, only the Previn/LSO (EMI, nla) can match MTT/SFSO in musical as well as sonic terms.

The Decca/London production

team led by Chris Hazell during the Blomstedt years, and for MTT in Miami for Argo, would appear to be a hard act to follow. The sound captured by MTT's chosen production team is much closer and far more intimate than the Hazell team's highly refined audience perspective, which combined a certain cool distance with pinpoint transparency and detail. Neubronner and Heiland take us out of our audience seats and place us on the podium for a conductor's-ear view of the music. Although somewhat controversial, the execution is consistent, convincing, and in no way artificial. Such an approach could prove to be intriguing if not captivating to listeners who would not otherwise be able to hear a performance from this vantage point. The dynamic range is stupendous, whether registering the pinpoint delicacy of mandolins or the entire orchestra led by full-strength brass.

MTT has declared his intention to record live (as he has here) whenever possible. As he puts it, "there's nothing quite like the performance an orchestra will give when playing for its own audience, which loves it." In addition, the orchestra plays in the concert deployment to which it is accustomed, not with the artificial redeployments that make the mixing easier but often play havoc with musicians' ensemble sensibilities.

It should be apparent that MTT has invested a powerful range of emotion into the performance, and has encouraged an equally broad and powerful range of imaginative possibilities from his players. It's extremely rare to hear chances being taken in recordings, but this is where MTT's audacity is brought to bear in ways that vindicate audacity and live recording. Somehow, the audience behaves beautifully. In the words of Henry Youngman, "You know they're out there, you can hear 'em breathing," but not coughing and hacking. This is MTT at his best, and it gets him off to a great start in his new post. The sound quality should earn this recording a place in display rooms, testing labs, and audio shows as well as home collections. —Richard Schneider

RACHMANINOFF: Piano Concertos 1 & 4
Mikhail Rudy, piano; Mariss Jansons, St. Petersburg PO
EMI 55188 2 (CD only). John Fraser, prod.; Michael Sheady, eng. DDD. TT: 65:01

This is the final disc of the series given by Mariss Jansons and the St. Petersburg PO with Mikhail Rudy as soloist

in the Rachmaninoff Concertos. I was extremely impressed by that of the Third (coupled with the Paganini Rhapsody, EMI 54880), and find this account of the Fourth as convincing, particularly as both the original and revised endings are given. Rudy is a poetic and lucid musician who may well lack the weight and drama of many another renowned devotee, but who more than makes up for it by a searching intensity that often lays bare a line of texture or point of detail that can remain buried below the sumptuousness of Rachmaninoff's harmonics.

Concerto 1 is a less immediately attractive work despite the truncated and uneven nature of 4. However, this student work, which was also extensively revised, shows a brilliance and singularity of mind that bear all the hallmarks of Rachmaninoff's later style. The St. Petersburg Orchestra gives both works their total attention, the sheer fluidity and neatness of their playing a tribute to their thorough rehearsal of the score under the guidance of Mariss Jansons. The recording too is very fine, the problems of balance that I was unhappy about in the Third Concerto disc having been rectified here. —Barbara Jahn

RÓZSA: Complete Music for Solo Violin
Variations on a Hungarian Peasant Song, North Hungarian Peasant Songs & Dances, Duo for Violin & Piano, Sonata for Solo Violin
Isabella Lippi, violin; John Novacek, piano
Koch International 3-7256-2111 (CD only). Michael Fine, prod., eng.; Fred Vogler, eng. DDD. TT: 62:09

"Hungary... was where my music began and where it has ended.... It is stamped one way or another on virtually every bar I have ever put on paper."

One of the many remarkable things about this release is its revelation of the hold that Hungarian music had on Miklós Rózsa (quoted above, from the liner notes) both before and after the 40-some years he spent composing film scores in Hollywood. Much of this music out-Hungarys Bartók and Kodály, especially the *Variations* and the *Peasant Song and Dance*. Both from 1929, these incorporate Hungarian folk themes the composer collected in his native country. The works are charming but without serious challenges for the listener. The *Duo* of two years later carries hints of the mature composer to come, with more complex forms, original themes, and richer emotional journeys.

Leaping over five decades to the unaccompanied Sonata of 1986, we find a composer who has become fully himself, having absorbed the music of his



Miklós Rózsa's complete music for solo violin is played by Isabella Lippi: charm and passion in reference-quality sound.

hometown to create a personal statement of passionate depth. The angular, energetic first movement leads to a reflective set of variations in the second and a rhythmically complex third. Even if you don't feel compelled to return to the earlier works, the Sonata will haunt you, will compel you to repeated listenings.

So will the impassioned playing of Isabella Lippi and John Novacek. Displaying no evidence of the labors required to give birth to these often tortuous works, Lippi seduces you with her effortless agility and her impassioned soulfulness. Novacek plays his part with equal fervor and a fluid touch.

The duo's playing is heard through a superbly transparent window on the instruments, portraying the rich body and natural sheen of the violin as well as the crystal-clear overtones of the piano. This recording takes a place among the very best violin/piano recordings I have heard.

Rózsa, who passed away shortly after this recording was made, is quoted as saying that it is all he could have hoped for. I share the sentiment.

—Robert Hession

SCHULHOFF: *Flammen*
Kurt Westö, Don Juan; Jane Eaglen, Donna Anna, a Nun, Margarethe, a Woman; Iris Vermilion, La Morte; others; RIAS-Kammerchor Berlin, Deutsches Symphonie-Orchester Berlin, John Mauceri
London 444 630-2 (2 CDs only). Michael Haas, prod. DDD. TT: 2:14:02

Impressionistic, expressionistic, jazzy, without a linear story line, and composed by a Jewish Communist in 1932, *Flammen* didn't stand a chance with the Nazis. But it's a marvelous work — inventive, entertaining, possibly unique. The libretto is only 38 pages long; more than a third of the music is simply orchestral. I might even go so far as to say that a recording does *Flammen* greater

justice than a staged performance, and London's engineers have here given us a marvelously vivid account of this complex score.

The mythic Don Juan is at the opera's center, but here he is condemned to passion and life—he can find no eternal rest. He travels from time to time, place to place—this opera has not only Donna Anna and the Commendatore, but Faust and Margarethe—his conquests give him no joy despite the fact that he wreaks havoc wherever he goes. The character of Death (as mezzo) follows him; she seems to truly love him but can not make him her own. I think you get it: the opera inhabits a fantasy world without rhyme or reason: Just a great deal of stunning and atmospheric music, with small nods to Berg, Korngold, and a hint of Weill—but at the same time totally original. I have listened now five times, and while I keep trying to fit it into a category, I can't. I don't mind.

The performances are excellent, with Kurt Westi a clear-voiced Don, jaded, exhausted, and unable to rest; Jane Eaglen is superb in a handful of roles representing the women in his life; and Iris Vermilion is almost dark enough as Death. Mauceri leads a tight, riveting performance, and London allows us to hear this hallucinatory score in all its glory. Approach with an open mind—this is more fulfilling than anything by Shrek, and offers great pleasure in its own, special way.

—Robert Levine

VERDI: *Il trovatore*

Luciano Pavarotti, Manrico; Antonella Banaudi, Leonora; Leo Nucci, Count di Luna; Shirley Verrett, Azucena; others; Orchestra e coro del Maggio Musicale Fiorentino, Zubin Mehta
London 430 694-2 (2 CDs only). Christopher Raeburn, prod. DDD. TT: 2:11:52

Here's a surprise entry in the *Trovatore* sweepstakes, and it's a pretty good one at that. The selling point is obviously Pavarotti, and he doesn't disappoint: In 1990, when this was recorded (one can only wonder why London waited so long to release it), he was in very smooth voice, and while his involvement is never better than generalized tenorish behavior, his singing is quite beautiful. That said, his voice is still a size or two too small for Manrico, and that might deter purists.

The almost totally unknown Banaudi (no one I know has heard of her before or since this recording) is as good as one gets nowadays in the Verdi soprano department. She has the right attitude

and voice size for Leonora, and sings with style and passion. Leo Nucci is mediocre as the Count—he pushes and strains, and the overall effect is too effortful, although I like his fine handling of the triplets in the first-act finale. The show's star is Shirley Verrett, who, at 59, still had plenty of voice and a genuine plethora of temperament, some raw singing aside.

Zubin Mehta's leadership is alternately energetic and flaccid; it's impossible to tell what's going to come out of his baton next. The fourth act is fiery, but similarly energized moments in the second act go by without notice. The score is presented complete.

London's engineers have given us a big, rich, honest recording (unlike Sony's recent *Trovatore*, which sounded as if each instrument had been miked separately) that does justice to the piece.

Pavarotti fans will need this; other curious listeners could do worse. It's not Milanov, Björling, and Warren on RCA, but it's not bad at all.

—Robert Levine

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Eduardo Mata, La Camerata (Panamerican Chamber Players); *Tambuco* (Mexican Percussion Quartet)
Dorian DIS-90215 (CD only). David H. Walters, prod.; David H. Walters, Debbie Reynolds, engs. DDD. TT: 66:12

ORBÓN: *Tres Versiones Sinfónicas*

VILLA-LOBOS: *Bachiana Brasileira No.2*

ESTEVEZ: *Melodia en el Llano*

CHAVEZ: *Sinfonia India (Symphony 2)*

Eduardo Mata, Simón Bolívar Symphony Orchestra of Venezuela
Dorian DIS-90179 (CD only). David H. Walters, prod., eng.; Craig D. Dory, Brian C. Peters, engs. DDD. TT: 61:59

FALLA: *El Amor Brujo*

With: *Seven Popular Spanish Songs* (orch. Berio); *Homenajes*; *Three Concerted Hat*, Suite 2
Marta Senn, Eduardo Mata, Simón Bolívar Symphony Orchestra of Venezuela
Dorian DIS-90210 (CD only). David H. Walters, prod., eng.; Brian C. Peters, eng. DDD. TT: 68:05

It's difficult to single out any one of these three programs as being better than the others, either for the quality of the performances or for their sonic display potential. These are among the last recordings made by the Mexican conductor Eduardo Mata before his untimely death in 1995, and they all effectively reveal his strong flair for the music of Spain and Latin America. Allowing for Mata's penchant for classically oriented,



Dorian continues to expand the recorded legacy of the late Eduardo Mata on three excellent new discs.

intense, controlled interpretations, it comes as a bit of a surprise to hear him so obviously bring out the neo-romantic elements in some of this music—as, for example, in the *Melodia en el Llano* (Noon on the Prairie) by the Venezuelan Antonio Estevez (1916–1988), or the *Romance des Pescador* from Manuel de Falla's *El Amor Brujo*. But overall, it is Mata's delineation of the hot-blooded, pent-up passion in so many of these scores that helps so effectively to evoke the proper atmospheric color. One can hear this throughout the varied programs, whether in the vividness of the two solo percussion pieces by Mexico's most famous and prolific composer, Carlos Chávez (1899–1978), the popular *Little Train* from *Caipira* movement from Villa-Lobos's *Bachiana Brasileira No.2*, or the sharply accented, complete five-movement *Homenajes* (1921–41) of Falla. The playing by the Venezuelan orchestra is good if not absolutely perfect (unison cellos in the first movement of the Villa-Lobos are not entirely together), but instrumental color has been well captured by the engineers, and the soundstage is especially well delineated. The many impressive arrays of sounds to be heard throughout all three CDs provide highly stimulating listening for the audio enthusiast.

—Igor Kipnis

DAWN UPSHAW: *White Moon: Songs to Morpheus*

Songs by Warlock, Handel, Monteverdi, Seeger, Schwaner, Dowland, Villa-Lobos, Crumb, Purcell
Dawn Upshaw, soprano; Margo Garrett, piano; Sergio & Odair Assad, guitars; others; Members of the Orpheus Chamber Orchestra
Nonesuch 79364-2 (CD only). Tommy Krasker, prod.; John McClure, eng. DDD. TT: 46:34

As is customary with this artist, here is an intelligent, thoughtfully put-together program, this time of songs of a "nocturnal" character: each has something to do



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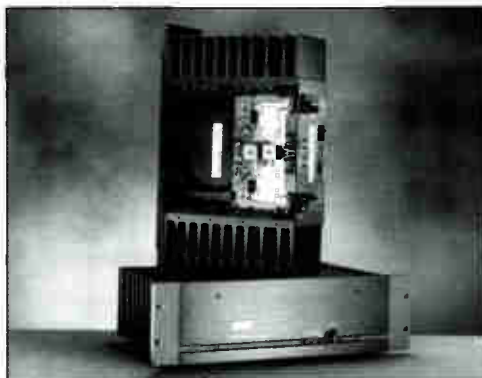
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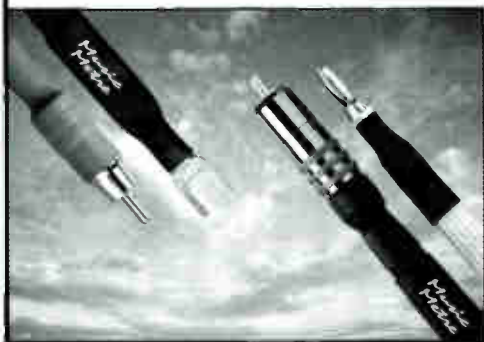


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with sleep, oblivion, or the moon. One might fear that the resulting recital would be soporific; one would have been close.

The music is interesting—from Peter Warlock's shadowy "Sleep" to Arnaltea's exquisite lullaby from *L'Incoronazione di Poppea* (although this is written for a tenor in drag and sounds better lightly sung by a male voice) through Ruth Crawford Seeger's odd, eerie "White Moon" and four songs by George Crumb based on poems by Garcia Lorca (although these last are far more interesting for their accompaniments of banjo, flute, electric cello, and percussion than for their vocal lines). But the whole effect is too mellow for its own good, and Upshaw is peculiarly lifeless. She sings Villa-Lobos's *Bachiana Brasileira No.5* with utter dispassion; here, as throughout the program, she seems to be whispering. Yes, I know, it's supposed to suit the program, but she sounds unschooled in the wrong way—not spontaneous, just unschooled. I'm a fan of hers, but I doubt I'll be returning to this CD.

The instrumentalists are superb. The sound is as recessed as the attitude: a perfect match, but not for these ears.

—Robert Levine

EARL WILD: *The Romantic Master: Virtuoso Piano Transcriptions*

Bach-Wild: *Hommage à Poulenc. Saint-Saëns-Wild: *Le Rouet d'Omphale*. Handel-Wild: Harmonious Blacksmith Variations. Chopin-Wild: Largo from Piano Concerto 2. Rachmaninoff-Wild: *Midsummer Nights*. Tchaikovsky-Pabst: Paraphrase on *Sleeping Beauty*. Tchaikovsky-Wild: "At the Ball"; "Dance of the Four Swans" from *Swan Lake*. Faure-Wild: Improvisation on "Après un rêve." Mozart-Backhaus: Serenade from *Don Giovanni*. Churchill-Wild: Reminiscences of *Snow White*. J. Strauss, Jr.: "One Lives But Once." Kreisler-Rachmaninoff: *Liebesleid*.*

Earl Wild, piano
Sony Classical SK 62036 (CD only). Michael Rolland
Davis, prod.; Ed Thompson, eng. DDD. TT: 66:54

This scintillatingly played assemblage is sheer fun for the ear. Wild, who in large part is responsible for the arrangements, has often used these pieces as encore material (I'm thinking particularly of the delightful *Swan Lake* extract). His ability to improvise, which owes a good deal to the manner of Rachmaninoff, is of course the *raison d'être* for the collection. Needless to say to those familiar with Wild at his inimitable best, the playing is at all times elegant, free, and rhapsodic (the Chopin slow movement), wonderfully brilliant (as in the outstanding Strauss-Tausig), and full of color and momentum (the Saint-Saëns, which almost makes one forget its orchestral original). The piano reproduction features an intimate ambience with a good, unexaggerated feeling for the surrounding space.

—Igor Kipnis

JAZZ & BLUES

JANE IRA BLOOM: *The Nearness of You*

Jane Ira Bloom, soprano sax; Kenny Wheeler, flugelhorn, trumpet; Julian Priester, trombone, bass trombone; Fred Hersch, piano; Rufus Reid, bass; Bobby Previte, drums
Arabesque Jazz AJ0120 (CD only). Jane Ira Bloom, prod.; James Farber, eng. DDD. TT: 68:14

For her last record, *Art and Aviation*, Jane Ira Bloom wrote a beautifully suggestive piece called "Coleman Hawkins's Parallel Universe." It celebrates Hawkins's famous recording of "Body and Soul," and suggests what a jazz musician inevitably does, and what Bloom does consciously: She creates in her improvisations a musical world that parallels the original composition. Bloom goes one step further when she comments on the improvisations and compositions of others in such original compositions as "Nearly Summertime," which introduces the Gershwin tune with some eerie three-part writing for the horns. Then there's "Midnight Round"/"Round Midnight," on which Thelonious Monk's familiar melody unfolds over an insistent bass line played by flugelhorn and trombone that seems to parallel Monk rather than support him. As a composer, Bloom's a wit.

She likes to probe the future, as in "The All-Diesel Kitchen of Tomorrow" and "Yonder." It's not a coincidence that she composed a major piece for NASA. When she sticks to the present, her view is waggish, as we hear in "It's a Corrugated World," which begins laconically with a patter of drums and bass. Then the horns play a boppish theme whose sections lead to a change in rhythm and an unexpectedly anxious *accelerando*. The slow tempo returns only after a couple of solos. The effect is of sections laid up one against the other—in parallel fashion.

Bloom also plays ballads beautifully. Here they include Kurt Weill's "Lonely House" as well as "The Nearness of You." She's given to slow tempos on the ballads and quick, angular lines on her originals. Her solos are consistently intriguing, and she has a topnotch band behind her: It is particularly good to hear Julian Priester again in such a challenging context. The recorded sound is fine, even if on some numbers Priester's trombone and Wheeler's flugelhorn seem to merge. The bass and drums are particularly clear and solid in image.

—Michael Ullman



Soprano sax player Jane Ira Bloom displays witty compositions and beautiful ballad playing on *The Nearness of You*.

HERBIE HANCOCK: *The New Standard*

Herbie Hancock, piano; Michael Brecker, tenor & soprano sax; John Scofield, guitar; Dave Holland, acoustic bass; Jack DeJohnette, drums, electric perc.; Don Alias, perc.
Verve 314 529 584-2 (CD only). Herbie Hancock, Guy Eckstine, prods.; John Pace, eng. TT: 72:06

JOHN McLAUGHLIN: *The Promise*

John McLaughlin, guitar; with Jeff Beck, string, Trilok Gurtu, Al Di Meola, Michael Brecker, David Sanborn, many others
Verve 529 828-2 (CD only). John McLaughlin, Eddie Kramer, prods.; Kenny Jones, Gustav Hobel, Maurice Uzana, Max Costa, Rene Ameline, Ed Rak, Eddie Kramer, engs. TT: 73:41

BARBARA DENNERLEIN: *Take Off*

Barbara Dennerlein, organ; Mitch Watkins, guitar; Dennis Chambers, drums; Ray Anderson, trombone; Joe Locke, midi vibraphone; Roy Hargrove, trumpet; Mike Sim, saxes; Lonnie Plaxico, bass; Don Alias, percussion
Verve 314 527 664-2 (CD only). Barbara Dennerlein, prod.; Jim Anderson, eng. TT: 68:44

PolyGram is working hard to revive their jazz label, Verve. Their approach seems to be signing established jazz stars and packaging them in a manner that has commercial appeal without compromising the music. Hancock, McLaughlin, and the more recently signed John Scofield are all Miles Davis alumni who have written their own pages in the history books. Dennerlein, while not their equal, is nevertheless a serious player whose music remains highly accessible. In this trio of CDs the approach achieves varying degrees of success.

Hancock's theory is that, like the old standards, the new standards should come from the pop music of the day. The idea isn't without merit, but his choice of modern material leaves much to be desired. Former Eagle Don Henley's "New York Minute" contains little in the way of the melodic or harmonic content that would inspire great improvisation. Luckily, Hancock & Co. quickly dispense with the tune and launch into the kind of modal interplay that helped forge their reputation. Prince's "Thieves in the Temple" and



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— Dick Olsher, *Stereophile*, Vol. 14, No. 11, November 1991

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The eternally youthful Herbie Hancock returns to acoustic jazz on *The New Standard*—with Dave Holland, Jack DeJohnette, and others.

Kurt Cobain's "All Apologies," on the other hand, merely offer competent blues noodling.

Bob Belden's low-key arrangements do nothing to elevate tunes like Babyface's "When Can I See You": a track that had little to offer originally other than its arrangement and production. Speaking of production, *The New Standard* is recorded like a pop album: up front and in your face. Granted, a very good-sounding pop album, but recording Jack DeJohnette like a rock drummer is near criminal.

The idea of new standards isn't bad, but there are definitely better tunes available (Joni Mitchell, Sting, late Paul Simon, Steely Dan). These guys playing this stuff is like Paul Prudhomme cooking at McDonald's.

John McLaughlin, God bless him, has always followed his own path. The concept here is to present an overview of the directions down which that path has led, and the famous friends met along the way. The bands of McLaughlin and Beck once toured together, and the axe-slingers join here for John Lewis's "Django." This version forsakes some of the tune's pensive beauty to pay tribute to its namesake's incendiary playing.

Fire is McLaughlin's stock and trade; whether with Di Meola and de Lucia on "El Ciego," or Trilok Gurtu on the Shakti-like "The Wish," or jamming with Sting on the too-brief outtake from "The Wind Cries Mary" cut on a Hendrix tribute album.

Recorded in a variety of places, all of the tracks share a slightly over-reverb'd murk that must be to McLaughlin's liking. But don't let the sound put you off;

for newcomers or fans, *The Promise* is a terrific sampling of an artist who has more than fulfilled his.

German organist Barbara Dennerlein's 1995 release on her own Motor Music Label has been picked up by Verve for American distribution, and it contains more of the joyful jazz-funk that Dennerlein offered on her Enja and Mesa/Bluemoon releases. With her usual posse of Chambers, Watkins, and Anderson, she has forged a sound entirely her own.

Take Off adds a host of newcomers who only serve to prove that more is not always better. Plaxico's acoustic bass is recorded like organ bass pedals—so why not just play them? (Play them she does on a smoking version of "Hot House.") Locke's midi vibes only further cloud the already indistinct sound, and the solos of Sims and Hargrove merely take time away from more interesting soloists like Anderson, Chambers, and Ms. D. herself.

Still, the strength of Dennerlein's music is not in sounds and solos. What she offers is the spirit of jazz before it took itself so seriously without compromising the music or forsaking the future. Like McLaughlin, she follows her own path and always conveys the ecstatic element in making music. For this alone, she deserves to be in current company: With PolyGram's push and some hipper production, she could write her own page in the books.

—Michael Ross

FRED HERSCH: *Passion Flower*

Fred Hersch Plays Billy Strayhorn

Fred Hersch, piano; Drew Gress, bass; Tom Rainey, drums; Andy Bey, vocal; Nurit Tilles, piano; string orchestra conducted by Eric Stern
Elektra Nonesuch 79395-2 (CD only). Fred Hersch, prod.; A.T. Michael McDonald, eng. 1DD1. TT: 62:42

During his life, composer and sometime pianist Billy Strayhorn was content to remain in Duke Ellington's long shadow. Ellington liked to call Strayhorn his other alter ego, but what may have made their decades-long collaboration so successful was the younger man's evident lack of ego, his willingness to write for Ellington and sometimes under Ellington's name. He came to Duke in the late '30s with a song, "Lush Life." Ellington, who knew how to turn an arch phrase himself, was intrigued by its world-weary lyrics, their air of sophistication and "distingué traces." Soon Strayhorn was working for Duke full-time. He picked up Ellington's style—he wrote the band's theme song,

"Take the A Train"—but Strayhorn's songs remained for the most part distinct. Whereas Ellington's writing and playing were brash, percussive, with abrupt cadences and unresolved dissonances, Strayhorn's compositions and occasional solos were sly, sinuous, elusive despite their strong melodies. Had they been painters, Ellington would have been a cubist, Strayhorn an impressionist.

Pianists in particular seem to love Strayhorn's writing. When Tommy Flanagan was offered his first record date, he wanted to record only Strayhorn songs. (That project had to wait.) Fred Hersch learned the more obscure Strayhorn from Flanagan, he says, and from pianist Jimmy Rowles—but he plays as if he's learned them directly from the source. His solo version of "Lotus Blossom" is a gentler version of Duke's own. Hersch and his trio play lighter, almost whimsical versions of "Day Dream" and "U.M.M.G."—one of the charms of this altogether delightful disc is the bright interaction of the members of the trio. Rainey and Gress dance about Hersch on "U.M.M.G.," follow him instantly when he ventures outside the chords for a couple of bars, and support him vigorously as he begins to swing more intensely. This is state-of-the-art trio playing.

The string arrangements are pleasant and unobtrusive, and Andy Bey's singing of the morbid "Something to Live For" captures the mood of a song that is one of the few famous Strayhorn tunes I don't particularly admire. This disc is recorded with impressive clarity, and the recording reproduces Hersch's elegant sound excellently. My only complaint about a disc I've been listening to over and over: It lacks my favorite Strayhorn composition, "Chelsea Bridge." Maybe next time...

—Michael Ullman

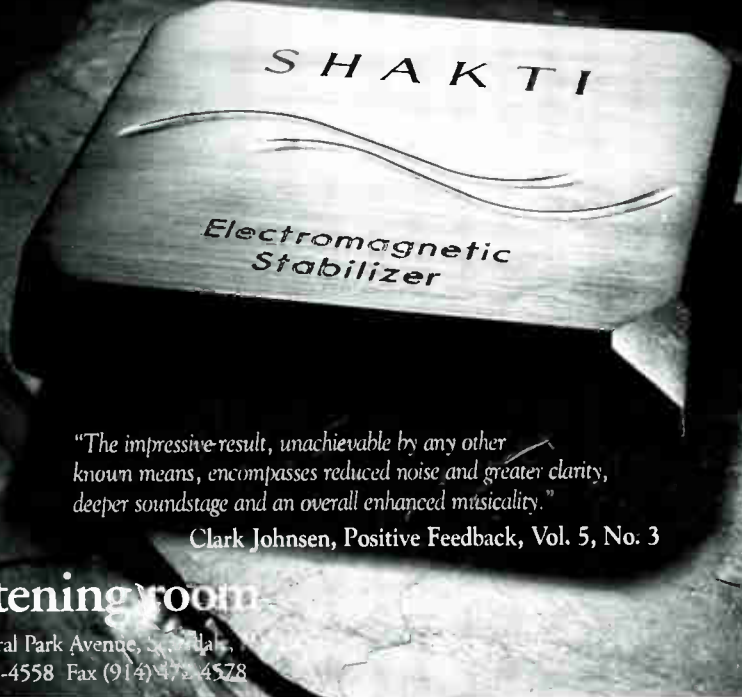
SHIRLEY HORN: *The Main Ingredient*

Shirley Horn, vocals, piano; Joe Henderson, Buck Hill, tenor sax; Roy Hargrove, flugelhorn; Charles Ables, electric guitar, acoustic bass; Steve Novosel, acoustic bass; Steve Williams, Elvin Jones, Billy Hart, drums
Verve 314 529 555-2 (CD only). Shirley Horn, prod.; David Baker, eng. 1DD1? TT: 53:59

Shirley Horn's art—so subtly nuanced in its feeling, so often hushed—needs the nurturing mood of the moment to reveal itself. She does not sing ballads exclusively, but when you think of her you hear smoldering ballads so slow that meaning gathers first in the silences, then in the words.

It's not surprising that Horn would be

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Jonathan Scull, *Stereophile*,
Feb. 1996, Vol. 19, No. 2

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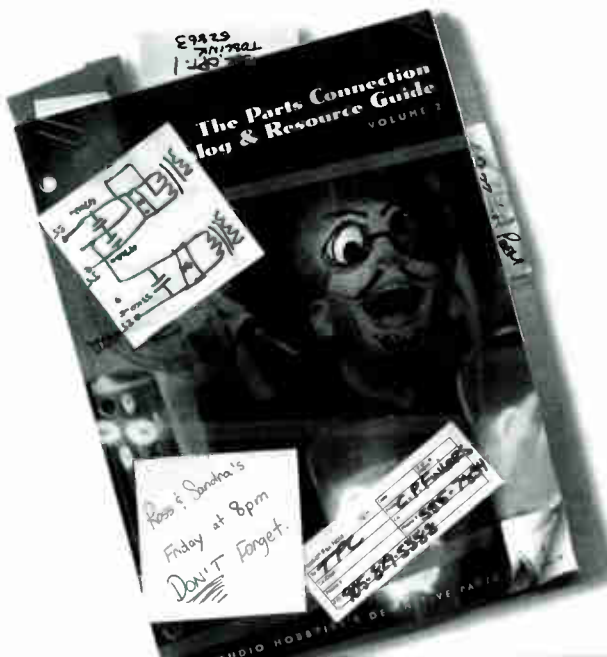
Clark Johnsen, *Positive Feedback*, Vol. 5, No. 3

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attracted to the notion of recording in the warmest, most comfortable setting of all: her own home in Washington, DC. We're not given much information about how the recording was made except that "a truck bigger than Shirley's house," from Big Mo Recording, pulled up, and engineer David Baker set up shop for four days in her living room.

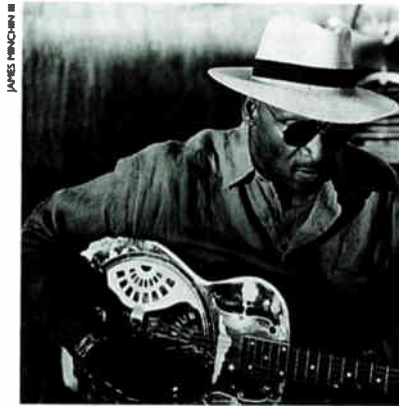
In the liner notes Horn says that what she had in mind was "a little taste of yesteryear," when "the guys" would often gather at her house after a gig to eat and drink and jam. She invited some special guys to the sessions that resulted in *The Main Ingredient*. Charles Ables and Steve Williams, her regular bassist and drummer, accompany her on most of the tunes. But gray eminences like tenor saxophonists Joe Henderson and Buck Hill, and major new voices like trumpeter Roy Hargrove, sit in for several numbers. Steve Novosel, Billy Hart, and Elvin Jones spell Ables and Williams in the rhythm section.

Shirley did the cooking, "a different menu every night." (The liner notes contain the recipe for her "famous beef-and-beer.") The unguarded intimacy of these evenings is audible in the music. "The Look of Love," "Fever," and "Come In from the Rain" are pop songs dignified by Horn's wise, exquisitely modulated whisper. There are two classic performances on the album, one featuring Hargrove and one Henderson. "The Meaning of the Blues" is a perfect vehicle for Horn, as much dramatic recitation as song. Hargrove's flugelhorn is a glowing, sensitive intelligence that barely moves beside her as Horn makes you sit very still in your chair: "...and blues were only torch songs / Fashioned for impulsive ingénues. / But now I know, too well I know / Too well I know the meaning of the blues."

"You Go To My Head" starts with four minutes of Henderson ruminating over the melody in his breathiest cool (so soft you hear the keys clicking) before Horn finishes his thoughts by sighing the opening line: "You go to my head / And you linger like a haunting refrain..." Slowly, slowly they sway through the song, entwined.

The sound is not perfect. Elvin Jones's brushes on "You Go To My Head" are badly over-miked, and the soundstage is all in the same flat plane. But when you're a guest in someone's house, and you're being shown such a wonderful time, it seems impolite to complain.

—Thomas Conrad



Taj Mahal enters his fourth decade in the music biz with his new *Phantom Blues*.

TAJ MAHAL: *Phantom Blues*
Private Music 82139-2 (CD only). John Porter, prod.;
Joe McGrath, eng. TT: 48:03

Taj came of age in the "anything goes" '60s when the concept of a blues band that featured four tubas and covered Monkees tunes didn't raise an eyebrow. Here we are in the "watch your step" '90s and what we get is standard r&b tunes: "Ooh Poo Pah Doo," Brother Ray's "Lonely Avenue," Fats's "Let the Four Winds Blow"; some new tunes that sound like standards, like Pat McLaughlin's greatest Al Greene song that Al never recorded, "Don't Tell Me"; and the obligatory Eric Clapton and Bonnie Raitt cameos.

Taj's voice is still great—a party in itself—and matches the material about three fourths of the time. That the band is competent but uninspired is underlined by the fire of Clapton's two performances. The sound is neither here nor there, not live but not the conscientiously produced amalgam so prevalent on blues records—sort of like an expensive demo.

Only on the funky last song, "The Car of Your Dreams," do the spirits of Taj the explorer, Taj the mixer of genres, Taj the party master gel into the kind of blues man that might still call himself Taj Mahal.

—Michael Ross

JACKY TERRASSON: *Reach*
Jacky Terrasson, piano; Ugonna Okegwo, bass; Leon Parker, drums
Blue Note CDP 8 35739 2 (CD only). Jacky Terrasson, prod.; Mark Levinson, eng. DDD. TT: 49:05

This recording is going to get a lot of attention in both the jazz press and the audiophile press. The jazz press keeps a close eye on Jacky Terrasson because he is one of four or five current candidates for the title of "next piano messiah."

(The jazz community is ever in waiting for messiahs.) The audiophile press will be interested in the fact that *Reach* was recorded in the living room of Mark Levinson himself.

Since the long-gone days when Rudy Van Gelder engineered (for better and for worse) all Blue Note albums, the label has demonstrated an inconsistent commitment to sonic quality. Now, suddenly, Blue Note shows up with an album recorded on custom-modified microphones over Cello electronics. The signal went through an Apogee A/D converter and then to a Nagra-D recorder. The mastering employed both Apogee's UV-22 process and Cello's Audio Palette. The recording was done live to two-track, with the three musicians grouped closely together (a session photo confirms the proximity), and with only two "carefully positioned" microphones.

Jacky Terrasson is an interesting talent who has been overpraised. His influences are not yet integrated into an individual voice. Monk is audible in the pregnant pauses, Tatum in the left-hand stride and right-hand sweeps, Powell in the speed and brittle touch, Evans in the frequent moments of quietness. Terrasson has a tendency to grandstand (he overwhelms standards like "I Should Care" with torrential arpeggios and jarring shifts in tempo), and he's in love with repetition (exhausting all patience on "For Sentimental Reasons"). Yet for all his immature indulgences, there are moments when you hear why there's a buzz on the street about Jacky Terrasson. His imagination never rests, and sometimes he finds revelations. On his medley "Reach"/"Smoke Gets In Your Eyes"/"Reach," he dares to barely touch the keys in the middle section, and the theme pokes through like a ray of sunshine.

Sonically, *Reach* is a unique recording of a piano trio. In the liner notes, Mark Levinson mentions an admiration for unnamed "legendary vintage recordings." Indeed, the first impression—when those piano notes clang and hang in the air to open "I Should Care," and Ugonna Okegwo's bass begins to pluck from far away, and Leon Parker's brushes faintly splash on the snare—is one of *déjà vu*. Vintage recordings were also acoustically mixed and employed distant miking. But they never approached this level of dynamic range or bandwidth.

Reach is no doubt successful in achieving Levinson's goals for audio quality. The piano is rendered with its timbral complexities gloriously intact,

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and there is an eavesdropping sense of the space in which the recording was made. But this album also shows that there is no single "correct" or "best" way to record music. Levinson's approach—like that of every engineer—involves tradeoffs. Especially in jazz, when the bass and drums feel disembodied, an important emotional connection to the music is lost.

As a very special example of a meticulous and "unprocessed" recording, *Reach* provides fascinating insights into how most recorded music is changed. I'm glad it was made this way. I'm glad that not all recordings are made this way.

—Thomas Conrad

POPULAR

JOHN WESLEY HARDING: *John Wesley Harding's New Deal*
Forward R2 72250 (C1). John Wesley Harding, Chris Von Sneider, prods.; Chris Von Sneider, eng. TT: 53:05

JOE HENRY: *Trampoline*
Mammoth 92686-2 (C1). Patrick McCarthy, Joe Henry, prods., engs. TT: 41:35

MARTI JONES: *Live at Spirit Square*
Sugar Hill SHCD-5502 (C1). Don Dixon, prod.; Mark Williams, Tracy Schroeder, eng. TT: 71:17

Every music lover has a So-Why-Isn't-He/She/They Famous? list. Right at the top of mine are, in alphabetical order, John Wesley Harding, Joe Henry, and Marti Jones. As karma would have it, these three Better'n'Madonna But Not As Rich artists all released albums the same month.

So *Why Isn't John Wesley Harding Famous?* Because he's a friend to the poor and was never known to hurt an honest man. That's reviewerspeak for "damned if I know." JWH has a pop sensibility second to no one this side of Brian Wilson; he's smart, relentlessly ambitious, and he puts on a great live show. Sounds like a recipe for failure to me.

Will This Record Make Him Famous? It isn't his best record, but *JWH's New Deal* might be the one that helps people make sense of him. *Why We Fight*—and, for that matter, *Here Comes the Groom*—were too tuneful to be shunted off to the grunge ghetto, too cryptic for the easy-listening crowd. The pigeon's too big for the hole. *New Deal* is Harding's folkie turn, strictly solo, and it showcases Wes's songwriting, which remains some of the sharpest around: "Triumph of Trash" and "God Lives Upstairs" are just a couple of the highlights here. The unbridled ambition of the earlier albums is toned down a bit, making this one easier to take. And the flannel-shirt



On Joe Henry's new *Trampoline*, the glass is most definitely not half empty. So how come he ain't famous? ASJ has some ideas.

thing might just be working. JWH opened for Bruce Springsteen—the Boss's first opening act since the Ford administration—on his *Tom Joad* tour.

What About a Famous Blue Raincoat? This disc has a warm, flannelly feel. But the shirt's from John Prine's closet, not Eddie Vedder's.

So *Why Isn't Joe Henry Famous?* Because the world isn't kind to countryish songwriters who turn phrases like "Below me bandits make the beach / And open mussels with their teeth," and owe more to Hank Williams than to Garth Brooks. Ask Lyle Lovett. Or Steve Earle.

Will This Record Make Him Famous? It just might. Henry's fans—all three of us—might be disappointed, but new producer Pat McCarthy has tossed out the pedal steel and gone for thoroughly modern, almost alternative arrangements. Most of these settings would work on a Tori Amos album, and Henry's cover of Sly Stone's "Let Me Have It All" borrows more than a little from the (I'm serious) Red Hot Chili Peppers.

McCarthy has also changed Henry's delivery: sing a line... pause... sing another line—so as to let the profundity sink in. The words don't suffer ("We shouldn't waste one moment's grief / I mean what else we going to leave our kids / When we're gone someday"), but the problem is that the snail's-pace singing lets Henry's gift for melody leak out between the floorboards.

What About that Famous Blue Raincoat? 'Fraid he'll haveta get wet. Henry's *Shuffletown* sounds just gorgeous, and most of his others aren't far behind; *Trampoline* isn't quite an ear-scorcher, but there's a metallic edge that grates, especially in contrast with Henry's timeless songs. The exception is the luscious "Topless Shoeshine," which is top

drawer in more ways than one.

So *Why Isn't Marti Jones Famous?* Bad timing. In the '80s, a female singer had to do the Madonna shtick or the Cindy Lauper shtick to get noticed. And since Jones released her last album (1990's R2D4 "Any Kind of Lie"), women like Sam Phillips, Liz Phair, PJ Harvey, and others have made it okay to be a girl.

Will This Make Her Famous? Probably not, and that's a shame. This live collection from a 1990 concert compiles most of the best material from Jones's early albums, leaning heavily on *Any Kind* and 1988's equally cool *Used Guitars*. The arrangements are true to the albums—this is a good thing—and most of the departures are for the better, as on *Old Friend*. And if Jones and husband Don Dixon aren't quite in the top rank of songwriters (this sampler could convince you otherwise), they more than make up for it by borrowing well: cherry-picked covers of Clive Gregson, Elvis Costello, and Loudon Wainwright III round out the lineup. A lovely record, made doubly important by the fact that Jones's studio albums are out of print. (Look for an all-new record from Ms. Marti later this year.)

Famous Blue Raincoat? This might be the best-sounding live rock album you'll ever hear. All of a sudden half your room is gone, replaced by the Spirit Square auditorium, complete with an appreciative audience. Even the applause sounds great.

—Allen St. John

THE PHILOSOPHER KINGS: *The Philosopher Kings*
Columbia CK 67451 (C1) only. Lenny DeRose, prod., eng.; The Philosopher Kings, Mike Roth, prods. TT: 52:53

There is a myth that rock and roll was created by amateurish teenagers and that any hint of instrumental or vocal adeptness diminishes the credibility of the music. In fact, Elvis and the boys were quite competent musically, and Chuck Berry was neither a teen nor a naïf. (There is an extremely rare record of Berry backed by the Steve Miller Band at the Fillmore West on which he plays remarkable Charlie Christian-like guitar solos.) The music's excitement derived not from untutored flailing but from the development of a new form: a hybrid of swing, country, blues, and r&b.

The Philosopher Kings offer that kind of excitement. Their music is a hybrid for the '90s. In these days of post-modern pastiche it's not unusual to come across a band that combines hip-hop, r&b, surf, blues, jazz, and pop.

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What's hard to find is one that makes the mix work in a way that sounds natural and unforced. The Philosopher Kings not only make the aforementioned combo sound natural, in their sure musical hands it sounds inevitable.

This is not dilettantism. The PKs' jazz is not jazz flavoring. They don't just feature guest trumpeter Terence Blanchard as a hipness badge. The harmonic sophistication of their music, if anything, seems to call for someone edgier, as Jon Levine's McCoy Tyner-ish piano butts up against the often gritty guitars of Brian West and James McCollum.

Gerald Eaton's vocals manage to combine jazz, hip-hop, rock, and smooth Brit-pop attitudes into a style of his own. His voice, dry and in your face, wraps itself around that other thing that has been missing from much modern rock — melody. These guys write actual tunes!

The PKs walk the edge of slick but stay on the real side with lyrics like "when the wheel cogs choked to kick up blood — and spit out everything you ever wanted." And the sound, though lush and pure pop artifact, is sparse and uncluttered, leaping out of the speakers into the room — a beautifully produced record.

Willful primitivism has conspired to narrow the possibilities of forward motion in rock music; thus, the endless recycling of the '60s and the '70s. If the music is to evolve it has to retain its sense of excitement and discovery, its funky swing, while allowing for a higher level of musical sophistication, all displayed by The Philosopher Kings.

The weird part is, they're from Canada... —Michael Ross

IGGY POP: *Naughty Little Doggy*
Virgin America 8 41327 2 (CD). Thom Wilson, prod.,
eng.; Iggy Pop, prod.; Mike Ainsworth, Chris Fosdick
(pre-production), engs. TT: 40:26

Well, what to say about the Igster? For one, he's smarter than he looks (dropout, University of Michigan, 1966). Second, having irretrievably sabotaged David Bowie's effort at social reclamation in which he was sprung from the looney bin (mid-'70s), straightened out (so to speak), and marched off to Berlin to learn discipline, production, and how to carry a tune (Iggy Pop né Stooge né James Osterberg sings fine when he wants to), our Mr. Pop spent way too long playing a 'luude-popping lounge lizard with an

CHRIS CLIFFANO



Mr. Iggy Pop in a pensive mood. He's a bit more, um, lively on *Naughty Little Doggy*. Beth Jacques cackles in glee.

est diploma. (Such are the happy-talk absurdities of the Bowie era; to wit, "Shades," an ode to a pair of sunglasses, from *Blah Blah Blah*, 1986.) At last, he's having those flashbacks, and with his new band The Fuckups he's returned to form: off-key, off-color, and straight at the ideological basics — sex, drugs, rock'n'roll, big cars, babes, and pain.

From the opening tussle between Hal (Schernerhorn) Mezmerize force-feeding beat-up old guitars through Boogie Rectifiers and a rhythm section yielding very little to the sonics of the Tet Offensive, it's a miracle but you can still hear Iggy: "Step up it's fight time / Kick scratch and bite time / Ain't talking about no more fun / But that don't bother my bad ass none" ("I Wanna Live"). In short, this is *Fun City* all over again, minus the alarming stage act with vomit and broken glass (he learned something from Bowie), and plenty politically incorrect. "Pussy Walk," for instance, gives new meaning to the term "dirty boogie." So, nothing technically wonderful here for the 'philes (Shure mikes, Ampeg amps, some Mesa Boogie, a little pre-production from Context Studios, N.Y.), but for once a garage act doesn't sound like it was recorded in one.

Not that it matters. As plain as the nose on your face, what those check-shirted youngsters of the Pacific Northwest are pleased to call "grunge" is one pale imitation of what we used to call rock'n'roll. In the days when we expected our musical icons to walk it like they talked it, Iggy went through basic with Jim Morrison. Like other war correspondents of the head, surviving Vietnam vets of lifestyle like Lou Reed and William Burroughs (the Hunter Thompson of the Medicare generation), Ig may have stopped gouging his

body, but he still picks at his soul. His approach to suffering remains problematic; like Sting ("King of Pain"), he encapsulates the dumb suffering of the living world in a broken-winged bird and wavers between kicking out the jams and repression: "I got lots of feelings / But I hold them down / That's the way I cope / With this shitty town" ("Look Away").

Part shaman, part scapegoat, part shamelessly indulgent stupid idiot, Sixties musicians lived the life and reported back so that we know enough to keep away from the edge. Ig wasn't the worst, but he was close. "So now that I'm straight / I'm settled too / I eat and I sleep / And I work like you" ("Look Away"). "Not hardly," quoth the Duke. Some gigs are tougher than others.

FOR LESTER BANGS

—Beth Jacques

PULP: *Different Class*
Island 314-524 165-2 (CD). Chris Thomas, prod.;
David "Chipper" Nicholas, Julie Gardner, Pete
Lewis, engs. TT: 52:03

I was reading somewhere one of those actuarial tables that compared the typical jazz-pop musician's intelligence (last) with lifespan and insurability (somewhere between a newspaper reporter and a weekend hang-glider pilot). Couple that with a propensity to trash hotel rooms (and go broke defending the lawsuit), mutilate the body, and abuse the mind, and you wonder how so many records ever get issued at all.

Because death-defying acts always pull a crowd, I s'pose, UK crowd-pleaser Pulp's second release on Island, *Different Class*, entered the Brit charts at #1 last fall. Essentially a five-piece, keyboard-heavy backup band for vocalist, writer, and film student Jarvis Cocker, the thrill, of course, is to see if he can still walk: Hot on the heels of the single release of "My Legendary Girlfriend" (1991), he took a dive out of a window to impress the lady and put in over a year in a wheelchair with a busted pelvis (see actuarial tables). Cocker (any relation to that other Sheffield native son, Joe?) is clearly one of those guys who will do anything to get some action. If feats of daring fail, he turns to the magic mirror of videotape; the promo for the 1994 single "Do You Remember the First Time?" was a self-directed 26-minute film featuring auteur Cocker and bassist Steve Mackey popping the question in question to a bunch of duly flattered British swells.

So, is *Different Class* ("what you initially dismiss as kitsch... [but is a] heartfelt

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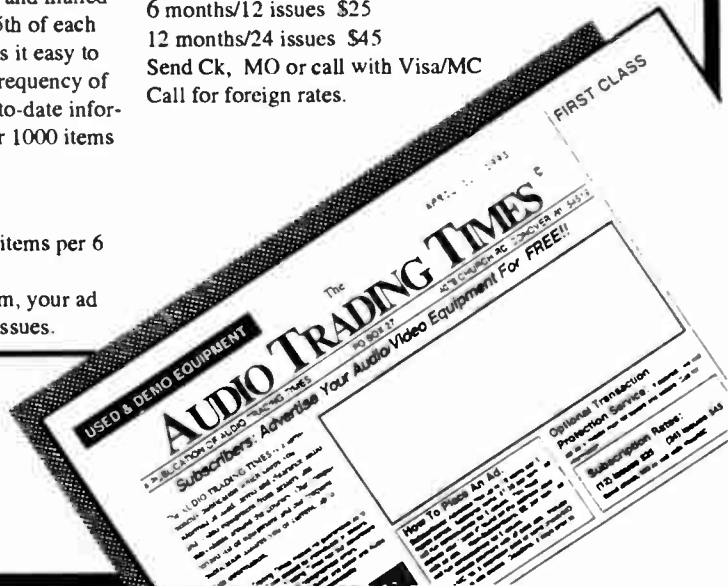
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Pulp: Just a buncha working-class stiffies from Sheffield, England? Or a *Different Class* altogether? Jarvis Cocker gazes heavenward at left.

desire to find glamor and romance in the commonplace." *New Musical Express*) a step forward from first Island LP *His 'N' Hers* and the 1993 indie singles compilation *Pulpintro: The Gift Recordings?* Yeah. Melodies remain insinuating, and Cocker has matured to the point where he's willing to add that ever-popular British political hand-job, class struggle, to his lyrical preoccupations with sex and revenge. In "Common People" and "I Spy," he somehow manages to combine the wherewithal of Morrissey with the retributive persona of actor Michael Palin turning Kevin Kline into concrete (*A Fish Called Wanda*). The effect is hysterical and charming, but for God's sake, don't give those kids the vote.

But it's much too late for goodbye: The self-described weirdos are out of the barn, all over *Top of the Pops* (as guest host), and, in a related item, John Major's conservative pols just lost half their bids for re-election. "I was always aware of not fitting in, totally," muses Cocker, triumphant. "[Now] I'm intrigued to see what American people think about us [wheedling our way] into mainstream society." Working-class Brit as American Mainstream? Uncle Newt's got a surprise waiting for you, boy. —Beth Jacques

THE SILVERWOLF HOMELESS PROJECT:

Various Artists
(*A Homeless-Specific Song Cycle*)
Silverwolf SWCD 1002 (CD only). Various prods. & engs. TT: 65:17

IN HARMONY WITH THE HOMELESS:

Various Artists
Miramar 23075-2 (CD only). Various prods. & engs. TT: 58:06

The homeless become an issue in these pages from time to time, when some reader argues, "How can you spend \$72,000 on a hi-fi when people are starving?" But whatever your politics, you cannot write a successful song about the

homeless, the rich, or any other nonexistent construct. Songs, for the most part, are written about individuals, events, or feelings. Fortunately, most of the participants in *The Silverwolf Homeless Project* have figured this out without my help; thus, there are a lot of good solid tunes to be heard here. Three or four of the 16 tracks are certifiably preachy, and a couple more are a bit too sugary, like those made-for-TV movies where all the bums quote Shakespeare and take baths, but the majority have a real point and make it effectively.

Details help Bill Morrissey and Cheryl Wheeler to limn real characters, while an oblique viewpoint works for John Gorka (in a great duet with Nanci Griffith) and one of my current guitar heroines, Patty Larkin (who is similarly joined by Mary Chapin Carpenter). Being a real poet helps Ani DiFranco, who contributes the least folkie piece, a truly killer monologue-with-music called "Coming Up." (Kerouac—look to your laurels.) Folk stalwarts like Tom Paxton and John Stewart also show up, both with serious stuff, while the ever-reliable Greg Brown throws in some welcome humor, and Tom Prasada-Rao adds good guitar work and interesting instrumental textures.

The songs on *In Harmony with the Homeless*, while not really up to the level of the Silverwolf stuff, are still interesting because they were written by formerly homeless people (helped by pro writers) who have passed through a rehab program at the LA Mission. Oddly, this disc both breaks and reinforces stereotypes. While it's certainly a positive sign to see ex-street people doing solidly creative work, it's depressing to note that of the 13 contributors, 11 are black, one is Latino, and one is white, and all have suffered from serious substance-abuse problems. Their songs

tend toward straight pop or pop-gospel, and while they don't have the poetic insight of a Gorka or a DiFranco, they may reach more listeners with accessible pop-music production values. The works here are sung by professionals, with the best sound coming from (I am not kidding) Tiffany! Yes, *that* Tiffany.

Is there a problem here? Yup. You see, the liberal advocates for the homeless have conspicuously failed to absorb the lesson that Rush, Newt, and the boys seem to have got down pat: It doesn't do just to preach to the converted. There's nothing on either of these discs, with their simplistic liner texts, that would convince someone driving down the middle of the proverbial road to pull over and help a single mother with her hand out.

Sound quality is actually a big plus on the Silverwolf CD—low budgets mean no gadgets. And yeah, I *do* think that a society in which we can spend \$5000 on speaker wire or \$75,000 on a "sport utility vehicle" to drive on paved roads is a bit out of balance. Maybe we could convince that high-end dealer who requires a deposit for listening to instead get customers to buy these discs. I like the idea!
—Les Berkley

STING: *Mercury Falling*
A&M 31454 0483 1 (import LP); 31454 0483 2 (CD)*
Sting, prod.; Hugh Padgham, prod., eng.; Simon Osborne, eng. DDD. TTs: 52:13, 48:18*

The old King of Pain seems to be positively mellowing in middle age. *Mercury Falling* is his most positive, upbeat, and angst-free since the Police days. And, ever mindful of the pop formula, Sting has always known the value of a good hook, and here he does more hooking than Divine Brown. The result is a sprightly, memorable, polished slice of sophisto-pop that's bound to be radio-friendly. What it lacks in dark, brooding intensity it makes up for with the kind of memorable ditties you find yourself whistling all day.

Sting is repeatedly lambasted in critical circles for being ponderous and pretentious. I don't get it. His songs are philosophical and somewhat formal lyrically, but what do you expect from an English schoolmaster turned popmeister? Nothing *ever* sounds trite or contrived, and one always gets the sense that he believes what he sings. Sting's real strengths, however, are a sophisticated, cross-stylistic feel for jazz and pop and his strong, flexible singing voice. He puts both to good use here. The band, essentially the core

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group who've backed Sting for a while now — Dominic Miller, Kenny Kirkland, Vinnie Colaiuta — play with spirited ease.

"The Hounds of Winter" (from whence the album title came, n'lords and ladies) shows just how good a singer Sting is — he croons like a Motown soulman over this catchy groove. Actually, the album title is also cleverly reprised in the closer, "Lithium Sunset." Elsewhere, variety is the order of the day. "I Hung My Head" is a strangely dark and troubling tune about accidental murder, but sounds like an ode to spring as the singer skips over the tune, seemingly belying the life-and-death subject matter without care — incongruous, to say the least. And the obligatory cowboy song, "I'm So Happy I Can't Stop Crying," answers the question: What would Merle Haggard sound like had he joined the Beatles? It's a good bet these chord changes would *not* have occurred to Merle, or even Bob Wills. The most lively, infectious, rocking tune is "Twenty Five To Midnight." And guess what, digifans? It's available *only* on the LP. What possible rationale did A&M have when they put out a 48-minute CD and a 52-minute LP? Clever marketing gimmick to sell a future CD single? Who knows.

Sonics are clean and well-mixed. The LP is smoother but not radically superior to the CD. Because the LP is a pricey UK import, I'd recommend that Sting fans opt for the digits on purely economic grounds. Still, there's that extra track...

Get the CD anyway. With pop music this well-crafted and hummable, you're gonna want this one in the house, the car, and the portable player.

— Carl Baugher

YMA SUMAC: The Complete Capitol Albums

Voice of the Xtabay

Arranged & conducted by Les Baxter, Moises Vivanco

The Right Stuff/EMI T2-91217. TT: 48:43

Mambo!

Arranged & conducted by Billy May

The Right Stuff/EMI T2-80863. TT: 31:00

Legend of the Sun Virgin

The Right Stuff/EMI T2-91250. TT: 34:51

Legend of the Jivaro

The Right Stuff/EMI T2-36355. TT: 31:40

Fuego del Ande

The Right Stuff/EMI T2-32681. Bill Miller, prod. TT:

36:02

All five: Composed, arranged, & conducted by Moises Vivanco, except as noted. Tom Cartwright, reissue prod.; David McEowen, mastering. CDs only, all recorded in mystical mono.

I have never wanted a fad to die faster than the one currently being marketed as "Space-Age Bachelor-Pad Music," if only because most of those who now embrace it seem to love the *idea* of such



The immortal Yma Sumac: Capitol reissues her entire back catalog as RL labors mightily to explain why this is A Good Thing.

music more than they enjoy *listening* to it. But it does mean that those who have long harbored a musical Love That Dare Not Speak Its Name (there are more of us than you think) are now out of the closet. It also means that the back catalogs of our secret saviors — I mean Esquivel and Yma Sumac — are in print for the first time in decades, and that we can at last replace those grüny, martini-stained LPs furtively bought for pennies at garage sales in the seedier parts of town.

You know the Legend of Yma Sumac: "Born high in the Peruvian Andes, a descendant of [Atahualpa,] the last of the Incan kings... While still a small girl [Yma Sumac] began taking part in the religious pageants... of the sun-worshipping Indians and became almost deified by them... an official government delegation traveled into this remote mountain region to... hear what they secretly believed to be a myth... Moises Vivanco, a young composer and authority on Incan music, fell in love with a voice and later fell in love with the young woman herself..."

So wrote Capitol Records' press office in 1950, in the liner note to Sumac's first LP, *Voice of the Xtabay*. But there's another legend about Yma Sumac: That she's really ambitious little Amy Camus (spell it backward) from Brooklyn (or was it the Bronx?), blessed with triple-jointed pipes, hot Latin looks, an inspired and indefatigable promoter, and the bottomlessly gullible American public of the early '50s. According to a feature interview in *ReSearch's Incredibly Strange Music, Vol. II*, Yma Sumac, if not exactly Incan, is a native of Peru, and went back there in the '70s to live for 14 years before returning to her adopted home of Los Angeles, where she still lives and occasionally performs.

I pressed The Right Stuff, Capitol/EMI's subsidiary reissue label, for more hard data re one Amy Camus. They

clammed up and stuck by the Incan Princess story. I really don't care. What remains is the *music*, which is by turns hilarious and unbelievable, singable, danceable, and lots of fun. It's immortal, world-class kitsch, and *that voice*... It's everything everyone ever said it was: a four-octave range, amazingly comprehensive tonal palette, coloratura control, and terrific rhythm and phrasing. That Sumac never used it for anything but the transcendent tripe on these five albums either shows a truly breathtaking lack of taste or that she really *loved* this stuff... or both. She *sounds* as if she's having as much fun as Carmen Miranda on acid.

What's so much more evident in 1996 than in 1950 is how *American* it all is. Here is "World Music" long before that niche was even a gleam in a marketing consultant's shrewdly squinted eye. Only in HollywoodLand USA could such a transparent pastiche of plastic Bizet, ersatz exotica, recycled Ravel, laments from the Russian steppes, generic Latin arrangements, Restless-Native chants, potboiler soundstage cues from the Mysterious East, and formica flamenco be passed off as "authentic" anything at all. (And God knows what language, if any, she's singing in.) What this music really is is movie music about movie music, the ultimate exercise in self-referential Hollywood navel-gazing, the narcissism of a popular culture in its infancy — all without a hint of irony. And only in America could it actually *work*.

On its own terms, work it definitely does. *ReSearch* claims that Sumac's first LP, *Voice of the Xtabay*, not only sold by the hundreds of thousands, but "is the only LP in history never to have gone out of print!" There's a good reason for such longevity: This stuff is *fun*, and not just in the camp, fixed-rictus, so-bad-it's-good way.

Voice of the Xtabay is the place to start — it's the most varied, the richest, and by far the most generous in playing time. In its latter half, when Les Baxter's soppy orchestra gives way to Moises Vivanco's more varied settings for guitars, flutes, and percussion, some true Peruvian roots begin to show. Sumac delivers vocal percussion, swoops, piping coloratura, and guttural groans and growls — *all* can be found in any single 30-second section of any of these tunes. Sometimes it's even music: "K'Arawi," "Wak'ai," "Wayra," and "Malaya!" are haunting, mysterious, and infectious by turns.

Then there are the production values: More vocal special effects were lavished on this record than must have been true for any other album of the

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time. Sumac dubs her voice over and over in duets and trios with herself, backed by a chorus of little Ymas—years before this would become common studio practice. Weird percussion effects punch in and out, and tons of reverb is glopped all over everything. It's all just... perfect.

Mambo! (1955) is as interesting for Billy May's wild horn charts as for Sumac's singing. On *Legend of the Sun Virgin* (1956) Vivanco proves that he probably really was Les Baxter all along. Then there's *Legend of the Jivaro*: "Yma Sumac and Moises Vivanco... went into the Jivaro country armed only with trinkets, good intentions, and a tape recorder... There, her mastery of the Jivaro dialect... helped facilitate the research in that strange and obscure society..." They emerged from the jungle of the headhunters (or was it the LA Arboretum?) with a movie soundtrack tricked out as pop ethnomusicology ca 1957. The "tribal" drums and basso ooga-booga chants in the background are straight out of blackface Hollywood—say, *Secret of the Incas*, 1954, starring Charleton Heston and... Yma Sumac. The album cover says it all: a topless Sumac in lipstick and shell necklace, breasts discreetly veiled by clouds of dry-ice vapor rising from the cannibal-size cooking pot she's leaning over as she rolls heavily mascara'd eyes at a plastic shrunken head. In the background, out-of-focus native dancers strike mystic poses, and the sacred virgins sway...

Fuego del Ande (1959) is a straightforward South American pop album—Sumac explores her rich, ample, luscious low register as she sings traditional and folk songs from the Andes, backed by flutes, twangy electric guitars, and castanets from Moises Vivanco and His Orchestra Tipica. But this is folk music as sung by a pop Hispana Joan Sutherland, with a voice just as fruity and diction just as bad: The fully operatic Sumac sounds as if at any moment she's about to segue into *La traviata*. The tunes are snappy, the voice ravishing. Of all vocal pleasures, these are truly the most guilty.

How to explain The Grandeur and The Mystery of Yma Sumac? Ultimately, the mysteries of her origin are less interesting than the fact that, despite her own unerring wrongheaded instincts and those of everyone around her, there is undeniable vitality and sensuality in every track of these appallingly entertaining records. Something struggles to be released here that is

more than just a world-class voice shackled to a fifth-rate creativity. Peruvian or not, Incan or not, talented or not, Yma or Amy, what Sumac really is is a polyglot original in the American grain. That that grain is actually the finest of vinyl veneers only makes her more authentically one of our own.

Word has it she's preparing her comeback album. God forbid she's discovered good taste. I just couldn't stand it.

—Richard Lehnert

PRINCE, etc.: *Girl 6* (original soundtrack) Warner Bros. 46239-2 (CD). Prince, David Z., The Family, The New Power Generation, The Starr Company, Vanity 6, prods.; Stephen Marcussen, eng. ?ID. TT: 62:16

The Purple Popster apparently found time between his recent nuptials and the ongoing battle with his record company to contribute four new songs to *Girl 6*, Spike Lee's recent phone-sex comedy. At this writing, he's left Warner Bros. (he'll compile three "from-the-vault" releases to fulfill his contract), but there's no word yet on the status of his marriage to protégé Mayte. I hope it lasts longer than the shelf life of this soundtrack album.

The four new tracks are good ones, but represent little change from the tried-and-true formula. By Prince standards, they're about average. "She Spoke 2 Me" is a slinky funk groove punched up with tart horn samples and Prince's multitracked vocals. "Count the Days" is an angry, vengeful ode disguised as a bluesy gospel jam. The lyrics are ragingly anticlerical.

"Don't Talk To Strangers" is a smooth, pseudo-spiritual warning wrapped up in the kind of melodic hook that seems to endlessly populate Prince's repertoire. It's sung from the perspective of a departing lover who's a control freak. Sound familiar? Don't worry, you'll remember the tune long after the words leave memory. The title track, "Girl 6," is a heavily sample-laden dance concoction written by Prince keyboardist Tommy Barbarella. It comes complete with Prince lyrics that sound like they were dashed off to meet production deadlines. Not the kind of thing to make you forget "When Doves Cry."

Sonics are excellent, with less of the upper-register stridency that often afflicts Prince's albums. And Marcussen's mastering may be responsible for providing a much more satisfying sound on the familiar material (ie, "Girls & Boys," "Erotic City," "Hot Thing,"

etc.). Vanity 6's "Nasty Girl" sounds significantly better here than it did when it came out in the mid-'80s, as does The Family's "The Screams of Passion."

Hardcore Prince completists will want this for the previously unreleased tracks. Spike Lee fans will buy it too, I guess. And there may be a few casual dance-music fans who'll appreciate this kind of sketchy, Princely overview. Everybody else—forget it.

—Carl Baugher

LOUDON WAINWRIGHT III: *Grown Man* Charisma 8 40625 2 (CD only). Loudon Wainwright III, prod.; Jeffrey Lesser, prod, eng., mix. TT: 50:09

In such strong recent albums as *I'm Alright*, *Therapy*, and *History*, meta-folkie Loudon Wainwright III has claimed as his own the no-man's-land of family dynamics in songs ranging in tone from harrowing seriousness to incisive hilarity. No one's better suited to the task: Wainwright's intelligence, comic timing, hair-trigger bullshitometer, and finely honed ironies allow him to explore the deeper, darker levels of confession, shame, and shirked responsibility with amazingly deft wit. And if *Grown Man* doesn't make the guilty (you and me) squirm quite as consistently as those earlier albums did, Wainwright's still facing the responsibilities of adulthood and adultery with a dry-eyed clarity that makes most other singer/songwriters sound as if they're wallowing in the easiest self-pity.

Wainwright's 49 now, old enough to sing a duet with his own daughter, Martha, on "Father/Daughter Dialogue." It's a painfully honest confession of parent to child, questioning with deadpan simplicity the value of confession itself. If LW III never quite says how he feels, the song's simple statements of evocative fact make that redundant. The song is soberingly mature in its acceptance of the absence of answers.



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"That Hospital" is just as powerful, LW III singing of all the times he's visited the place, standing by at the births, abortions, illnesses, and deaths of parents, wives, children, friends. The premise is obvious, the writing almost simplistic—but no one's written this song before. And the lonely "A Year" is scary in its nakedness as Wainwright begins another child's life and story, only to walk away again: "I touched your tiny perfect hand before I went uptown / I didn't pick you up because I'd have to put you down."

In the humor department are "IWI-WAL" ("I Wish I Was A Lesbian"), a hilarious stomp about a confirmed hetero's wistful dream of leaving the male/female trenches, and "1994" 's darkly comic observations about genetic engineering. But "Cobwebs," which complains long and obliquely about the increasing abuse of "like" as conversational filler, is no more consequential than its subject.

Balancing "Cobwebs" and the equally uninspired "Housework," "Human Cannonball," and the title tune is a closing quartet of songs as disturbing for their hopelessness about men and women as for the price Wainwright has evidently paid to write and sing them with such quiet authority. In "Just a John" he sees himself repeating his father's pattern of infidelity and boozy contrition; in "I Suppose" he tries to talk his heart into allowing him to love and be loved one last time (the ol' ticker remains unconvinced); in "Dreaming" he wishes vainly for escape from choice and thought ("Dreams might be pretend / But at least dreams end"); and in "The End Has Begun" he recognizes too well the first signs of love's end, having been there before—an old story, but LW's quiet surrender is something new.

Wainwright has said that making studio albums is not his idea of a good time. Follow yer bliss, Loud: the backup musicians here do a fine job, and the sound is pretty damn good, but the more tasteful and clever the arrangements are the more they underline their own superfluity. As anyone knows who's seen him in concert or heard his first two albums, Wainwright's songs cut cleaner, sharper, deeper, and funnier with just his voice and acoustic guitar.

Next time. For now, *Grown Man* is the latest, and one of the better, chapters in Loudon Wainwright III's continuing coming-of-age story. Most of the time, it only hurts when he laughs—and vice versa.

—Richard Lehnert



MANUFACTURERS' COMMENTS

CARY/AUDIO ELECTRONICS

Editor:

I am delighted and honored with the opportunity to read and reply to the latest review of an Audio Electronics product in *Stereophile*: a review of the new SE-811 single-ended monoblock amplifiers. I am also pleased that Sam Tellig is reporting on the events of the most recent single-ended symposium held in Philadelphia.

A few revealing points about the surge and continued strength of the audiophile community's hunger and desire for real triode single-ended amplifiers were evident in the attendance at the seminar. The gathering took place in a large ballroom at the hotel, and by the time all the attendees took their seats there was still a huge number of people. In simple terms, it was "standing room only." The significance of this was that only a few months earlier the Philadelphia Audio Society had held a surround-sound video presentation at the same hotel. With over \$100,000 of equipment, only a handful of people even bothered to show up. To further emphasize the success of the single-ended symposium, the next society meeting held by the Philadelphia Audio Society featured push-pull vacuum tube equipment... a very small turnout for this one was reported by a Society member.

For fear of being repetitive, I reassert the same comments as Sam Tellig about the audio scribes. Single-ended real triode amplifiers are not some whimsical phenomenon to be scoffed at. The worldwide audiophile community has always had an appetite for better and better sound. It just so happens that "triode single-ended amplifiers" deliver the "Gusto"!!!

Regarding the new Audio Electronics SE-811 amplifier, I would like to relate just how much fun it has been to develop and design the SE-811. As a teenager I remember well the triumph and jubilation when I built my first 500W ham radio amplifier. The tubes utilized... yes... RCA 811A triodes operating in single-ended mode. Renaissance, second youth, or plain old fond memories consumed me as I gave birth to this new pair of single-ended triode amplifiers. Only this time (39 years later), the new audio version (SV-811-3) of the 811A triode tube put a smile on my face.

In my opinion, the review process conducted by *Stereophile* is a great service to the audiophile community, and at the same time is of great benefit to legitimate audio manufacturers. A better product will emerge after the final critiques are in. In keeping with this spirit, we at Audio Electronics are now manufacturing SE-811 amplifiers with "oil-filled" coupling capacitors in the gain signal path to the SV-811-3 grid circuit as a standard design. This is in response to Sam Tellig's desire for a closer walk to the 300B sound from the 811s. As of this writing I believe we have sent to all SE-811 owners a set of the oil-filled coupling caps at no charge. This change will put some "light shining from within" to the sound of the new SE-811s. This change and improvement is the result of an ethical review process conducted in your pages.

Thank you once again for the opportunity to have a voice with the *Stereophile* readership. Oh yes... as I've stated in the past, "real tube amplifiers glow in the dark."

DENNIS J. HAD

President, Cary Audio Design

NAIM PREFIX

Editor:

Thanks for the review. Noting that Steven Stone used a Fidelity Research cartridge, Julian Vereker of Naim would like to comment that for five years he has used a Fidelity Research FR1 Mk2 cartridge with his own ARO tonearm/Phonosophie turntable and Prefix "K" type.

CHRIS WEST
Naim USA

PERFECTIONIST AUDIO COMPONENTS PRO REFERENCE & SUPER IDOS

Editor:

Thank you for the opportunity to comment on Jack English's insightful review. Jack's careful observations and keen musical understanding will surely help the reader understand the Pro Reference concept and further our search for musical truth. Jack has experienced, and beautifully described, the phenomenon we call "Dynamic Focus"—the ability to re-create all the contrasts of live sound.

We agree that \$10,000 is a great deal of

money for a preamplifier. The package price of the Pro Reference III/10k represents a considerable saving over the price of the individual components. (Pro Reference III, \$4300; Pro Reference III phono, \$3200; HIPS installed, \$3500; special rack, \$650; interconnect, \$160. Total: \$11,810.) We would also like to note that the Pro Reference III/75k (Pro III and HIPS without phono) is available for \$7500.

All vacuum-tube amplifiers are subject to the subtle tonal variations between different brands of tubes. The aged and tested tubes we supply with the Pro Reference preamplifier have been selected for electrical characteristics. The brand we use is chosen on the basis of reliability, ready availability, and "neutral" subjective character. Listeners (or their systems) preferring slight tonal changes may wish to experiment with some of the "exotic" 12AX7 tubes on the market. Pro Reference owners are always welcome to send their "experimental" tubes to us for electrical testing (on a Tektronics curve tracer) at no charge.

The nominal phono cartridge load of 47k ohms is high enough to allow the cartridge loading (resistive damping) to be adjusted near the cartridge where cable reactance will have little effect. (Try this sometime; you will be pleasantly surprised.)

The Pro Reference III/10k preamplifier is a single-purpose product. Control and amplification of delicate low-level audio-frequency signals requires single-minded devotion to the laws of physics, and careful control of the electromagnetic environment. When a choice must be made between matched internal signal impedance and "inconsistent" input and output socket orientation, signal integrity must prevail. Unless you are a reviewer, changing components constantly, the "vertical" orientation of the inputs and "horizontal" orientation of the outputs should not pose a hazard. Features such as polarity inversion, or a true mono switch, while having a possible use during initial system setup, add complexity to the signal path. Therefore *they add distortion*, making them unsuitable for listening to music.

The "noisy" volume control Jack mentions has several possible causes. Dirt and contamination, excessive DC offset from the CD player, and improper system

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grounding (Jack's turntable hum sounds very suspicious) are all potentially problematic for the Pro Reference's sensitive high-impedance circuits.

In Jack's description of the Super IDOS he failed to mention what we feel is a very handy feature. The AC voltmeter is not only used to monitor line voltage, it has a "test" mode that can be used to test the AC polarity of all components in the system.

It is satisfying that Jack has learned the benefits of eliminating Digital Grunge. His experience might be further enhanced by taking the scary step of plugging his turntable into the Super IDOS and his power amps into an additional IDOS (or IDOS II). Due to the possibility of current limiting by conventional line conditioners, we always recommend experimenting with their removal. The patented IDOS circuitry deals with a specific problem in audio systems. It is not a Band-Aid, trying to solve problems after the fact. In many systems, adherence to the KISS principle works.

In closing, we would like to thank the entire *Stereophile* staff for their efforts to bring knowledge and music into the lives of their readers, and Wes Phillips for bringing some sanity into ours.

LAWRENCE C. SMITH
President, Perfectionist Audio Components

AUDIO ALCHEMY HPA-V1.0

Editor:

Thank you very much to *Stereophile* and Mr. Wes Phillips for his excellent review of our HPA-v1.0 headphone amplifier. The writer does a great job of describing "the headphone experience" and how the HPA-v1.0 helped him encounter it. Like other fine amplifiers, the HPA-v1.0 shines when matched to an equally capable transducer. Under these conditions, the "experience" can be remarkable.

Our goal was to offer the consumer an extraordinary value while still living up to the scrutiny of the high-end audio marketplace. The statement that the HPA-v1.0 is "an impressive product at an affordable price" indicates that we achieved our goal. As Wes mentioned, the HPA-v1.0, like all other Audio Alchemy products, benefits from the economies of (relatively) mass production. The combination of a miniature class-A power amplifier with Alchemy's rendition of the HeadRoom AIP could only be done at the \$259 price point by sharing componentry with the DAC-in-the-Box and VAC-in-the-Box products.

We would like to remind consumers that the ultimate in performance, the Power Station Two fully regulated power supply, can be used with the HPA-v1.0. Wait 'til Wes hears that combination!

PETER MADNICK
Vice President, Audio Alchemy

MCCORMACK MICRO INTEGRATED DRIVE

Editor:

My thanks to Wes Phillips for having too

much fun listening to the Micro Integrated Drive and the new Grado 'phones (which are wonderful).

While the MID is not the amp I would grab to drive my subwoofers, it is surprising—even startling, occasionally—to hear what a few good-quality watts can do with an appropriate set of speakers. I run one on my computer rig and another in the bedroom, and they never fail to impress me. You just don't expect an amp that small to be able to do *anything*, let alone rock out! However, the MID is intended primarily as a high-performance headphone amp and preamplifier and, as Wes correctly points out, that's where it really excels.

Micro owners (and potential owners), take note: Later this year we plan to introduce the "Micro Power Station"—an upgraded power supply for the Micro series. This will be a large transformer in a Micro package, capable of powering all of the Micros (except the power amplifier) simultaneously. It will provide improved performance for all the Micros, and it will push the Micro Integrated Drive's power into the 6-7W range! I don't know who out there actually needs that kind of raw, brute power, but lately I've heard rumors of amplifiers in the 10W range (!), so I guess it's okay.

Final note to Wes Phillips re: "*Aurea nunc vere sunt saccula.*" You talkin' to me, pal? You wanna *step outside* and say that??

STEVE MCCORMACK
Designer, McCormack Audio

MELOS SHA-I & SHA-GOLD

Editor:

We feel an urgent need to bring some errata from the April 1996 (Vol.19 No.4) issue of *Stereophile* to your attention.

It was stated in "Recommended Components" that the "SHA-1" is being deleted due to its being discontinued and replaced by the "SHA-GOLD." *This is not the case!*

The SHA-1 is still in production and continues to sell well.

The SHA-GOLD is a separate product and retails at nearly twice the cost.

Please rectify this error as soon as possible, as it is wreaking havoc among our dealerships.

GEORGE BISCHOFF
Melos

ALÓN V

Editor:

Many thanks to *Stereophile*, Russell Novak, and John Atkinson for this review of the Alón V. We know that it takes a great deal of effort to review a high-end loudspeaker system that possesses the transparency of the Alón V. Indeed, one is never fully sure one is not listening to component interactions or room interactions rather than the inherent characteristics of the loudspeaker under scrutiny. These interactions must be evaluated in addition to the situation wherein a new component of superior performance reveals deficiencies further up-

stream in sources or components. In fact, the more perfect the loudspeaker becomes, the more this becomes a dilemma for the reviewer. While we realize that it is impossible to try all combinations of components, it is unlikely that at any one time a given reviewer will have an optimum set of components just waiting for the arrival of a pair of Alón V Mk.IIs. Still, we see that Russell used one CD transport, one DAC, two preamps, and two amplifiers. It is interesting to note that the Alón Vs changed their sound dramatically with an amplifier change and significantly with a preamp change. What about transports, DACs, and other preamps? They are notorious for affecting the midrange balance and other characteristics of a high-end system, such as microdynamics and the ultimate resolution floor of the whole system.

Recent research in high-end sound indicates that the manner in which components are mounted has a large effect on sound and on microdynamics in particular. This is a tricky business, but it appears that isolating components mechanically pays big dividends in transparency and resolution of microdynamics. Solid, massive stone structures that may be reasonably dead acoustically can and do transmit subsonic vibrations with high efficiency. This will have the effect of masking low-level information. We raise this point as Alón loudspeakers are renowned for the revelation of low-level detail, if not the ability to provide room-filling sound with 2W. In another magazine, the Alón V Mk.II was described as a transducer that takes on the characteristics of the source and partnering components. We feel this is as it should be.

Given the fact that the Alón V Mk.II is a vertical array, it is naturally sensitive to the vertical listening or measuring axis. In addition, individual rooms will provide different measurements, as will different placements in the same room. Measuring on a sub-optimum axis, John's curve is still ± 2.5 dB from 100Hz to 15kHz. Note: John generally measures at a height of 37", while we measure between the midrange and tweeter axis. The effect is not that important for listening but is significant for measuring. There is no one right place to measure a speaker, as they do not have output terminals.

We find it of some interest that John measured the tweeter output arriving before the midrange output. We go to the extra expense and effort to have a separate baffle tilted back at a 9° angle, with the tweeter counterbored by $\frac{3}{32}$ " and the whole array stepped back from the woofer—just to have the tweeter arrive first anyway? There is either something amiss with John's measurement or with this loudspeaker. After all, the Petite is much less expensive to build—but must be tilted back 9° to time-align the tweeter. We never claimed that the Alón V is phase-aligned, but that it is time-aligned. The leading edge of the applied waveform will arrive at your ear at the same time from the

drivers. [Moving the microphone down a few inches from the Alón V's midrange axis, where I performed my main measurements, does bring the outputs of the three drivers into approximate alignment. However, as I mentioned in the review, it is actually the fact that the midrange unit is wired in inverted acoustic polarity that dominates the speaker's time alignment, or lack of.—Ed.]

Russell states, "The Alón V reflected changes in hardware and software so well that I'm tempted to review associated components rather than the speaker itself—such as the degree of audible change accompanying changes in system configuration. This is a tribute to the speaker."

Russell sums up by saying, "The Alón provides the potential for sound that is very near the state of the art." We don't think we could have said it better ourselves. We also admit that we are glad we are not faced with the task of reviewing an Alón V Mk.II.

CARL MARCHISOTTO
President, Acarian Systems
MARILYN MARCHISOTTO
Vice President, Acarian Systems

C.E.C. TL 2

Editor:

Steven Stone's review of our C.E.C. TL 2 was most welcome. Naturally, we are pleased that he reported, "Bottom line: The C.E.C. TL 2 is the best transport I've had in my system." Steven also raised some very interesting issues in his review.

Regarding the cost increment required to own the superior performance of a C.E.C. Belt Drive CD transport, I'd remind *Stereophile* readers that there is a growing number of even higher-priced CD transports that don't have nearly the formidable musicality of the C.E.C.s (or of the C.E.C.-built Parasound C/BI-2000, for that matter). Few CD transports at any price have the build quality and unabashed feeling of luxury you get when handling a C.E.C. It is the build quality of the C.E.C. Belt Drive CD transports that gives them a tactile feeling that is positively luxurious. Since your CD transport is the one component you're obliged to touch every time you use it, and it is a stellar performer, many will consider this a little self-indulgence worthwhile.

Now, about that prototype TL 2.

Parasound never submitted a C.E.C. TL 2 to *Stereophile* to review. When one of our staff carried the first production Spica TC-60s to Santa Fe for John Atkinson's review, we learned that Bob Harley would be visiting *Stereophile* World Headquarters that day. After Bob had reviewed the C.E.C. TL 1, he asked me to keep him advised of future C.E.C. CD Belt Drive developments. The TL 2 prototype was brought mostly to show Bob how C.E.C. was starting to approach a lower-priced model, as well as to show off my personal influence on its cosmetic design. No, JA, it wasn't brought to get a free consultation. It was

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only there for show and tell. However, we made one big mistake: Our employee left the prototype at *Stereophile* instead of carrying it back.

To avoid the risk that it might be construed as a candidate for a review, Parasound called *Stereophile* several times to request the return of this prototype. Its ultimate fate was to take up permanent residence in our Hall of Prototypes. (I don't have the heart to torch expensive prototypes, but I'll admit it would be tempting to euthanize them with a gentle lob off the Golden Gate Bridge, which seems more appropriate, considering where we're located.) Eventually, I gave up trying to retrieve this prototype and forgot about it. (No, JA, I didn't try terribly hard to get it back, because I didn't need it back.)

Considering the plethora of equipment handled at *Stereophile*, we should never have left this unit. I can fully appreciate JA's policy that if a product is there, it's fair game.

One day, we received a phone call from *Stereophile's* Nancy Fay requesting a photo of the TL 2. This was a good news/bad news call. Nancy calls for photos when a product review is forthcoming—indicating the review is virtually complete. We searched our records in vain to find when we shipped a TL 2 to *Stereophile* for review. When it dawned on me it was the prototype TL 2 that had finally surfaced, I was very concerned. Obviously, reviewer

Steven Stone didn't know what I knew: that the prototype was barely suitable for casual listening, much less a critical review. Steven, *nearly every part* inside the TL 2 was changed from prototype to production.

I appreciate Steven's agreeing to listen to a production model, which was sent by overnight. It's clear that Steven put a lot of effort into his review of the prototype TL 2. Perhaps that explains why he dwelled at such length on the performance of a unit that nobody could ever purchase and was in no way comparable to the performance of a production unit. I'm sure the last thing he wanted was to write a *second* review of the TL 2.

So thanks, Steven, for keeping the faith on C.E.C. CD Belt Drive, and your cooperation in taking the extra time to review the real thing. Now, would you please return that prototype? RICHARD SCHRAM
President, Parasound Products

ROTEL RCD-950

Editor:

The fax from *Stereophile* with the review of the Rotel RCD-950 CD player arrived at breakfast time, and, not having a newspaper to read with my cornflakes, I did the unthinkable—I read the review from beginning to end. The normal practice is to flip to the end and read the conclusion, avoiding all the waffle and hype.

I'm very glad I began at the beginning,

because I found Muse Kastanovich an entertaining writer. It's obvious from his style that he is passionate about audio and is able to convey that to the reader. He has a nice turn of phrase. Gregg Dunn, "our man from Missouri in Tokyo" and scribe of the instruction manual, is delighted to know that someone took the time and trouble to read his prose. We now want Gregg to add a little bit of Muse's humor; then maybe more people would take the time and trouble to struggle through the do's and don'ts. John, I think you've found a great new writer, and I hope your readers appreciate him!

On with the review. Our copy did not include any graphs produced by Robert Harley, and we have been unable to replicate his measurements. Our own measurements [that show normal noisefloor behavior] are appended; we would be happy to chat with Robert to see what's going on, but the good news is it doesn't seem to have any deleterious effect on the sound. We do agree with Muse that it is very important to break-in a CD player, and that running-in for a period of time prior to auditioning is absolutely essential.

So, thank you for the digestive aid at breakfast time. I'm grateful I didn't need the Alka-Seltzer! MICHAEL BARTLETT
VP & General Manager, Rotel of America

ULTRASYSTEMS AT WCES

Editor:

I guess this falls into the category of "You can't please all the people all the time," but I was surprised, upon reading your WCES '96 Las Vegas Show Report [April, p.63] to find no mention of any of our products. Though it may seem a small thing in comparison to product reviews or "Recommended Components" listings, *Stereophile* has all but become the "publication of record" with respect to our industry; recognition of our efforts at the trade shows is important for a small company like ours.

So while there were several mentions of the great sound coming from the room we (and Pass Labs) shared with our exhibiting partner, Mobile Fidelity Sound Labs, nobody mentioned the great Chameleon speakers, or the RoomTune ClampRacks and Acoustic Treatments, or the Audio Points, or Michael Green's Cable Grounds.

Analog got lots of coverage, but what about the half-dozen VPI TuneTables in use around the show? This is RoomTune's first dedicated rack for analog front-ends and accommodates (for instance) all the VPI TNT permutations available (with and without flywheel, etc.).

Oh yes, and those other 46 rooms using RoomTune acoustic treatments!

Given the omission, could we ask for some extra-special effort to come see us in Waldorf=Astoria Room 719 at your own HI-FI '96 Show in NYC? We will be launching the new "i" series of the popular Revolution Series speakers from Michael Green, including new "tunable" Home

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Theater speakers, plus a few other surprises. Not to be missed! Thanks!

ROBERT STEIN
UltraSystems/Michael Green Designs

AUDIOPRISM AT WCES

Editor:

We would like to thank *Stereophile* for reporting on our newest product, CD Blacklight, at the Winter CES. After reading Sam Tellig's Show report [April, p.45] we felt it important to clarify the origin of CD Stoptlight and add a side note to the "Recommended Components" description. CD Stoptlight was engineered during my tenure at Clear Image Audio and licensed to AudioPrism for distribution, thus explaining "by Clear Image Audio" on the packaging.

It has been six years since CD Stoptlight was introduced to the general public. During that time it has enjoyed critical acclaim and great success in virtually every corner of the globe. To our knowledge, no one has successfully duplicated its performance.

When Victor Tiscareno, Director of Engineering of AudioPrism, and I purchased AudioPrism in 1994, we began to expand upon the investigations conducted for CD Stoptlight. During the past two years we have discovered additional phenomena that affect the extraction of musical information from the compact disc medium. Our new product, CD Blacklight, is the result of this research.

A note of caution concerning application of any chemical substance to your compact discs: Our research did conclude that some sonic improvement can be had by using a standard art marker or some pigmented coating. Unfortunately, no commercially available coating formulation we tested met every part of our design performance criterion, or used a pigment/vehicle combination that would not potentially harm polycarbonate yet provide repeatable documented performance. After testing by a major CD manufacturer in the US, with whom we are exploring licensing for OEM application, their engineering staff was able to independently document repeatable measurable improvement in the reduction of jitter with the application of CD Stoptlight.

CD Stoptlight is a purpose-engineered product that reduces jitter, will not harm compact discs, and is nontoxic and easy to apply. If applied as directed, it may be handled hundreds of times without fear of chipping, flaking, or peeling. Should CD Stoptlight need to be removed from the CD, with caution it may be removed by simply soaking the disc in warm, soapy water while gently rubbing the edge.

We would be remiss if we did not thank *Stereophile* for reporting the virtues of CD Stoptlight, as well as hundreds of thousands of audiophiles throughout the world who have made "putting on the green" nearly as popular as St. Patrick himself. We only hope that "glowing green in the dark" will be as well received.

BYRON COLLETT
AudioPrism

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CELESTE/SIMAUDIO AT WCES

Editor:

We are very pleased with your magazine in general, but one major mistake and one room missed (our major audio room) happened in the WCES report issue (April '96).

1) On p.87, Robert Deutsch reports on Unity Speakers' new technology with EAD front-end and SIMA amplifiers. SimAudio stopped producing amplifiers under the SIMA brand in 1994. Since 1992 SimAudio has produced amplifiers under the Celeste brand name. Three models were used in that specific room: one HT2, two W, and one W-4150.

2) As a *Stereophile* customer, I expect, at the minimum, to be visited and written a little about. I think that a business relationship is two-way; if it is not, one should drop the relationship. Our main audio room was on the second floor of the Sahara Bi-Level featuring our new P-4002 dual-chassis preamplifier (\$1595). The W-4150se amplifier (also new) was driving the Gershman Acoustic Avant-Garde speakers.

I may forget this in my next life, but I hope it will not happen again.

JOHN POULIFI
Celeste/SimAudio

ROSINANTÉ AT WCES

Editor:

As a young company, we appreciate the

attention you and so much of our industry paid us at the 1996 WCES. We have worked hard on speaker design, casting technology, and materials development, and it is gratifying to have this work recognized in such terms. However, we would like to clear up a few minor misconceptions, particularly as regards materials development.

Rosinanté has patents pending on Dark Matter. The rumors surrounding this material, including but not limited to the evil slanders regarding Dark Matter's origins, or that there were small grayish-hued representatives of Rosinanté wandering about the Show, are strictly denied and discouraged by Rosinanté. In point of fact, the material was developed in-house by myself in consultation with the aforementioned ashen employees, who were left at home in Kansas where they create less of a stir.

The amplifier we showed with was my personal amp, a Fourier Triomphe, that we redesigned to demonstrate the viability of the Dark Matter as a chassis material. The electronics were left nearly untouched and reflect the terrific quality of Fourier's circuit design.

We are continuing development of the Dark Matter and will shortly introduce a consumer-available product line that will include bases for several major tube components as well as OEM chassis for Fourier and others. Of course, despite our claim of

sole responsibility for Dark Matter and any designs that derive therefrom, we continue to deny any responsibility for the sudden repossession of these products by any alien forces, hostile or otherwise.

RIC CUMMINS
President, Rosinanté

THE "CARY" SPEAKERS AT WCES

Editor:

I would like to correct some information in the April 1996 WCES report.

While complimentary mention was made of the loudspeakers in the Cary room, the project was undertaken not as a "showcase for Focal drive-units"—the ribbon tweeters, for example, are Raven—but, in conjunction with Kimon Bellas of Orca, was initiated by our wish for loudspeakers of the highest quality and aesthetic.

Contrary to your statement, this was very much a "labor of love." Handmade throughout with an uncompromising attention to detail, the project is by necessity a somewhat limited edition. However, commissions for either model would be most welcome at (310) 455-3266.

TIMOTHY L. EAMES
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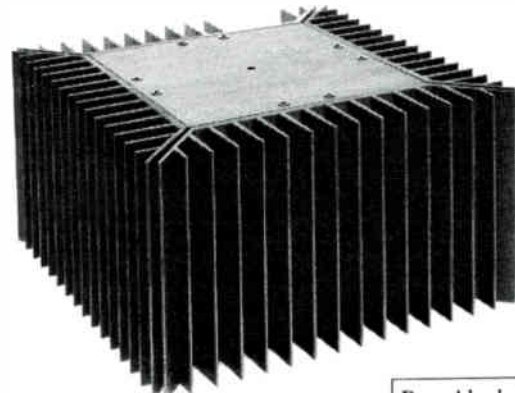


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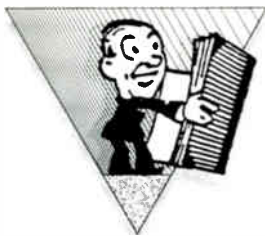
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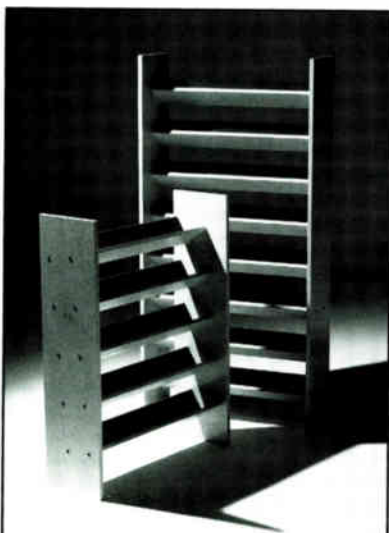
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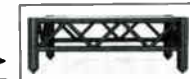
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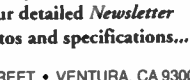
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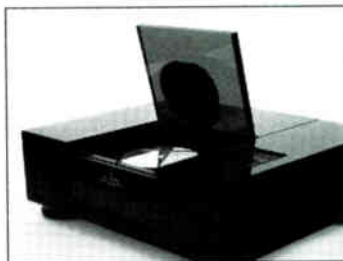
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THE FINAL WORD

Then and a half years ago, I gave John Atkinson a call at his home near Brighton, England. "John, how'd you like to become Editor of *Stereophile*?" "Why Larry, how nice to hear from you. I'm flattered by the offer — I'd really like to think it over for just a bit."

I, of course, thought, "SOL — 'think about it' surely means 'wait a little bit before politely turning the offer down.'" After all, in November 1985 JA was Editor of what was then the best hi-fi magazine in the world, *Hi-Fi News & Record Review* — making him the best hi-fi editor in the English-speaking world. Though *Stereophile's* fabled history went back to 1962, the reality was that it was an upstart, digest-sized publication with just 25,000 circulation.

JA now says that his reticence masked real enthusiasm. He even jokes that he started packing his bags immediately after hanging up the phone. In any case, the rest is history. John's 10th anniversary as *Stereophile's* Editor was this past Memorial Day, and *Stereophile* has been the better for every one of those 10 years. He is still the best editor in the English-speaking hi-fi world, in my opinion. It's not my place to speak of any pre-eminence we might have achieved, but whatever we have, we owe it to John.

You'll notice some changes in the masthead with this issue: JA is at the top as Editor, J. Gordon Holt continues in second place as Founder and Chief Tester, I've moved down to third place as Publisher (a more typical location), and our extraordinarily able Assistant Publisher, Gretchen Grogan, has been moved to an "upper" masthead location.

I will continue as Publisher of *Stereophile*, *Stereophile Guide to Home Theater*, *Schwann Opus*, *Schwann Spectrum*, *Schwann Artist*, and *Schwann Compact Disc Review Digest*. I've been lucky, though, to have my job as President of *Stereophile, Inc.* taken over by Ralph Johnson, who ran our Hi-Fi Shows between 1991 and 1993. Ralph is a great guy with a background in organization management. We're delighted to have him back working with us as President, and as Executive Director of our Hi-Fi Shows.

I was fortunate in late May to be able to squeeze in a day at the events put on by CEMA (the Consumer Electronics Manufacturers' Association) in Orlando: CES

Orlando, The Digital Destination; CES Habitech '96; and CES Specialty Audio & Home Theater. This last show had the most negative advance publicity of any show I've ever heard of, primarily from its own exhibitors. "Joke," "fiasco," and "disaster" were the words most frequently used to describe it.

Last year I was criticized by some for appearing to whitewash the reality of the 1995 CES Specialty Audio & Home Theater Show held in June '95 in Chicago. I *did* give that Show the benefit of the doubt by allocating more weight to the mildly positive verdicts from people who had actually exhibited in Chicago than to the heartily negative assessments of non-exhibitors. Many people's opinions of the '95 CES grew more negative after the event, perhaps because they sought reasons for not doing Orlando in '96; on-site, they thought it a modest success.

I may be criticized again, but the 1996 Show didn't live down to the negativity of its prognosticators. It *was* a modest-sized Show: There were 31 individual demonstration rooms, plus one medium-sized ballroom with eighteen 10' by 10' booths. The Show Guide listed 66 companies — about a third the size of the 1995 Show.

Attendance also looked to be down from last year, though figures aren't available as I write this. I was only in Orlando for the second day of the Show, and can't give a comprehensive summary of exhibitor opinion. Nevertheless, the people I talked to were moderately pleased with the attendees they saw. Some were downcast, others more upbeat, but none were bitter. Exhibitors reported good attendance from Florida and the Southeast as well as from Latin America, with a smattering of people from other parts of the US and the world.

The Show was less fruitful for the press, as reflected in the paucity of journalists I ran into. (*Audio*, *Stereo Review*, *Stereophile*, and *Home Theater* each had one editorial person that I saw; *TWICE*, a trade magazine that was publishing the Show daily, had more.)

Most companies were basically showing what they'd already exhibited in Las Vegas in January, though there were interesting new products from Conrad-Johnson, Runco, Pioneer, Denon, Parasound, Dwin, Atlantic Technology, and Thiel.

DVD was discussed by the mid-fi electronics manufacturers, but no earthshaking announcements were made. The hardware guys are basically waiting for the software guys to agree to a copyright methodology — all except for Thomson/RCA, who are proceeding with their launch plans regardless.

I did see two new home-audio products that were good enough to feature in a show report, both of which will be included in our coverage of HI-FI '96 in the September issue. One was the new super-high-end, 20th-anniversary preamp from Conrad-Johnson; the other was the Thiel CS6, which looks much like the CS7 (though more graceful, at least to my eyes), but which seems to incorporate a lot more engineering refinement. The coaxial midrange/tweeter goes down to 500Hz (the similar-looking unit in the CS7 only extends down to 1kHz) and is built 100% in-house by Thiel, as are all the CS6's drivers.

I was very impressed by the CS6 — its specs are similar to those of the CS7 but it costs less: \$6990/pair. I wouldn't be surprised to find that the final version sounds even better than the '7; based on auditioning under show conditions, I *absolutely* can confirm that the CS6's non-final prototypes do. Absent journalists missed Jim Thiel's stunningly clear product exposition, which, in fairness to his design ingenuity, he should redeliver at the 1997 Las Vegas WCES.

As I left Orlando, the CES SA&HT's future was murky. Exhibitors were emphasizing the positive, but it could not be called a knockout hit. Two consecutive Shows, with declining support from exhibitors and attendees alike, don't augur well. As I left for HI-FI '96, CEMA members were huddling in a series of meetings to decide what future they'd like to shoot for. If I were one of them, I'd be getting tired of doing shows that could only be called "modest successes" because of how astonishingly low the expectations for them had been. We'll see what CEMA does.

— Larry Archibald

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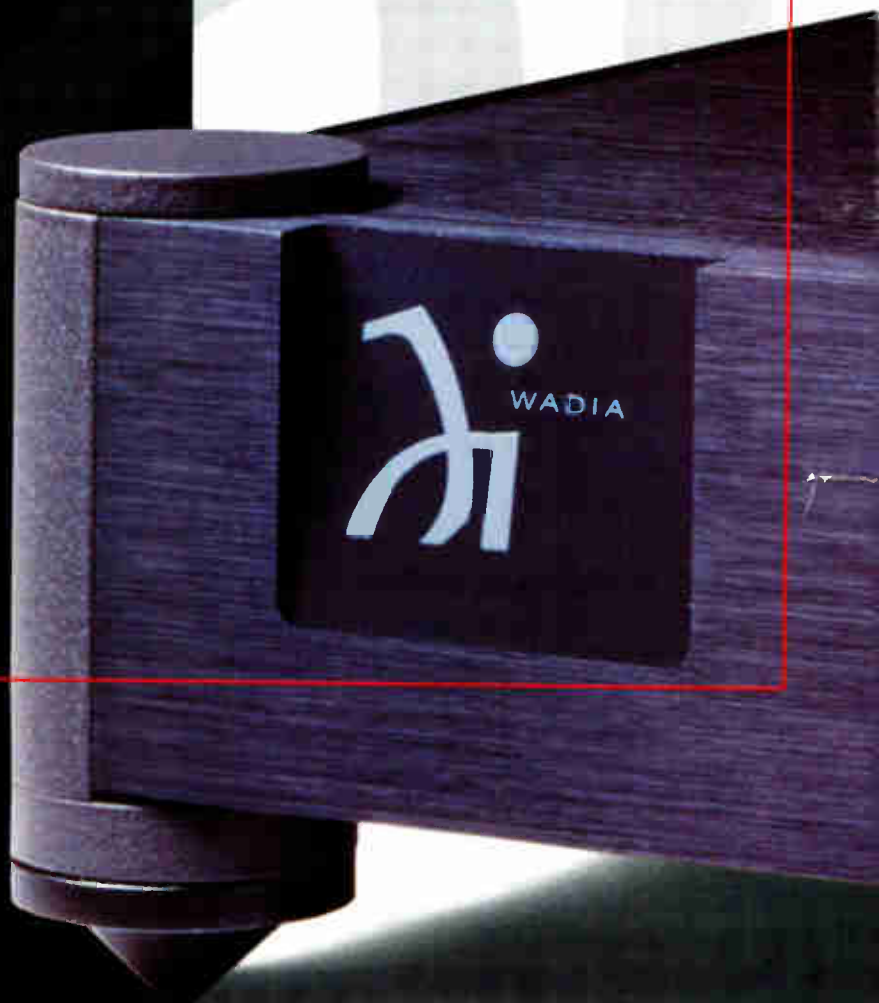
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