Do - Wadía, Diddy Dum, Diddy Do

Robert Harley
sings
Wadía’s
praises

RECOMMENDED COMPONENTS
300 Hot Products

RICK VISITS LES PAUL

AMPLIFIERS: Krell, Bryston, VTL, Conrad-Johnson, Dynaco, AudioPrism
Mark Levinson No.31.5 CD Transport • THE BEST SOUND AT HI-FI ’96
MOZART'S MAGIC FLUTE • Jonathan Scull Profiles PopeMusic
"The single most impressive component I've heard in the last decade..."

"...it blew me away to a point I thought I was too jaded to experience."

Frank Doris, The Absolute Sound, Issue 100

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† Quoted with permission of the absolute sound
As We See It

Ground Rules

A s Stereophile’s Equipment Reports Editor, I get a lot of calls from readers asking how we choose the gear we review, and from manufacturers asking how to get their products reviewed. So I told JA to take the month off from writing this column so that I could talk about Stereophile’s Equipment Reports section.

Stereophile publishes over 140 equipment reports annually; even so, we can’t review all of the new audio products that are introduced each year. We look for significant additions to the hi-fi canon; products that offer a lot of performance for the money, or that advance the state of the art, or that have excited audiophiles, or that would excite audiophiles if only they knew about them. We must also include products that perform disappointingly.

Sometimes we cannot cover a particular piece: some manufacturers refuse to submit their components for consideration, as with Wadia until recently. Others are willing to do so only if we grant them concessions we are unwilling to make — such as allowing them to select the reviewers themselves. Even though their products may be worthy of coverage, we must pass.

The biggest hurdle for many companies is getting to the point at which they qualify for review. We have few rules, but they must be met: They are designed to eliminate the not-ready-for-prime-time players, thus ensuring that our readers can experience the products we write about and will be treated professionally by the firms that make those products.

Above all, a company must have a distribution network of no fewer than five US dealers. That’s not many, you’d think, but it’s surprisingly hard to convince five retailers to take on a new company’s products. Most already have more lines than they can represent thoroughly — anything good enough to overcome that is likely to be pretty darned impressive.

“Do you have any idea,” asked an aspiring manufacturer when told about the Five-Dealer Rule, “how hard it is to get five dealers without a review?” Actually, we do. That’s the point.

We have reviewed merchandise that’s only available via mail order, but the firms must offer a satisfaction/money-back guarantee, and they must advertise nationally, though it doesn’t have to be in Stereophile. We try to listen for a “buzz” — if audiophiles are interested and talking about this company/product, we should report on it. Then, case by case, we decide what to cover.

We know exactly how hard it is to get five dealers without a review. That’s the point.

firms over younger, struggling ones? In some ways it does — but then, consumers have a better idea of what to expect when dealing with established companies. Products they bring to market are generally mature and fully realized. These firms have fair and consistently honored warranty programs, not to mention widespread dealer networks. Such considerations bode well for potential customers. Our rules attempt to ensure that less well-known, younger audio companies whose products we review are ready to offer similar services.

Sometimes we get fooled. One speaker manufacturer, unable to meet the Five-Dealer Rule, managed to convince me that he sold direct via nationally advertised mail-order. I had my doubts, but he seemed sincere, and I was too eager to please. My review, as it turned out, was highly critical of the speakers — which just weren’t ready to be reviewed (or marketed, as dealers would have surely told him). He wasn’t happy with the review, and I didn’t enjoy writing it — nor am I wild about having used up precious space on his hobby. I could have used those pages to review something that you, the reader, needed to know about — something made by a firm that’s really in business.

On another occasion, a manufacturer lied to us about meeting the Five-Dealer Rule. We published a positive review, which resulted in a slew of orders. However, consumers complained about not receiving merchandise in a timely manner, so we checked up. It turned out there was no dealer network, no factory, and no business — just a mail-drop and an answering service. We felt used — hell, we were used — just to get to you. That’ll never happen again. The guy that perpetrated that hoax called me the other day to tell me about his new product. You’ll never read about it in Stereophile.

Ultimately, we aren’t in business to serve as the marketing arm of any audio company — whether new and deserving or old and established. We’re here to report to you — honestly and directly. When it comes to that commitment, we don’t deal, and we don’t compromise.

— Wes Phillips

Stereophile, October 1996

3
Two years in the movie we’re making acceptance

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Any music lover familiar with B&W’s legendary loudspeakers probably isn’t surprised by our THX Home Cinema System’s award-winning ways.

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Not only can the Kevlar cones used in the B&W THX Home Cinema System stop a stray bullet, they reduce surface standing waves to minimize coloration — whether you're listening to music or watching movies.
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We would like to recommend Cary tube amplification that could make your present Hi-Fi system a thing of the past...

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BEANS
Editor:
I believe that I have been able to isolate the subtle distinction delineating ultra-high-end gear from that which real-world people can afford.

If one plays CDs through good solid-state electronics, during the opening passage of Also sprach Zarathustra one can hear Solti break wind.

If one plays vinyl through tube equipment, one is able to discern the variety of legume he ingested to cause the intestinal distress. Ed Heath
Lexington, IN

BANKRUPT
Editor:
I am angry and I am not going to take it anymore. Since the mention in “Sam’s Space” of the existence of The Triode Guild Sperm Bank (July ‘96, Vol.19 No.7, p.53), my life has been completely disrupted. My phone will not stop ringing with calls from steamy women demanding to know how to get to the bank to make a withdrawal. My fax machine has burned up from sensitive, saavy solder-slingers wanting to open an account, claiming they are ready to make large deposits. Then Oprah calls inviting me to appear on a program entitled “Do Audiophiles Make the Best Lovers?”

Please announce to your readers that The Triode Guild Sperm Bank is closed for business, is not accepting any more deposits, and will not tolerate harassment by musically sensitive nymphomaniacs who worship audiophiles as sex gods. Harvey “Gizmo” Rosenberg
Guildmeister, The Triode Guild
Stamford, CT

Mind, Body, Music—Vita nil musica subite aum pessimo tuo.

BE THANKFUL
Editor:
Isn’t it about time that some of Stereophile’s readers lightened up? Listen, guys — audio is just a hobby for most of us, not the end of the world. As a long-term reader of Stereophile—from “the” J. Gordon Holt days to the present—I find it amusing but a little disturbing to read letters from persons who find today’s Stereophile not to their taste. Maybe their memories are too short. Most of the hobbyists in the 1960s would have been elated beyond all words to find a magazine possessing Stereophile’s bulk, varied and detailed reviews, sense of humor, and technical prowess. For as much as I loved “grumpy” Holt’s viewpoints in the early Stereophiles, his scope was severely limited by budget constraints, a much smaller field of equipment to review, irregular publication schedules [see this issue’s “Industry Update”—Ed.], and no auxiliary staff to speak of. We are indeed lucky today that a voluminous, largely well-written Stereophile arrives each month, on time, inexpensively priced, and provides much reading satisfaction for many days.

Yes, it is true that some equipment is high-priced, that some reviewers are wrong or may say things we don’t like; but the marketplace will ultimately deal with manufacturers, and you don’t have to read writers whose opinions you dislike. Most of all, keep a sense of humor, and be thankful that magazines like Stereophile exist to keep our hobby alive, healthy, and fun.

Letters to the Editor should be sent to: The Editor, PO, Box 5529, Santa Fe, NM 87502-5529. 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.

To those few disgruntled subscribers: Quit your bitching and join the party. Carl E. Miller
Columbus, OH

BIG BOOST
Editor:
As a long-time reader and on-again/off-again subscriber, I must say I really do enjoy Stereophile. I think some of its readers get a bit snooty and dry from time to time, but I still think Stereophile does a better job than anyone else out there. (No Name Given)
Bigboost@aol.com

BRING IN THOSE SHEEP
Editor:
A few thoughts about a topic often discussed in “Letters”: The incessant whining about a lack of young newcomers in our precious high-end world has grown tiresome. Stereophile, fine as it may be, has played a large role in perpetuating the problem. But I must explain why this is true. I am 26 years old, and know other “Gen-Xers” who harbor some interest in upgrading from “bells and whistles” rack systems. But I sometimes make the mistake of leaving Stereophile lying around, and if one of these twentysomething acquaintances happens to peer inside its pages, they run, laughing hysterically, from my living room.

They are confused. They have heard sound from my modest ($7000, including video) system that is infinitely better than what they’ve heard elsewhere. But to them, your magazine would seem to suggest that one needs to hold a Jackie O. personal-possessions auction to raise enough capital for a competent system. I then have to explain that in order to sell copies at newsstands, Stereophile must feature exotic, megabuck components (as you have mentioned in “Letters”). It’s harder to explain why there are seemingly no reviews of really affordable components in Stereophile...

I feel exposure to high-end sound at an early age is the best way to bring new
Our experience will enhance yours.

Whether enjoying your favorite music or escaping into a classic movie, you seek one thing. You want a totally satisfying entertainment experience. We at Madrigal are truly committed to producing the kind of products that will transport you to a new level of enjoyment. We continue to build on more than twenty years of leadership in audio and video technology that have made both the Mark Levinson and Proceed marques among the most acclaimed in the world.

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Discover the difference a tradition of superior design and advanced engineering can make at your Proceed dealer soon.
sheep to the fold. To wit, a short story: 1974. My family moves to Gettysburg, Pennsylvania. My parents hang out and consume much wine with a cool couple they meet. He has a magical hi-fi system, Snell Type A speakers, Tandberg cassette, good phono, etc., and many great albums. Over the next few years I and his two daughters listen to Groove and Saturday Night Fever through this terrific system, and I become hooked on great sound. Mom's Sansui receiver just doesn't cut it. When I am a little older and have some money to spend, I start listening to, purchasing, and upgrading decent components. Only at the ripe old age of 20 do I discover Stereophile. Recco-Componets is cool; some of the C-, D-, E-class stuff seems reasonably priced. The reviews are well-written but feature gear that, as a college student, I shouldn't even dream about. But this "Audio Cheapskate" guy [Sam Tellig in a previous incantation — Ed] redeems the mag, so all is well.

You see, if Stereophile had made its way into my grubby paws five earlier years, I'd be rockin' the house today with a Sony rack system, telling my friends, "Yep, these here are 300W speakers!" I would have been scared away. Fortunately, I had learned on my own that a $2000 system could get you pretty damn good sound if carefully assembled. I certainly have more discretionary income today than five years ago. But I still can't afford 95% of the items you review. And I know that when I'm 40 I won't even consider a pair of Wilson Grand SLAMMs. I enjoy food, clothing, and shelter far too much. Besides, of the many high-end stores I have perused, none even stock pieces costing more than three or four grand each, because the demand isn't there.

Please find some more space to review inexpensive yet able equipment in your pages.

NEIL BROGAN
Waterbury, VT

P.S. For those of you with $8000 digital front-ends and $6000 preamps, try this: Get a decent (around $1000) one-box CIJ player with variable outputs. Run directly to your amp and listen. Kick self in butt repeatedly.

P.P.S. Best pop release of '96 — the Cowboy Junkies' Lay It Down. Bass that's fat but tuneful. And oh, that voice!

BALANCE
Editor:
I would like to read more opinions about pros and cons and "war" between the High End and Home Theater. I think that it is very good that you separated Stereophile from Home Theater by issuing the Stereophile Guide to Home Theater. Moreover, Stereophile never looked better: just the right balance between equipment reports, music reviews, interviews, educational texts, etc. "Quarter Notes" as an upgrade on "Records To Die For" hits the center of the target. You are the best.

ALEXANDER MILJKOVIC
Pozarevac, Serbia

BUMMER!
Editor:
I took Jonathan Scull's freebie "take off your eyeglasses" tweak for a test drive. Unfortunately, due to my nearsightedness, I couldn't see the soundstage. Bummer!

NICHOLAS WYBOLT
Naperville, IL

TAKE 'EM OFF!
Editor:
I've been following with interest the debate regarding whether or not removing eyeglasses while listening to one's hi-fi makes an actual sonic improvement, or if it's related to the "soft-focus" effect of my myopic type. I may have a pretty unique perspective on this issue: In addition to being an avid hi-fi enthusiast, I'm also presently the conductor of orchestras and opera at the University of Tennessee at Chattanooga, and I formerly worked for several years in the high-end retail business in Austin, Texas and with Innovative Audio in Brooklyn, New York. (Wes Phillips actually replaced me at Innovative when I went to work in the classical music biz.) To round out my bio, I've worn glasses since I was nine.

About 10 years ago, while completing my doctorate in conducting, I got my first set of contact lenses. I was astounded to discover that at the very next rehearsal I was much more aware of subtleties within the orchestra, and I seemed to be more effective in rehearsal. This was not a small improvement, but on the order of a magnitude or two. At the time I attributed this improvement to the greatly enhanced eye contact that contact lenses provided over wearing glasses (due to the elimination of the "wall of glass" effect, and much-improved peripheral vision). Eye contact with the orchestral musicians is, after all, essential to the conductor's task, and is one of the most powerful methods of expression available on the podium. "The eyes are the windows of the soul," etc.

Flash forward 10 years... after reading Jonathan Scull's "Four Tweaks and a Freebie" this past February (Vol.19 No.2, p.117), I experimented with wearing glasses, wearing contacts, and going without any visual correction while listening to my home system. I found little, if any, difference between the sound with contacts and while experiencing nyopia, but consistently noticed a diminished sound quality when wearing glasses. Relating this to the podium, I wouldn't dare conduct my orchestra without some type of visual correction (approximately 20/200 uncorrected), but I always find that rehearsals go better while wearing contacts rather than the old Coke bottles. To describe the differences sonically, I seem to have a better sense of the point of origin of the sounds, a better overall sense of the actual timbres of the instruments, and the ability to better pick out details within the overall texture.

I also read Dr. Kyle Pac's letter in June (Vol.19 No.6, p.13) with interest; his theory regarding reduction of visual input would seem to hold well for blind people, but as a chronically myopic person, I have found that visual stimuli are more distracting (from being out of focus) with no visual correction. My experience with contacts vs no correction at home would also suggest that the source of the improvement is related to sound rather than vision. Physically, I don't really know what's happening, but I suspect that JS's theory regarding reflected sound is closer to the truth than Dr. Pac's. Perhaps an audiologist could weigh in on this issue?

The only severely myopic conductor I am aware of who conducted without visual correction was Toscanini (he also had about 20/20 visual acuity), and I'm sure even he would have benefited from contact lenses, had they been available. Of course, with contacts he wouldn't have had that "dreamy-eyed" look for which he was famous. Obviously, he felt that being able to hear the orchestra in rehearsal was more important than being able to see them!

From my combined experiences with live orchestral music and with hi-fi systems, I say "take 'em off!" Or at least get contacts.

DR. STEVEN BIRD
Director of Orchestras and Opera University of Tennessee at Chattanooga

NO THANKS
Editor:
Having seen the hi-fi press and its readers dabble unconsciously in matters of science and its philosophy, I purchased
Conrad-Johnson melts away all doubt of whether digital can achieve the musical results of analog reproduction. The DR-1 transport, D/A-2b tube dac and D/A-3 solid-state dac offer stunning musical performance starting at the affordable price of just $1195.

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**Stereophile** in the hope of seeing a more enlightened approach. It was a great pity, therefore, to read Dr. Kyle Pae perpe-tuate the same old myths and illogi-calities in defense of Jonathan Scoll's eyeglass tweak ("Letters," June 1996, p.13).

Dr. Pae refers to the age-old objectivist/subj ectivist debate as a "dichoto-my," when in reality it need be no such thing. It is only improper procedure that causes problems; working together, the objectivist can experiment with design, while listeners can aurally assess the resulting signals for changes. If any are apparent, subjectivists can go on to describe them any way they wish. Conversely, subjectivists can listen to products at will, and if they notice a signal change not predicted by objectivists, the latter can investigate it, if it's practi-cal to do so.

The crucial point is that signal differences in dubious cases can only be con-firmed by blind testing. Then, and only then, should they be subjectively described or objectively investigated. We need valid subjective observations, not mistaken ones. Nothing is gained by producing yards of flowery prose to describe the emperor's new clothes, or by theorizing about nonexistent phenomena. Does Dr. Pae think this has never happened — that people, particularly "experts," never fool themselves? His belief that JS's cars can always be trust-ed is touching, but naïve, because he refuses to acknowledge the need for safeguards.

As for "measuring" goosebumps, consider the following. I recently audi-tioned two Naim preamps, one of which consistently had the better goosebump factor. Yes — I did trust my ears, but I did so in both sighted and blind listening tests (the best amp in my opinion happened to be the cheaper of the two). Here we have an objective test (because it used a safeguard) producing and confirming consistent subjective reac-tions. Why on earth has such an obvi-ous and convincing blend of the objectivnist and subjectivist approach eluded the hi-fi fraternity for so long?

Making unsubstantiated claims for tweaks is bad enough, but the tendency to compare rogue enthusiasts and reviewers with the likes of Copernicus and Galileo is sheer arrogance. Even if a valiant hi-fi naverick was unfairly per-secuted, it is illogical to imply that all those persecuted are hard done by. History shows that all the great hi-fi revolutions, from Edison to laser optics, were due to the work of orthodox inventors and engineers — not tweaks and crackpots dabbling in pseudo-science. Of course, if you have been unfairly denounced, you can prove it by emulating Copernicus, using the very same scientific method pioneered by him, Francis Bacon, et al. And yet when skeptics make this simple demand, sud-denly the tweak proponents shift uneasily, showing, as we shall put by Dr. Pae, a "stalwart disregard" for criticism and a penchant for changing the rules of inquiry as it suits them.

There is something greater than the open-mindedness demanded by Dr. Pae: it's the willingness to doubt after we've been so open-minded. In doing so we seek to check things properly, to make new discoveries that may even undermine our own cherished beliefs. Furthermore, we stay within the very accommodating boundaries of science; too many people step outside these limit-its into some kind of fairy kingdom (Audophileland!) where anything goes, except the humility to admit when you are wrong. I stand prepared to accept proper evidence for any tweak I may have once scorned. The question is, what will it take for Dr. Pae to accept that a recommended tweak is in fact useless? RICHARD WARD London, England

Mr. Ward: Lighten up, Jonathan's point was that this tweak is free. And if taking off your glasses in fact produces no improvement in sound quality, you can put them back on, los-ing nothing. — JA

**AND YOUR POINT?**

Editor: The confusion of nostalgia with the quest for new musical forms has created an alternative rock that looks more to our pimply past and less to a future where originality still means the discov-ery of sounds not heard before. How can we claim to encourage discovery when our yearning for some teen dream from the '70s makes success possi-ble only for those bands creating imita-tions of our prejudices?

It's our responsibility to be aware of these attitudes, because our ignorance can hurt groups unlucky enough to lack respect for our limited understanding of the past.

JAMES HOPKINS Larchmont, NY

**ENLIGHTENED?**

Editor: Boy, don't ya just love it when people like Jason Serinus take time to share their "enlightened" views with us? His lambasting of Beth Jacques in August (Vol.19 No.8, p.17) over her review of Tori Amos's Boys For Pole was indeed insightful. He spent his whole letter criticizing Ms. Jacques for her "homophbic" failings, and for, and I quote, "Telling us far more about her aversions

**AND YOUR POINT?**

Editor: Yma Sumac: Voice of Xtabay — on a theme of Richard Lehnter in his July '96 review of Capitol's Yma Sumac reis-
sues (p.221). And per Webster's Third New International Dictionary. If we reverse (and separate) Xtabay, we get: ya (var of yak); used to express dis-gust, contempt, defiance, or derision; and: hutz (G): to stick together, bake.

Giving another reversal theme: Derision stuck together!

NAME WITHHELD

Glen Ellyn, IL

**SOMEONE OUT THERE KNOWS**

Editor: Regarding Richard Lehnert's review of the reissued Yma Sumac albums in the July Stereophile, I can tell you that perhaps her real name is a secret in the States but not in other countries. Yma Sumac was born in 1928 in Peru, and her real name is Emperatriz Chavarrí. Her artistic name of Yma Sumac is rather easy to explain. If Mr. Lehnert had done his homework in the review, he would have seen that the ninth song on The Legend of Jivaro is titled "Sumac Sorateca — Beautiful Jungle Girl." So, the meaning of the artist's name is Yma the Beautiful.

The alternative legend — "Amy Camus from Brooklyn"— shows a dis-appointing lack of imagination. Mr. Lehnert says that The Right Stuff clammed up and stuck by the Indian Princess story. What did he expect? The original records were issued more than 40 years ago, so most probably he was speaking with label underlings that were not even born in that time and the only thing they know are the lurid and livid blurs on the sleeve.

And speaking about blurbs, on p.119 of the July issue, in an Audio Advisor ad for the Sennheiser HD580 headphones, there is the statement: "They are John Atkinson's reference." So much for that. If the mediocre '580, with its anemic midband that has nothing to do with real music, is a reference, then the gods save me from buying any other issue of Stereophile.

SEBASTIAN MARTINEZ

Barcelona, Spain

Stereophile, October 1996 15
“The combination of the AV-600 and five MA-500s produced a remarkable sense of envelopment and immersion in the soundtrack.”

Robert Harley, Stereophile Guide to Home Theater, Summer 1996

“The AV-600’s surround performance was the best I’ve heard on my system.”

“The AV-600 is very well thought-out and loaded with intelligent features...”

“In both music and home-theater rooms, the MA-500s were impressive.”

Robert Harley, Stereophile Guide to Home Theater, Summer 1996

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than about Amos's music," then "What does Beth Jacques' homophobic ranting and raving have to do with Tori Amos's music?" Then he proceeds to tell us that he knows the sexual persuasion of the members of his audiophile society and even his hairdresser.

If anyone is ranting and raving in the August edition of Stereophile, Mr. Serinus, it is you. If you want to spout your sexual preferences in the media, please stick to Newsweek or Time. We have little enough print dedicated to audio as it is. And try to show a little more tolerance, Mr. Serinus. At least Ms. Jacques reviewed the contents of the album. You couldn't even mention them. Maybe if you had gotten past your sexual agenda, you would have noticed that Ms. Jacques slammed the album not because Tori Amos has come out as a lesbian, but because the album is dull, uninspiring, and plain boring. I know. I bought it. I wish I had read Ms. Jacques's review before I had.

SCOTT HIDDLESTON
Oak Harbor, WA

HOW TO READ REVIEWS
Editor:
Beth Jacques's review of the Tori Amos Boys for Pele CD in the May '96 Stereophile raises a couple of points about the usefulness of record reviews and of taste in music.

Many years ago I bought a record by a guy called Bruce Springsteen, whom I had never heard of, following a rave review in a magazine. I disliked it. I still do, and everything else I have heard of his since. This is a matter of taste; I am not saying his music is rubbish, just that I do not like it.

I love Tori Amos's music. I like her second album, Little Earthquakes, least, but I still find her the most musically interesting and original writers of today. Boys for Pele is one of my all-time favorites.

I have had similar experiences with classical music reviewers. I love the Sibelius Violin Concerto. I have most of the available recordings. However, the version I enjoy least is that of Heifetz, which I call the "Paisley" version, due to all the embellishments. Many reviewers recommend this above all others.

In order to use reviews to assist record-buying decisions, it is essential to know how your taste compares with that of the reviewer, which takes time. Giving a review to someone who does not like the kind of music on the record puzzles me.

The other thing Beth's review made me realize was to what extent different people are influenced by the lyrics. I had never noticed any lesbian tendencies, nor had my teenage daughters, who are also fans. Perhaps there is some American slang in there which, here in the UK, we do not recognize. In any case, it is of no relevance to the music.

In general, I find that I enjoy music so much I don't listen to the words. In choral music and opera I usually don't speak the language but adore the music. I had not realized before that for me the lyrics are of little importance.

FRANK DERNIE
100537.1010@Compuverse.com

NO PROBLEM?
Editor:
I have an audiophile (oops...stereo-phil) pal with a great system that probably costs more than my house, not including his high-dollar cables. He loves Krell, hates anything ever made in Japan, and loves music more than Bill Clinton loves politics.

Except country music...

"I can't stand that twangy shit!" is his retort whenever I try to encourage him to listen to music that appeals to drunk cowboys in Ropers and Wranglers.

Well, I finally talked him into visiting my house on unrelated business — and the set-up began.

I said, "Milton," (figures, huh?) "I want you to critically evaluate my new stereo. Give it to me straight, okay?"

With a sigh he said, "Oh, alright?"

Then I ruefully explained that, unfortunately, I only had a few country CDs available for the evaluation, but that of course I knew that that little detail wouldn't matter to his golden ears.

He agreed, and boasted that he could tell good from bad with any kind of music, any time of the day or night.

"Heh.

Then he asked, "What is your system?"

I said that I wanted him to guess going in blind.

"No problem!"

After the BBQ ribs and brews (Coors Light for me, Molson for him), we retired to my pitch-black music room. I had selected Billy Dean's Fire in the Dark CD, and I suggested we start with track 10: "Steam Roller."

"Oh yeah, I've heard of that..."

I gave him the remote, positioned him by the volume control, and the game began.

He played the same track seven times (and two brews...) before admitting that, "Yes, country music does have promise and, uhh, by the way, I'd almost trade my Lexus for this system. Lights!"

"Gotcha!!"

He was enthralled with an ancient 20W Pioneer receiver hooked up via 14-gauge copper cord to a 25-year-old pair of Klipschornis tucked away in the darkened corners.

It took several minutes for the gravity of the situation to hit him. Finally my friend said, "How much cheaper is Coors Light compared to what I'm drinking?"

Now, about that Lexus...

KIRBY ROWAN
Portales, NM

A PROBLEM
Editor:
Two quite contrasting reviews of Beethoven's "Emperor Concerto" on PopeMusic have appeared in the pages of Stereophile: in Wes Phillips's "Quarter Notes" column [Vol.19 No.3, p.209] and Mortimer H. Frank's standalone review [Vol.19 No.6, p.251]. The reviewers disagree on both sonics and interpretation. According to Mr. Phillips, "There is palpable sense of the hall and the players that inhabit it. What a glorious ambience, what remarkable decay." For Mr. Frank, "everything is a bit too close...little sense of depth is suggested." Mr. Phillips is taken by "the strength in the performances" and loves that "the performers...end up with so much Beethoven in this interpretation. Glorious." Mr. Frank insists that pianist Naum Starkman "displays little affinity for the Classical style" and "his mannered tempo modifications damage the first movement's integrity."

We all understand and value the right of opinion, especially on such a subjective issue as score interpretation. Even such commonplace high-end notions as soundstage depth are often misunderstood, let alone misinterpreted (see Jonathan Valin's editorial on soundstage depth in Fi, Vol.1 No.6). But the bottom line is: I am not so much interested in whether or not the reviewer likes a recording. What I want to know is what the chances are that I will like the recording or not after reading a good music review. Is that too much to ask? Perhaps. But the above controversy on the PopeMusic recording begs for a follow-up: an acid test for Stereophile's new Music Editor?

NIKOLA DIMOFF
Dbmsrvnick@dbmsrv.attmail.com

As a long-time admirer of Mort Frak, I'm inclined to ask, "How could anyone question which of us to believe?" Mr. Frank is a great
a machine for music.
a new **movement**, a salute to fidelity.

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authority on and a passionate proponent of first-rate classical music. Certainly, I always pay careful attention to his reviews.

On the other hand, I don't necessarily think I was wrong, either. Mr. Frank's concerns about the way Starkman's interpretations fit the Classical model do not vitiate my sense of Beethoven's presence in these performances. Nor does my pleasure at the spacious liveliness of the sound mean that Mr. Frank is wrong when he finds the perspective — it is, as in many contemporary recordings, but there's a lot of hall sound as well. [And the spaced-omni technique used by engineer/producer Gene Pope does produce a very spacious-sounding recording, even when the mikes are close to the source. — Ed.]

As to how you know whether or not you will like a recording after reading a review, first you have to learn to read the reviewer. I have a hard time believing anything a critic says until I have had many opportunities to compare his or her opinions to my own. This takes time and careful reading. For example, I am far less stringent a judge of form than Mr. Frank — I believe that forms exist primarily to provide tension when successful art transcends them. As to sound, I'm a sucker for recordings that reveal that music takes place in a specific space. As far as I'm concerned, that sense of the concrete inhabited by the ineffable is what it's all about. — Wes Phillips

For some background on the Pope/Music recordings, see Jonathan Scull's and Richard Schneider's articles elsewhere in this issue. — JA

ILLUMINATING ILLUMINATI
Editor:
I would like to relate an example of outstanding service in the high-end marketplace. I purchased a cable by mail-order that was described as an "Illuminati Digital Cable" at a special discount off its $400 list price. I had heard that Illuminati cables are wonderful, and indeed this one sounded fantastic. Unfortunately, the cable stopped working after several weeks. When I returned it to the mail-order dealer, they refused to repair or replace it and instead offered to give me a store credit of half of the purchase price. This was hardly comforting to customer service, and my mood became darker when I subsequently learned that the cable was of a much earlier design which had never retailed at anywhere near $400. The "special sale price" was near the street price of this cable when it was new four years ago!

Just when things seemed the most bleak, two white knights came galloping to my rescue! I contacted Chris Sommovigo on The Audiophile Net-work BBS, who spoke with Ray Kimber about my situation. They generously offered to accept the broken, old cable in an even exchange with the current model. Chris and Ray will lose money on this transaction, and the "bad guy" as yet remains unpunished, but Illuminati and Kimber have certainly gained a loyal customer. This superb customer service should be lauded. Next time I'll stick with their authorized dealers!

ANDREW CARPENTER
Westminster, MD

While I don't think it relevant to mention the name of this dealer, I do note that he is no longer in business, which might go part of the way to explaining the way Mr. Carpenter was treated. The moral of this tale would seem to be that you have a much better chance of being treated right by your local dealer. — JA

IT'S THE SOURCE, STUPID
Editor:
I'm writing this letter in response to some questions posed by Robert Harley in the July Stereophile regarding Gene-
sis's Digital Lens. The first question was basically why a difference could still be heard between two semi-identical CDs (the difference being that when one was cut with a greater amount of time-base error in the EFM signal). I think it should be quite clear as to why the Lens was unable to eliminate this jitter. The Lens was built to eliminate signal jitter between the transport and the DAC, thus enhancing the source's reproduction. Well, the jitter on the CD in question is part of the source code. If anything, the Lens would act to enhance this form of jitter because it can't discern it from the music.

The second baffler was why transport differences could still be heard even with the Lens installed. I think it is fair to say that if different transports sound different, then their output signals can't be identical (who cares if this is digital). The Lens was only made to reproduce the signal which it was originally fed sans jitter. If the outputs from two transports are different, then the output from the Lens must be different if it is driven by different transports. The Lens puts out based on what is fed in. Golly, wouldn't it be great if there was some kind of outboard box that could make every transport sound just like a Mark Levinson No.31.5? — ED SMITH
New York, NY

TRULY BIZARRE
Editor:
After reading Robert Harley's upbeat review of the Genesis Technologies Digital Lens (Vol.19 No.7, p.128), I couldn't help but wonder if some of the "bizarre phenomena" Mr. Harley referred to weren't traceable to the interconnect cables. Mr. Harley mentioned using the Illuminati DataFlex Studio and an AudioQuest Diamond X3 AES/EBU with the Levinson No.31/ Classe DAC-1. He didn't elaborate on his choice of cables with the other transports, are we to assume the cables didn't change? Did Mr. Harley choose the AudioQuest AES/EBU cable between the Digital Lens and the D/A converter because this was the best combination for resolution or for the lowest noise-floor (knowing the AES/EBU type cable is often the quietest)?

I have to assume that it is possible to have jitter between the digital transmission interface and the cable running to the DAC even though the Lens has relocked the signal. Mr. Harley seems oblivious to the fact that some of the better transports reclock the signal at the interface, yet jitter still appears at the DAC. It could be possible that after the Digital Lens has removed the transport/jitter/jitter, a new, different level of jitter is introduced by the Digital Lens's interface and the cable.

Regardless of how well-designed the units are, any chassis with a semiconductor chip can emit various levels of RFI. The DAC and Digital Lens can pass federal electromagnetic interference standards yet still cause sonic problems with one another.

While the AES/EBU interconnect can be the quietest, I feel it can also impart a sonic imprint that obliterates low-level detailing. Could it be that Mr. Harley's "bizarre phenomena" are really a case of one type of coloration (the sonic imprint of the Digital Lens/interconnect) being substituted for another (transport speed variation/jitter)? I don't question Mr. Harley's assessment that the Digital Lens improved the sound of his system. Possibly he is continuing his search for an answer to the "bizarre phenomena." I wish he would share some of the answers. — MARK ANGOLETTI
Chicago, IL

ALL EARS
Editor:
While reading Mr. Harley's review on the Genesis Digital Lens in the July issue, I was holding my breath waiting for him to kill the high-end transport business with the phrase "heard no difference." But I was disappointed. He
With the introduction of the Krell Audio+Video line, entry into the world of high performance audio has just become more accessible. The new Krell KAV-300i integrated amplifier delivers sonic quality never attainable before at this price level.

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claims he still heard a difference.

I think this can be explained only in two ways: 1) He allowed his listening to be biased toward the Levinson transport; 2) The Lens clock is still somehow tied or at least influenced to a degree to the transport clock—and it doesn't have to be a lot; we're talking picoseconds here, after all.

As for the first, as loath as Mr. Harley would be to say it's possible to buy a $400 transport and a Digital Lens and get better sound than a Levinson for $9000—I would be, having spent that much money on something—I'm sure that if this was the case he would say it. So, that leaves just the second.

Regarding the CD demagnetizing tweak, this makes sense to me. If I spin any "magnet" close to wires, it will induce a varying current in the wires that will affect the sound, and, more important, may affect the current to the servos spinning the disc, thereby adding jitter (by increasing the speed error). That this effect is still audible with the Lens in implies that this magnetic noise is also managing to induce some current in the Lens—but I find this unlikely, due to the low levels involved, the fact that the Lens is not as close to the CD, and that there's a lot of metal between it and the CD. Maybe a belt-driven transport would be less susceptible to this problem because the motor is farther away from the magnet (the CD) except for the fact that CDs are not made of magnetic material (but see later) — Ed.

As for the higher- and lower-jitter CDs sounding different even with the Lens inserted in the data path, this closes it for me. The Lens is not doing the job because of the previous phenomenon. The bits may be the same, but the music sounds different—so the clock cannot be independent.

If someone can come up with another explanation, to quote Mr. Harley, "I'm all ears!" But I'm sure it's no mystery.

Billy Newport
100030.342@CompuServe.com

Regarding the persistence of audible differences between transports auditioned via the Genesis Digital Lens, as recently pointed out by Illuminati’s Chris Sommornigo on recaudio.

High-end, the Lens is still connected electrically to the DAC and probably one or more data sources (unless ST and TosLink optical connections are used exclusively). It is possible, then, that residual ground currents could affect the noise level, as implied by Mr. Angioletti, hence the re-introduction of jitter in the data link connecting the Lens to the DAC. Regarding the differences between CDs that survived the Lens that RH reported on, I can only assume that timing errors in the media themselves, as pointed out by Mr. Smith, were so gross as to leave a residual, low-frequency jitter content even after the Lens's buffering and realocking. It do make you scratch your head, don't it? — JA

ALL FIELDS

Editor:
Regarding RH's article about the Genesis Technologies Digital Lens in the July Stereophile; He asked about how demagnetizing a CD could change its sound.

I have a hypothesis about this but can offer no measurements to back it up: A bulk tape eraser is similar to the Bedini Clarifier in exposing a disc to an alternating magnetic field. I believe these machines generate circulating currents in the metal film which covers the pits and thereby heat it. Local heating of the metal would transfer heat to the adjacent plastic. I believe the clarification heard in the sound comes from the action of this heat on the plastic. It may reduce optical distortion or scatter, or it may act to reduce the strain-induced electrical charge in the plastic.

The success of the demagnetizing techniques shows that the process of retrieving data from a CD is compromised by the material of the disc itself. This means CDs could sound better if the disc-fabrication process variables that affect the actual mechanism were placed under better control. First, the actual mechanism by which the bits interact with the transports to degrade the sound must be discovered.

We still labor under the skepticism of many high-educated engineers who firmly believe there can be no difference between the sounds of different discs with identical data, or the same disc before and after "demagnetization." It would help the cause of better sound if someone in a position to do the detailed materials research could be convinced it was worthwhile.

Al Sekela, PH.D.
Electrical Engineer, Boise, ID
Asek@micron.net

ALL MOLECULES

Editor:
This letter is in response to Robert Harley's request in the July Stereophile for answers as to why demagnetizing a CD might change its sound.

Many materials reorient their molecular structures when exposed to a magnetic field; this effect is most vividly shown in materials containing iron. Haven't we all taken a nonmagnetic ferrous screwdriver and rubbed a magnet on it to "magnetize" it? The magnetism that the screwdriver exhibits wasn't magically transferred from the magnet to the screwdriver, it is a phenomenon caused by an internal atomic reorganization of the metal's structure. This "organizing" effect can also be seen by taking a small container of metal filings and putting a magnet under it; the filings all align along the magnetic lines of force. This gives us a view as to the forces at work.

But that is iron. We need to know how this applies to CDs, where we should be "realigning" aluminum and polycarbonate. If, after being magnetized, aluminum gained organization at the atomic level, the edges of a CD's pits would be smoother. As for polycarbonate, if it gained molecular organization with exposure to a magnetic field, it may actually become clearer because of its new, more ordered structure. [Relieving the mechanical stress in the polycarbonate substrate will certainly reduce the material's optical bi-refringerence; but it is by no means certain that an alternating magnetic field does relieve the material's stress.—Ed.]

We are sure that iron retains its magnetic realignment because it leaves us with a side effect: magnetism. However, most materials (like aluminum and polycarbonate) don't exhibit this effect even if they are highly organized, so how do we find out if they maintain or partially maintain their realignment? We also need to know if a physical realignment of a CD's microstructure would even be audible, as the evidence is beginning to suggest.

It is at this point that we are in a position to root out the answer. Certainly in Stereophile's readership are many chemists, physicists, and metallurgists who can answer this simple question: Do either aluminum or polycarbonate gain any atomic/molecular organization after exposure to a strong, alternating magnetic field? If the answer is "yes" for either material, then we are actually at a point where we can quantify the clearness/ refractive index of polycarbonate before and after magnetization and the smoothness of a CD's pits before and after. There may be other factors involved as well, but I really believe that this is the right direction to look.

So I guess we would technically be magnetizing our CDs, not de-magnetizing them!

Last, and more important, directed to the whole readership of Stereophile: Go out today and bathe your soul in the
particular, unless offered a swap. A tremendous gain... Lumley are (The horizon...)

Editor:
Re: CD degaussing. Sometimes I wonder: If my name were Arnie Nudell, would I get some respect? And did Enid Lumley ever wonder the same thing? I mean, there she was in 1981, 1982, talking about weird stuff like, the direction you insert the AC plug makes an audible difference. But who listened? For myself, I put an extension on my preamp and sat with line-cord sockets on my lap, switching back and forth, learning the sound of reversed AC polarity. And have heard it ever since!

To this day, however, one rarely sees this subject addressed in print. Few manufacturers warn us, nor do reviewers seem disposed to mention, that enormous gains may accrue through this expedient exercise. It might be offered as an excuse that hearing any particular unit's line reversal is difficult unless all are correctly aligned. (The job can be done with a cheap DVM.) But then, Voila! Better sound for free! The sober critic Neil Levenson of Fanfare once belonged to this camp as well, but, again, who listened? Enid and Neil were right, I think, to quit the biz. To them it seemed that people were more interested in glamor than good sound.

The occasional exception still arises. However, Robert Harley, in his July 1996 review of the Genesis Digital Lens, devoted a section to "Bizarre Phenomena." I quote, both for reference and for emphasis: "Nudell described the sonic benefits of taking a bulk tape eraser to CDs...Zappa's The Yellow Shark...was clearly different—and better—after being treated with the bulk tape eraser. The sound became more vivid, the soundstage more transparent. It was a larger difference than I hear between many digital interconnects... Why should demagnetizing a CD change its sound?...If anyone has answers, I'm all ears."

Okay—he asked! From the historical literature, I submit this jewel: "Here we have an unaccounted major malefactor in CD reproduction, intensely audible on every system; a tweak that subsumes most others: a miracle solution to low-level compression, headachy glare, and fuzzy bass... designers and reviewers who refuse to listen... MARK MY WORDS, history will confirm that in every CD to date, whirling embedded static charge erects a Maxwellian field that somehow tilts the read mechanism." (Caps added.) To correct that malady, the writer claims, one must apply a strong electromagnetic field, preferably rotating—i.e., "CD degaussing." Now, when and where did this fine advice—nay, the very thought—first appear in print? Why, right here! In Sterophile, "Letters," November 1992! The author? [Blink!]

But Arnie Nudell, I ain't, no one paid attention.

The rightly astonished (I expect) Mr. Harley and others, notably those on the recaudio.high-end news-group, where discussion of this outlandish topic was once forbidden by the moderators, may wish further clarification. Done! The following was submitted (in correspondence) by Fred Dieckmann of Audient Technologies: "I believe that degaussing removes remnant magnetism in the ink oxides used on the label of the CD. The motion of this non-uniform magnetic field past the laser (being focused by a coil) causes tran-
sients that disturb the laser’s focus. Close proximity of a uniformly distributed material with greater permeability than that of nonuniformly distributed oxides (that’s printing, for those of you in Rio Linda) would presumably reduce this effect significantly… I got hold of Yellow Shark to investigate; the label has large amounts of blue ink. Interestingly, cobalt is often used in blue pigments and is a substance with high permeability. A material with much lower resistivity than polycarbonate would probably reduce effects of nonuniform electrostatic charges.”

That’s one explanation. Then there’s the cryogenic business. This magazine once made available previously frozen versions of its Test CDs, which actually sounded better. What was the reason? Thermal stress relief, related somehow to magnetically induced heat action? Other hypotheses perhaps exist, but those should suffice for now. Pry it has taken so many years since initial publication for even one major designer to apprehend the enormity, but they are a stubborn crew! The real challenge today, however, now that the Digital Lens seems to have eliminated jitter but not the audible differences among transports, cables, etc., is to analyze and insulate the operative mechanisms involved. At the same time, please, why do Vibraplane (as Shunyon Dickson enthused in November 1995) and The Shelf (as Wes Phillips did in February 1996)—seismic isolation devices both—have such profound and improbable impact on CD sound (not to mention LP)?

Help! What’s going on here?! How much do we really know? Twenty years into digital audio, and still these things remain a mystery! Isn’t “digital domain” supposedly a powerful restorative? Then shouldn’t our DACs eliminate any untoward disturbance without myriad outboard devices, special cables, and (Lordy!) tape degaussers? And why haven’t the gatekeepers of orthodoxy who publish in JAES treated any of this yet?

In truth, audio practice resembles punctuated evolution. Take TIM, Doppler distortion in drivers, tonearm anti-skating, and the like: Each such topic lends itself to measurement, therefore to prolonged examination in the press. Each successive problem solved, we advance to the next higher degree of difficulty, which writers will scrutinize and customers buy stuff to cure. Not very systematic! Jitter became the rage recently, but again I must ask: When shall we see a converter wholly immune (as theory would have it) to external vibration and CD tweaks? The veritable end of evolution!

Vaulting to the larger picture, will DVD descend upon us without our ever having fully grasped CD? Judging by the LP precedent, seems so!

One good nite, people, to help circumvent both the popular buzz and the glamour problem inherent to modernism. Spending time on the old hi-fi earns greater rewards than spending money on new stuff. And remember too, print media may lag up to four years behind. Learn from this, Ye who listen closely, be truly the cutting edge in audio. That’s a command!

CLARK JOHNSEN
The Listening Studio, Boston, MA

ALL EXPLAINED

Editor:
In your July issue (p. 133) are described what are referred to as “Bizarre Phenomena” related to the use on CDs of a bulk eraser intended to demagnetize tapes. It should have had no effect on CDs and apparently did. (My own experiments, I must say, produce no
"Remember the difference you heard the first time you replaced your zip cord with real speaker cables? This is bigger... The differences wrought in my system by the additions of these power cords were positive, dramatic, and immediately apparent... Whenever I removed the couplers from my systems, I found myself shaking my head and wondering, 'Have I been listening to this?'"  -Brian Damkroger, The Absolute Sound Volume 20, Issue 104 on our AC Master Coupler - $250 per 5ft. cord reprint available upon request

Synergistic Research Signature Nos. 2 & 3: $605 10' pair: "High-rez. wide-bandwidth cables that let the music speak for itself..."  -Stereophile April 1996 Vol. 19 No. 4 Recommended Components

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certain results.)

Similar experiences have revealed your own mystification over tweaks, which seem to “work” without any rationale—things like anointing the edges of CDs with green coloring. (I'm not sure that green is the best color in this connection, by the way.)

Mystification arises because it is assumed that these tweaks are having their effects on the system components. If they do, then mystification is indeed justified. But is there a different approach to this? Suppose we start from a different point of view: that it is we who are affected, not the components. Then the whole process becomes easier to comprehend, and our explorations take on a different attitude. They may even become productive where head-scratching certainly is not.

Peter Turner
Gloucestershire, England

ALL JITTERED
Editor:
Last March I was attending the first convention of the European Acoustics Association in Antwerp (Belgium). Before registration I went to my local bookstore in Ghent to buy a magazine, so I had something at hand during possible breaks in my program. On average, I buy one audio magazine a month, which can be one of the German magazines Audio, Stereo, or Stereoplay, the French magazine La Nouvelle Revue du Son, or the English magazines Hi-Fi News & Record Review or Hi-Fi World. At work I receive The Journal of the AES, Studio Sound, and most IEEE Proceedings. Coming across Stereophile for the first time, I decided to buy the March issue, in spite of the high price of 345 BEF ($11.30). I was happily surprised by the reprint in full length of the Dunn/Hawksford AES paper on jitter in the S/PDIF and AES/EBU interfaces. Your magazine has a good reputation, which it fully deserves.

A big difference with the other audio magazines is the length of the listening-session description. There are enough details for the readers to make their own conclusions in reference to musical and listening preferences and system setup. Thomas J. Norton’s KEF Reference Model Four review included a good description of the time-consuming effort a reviewer makes to achieve optimal performance from the reviewed component.

A major difference, and the reason why I write for the first time to a magazine, is the quality of your “Letters” column. After reading the June issue, I know that this quality is a constant, and that your readers are concerned audio amateurs with constructive criticism. Your staff seems to be responsive to the readers’ remarks.

I have some additional remarks on the subject of digital interface jitter.

When our company took over the failing broadcast manufacturer and distributor EMT, I got involved in the development of the EMT W981 CD player. This player can lock to an external digital clock via a BNC clock input, which is a low-cost modification for a Philips drive-unit. In the professional world, digital studio locking of a source is done with an AES/EBU input. A similar connection could be implemented on consumer equipment by providing an S/PDIF output on the converter and an S/PDIF input on the drive for locking and thereby achieving jitter-free reconstruction with an already standardized interface.

The idea of feeding digital data with a RAM-buffered asynchronous CD-ROM drive has a big problem with the data structure of CD audio, the same problem we had with adding broadcast editing capabilities to a CD player. There is not enough additional information on an audio CD to implement this efficiently and make it work fast enough. So the buffer becomes large and the access time long, unless high-speed drives are used. But this is a more expensive solution than the locking device.

Peter Bracke
Ghent, Belgium
peter.bracke@barco.com

ALL CHARGED
Editor:
I can only conclude that the subject of SDIF2 (Sony Digital Interface Format) is too politically charged for Stereophile to handle. It still remains a murky and ill-covered topic in these pages. This is true despite JA’s valiant footnote effort on p.137 of Vol.19 No.6. Since I have previously written an unpublished letter regarding SDIF2, I have only one major point to discuss herein.

This is the fact that whenever SDIF2 has been mentioned in Stereophile (p.215 of Vol.18 No.10, footnote and p.57 of Vol.17 No.1), its prevalence in the professional audio community has been grossly misrepresented. In short, it has been portrayed as a rare, exotic format that appears mostly in custom installations, such as Sony Classic’s New York studios. Let me give you a very incomplete list of pro audio manufacturers whose products contain SDIF2 word-clock input or output: Apogee Electronics, Daniel Weiss Engineering, dCS, Digital Altonics, Genex, Harmonia Mundia Acoustics, Mytek, Pacific Microsonics, Prisma, Sony, Snider, Tascam, and Yamaha. Gee, if the high-end industry were to ever adopt a standard for separate clock lines, I wonder what it would be? For now, my dream of being able to combine the virtues of digital separates with those of integrated CD players remains floating on the vast horizon.

David Windmuller
Wayne, NJ

GET WITH THE PROGRAM!
Editor:
As a subscriber who has moved several times in the last few years, I have a big request: please put Stereophile on CD-ROM or in searchable form on the Web. The paper copies are heavy and take up a whole lot of space. Does this make me a hopelessly naive wirehead of the digital generation? I hope not. Here are a couple of reasons why this is a good idea, both for Stereophile and its readers.

First, from a reader’s point of view, I treasure my back issues because they let me go back and read reviews I skipped or about products that I can only afford later. They also let me put together a profile of a particular reviewer’s tastes over time, giving me a context in which to place a review. Having Stereophile in a searchable digital medium would make it easier to use back issues in both these ways. Sure beats pawing through years of indexes to figure out what volume a review appeared in.

Second, this can make economic sense for Stereophile (I hope!). I’m sure the back-issue revenue can be replaced in two ways: either sell the back issues on CD-ROM (one volume per disc, maybe) or charge an extra nominal subscription fee for access to the back-issue archive via a password-protected Web site. Actually, I would be very willing to pay a little more for my annual subscription if I knew that, at year’s end, I would be receiving a CD-ROM version of the volume (or permanent password access to that volume via the Web).

I’m actually very disappointed that Stereophile has waited so long to establish a cyber/digital presence. The time has passed for worrying about “protecting” copyrights—the publications that will be the leaders in every field in the decade to come will be the ones that
We racked our brains to find a way to tell you how good the Totem Mani-2 really is. And then a Mani-2 owner did it better than we could!

We have had the Totems in our home for roughly three months. The Totem Mani-2s are the finest loudspeakers I have listened to regardless of price and I have listened to the likes of Audio Labs, Martin Logans (all models but the Statement), Vandersteens, Paradigms, Magneplanars, Apogees, etc. etc. The Mani-2s create a larger and far more detailed sound stage than any of the above. The highs are fluid, detailed and spacious, without any edginess. The lows are fast, deep, full and defined. And the midrange... the midrange is warm, musical and expansive. Your speakers have returned the word “presence” to my audio-vocabulary. I could go on and on. The bottom line is that for the first time in years I find myself lost in the MUSIC rather than listening to my system.

I want to thank you all at Totem for bringing quality, accountability and value back to high end audio. I also want to tell you how helpful, informative and enthusiastic you have been.

This is an excerpt from an actual letter addressed to May Audio by the (obviously happy) owner of a pair of Totem Mani-2 loudspeakers.

(Of course, he didn’t mention the double box with lock miter cabinet joints, the push-pull twin woofers that maintain control below 20 Hz, the space-age borosilicate damping, or the twin WBT binding posts. But he told you the essential...they sound wonderful!)
take chances and serve their readers via this new medium. Wired is a bellwether—the most successful magazine launch of the decade has, almost since its inception, given almost all of its content away on the Web for free. And they show no signs of going out of business.

To subscribe to Stereophile is an expensive proposition, but it’s one I can’t imagine doing without. But it’s time to start offering a little more to subscribers. I know that you guys—would that there were more women—will do the right thing!

Fred von Lohmann
flohmann@stanford.edu

We don’t want to go on-line with Stereophile until we can do something more than just a carbon copy of the paper magazine—which is still both more accessible and cheaper. Our plan is to implement exactly the kind of review and article interactive database that Mr. von Lohmann envisages, though whether it will be available on CD-ROM or online is not yet clear. Unfortunately, we have not yet found an editor for our ventures into cyberspace, nor have we found someone to transfer the hundreds of megabytes of back-issue text files into an appropriate database format. (Those who would dismiss this as a trivial task should note that it took us three computer consultants, four years, and a five-figure sum to process the data archive used by our sister publications Schwann Opus, Schwann Spectrum, and Schwann Artist.)

One problem with boldly taking hold of the future is that without outside investment, it is hard to come up with a business plan that generates the necessary revenue stream. And like most small businesses, Stereophile “grows out of its check book”—expansion is financed from income, not capital. In this respect I find Mr. von Lohmann’s comments about Wired interesting, as publishing industry lore has it that neither paper nor online versions of this demographic darling has yet to make money. (I report this information for what it is worth, but it is impossible to reach for its accuracy.) A high profile, a probably high ratio of outside investment, yes, but high profits? Not yet—and perhaps not ever?

But as for this magazine…watch this space.

JA

SOMETHING’S MISSING

Editor:

Why are there no bass resonances in JA’s in-room response curve in Stereophile’s loudspeaker reviews?

(no name given)

DNic@ix4.iX.netcom.com

For the in-room spectral analyses in my speaker reviews, I use an Audio Control Industrial SA-3050A spectrum analyzer with its own microphone. In a rather time-consuming but standardized procedure, I average six measurements at each of 10 separate microphone positions for left and right speakers individually to give a total of 120 original spectra. These are then averaged to give the overall published curve. Because the response peaks due to room resonances and the response dips due to steady-state cancellations from boundary reflections have different frequencies and amplitudes for each speaker at each of the 10 mike positions, they tend to average out. The resultant curve, in my room at least, has proved to give a good correlation with a loudspeaker’s perceived balance. Not every loudspeaker reviewed in Stereophile finds it easy into my listening room, but over the past eight years I have measured some 90 pairs of loudspeakers under identical conditions in the same room, and intend to publish an article sometime in the future drawing broad conclusions about the in-room behavior of loudspeakers.

JA
You Need More Than Just Cable.

Any cable can transmit electrical signals from one component to another, or from an amplifier to the speakers. But, transmitting music takes more than just cable. The shapes of musical waveforms are incredibly complex and critical signal timings are measured in microseconds. Ordinary interconnecting cables or speaker cables cannot faithfully preserve these complex musical relationships across the full musical spectrum.

That's why MIT's founder literally invented high-performance interconnects and speaker cables. MIT holds seven basic patents in high-performance cable and interface design. These fundamental technology patents mean that only MIT can bring you interconnects and speaker cables scientifically designed to eliminate the non-linearities and distortions caused by other cables, no matter whether the others cost tens of dollars or thousands.

If you choose your system components with care, listening for the subtleties of music that distinguish great components, then you need MitTerminator™ interconnects and speaker cables. The hard science behind MitTerminators reveals the full musical potential of your high fidelity stereo system. Until you use MitTerminators, you'll never know how good your system can sound.

Patented MIT® Terminator Network

MIT's patented Terminator Networks are the heart of MIT's sonic superiority. These unique networks enable MitTerminator interconnects and speaker cables to deliver better bass, clearer midrange and smoother treble sound, and to enhance the image, focus and soundstaging of every recording you listen to.

MIT's fundamental technology patents are your assurance that only MIT interconnects and speaker cables can transmit all of the sound quality that your program sources and stereo system components are able to deliver.

iConn™ interchangeable connector system

MIT's exclusive iConn™ system for speaker cable connections is so innovative, it has a patent pending, and every MitTerminator speaker cable has it. Thanks to iConn's five interchangeable connector types, you'll always have the right connector to fit the terminals on your amplifier and speakers. iConn's gold-plated connectors assure ultra-low contact resistance and contamination-free connections for best sound quality.

New RCA connector

MitTerminator interconnects now have new high-performance RCA-type connectors. These machined, gold-plated connectors feature bifurcated center-contact pins and multi-contact shield connections for unimpeachable signal integrity. They properly match the cable for highly efficient energy transfer and outstanding sound quality.

With MitTerminator interfaces starting at just $39.95 interconnect and $79.95 speaker (MitTerminator 5, not shown), MIT performance is truly affordable for any system.

More Than Just Cable!™
Why MITerminators sound better

Superior Final Energy Component

In transmitting electrical energy, cables store and release energy. MIT® calls the amount of energy that is stored and released the Final Energy Component. Unfortunately, as shown in the plot, the Final Energy Component in ordinary 12-gauge “zip cord” and a typical high-end cable is non-linear — it changes value with signal frequency. This nonlinearity inevitably causes distortion and the loss of both tonality and image integrity.

MIT discovered that increasing the Final Energy Component of cables already having outstanding electrical characteristics dramatically improves the overall sound quality. By employing the patented MIT Terminator Networks to store and release energy at the correct levels and times, non-linearities are greatly reduced or eliminated. This superior Final Energy Component is a major factor in the superb sound quality of MITerminators.

Superior Efficiency

MIT quantifies how well cables maintain correct phase relationships between audio signals’ voltages and currents as Efficiency. When cables maintain correct phase relationships, all of the signals’ energy transfers to the next component or to the speaker with 100% efficiency. Ordinary cables’ non-linearities make them much less efficient at low frequencies than at high frequencies, as the plot shows for “zip cord” and for an ordinary high-end speaker cable. The sonic results are noise, distortion, loss of image quality, and excessively “bright” treble sound.

As you can see from the plot, MIT’s patented Terminator Networks give MITerminator cables a huge advantage over ordinary cables, raising low-frequency efficiency and “flattening” the overall curve. This means that MITerminator cables deliver far more accurate tonality and imaging, with lower noise than ordinary cables can. Although the plot shows speaker cables, the results also apply to interconnects.

Superior Imaging

In the accompanying graphics, you can see a three dimensional representation of the sonic image created by an audio system. The blue, red and yellow areas represent the image size while the musical note represents the image focus.

In the first room, using ordinary 12 gauge cable, we can see that the image size (the blue ball) is very small and defocused—the note is blurry and undefined. In the second room, using conventional “high end” cable, the image has become slightly larger and has moved forward between the speakers, but still lacks lifelike size and absolute focus (the note is still blurry). In the third room, the system is wired with MITerminator 2. The superior Final Energy Component and superior Efficiency provided by the MIT Terminator technology provides a lifelike, focused, three-dimensional image. Only MIT’s patented Terminator technology can achieve this level of performance in your system.

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**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 December 1996, you should get the information to Wes no later than October 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:** Parties interested in a new audiophile society in the San Francisco area should call Dennis Davis at (415) 362-5045, or e-mail him at bluedeer@a.crl.com. Recent meetings have included tours of the Mobile Fidelity pressing plant and the Dolby Labs theater facility.

On Tuesday, November 12 at 6pm, *Ambrosia Audio & Video* (2337 Roscomare Road, Suite 6, Bel Air) will host Doug Blackwell of Transparent Cable. Doug will introduce their new Reference XL speaker cables and interconnects. The evening will also feature an A/B demo of cables with and without networks.

*Pro Home Systems* (383 40th Street, Oakland) will host another of their new Technology Seminars on Friday and Saturday, October 18 and 19. John Dunlavy of *Dunlavy Audio Labs* will talk about his loudspeakers and cables; Norm Steinke of *Meridian America* will present Meridian’s latest advances; and Kert McCandless of *Pioneer Elite* will demonstrate a Pioneer Elite DVD player and discuss the latest digital software news. There will be five demonstration rooms, but space is limited, so please call (510) 653-4300 to schedule attendance. Those who preregister will be eligible to win a door prize.

*The Bay Area Audiophile Society* (BAAS) will sponsor a presentation by Mark S. Schiffer, President of *Audio Alchemy*, at the Randall Museum in San Francisco (199 Museum Way, off Roosevelt), on Saturday, November 2, 2-5pm. Mark will discuss and demonstrate Audio Alchemy’s latest products and give previews of what lies ahead. There will be ample time for questions and answers, and for networking among attendees. The seminar is open to the public, but seating is limited. For information on both the seminar and BAAS membership, contact Jason at (510) 444-4169 (jserinus@out.org), Wilson at (415) 221-1634 (LEM321@aol.com), or Dennis at (415) 381-4228 (bluedeer@a.crl.com).

*The Audio Engineering Society* presents its 101st Convention, cutesily called “Head Out on the Highway,” at the newly remodeled Los Angeles Convention Center, November 8–11. The papers, chosen by the Italian-born project engineer for Dolby’s Digital Audio Group, Dr. Marina Bosi, cover low-bit-rate encoding, amplifier and loudspeaker design, sound perception and psychoacoustics, multichannel sound, and audio for multimedia. Of particular interest are a paper on lossless audio coding for DVD, authored by a group of Philips engineers; another on mastering at 96kHz by Sonic Solutions’ James Mooror; and an invited paper by Bob Adams of Analog Devices, intriguingly called “Unusual Applications of Noise-Shaping Principles.” The workshop program includes a presentation on mastering by famed engineer Bernie Grundman, a discussion on audio on the World Wide Web, and a session chaired by Meridian’s Bob Stuart on “High-Bandwidth, High-Quality Audio.” More details from the AES at 60 East 42nd Street, New York, NY 10165. Tel: (212) 661-8528. Fax: (212) 682-0477. E-mail: HQ@aes.org. WWW: http://www.aes.org.

*Georgia: Audio Atlanta* (19 Atlanta St., Marietta) and the *Atlanta Audio Society* will conduct a seminar featuring Rafael Navares from *Mondial* on Sunday, October 20, 2-5:30pm. The Aragon 8008 series power amps and the latest Mondial digital products will be featured. On Sunday, November 17, from 2 to 5:30pm, the society will host Dennis Had and Billy Wright of *Audio Electronics* in a seminar explaining AE’s complete system approach to kit and factory-assembled tube preamps, SE power amps, CD players, cables, and high-sensitivity dynamic loudspeakers. The event will be held at the Hellenic Community Center (2124 Cheshire Bridge Road NE, Atlanta). For information, call Chuck Bruce at (404) 876-5659.

*Hi Notes* (919 Carroll Street, Perry) will celebrate its first anniversary on Thursday, October 3, from 7:30 to 9:30pm, with an open house. The featured guest will be Tor Sivertsen of Conrad-Johnson. Refreshments will be served and door prizes awarded. For additional information, call (800) 808-4174 or access Hi Notes at: www.hinotes.com.

*Illinois:* On Friday, September 27 and Saturday, September 28, *Paul Heath Audio* (2034 North Clark Street, Chicago) will host a weekend of seminars featuring Steven Hill of *Straight Wire* and Al Filippelli and Mike Manousellis of *Dynaudio*. Many topics will be covered, including system setup, component matching, and loudspeaker and cable technologies. Refreshments will be served. For times and additional information, call Bill Ravanal, (312) 549-8100.

*The Chicago Audio Society* is hosting Chris West of *Naim Audio* on Sunday, October 20 at 2pm. Chris will be demonstrating two new Naim products: a $2100 preamp and the Credo loudspeaker. Venue is the Pinehurst Room (formerly known as the Viking Room) at the Nordic Hills Resort in Itasca. Call (847) 382-8433, or e-mail brian@nyble.com for information on the Naim seminar and the Chicago Audio Society.

*New York: Select Sound* (6214 Northern Boulevard, East Norwich) will pre-
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sent its annual High-End Audio and Home Theater Show on Saturday, October 19 and Sunday, October 20. The Show will be held at the East Norwich Inn (Routes 106 and 25A) and at Select Sound, directly across the street. Over 30 manufacturers are scheduled to participate. Designers from ADA, B&W, Grado, Krell, Meridian, Naim, Pioneer Elite, Rotel, Runco, Rock Solid, Sonus Faber, Stewart, Totem, WireWorld, and others will talk about their products and the future of the High End. Free tickets can be picked up at Select Sound, or by calling (516) 624-2124.

Signature Sound (8409B Shallowcreek Road, Liverpool) and the Western New York Audiophile Society (WNYAS) will co-host an evening with Albert von Schweikert of Von Schweikert Research on Wednesday, October 2 at 7pm at the LaSalle Yacht Club (73 South 68th Street, Niagara Falls). Mr. von Schweikert will discuss his design approach and will demonstrate his VR-3 and VR-4.5 loudspeakers. For reservations and information, contact Rich Brkich of Signature Sound, (315) 622-4137, or Mike Monaco of the WNYAS, (716) 625-8481.

North Carolina: Audio Advice (6701-101 Glenwood Avenue, Raleigh) will sponsor a seminar featuring Terry Dorn of Audio Research on Thursday, September 26. Mr. Dorn will introduce and demonstrate the LS preamp and the VT100 power amplifier. Call (919) 881-2005 for time and details. On October 10, Alex Montenegro and Jan Donaldson of Linn Products will demonstrate the new $18,865 Linn AV 51 Home Theater sound system. Engineers from Linn's Glasgow factory will also be in attendance. Call (919) 881-2005 for more information.

Ohio: On Tuesday, October 8, Paragon Sight and Sound (5450 Monroe Street, Toledo) is sponsoring a seminar featuring Brad O'Toole of Transparent Cable, who will discuss cable technology and how it relates to Home Theater and audio systems. A/B comparisons of Transparent cables, with and without their network systems, will be a highlight of the presentation. The seminar will last from 6:30 to 9pm. Seating is limited, so call (800) 873-6873 for reservations.

Progressive Audio (1764 North High Street, Columbus) will host Neil Sinclair and Ed Dietemeyer of Theta Digital on October 17. They will demonstrate Theta's new Casablanca, a versatile AC-3 processor/DAC/preamp. Seating is limited, so call (614) 299-0565 for times and reservations.

Texas: High Fidelity (3300 West Anderson Lane, Austin) will host an afternoon with Stereophile's Robert Harley on Saturday, October 19, starting at 5pm. Bob will discuss a variety of topics, from how to get the best sound from your room to the latest in digital audio technology. Bob will also answer your questions and sign copies of his book, The Complete Guide to High-End Audio. Call (512) 454-5833 for more information.

Washington: Nuts About Hi-Fi (10100 Silverdale Way, Silverdale) will host an afternoon with Stereophile's Robert Harley on Saturday, September 28 at 2pm and 4pm. Bob will discuss a variety of topics, from how to get the best sound from your room to the latest in digital audio technology. Bob will also answer your questions and sign copies of his book, The Complete Guide to High-End Audio. Call (360) 698-1348 for more information.

US: Barry Willis
Has the launch of the Digital Versatile Disc begun to unravel? Sony Corporation and Philips Electronics NV, frustrated by stalled negotiations with several industry organizations, have broken away from their tenuous alliance with Warner/Toshiba and have begun licensing their DVD patents on their own. Licensing agreements will enable hardware manufacturers to begin production, despite the fact that there is not industry-wide agreement on technical specifications, and software makers—primarily film studios—are balking at releasing titles in the new digital format until copyright laws have been updated (as reported here in August).

Meanwhile, Matsushita, who announced a digital encryption scheme for DVD that seems to have gotten the approval of the hardware companies, seems pessimistic about whether they will have DVD players available for sale in the US in time to catch the holiday buying season.

The rush to bring DVD machines to market seems incomprehensible in light of Sony's losing record in the videotape format war, the total flop of Philips's Digital Compact Cassette, and the marginal success of Sony's MiniDisc. From the technophile point of view, the DVD looks promising: high-density storage capacity, small size, high-resolution playback, and multimedia compatibility. But there's little evidence that the great masses of the buying public are at all dissatisfied with present home-entertainment technology. Most people are completely happy with quality-crippled VHS tape and 16-bit CDs. Technical superiority alone won't win market share: Didn't the marginal acceptance of the 12" laserdisc prove that?

The simultaneous appearance of a wide range of DVD software is essential to support sales of hardware in numbers sufficient to approach profitability. It doesn't work the other way around. People won't buy the new machine first simply because "it's better" and then patiently wait for titles to trickle out as copyright contracts are negotiated one by one. Furthermore, "approaching profitability" is a very long way from "universal acceptance." Again, the ultimate success of this new format depends on a concerted effort by all parties—hardware manufacturers, recording studios, music publishers, film studios, copyright attorneys, lawmakers, industry-organization negotiators, and marketing executives. As the DVD situation is playing out at present, it has "large-scale disaster" written all over it. The key to preventing a DVD stillbirth? To misquote Cervantes: Be patient, and shuffle the cards.

Meanwhile, laserdisc fans may be delighted to learn that electronics dealers, convinced that DVD is just around the corner, appear to be dumping their remaining stock of laserdisc players at prices well below cost. Video software dealers, convinced likewise, have been blowing out movies on laserdisc for prices as low as $2 each, with three-disc boxed operas disappearing fast at $5 each. Get them now while the getting is good.

US: Wes Phillips & John Atkinson
Following a board vote, The Academy for the Advancement of High-End Audio, the organization that produces the Audio Week magazine, has decided to kill the Audio Week brand. The move comes after EMI's announcement of the new Compact Disc, which has been struggling to gain acceptance despite the fact that it is the best digital audio format available. According to Philips Executive VP Frank Carruba, in the July 8 issue of Audio Week, DCC was a "great product" that failed because "we couldn't get the cost curve down." He laid the blame squarely on the software companies: "We listened to the music industry when they said that people wanted to go on using tapes but with CD quality.... But we were stalled by the music companies, who didn't move fast enough. High-end users bought the system, but you need millions of sales to get the cost curve down."

I've heard that I don't think you can blame record companies for natural caution, and some did rush to get aboard the DCC bandwagon — EMI, for example, who built a duplication plant in Indiana only to see it stand idle. I think the real problem was that, despite having an excellent lossy compression algorithm — meaning that, for once, the claim of "CD sound quality" rang true — DCC's lack of random access killed it in the minds of users used to the convenience of CDs, no matter how many or how few software titles were available. If it's yellow, oval, and costs 80c, it's a lemon — no matter what else is done right.

---JA
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Audio has announced that it will sponsor the two trade days at HI-FI '97, next year’s Home Theater and Specialty Audio Show promoted by Stereophile, Inc. And, as at HI-FI '96 in Manhattan (see the second part of our coverage elsewhere in this issue), the Academy will organize a series of seminars and workshops aimed at increasing the knowledge base of those who work in the High End. HI-FI '97 takes place at the historic Westin St. Francis Hotel on San Francisco’s Union Square from May 28 to June 1, 1997.

Triad Speakers, Inc. has appointed Paul Scarpelli North American Sales Manager. Mr. Scarpelli was formerly Director of Sales for Harman/Kardon and Citation. Meanwhile, the Harman Consumer Group has announced that it will be selling its Pyle in-car loudspeaker subsidiary to Klipsch Audio, and that its Citation and Audio Access brands will become the responsibility of Harman-owned Madrigal Audio Labs. Buzz Goddard has been named General Manager of Citation and Audio Access, and will report to Madrigal’s President, Mark Glazier. Goddard also continues in his current position of consumer products VP for Harman-owned Lexicon.

Mobile Fidelity Sound Labs has appointed Mike Harvey National Sales Manager. Mr. Harvey comes to that position from Audio Research Corp., where David Gordon has returned from Thiel to assume the newly created position of National Sales Manager.

Graham Engineering has been appointed the US importer of Immutable Music’s Transfiguration Temper cartridge, favorably reviewed by Michael Fremer last July (Vol.19 No.7, p.135). Graham has also embarked upon a research project with Immutable to develop a custom cartridge built directly into a Graham tonearm. Graham will continue to honor the $1000 cartridge trade-in discount that Immutable’s previous importer, Suniko, had established. The price remains $3800. Graham has set up a home page at: http://www.cris.com/~nv2001. E-mail requests for specific questions, product literature, or dealer information may be directed to: grahameng@aol.com.

New Jersey-based Audio Influx Corporation and Myryad Systems Ltd. of the UK have joined forces to bring Myryad’s electronic components to the US, including the 60Wpc M1-120 integrated amplifier ($899) and the 60Wpc MA-120 amplifier ($799). Projected for release in the next few months are a CD player, a preamp, and a tuner.

**US: John Atkinson**

The issue of *Stereophile* that you are holding in your hand, one of the largest we have ever published at 356 pages, is the first of our third century: Issue Number 201. (Though if you consider that we actually published a double issue back in 1967, this is actually our 200th physical magazine.) In this month’s "Letters," reader Carl E. Miller refers to “the’ J. Gordon Holt days of the magazine,” while Fred von Loehmann discusses *Stereophile* back-issue sales and asks why don’t we make all the older issues of the magazine available on CD-ROM.

As a first small step toward that goal, I recently investigated when each of our earlier issues was published; and, as the publication of “Recommended Components” always generates interest in our back issues, I thought it worth publishing the information (see accompanying table). If anyone has additional information, such as date-stamped mailing labels, we’d be delighted to hear from them.

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N°31.5
Reference CD Transport

Extraordinary attention to detail, unequalled performance, and a modular design that allows a component to preserve its state-of-the-art status even as technology evolves, combine to define a Mark Levinson® Reference product. After four years as the standard against which all high performance digital transports are measured, the N°31 Reference CD Transport is now updated to the N°31.5. A look inside reveals a measure of refinement which guarantees its stature as a true reference standard well into the future. Retaining the innovative three-stage mechanical isolation of the earlier Reference, the new N°31.5 adds Madrigal's proprietary Closed-Loop Jitter-Reduction™ system and a new balanced drive for the digital output, yielding a dramatic improvement in the quality of the outgoing signal. In addition, the N°31.5 incorporates significant new digital signal processing capabilities that optimize the digital signal prior to its being sent to the digital audio processor, for further improvements in both clarity and dynamics. And, in accordance with our definition, the N°31 maintains its Reference status via cost effective update to N°31.5 options. Discover how meticulous attention to every detail results in uncompromised performance at your Mark Levinson dealer soon.

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A donation to support AIDS research will be made for every name added to our mailing list.
Harman International Company
Founder J. Gordon Holt both published and edited our first 46 issues, covering a time span of two decades, but sold the book to Larry Archibald in 1982 following a move to Santa Fe from Pennsylvania. JGH remained on the masthead as Editor, but by 1985 LA was the de facto editor of the magazine. The first issue that I put together was Number 83, in August 1986. And to celebrate Stereophile’s 35th-anniversary year, our January 1997 issue will feature the first part of a major series of interviews with J. Gordon Holt.

As you might suspect from the weird and wonderful numbering system listed in the table, the magazine’s publication schedule for its first 23 years was erratic in the extreme, with some years featuring just one issue, but one month—December 1985—featuring two issues (though the second issue actually didn’t appear until the following month’s WCES). Those nostalgic for the digest-sized book that was published through December 1993 should note that the first 18 issues and five years of Stereophile featured full-sized magazines. Note, too, J. Gordon Holt’s prescience: Our premier Home Theater issue appeared in December 1964! (However, it did take us another 30 years to launch the Stereophile Guide to Home Theater—who knew that this video thing would last?)

Other than Vols 1 and 12, all issues listed are available from our back-issue department; if out of print, they can be supplied in Xerox form except for: Vol 9 No 7 (available as a black-and-white reprint), Vol 16 No 3, Vol 12 No 10, Vol 13 No 10, Vol 14 Nos 4 & 10, Vol 15 No 4, Vol 17 Nos 3 & 4, and Vol 18 No 2. Back issues of Stereophile cost $5 for issues published between 1971 and 1993, $7 for 1994 issues onward, $10 for photocopies, plus $2 S&H. For purchases via credit card, call (800) 358-6274. See the advertisement in this issue for more details.

US: Barry Willis

Sony is once again flogging the MiniDisc, reports Jeffrey A. Trachtenberg in the July 24 Wall Street Journal. Convinced that the format’s two previous marketing failures were the result of overpricing and misunderstanding its target market, Sony has engaged the advertising firm Lowe & Partners/SMS to test-market the MiniDisc in Austin, Texas, and Rochester, NY. The ad campaign asks the burning question: “Why Make a Copy of Your CD When You Can Make a Clone?”

The December 1992 debut of the $550 MD player and $750 MD recorder, which was anticipated and followed with much thoughtful consideration in these pages, was greeted with indifference by the American public. There were few prerecorded discs available, and blank 74-minute discs were priced at $16.99. Disappointed Sony executives had expected the “MTV Generation” to jump on the new format like fleas on a dog.

Seems someone in market research failed to note that this particular segment of the market has a tough time buying lunch and paying rent. A second attempt to launch the product in 1994 also tanked. BMG, the German music-industry giant, dumped a bundle betting on MiniDisc’s acceptance. To date, fewer than one million MD machines have been sold in the States.
You be the judge!

For more information please contact your nearest Classé Audio dealer.

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Telephone: (514) 636-6384  •  Fax: (514) 636-1428
The MiniDisc’s newly revised target market is the 18- to 34-year-old with a “higher than national average income,” said Sony Electronics senior executive Mark Viken. “This time around,” he told the Journal, “we’ve done our homework, and we’ve found out what’s in consumers’ heads,” meaning dissatisfaction with tape as a recording medium.

Viken may be whistling past the graveyard with this sentiment: millions of music lovers transfer CDs to cassette tape primarily for playback in their cars, a system which for most is more than adequate. Even with its obvious technical limitations, the near-universal transferability and compatibility of cassette tape means that it will be with us for a long time to come. MD is extremely unlikely to displace it. In addition, Americans don’t share the Japanese enthusiasm that is smaller is better. For most of us, the CD is quite small enough.

Some companies simply refuse to take “no” for an answer. Toward that end, Sony has lowered the prices of all its MiniDisc machines and slashed the price of recordable blanks to $3/21.99, or $7.33 each. If Mr. Trachtenberg’s copy is correct, Sony is bundling an MD home-recording deck, a MiniDisc portable player, and two blank discs for $599, less than half their 1992 prices.

In Austin, during the Olympic Games, Lowe & Partners placed 140 MiniDisc ads on TV, and over 440 spots on local radio stations, plus print ads in the Austin-American Statesman. Rochester also enjoyed a similar ad blitz. The new price point, and various giveaways, including a MiniDisc version of the Forest Gump soundtrack, resulted in sales that were “doing very well,” according to Gregory Hunt, a salesman at the Stereo Shop in Rochester. Hunt’s shop sweetened the deal with three extra blank discs.

Trachtenberg didn’t quote Sony’s margins on the now deeply discounted MD hardware, nor did he mention the cost of the advertising campaign or the value of Sony’s contact with Lowe & Partners. He did unceremoniously characterize the MiniDisc debacle as “one of the biggest flops ever in consumer electronics,” a mighty big statement considering the many other contenders for that title. Anyone remember the Elcaset? Quadrophonic LPs? BetaMax? Stereo AM radio? Dolby FM?

Even if profits from a few new sales can’t offset the costs of generating them, Sony is intent on rescuing the MiniDisc from the dustbin of history. This fall, the MD campaign will expand into San Francisco, Chicago, and Atlanta. The Japanese giant is out to prove that if you whip a dead horse hard enough, he probably won’t get up and run, but his legs may twitch enough to fool you into thinking he’s still alive.

In the front-page feature “Business Bulletin” in the next day’s Wall Street Journal was a brief mention of a study conducted by Professor Paul Nutt at Ohio State University’s Max M. Fisher College of Business in Columbus. His research shows that managers make wrong decisions 50% of the time. In other words, their success rate is the same as random chance. In acquiring this knowledge, Professor Nutt could have saved himself a lot of time and trouble by simply spending his summer vacation working in the consumer electronics industry.

**US: Muse Kastanovich**

We have come to the end of an era in do-it-yourself amplifier construction: Nelson Pass (Threshold, Pass Labs) has decided to never again publish DIY circuits. [His 40W class-A design, published in 1980 in The Audio Amateur magazine, was a key player in the commercial resurgence of class-A solid-state amplifiers.—Ed] The reason behind his decision is apparently the appearance of a commercial amplifier design whose parts and circuit design appear identical to those of Pass’s Zen circuit, published in Audio Amateur;

I am very familiar with this circuit, having built two pairs of Zen monoblocks from scratch. This single-ended design takes simplicity to the extreme for the sake of sound quality — other than passive parts, there is just a single MOSFET in the signal path!

One might argue that there are only a few possible amplifier topologies that a designer could use to obtain the necessary performance from such a simple circuit. According to this line of reasoning, a designer inevitably ends up with a circuit that has been created by someone before, even though he may have started from scratch. Rather than embark upon potentially expensive and lengthy litigation, it looks like Pass Labs will be offering a finished Zen amplifier of its own.

**Sweden: Markus Sauer**

Classic battles: Tubes vs transistors; class-A vs class-A/B; digital vs analog. Intra-mural fights: bipolar vs MOSFETs; triodes vs pentodes. All these are familiar topics in discussions of hi-fi enthusiasts. Just to add a little more variety to the game, let me tell you about an amplifier from Sweden that isn’t part of any of these camps.

The first home hi-fi product from a long-established Swedish family company, AB Lars Lundahl, is a “magnetic” amplifier. The brainchild of the company’s founder, Per Lundahl, this amp may revolutionize the way we look at audio amplifiers.

Lundahl specializes in transformer technology, some of their designs being found in products from the most highly respected amplifier manufacturers in the US and abroad. Unusually in this day and age, the company makes its machines and tools itself and has a great depth of in-house manufacture — practically nothing is subcontracted. The sheet metal for their C-core transformers, for example, is cut and bent in-house, on machines especially constructed for the task.

Some 50 years ago, Per Lundahl came into contact with magnetic amplifiers for the first time. The operating principle is nothing new; magnetic amplifiers were used as current-control devices for slow processes such as battery charging (in which application they were soon replaced by the thyristor). Lundahl worked on a possible application for a military product to be used in a fighter plane, whose development was later abandoned. But he kept thinking about magnetic amplifiers for music reproduction. Now that he’s more or less retired and has the time he needs, he pursues this project with renewed vigor.

Neither transistor nor tube is ideal for hi-fi purposes, Lundahl thinks. The drawbacks of transistors might be found in the quantum mechanics of the semiconductor. Tubes, on the other hand, are generally not perfectly linear. These problems are avoided in magnetic amplifiers. Control of the electron spin in a magnetic material is not likely to result in the same kind of problems as when...
Celestion, always a leader in loudspeaker enclosure technology, introduces a new standard – Kingston. The enclosure of this unique loudspeaker is composed of AlphaCrystal®, a mineral filled polymer compound. Using a unique two-step molding process, AlphaCrystal is formed into a one-piece enclosure that looks, feels, and performs like ultra-smooth marble. Performance is further enhanced by its triangular cross section and gently curved panels that virtually eliminate internal standing waves and external diffraction. This enclosure, together with its AlphaCrystal base, form a massive, acoustically inert environment for the drivers.

Such a revolutionary enclosure deserves the finest drivers. The 1.25" tweeter, with its one piece aluminum dome/coil former, and 6.5" Cobex cone woofer incorporate every technological refinement developed by Celestion through its 70 year history.

The performance of the Kingston prompted Ken Kessler of Hi-Fi News & Record Review to say, "... the most impressive and probably the most important British speaker I've heard in years. It's a delight to behold, and a pleasure to use."

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controlling electron flow in a semiconductor or vacuum tube.

Modern switching power supplies and highly amorphous core materials have overcome the speed problems of magnetic amps of yore. Pulse-width modulation makes for a highly energy-efficient amplifier.

The amplifying element in a magnetic amp is a choke in series with a diode, modulated with a pulse-width controlled signal. The choke has an amorphous core that is easily magnetized and thus easily saturated. When the core is saturated, the impedance of the choke is very low, and thus the current through the choke is large. In an unsaturated state, the impedance is high, and thus the current through the choke is small.

An amplifying unit works as a controlled rectifier. It consists of two amplifying elements, one for each phase of the drive current. For a full-wave signal, four amplifying elements are required. The controlling signal affects only those chokes that are in the rest phase. With a small current, usually applied on a separate winding, the degree of magnetization of the core is set. In the next working phase, the choke will be in a high impedance state until the core is saturated. Thus, with a small-signal current, the pulse width of the output in the next working phase is set.

The output of an amplifying unit must never reach a voltage below the midpoint of the driving voltage. If this happens, the amplifier element in the rest phase will open, and thus its core will saturate. To prevent this, the midpoint of the output transformer is lifted to a voltage level equal to half the driving voltage. The current that flows toward the midpoint of the transformer is fed back to the switching system. In a magnetic amp, although it is of class-A functionality, heat generation is limited to the (unavoidable) losses in transformers and chokes.

As in any input transformer, the transfer function of a magnetic amplifier is said to be almost exactly linear except for the lowest frequencies. The output impedance is apparently very low.

About five years ago, Lundahl built a mono prototype to see if his theories were born out in practice. According to him, that first prototype had a number of faults, but string tone was more realistic than practically anything he had heard until then. Seeing a lot of promise in the operating principle, he carried on.

I myself heard a final prototype of the Lundahl magnetic amplifier in an almost production-ready form. (The amp is as yet nameless.) This version employs one ECC88 double-triode tube per channel in a preamplifying stage. There is also a correcting network to straighten out the amp’s frequency response. The output power is around 20Wpc.

The sonic results were highly unusual. As you’d expect, the Lundahl amplifier didn’t sound like a tube amp or a transistor amp. In its complete freedom from grain and “hi-fi” artificiality, it was a revelation, coming closest to a good single-ended triode design, but with respectable power available from a compact and cool-running unit. Dynamic expressiveness was of the highest order.

By the time you read this, the finished amp, which will be given a composite wood/metal case, will have been shown at the 1996 Frankfurt High End Show. Though the final price has not been set, it is intended to be “very competitive.”

If I were a manufacturer of in-car gear, I’d struggle to be the first in line for some kind of licensing agreement. AB Lars Lundahl can be contacted at Tiberiussgatan 7, S-76150 Sweden. Tel: (46) 176-13930. Fax: (46) 176-13935.

**Belgium: Jonathan Scull**

I was pleasantly surprised by the number of inquiries I received regarding Club Lowther Europe-Ouest in Brussels, which I wrote about in my Paris HiFi 96 report in July (Vol.19 No.7, p.73). Evidently there was an error typographique regarding their fax number. For the record, it’s 322-736-73-94. You can also reach them by phone at 322-735-82-60. Additionally, according to a fax from Victor Meurisse in Belgium, you might more easily reach Tony Glynn, Lowther Club of America, at (503) 370-9115. Or visit their Internet site at http://www.lowther.com.

**US: John Atkinson**

When I interviewed loudspeaker designer John Dunlavy for the August 1996 issue of Stereophile (Vol.19 No.8, p.66), he told me about an idea he had patented that might offer the answer to “digtizity.” In US Patent 5,444,686, dated August 22, 1995, he outlines a method of putting an identification signal at the beginning of a CD that will tell the playback equipment what has gone wrong with the signal — all the way from the initial A/D encoding to the final D/A conversion — so that the damage can be undone.

As can be seen from fig.1, Dunlavy’s idea is to record a reference pulse and a reference voltage ramp at the time of the original A/D conversion. According to Dunlavy: “A very short rectangular impulse contains all frequencies simultaneously. Then if you record a voltage ramp [from zero voltage to full-scale], you have a perfect amplitude reference. You put these signals in digital memory in a little black box that you hand to the recording engineer to put on the CD. Your playback system has a programma-
Look inside the new KEF Reference Series Model Four and you'll understand why it has been hailed as one of the finest loudspeakers in the world. You'll find brilliantly innovative design and advanced features found on no other speaker. No wonder it has met with such critical acclaim.

"...In the end, I was delighted with the performance of the KEF Reference Four..."
"...you won't be disappointed with the result..."

"...This speaker has a degree of slam and overall dynamic range associated with the best at two or three times the price..."
Martin Colloms, Hi-Fi News

"...The Model Four's response within 30 degrees of the axis is extremely uniform in both the horizontal and vertical planes; KEF's Uni-Q speaker systems are easily the best I've measured in this respect..."
"...be prepared to enjoy yourself a lot..."
D. B. Keele, Audio magazine
ble D/A converter with an identical little black box. Before the music starts, the signal from the CD is fed into a comparator circuit that compares it with the reference impulse and reference ramp signal.... The D/A can then be reprogrammed, eliminating [errors] throughout the whole recording chain, except for the microphones at the recording end and your speakers on the other end.

“Each new CD you play will include the reference information, guaranteeing (within the constraints of the recording process itself, the microphone and your own playback equipment, and within the constraints of the 16-bit standard) that you have made CD playback near-perfect. You’ve flattened frequency response, you’ve done away with all nonlinear harmonic and intermodulation distortion.”

I asked Dunlavty if anyone was going to take up his idea commercially. He responded that he was currently talking to a number of CD manufacturers and manufacturers of CD players, several of whom had expressed interest: “It will add nothing to the cost of the disc itself,” he added, “and the little devices we’re talking about will be very inexpensive.” I’m not so sure about that — the programmable DAC will mean adding some kind of DSP chip to the player. However, compatibility with players without the playback hardware should not be a problem, as the Red Book CD standard allows data to be output before zero time on a CD — so-called “Track Zero” — where only players that are instructed to look for the data will find it. The idea is intriguing. Will anyone take it up? We shall see. But you might well find the reference signals on Stereophile’s next Test CD.

US: Wes Phillips
We’ve been receiving a fun, funky newsletter about LPs: The Primyl Vinyl Exchange Newsletter. (P.O. Box 67109, Chestnut Hill, MA 02167. Tel./fax: (617) 739-3856. $25/12 issues.) It runs about 10 pages per issue and lists record-show schedules, want lists, tips, news (issue #3 had a list of LPs still in stock at Rounder Mail Order), and lots of dealer ads from record shops and search services. The third issue also had an in-depth look at the prevalence of defective pressings of MCA’s “Heavy Vinyl” Who’s Next — and the first accurate sonic analysis I’ve seen in print of MCA’s Who CD reissues (“...harsh, cold-sounding, and devoid of any musicality”). Check it out.

Editor David Robinson has purchased Positive Feedback magazine from the Oregon Triode Society. This means that, now that it’s printed on slick stock and has to subsist on advertising revenues, the title has entered the ranks of mainstream audio publications. Industry insiders are speculating as to whether this will temper its frequently shrill and censorious jeremiads against the “above-ground” press. Positive Feedback, 2939 NE 155th Street, Portland, OR 97230. Tel: (503) 257-2002. Fax: (503) 234-3866. E-mail: davidr@ix.netcom.com or david@agora.rdrop.com.

US: John Atkinson
For various reasons, Jack English is no longer a member of Stereophile’s equipment-reviewing team. Jack joined us in 1991 from the now defunct Sounds Like... magazine, of which he had been a founder. His first review for Stereophile was of the ProAc Response 3 loudspeaker in September ’91 (Vol.14 No.9); his final review for us was of the Diapason Adamanthus II loudspeaker in September ’96 (Vol.19 No.9). We wish him well in his future endeavors.

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Even if you have the spare change in your checkbook to go out and buy that dream $10,000 amplifier without any hesitation, you should listen to the Aragon 8008ST. There were, indeed, times when the Aragon sounded so refined and so finely shaded with convincing detail that it sent shivers down my spine. The soundstage was all I could wish for, and when the program material allowed, imaging and depth were both first rate.


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Still painting the edges of your CDs green? I am. I gave up for a while, but I'm back at it again. Every CD I get gets treated with Victor Tiscareno's AudioPrism CD Stoplight. Gad—16 bucks for a green marking pen. What do you want?—It's an audiophile accessory, figure four times normal price. You do get a notched tip for your $15.95, which helps do a neat job.

Well, here's a tip to make your pen last. Instead of treating just one disc at a time, treat 10 or 20 at a crack. This way, the ink won't dry out between applications. I've been able to treat hundreds of discs with a single pen. (Also, be sure to cap the pen tightly between application sessions.)

At HIFI '96, Victor introduced the CD Blacklight mat—to be used, at your option, with CD Stoplight. If the prototype I heard at last winter's CES is any indication, this is a killer tweak. But that's another matter.

The same price as Earl Scheib: Victor does not make his entire living marking up pens. He also makes electronics, and judging from what I've heard so far—the AudioPrism Debut amplifier and the Mantissa line-stage preamp—he offers excellent sound and build quality for the money.

The Mantissa and the Debut each retail for $1995—"the same price as Earl Scheib," as Victor points out. Well, Victor, no—Earl Scheib's $19.95 is almost what you charge for the pen. Then add $100 if you want the optional, arcade-shaped cover to place over the Debut's transformers, and another $100 if you want the optional tube cage. "I've got the cage designed," says Victor, "but no one's ever asked us for it."

I've lived with two samples of the Debut, on and off, for about a year and a half—driving speakers ranging from the Quad ESL-63 to the Thiel CS.5 and the Hales Concept Two. I have not encountered a speaker the Debut wouldn't drive. And in many instances, the Debut has created real magic—with the Linearm LFX and the ProAc Tablette 50 Signature, for example. Nor have I encountered the slightest problem with the amp. No noise, hum, or tube failure. No transformer hum—or transformer "snores," as some of my favorite Francocrits like to say (le ronflement du transformateur).

Cosmetically, the Debut is a knock-out, as is the Mantissa line-stage—finished more like an amp costing $3000 than $2000. The entire chassis—not just the faceplate—is brushed aluminum. There's a built-in bias meter for the four Svetlana EL34 output tubes, and each individual EL34 has its own bias-pot adjustment. Tube sockets are ceramic instead of the more common Bakelite, and the power supply is tightly regulated. The amp arrived with the bias current set at 45 milliamps and didn't budge, whatever the AC line voltage, until I goosed the juice to get a tad more sweetness from the amp. The power cord is detachable, so you can easily upgrade the power cord, if you choose. And the transformers are all mechanically shock-mounted to eliminate snores.

Unusually, the Debut features a three-position ground switch for each channel. Using the amp for over a year in three different systems with a variety of equipment, I found these switches to be most useful. There was never a hum problem I couldn't cure. For safety, the amplifier's chassis is grounded to AC "earth" through the third pin of the power cord. AudioPrism recommends that you not defeat this safety measure through the use of cheaper plugs. Instead, play with the ground switches. When either switch is up, both channels' circuit grounds are tied together. When a switch is in the center position, that channel's circuit ground is isolated from the chassis ground. When a switch is down, that channel's circuit ground is shorted to the chassis ground. Why don't other manufacturers do this? I was always able to get the Debut to sound dead silent.

Nuts! About the only thing I'd complain about are the five-way speaker-output binding posts, which have plastic nuts that are very easy to strip. Better to finger-tighten as hard as you can—with a nut driver, you'll likely to reach them (as, of course, I did). Good idea to order Cardas or Edison-Price solid-copper binding posts for an extra $99.95. Or squeeze the dealer.

User flexibility is a key with this amp —unusually so.

For starters, you can up the bias on the output tubes if you want and know exactly where you are —something you can't do on the Conrad-Johnson MV-55, for instance. Say you want the sound
“It’s been a first for me to be able to listen to my own work on equipment that is so true to life.”

—Michael Tilson Thomas
Music Director, San Francisco Symphony
Artistic Director, New World Symphony

When asked why he had four Parasound high-end audio systems installed throughout his home, Michael Tilson Thomas said it’s because his favorite music system has over 100 musicians and doesn’t fit in his living room.

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to be a tad sweeter (as I do), and you're willing to shorten the expected life of your EL34 output tubes. You could up the bias to as much as 50 or even 55mA. (I run the tubes at 50mA.)

You can switch the amp from ultralinear operation to triode with the flick of two switches. You don’t even have to turn the amps off, but Victor recommends that you not throw the switch while the amp is passing signal. Other amps, like the C-J MV-55, are switchable into triode, too—but only if you hard-wire. Switching back and forth is thus impossible—which probably makes it impossible for you to tell which mode you prefer. At any rate, I prefer ultralinear operation—more power, more punch, defi nitely tighter bass. Probably more air around instruments, more ambiance over triode. Triode does give you a slightly sweeter sound, though.

Want more flexibility?

This amp has it. Remove the bottom plate—turn off the amp first—and you can switch the transformer taps among 2 ohms, 4 ohms, 6 ohms, 8 ohms—which ever best suits your speakers. This lets you get the most power from the output transformer for your particular speaker. (I found that with most so-called 8 ohm speakers, the 4 ohm or 6 ohm tap subjectively provided more power.) In addition, you can remove the 6dB global feedback per channel simply by disconnecting a jumper that connects two pins. This will raise the output impedance; the frequency response may thus not be flat with your particular speakers, but it does add something in the way of purity of sound—a freedom from hardness. Me? I wouldn't worry about it. The amp sounded free from harshness or spittiness with the 6dB feedback in place, and deep bass, in particular, seemed to benefit. The amount of feedback appears very well-judged.

Be a tube believer: This amp exudes competence. You look at it, you listen to it, and you know that it's well-engi neered and well-designed. Very few amplifiers at any price are so well made, inside and out. This is an amp to make a tube believer out of anyone who’s been wedded to solid-state and is seeking or contemplating a divorce.

Yes, for the same price or even a little less, you can easily get 100Wpc or more from a solid-state amp. But it won't be tube. It won't do the dynamic thing like a good tube amp can. Nor will it give you the harmonic richness. You can get harmonic richness, if you're willing, from a solid-state amp—but it will cost you. $3450 for the Ayre V-3 that I wrote about in August, for instance.

Meanwhile, the Debut can kick serious butt—as running it on the Hales Concept Two proved. This amp does not have a flabby popishka (Russian for “big ass”); the more vulgar term is zhlopa. Nor does it perlet—the bass is solid. All in all, the Debut sounds much more powerful than you might expect—unless you omezhat zaetza by using it in triode. (Guess who teaches me this stuff?)

To be sure, a pair of very powerful mono tube amps can give you a bigger, wider, deeper soundstage, more dynamics, and even greater freedom from dynamic compression—the Quicksilver M135 monos, for instance. But bass tightness, definition, and control? Clarity? It's very hard to beat the Debut at any price.

How to describe the sound of this amp?

In a word, clear and clean. Rather startlingly so, for those of you who think that tube amps must sound warm and fuzzy. Similar to a very fine solid-state amp—the McCormack DNA 0.5, for instance. There is not the romance, the added bloom often associated with classic tube amps. On the other hand, there is a freedom from graininess, a lack of treble hardness, and the harmonic beauty usually associated with tubes.

True, you can get greater harmonic richness elsewhere—with the Conrad-Johnson MV-55, for instance. You can get greater harmonic richness from the Debut, if you like, by changing output tubes—although I think very highly of the Svetlana EL34s, having taken them out and tried them elsewhere. For instance, for a slightly warmer, fuzzier, more romantic sound, you could switch Tesla EL34s (no longer made but still readily available on the cheap, from New Sensor Corp. and elsewhere). But you'll sacrifice some tightness of bass.

If you can find them, you could even switch to old stock Mullard or Telefunken EL34s or Genelec KT77s, so rare now as to be unobtainium. The individual bias pots and built-in bias meter make tube switching and rebiasing easy.

For an amp at this price, tube or solid-state, the resolution is excellent. I felt that the Meridian 508 CD player's superior sonic performance—spatial resolution and superb presentation of low-level detail—was coming through. The Debut is an amp I could easily live with. In fact, I have, on and off, for over a year and a half now.

Trying it in triode: One more word about the triode mode. As you've probably guessed by now, I wasn't crazy about it. I lost power, and it tells—particularly in the bass, but also in terms of lost dynamics and a certain diminution of ambience and air. For the slight added sweetness gained, I didn't find it worth the sacrifice. With the triode switch so accessible and easy to throw, you can judge for yourself.

How does the triode operation of the Debut compare with a classic single-ended triode amp using a 300B output tube?

Sorry, friends, they're not the same thing. In terms of harmonic beauty and the immediacy of the sound, there's some-
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thing about a great 300B single-ended amp that just can’t be duplicated by push-pull amps using pentode tubes, even when they’re rigged for triode operation.

Mind you, the Debut does things the little single-ended triode amps can’t—like drive just about any speaker you can throw at it. The Debut tends to do the dynamic thing better than small triode amps—although, on the right speakers (like the ProAc Tablette 50 Signature), a small triode amp can do dynamics quite well.

But for the immediacy, the intimacy, the aliveness of single-ended triode… for that you need a single-ended triode amp. Even using the Debut in triode mode without feedback won’t give you the same sound—at least, it didn’t give me the same sound.

That’s not to say everyone should run out and buy a single-ended triode amp. For one thing, you may not want to change your speakers. For another, you may not want to sacrifice bass and dynamic power—or soundstaging, for that matter. It’s not a question of push-pull amps being wrong and single-ended amps being right, but of their being different.¹

Victor will have a “gold” version of the Debut available soon, with a number of parts upgrades—but the price will likely be twice the $1995 price of the basic Debut…or more. I can’t wait to get my golden ears—well, at my age, silver cars—on this version. Meanwhile, you wouldn’t go wrong with the basic Debut.

It’s a stunning amplifier in every respect: looks, build quality, and sound. Factor in features and flexibility, and the Debut is one of the finest amplifiers values on the market today—and a very auspicious amplifier Debut from AudioPrism.

**Conrad-Johnson MV-55 Power Amplifier**

Instead of套餐 thing this amp, Lew Johnson of Conrad-Johnson had his representative, Tor Sivertsen, deliver it. Tor lives only a half hour from my place. He’s a Norwegian, who for many years toiled for Tandberg.²

Tor unpacked the amp and meticulously positioned the tubes, each in its proper socket.

“If anyone told me when I first came to America that 40 years later I would be putting tubes into an amplifier, I would have told them they were nuts.”

Yes, it was wonderful: two grown men (overgrown kids, actually) sitting in the floor tubing an amp. It was one of those moments that underscore for me just how wonderful high-end audio is. What would our lives be like if products like the Conrad-Johnson MV-55 didn’t exist? What would they be like if companies—hell, people like Messrs. Conrad and Johnson—didn’t exist? As he finished tubing the amp, Tor said, “Ya. Now we yust listen. Make sure everything is okay then you yust enjoy.”

Tor paused.

“Makes you feel young, ya?”

Not surprising that I liked the MV-55 practically from the moment of turn-on. Lew Johnson says it’s essentially an update of the MV-50 I had enjoyed so much about 10 years ago.

Not so long ago I was bemoaning the fact that the lowest-priced Conrad-Johnson tube amplifier, the Premier 11, sold for over $3000. (The Premier 11A is now up to $3495.) Now C-J has come out with this terrific $1995 tube amp, and when you consider that the MV-50 sold for $1495 10 long years ago, the price is quite reasonable. You also get a better-sounding amp than the MV-50.

I owned an MV-50 for several years and fondly remember its sound: seductive…especially on female vocals. Combined with the PV-5 preamp, the MV-50 may not have given the most neutral sound, but it was a wonderfully enjoyable and involving sound none-the-less. The MV-50 sounded particularly fine on Quad ESL-63—as does the MV-55. If you own a pair of Quads—or are contemplating a pair of used Quad ESL-63 USA Monitors, which should cost you $2000–$2500—you might consider a C-J MV-55. It’s one of those magical combinations.

The MV-55 is rated at 45Wpc into 8 ohms is the AudioPrism’s 35—but in real-world terms I’d say the two amps put out about the same power. They each use EL34 output tubes—Sovteks for the C-J, Swetlanas for the AudioPrism. They each can be configured in ultralinear or triode. And they each cost the same.

So… which is “better”? Duh! Do you want to be told? Do you think I even know? (See Roy Hall’s comments about my listening abilities in the May ’96 “Manufacturer’s Comments,” p.258.) The truth is, I don’t know. What I do know is that these are two fine-sounding products—among the finest you can buy at the price, and among the finest amplifiers period. You really should audition both.

They are different.

When I listen to the MV-55, I think of how great it sounds—a harmonic richness, a lushness that the AudioPrism Debut can’t quite match, although it comes close. When I listen to the Debut, I think of how much I enjoy the clarity, the definition, the bass that’s subjectively tighter and more extended than the MV-55’s. Truth is, I could live happily with either amp.

If I listened only to the Quad ESL-63s, I would prefer the MV-55, hands down. With the ProAc Tablette 50

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¹ I’m thinking mainly of 3008-based single-ended amps here. More powerful single-ended amps using, say, the 211 or 845 output tube may do dynamics and soundstaging better—with some loss of fine detail and delicacy, however. In hi-fi, you truly can’t have everything.

² Tor knows there are more important things in life than tube amps—like smoked fish. Before we got down to business, Tor gave me his secret source for Scandinavian gourmet foods in Southern Connecticut. Now, Scandinavian food is not all that dissimilar to Russian food, especially of the St. Petersburg (my wife’s native city) variety. Marina was exquisite. If you write me and promise not to tell anyone, I’ll give you the secret source, too. Bread. Cheese. Herring. Sardines. Gravlax.
For well over 60 years, the name Tandberg has been associated with flawless, faithful sound reproduction. Whether the components were professional grade reel-to-reel tape recorders, audiophile-quality cassette decks or high-end electronics, Tandberg invariably established new standards of excellence.

The new 4000 Series continues this unbroken tradition. The unique, stackable, top-loading transport of the CD Player, the Zero Negative Feedback and Discrete Class A circuitry of the Control and Power Amplifiers, the Dual Gate MOSFET and Class A circuitry of the FM Tuner are packaged in a museum-grade, fully remote-controllable system as pleasing to use as it is to view.

Tandberg achieves the best of both worlds by integrating old world craftsmanship, world class industrial design and the latest audio technologies. In the process, Tandberg has once again created audio components that transcend traditional hi-fi to become one of your most prized possessions.

What keeps us in the foreground is our background.
Signatures, I'm not so sure. Either amp would serve me well.

On the face of it, the Debut looks the better buy. With the MV-55, you don't get ceramic tube sockets or a built-in bias meter (although you do get individual LED adjustments for each EL34 output tube). You get a captive power cord. You get the same awful, easy-strap plastic-nut binding posts.

The MV-55's cosmetics are somewhat more spartan, too — although this is, in my view, a very handsome amp. Only the faceplate is brushed aluminum. The rest of the chassis is painted black. On the other hand, you get an attractively designed tube cage at no extra charge, which could be handy if you have tiny urchins toddling about. With its open architecture, the amp looks more attractive than the tubes uncaged. (You probably look more attractive uncaged, too.)

The EL34 tubes here are Sovtek, from an unknown place in the former Soviet Union. They're good-sounding tubes, but I marginally prefer the Svetlanas (taken from the AudioPrism Debut) for sound that's a bit tighter. We're talking very marginal differences, though. There's a quality about EL34 tubes in general that I like. These may not be the most powerful output tubes — not like 6550s or KT88s. But they tend to be more musical — richer, softer, lacking in glare. Anyway, if you're looking for replacement EL34s, I can highly recommend the Svetlanas. I haven't always had the happiest experience with Chinese output tubes, including EL34s. Interestingly that both C-J and AudioPrism prefer Russky tubes. (The Czech Teslas may not be available in any quantity for long.)

The MV-55 lacks the flexibility of the Debut: You're basically set — although not exactly stuck — with the MV-55 as supplied by your dealer. If you want to make changes, the amp has to go back to the dealer or to the factory. For instance, the amp comes optimized for 4 ohm speakers. In practice this will probably work best with most speakers, including, perhaps, most rated at 8 ohms (the impedance of an 8 ohm speaker often drops to 6 or 4 ohms at certain frequencies). Also as standard, the amp comes wired for ultralinear operation: 45Wpc. The amp can be wired for 22Wpc triode operation, but that requires some desoldering and soldering… or ordering it factory-wired in triode in the first place.

I didn't try the amp in triode. (I'm a klutz with a soldering iron; besides, I'm lazy.) But I was so pleased with the amp's performance in ultralinear that I felt no need to try triode — it's not as if it's easy to switch back to ultralinear. Besides, I wasn't all that awed by what switching to triode got me with the AudioPrism Debut.

I talked to Lew Johnson about triode; basically, he told me I might gain some treble sweetness but at the expense of dynamics and spatial resolution — exactly what happened with the AudioPrism (and the Dynaco Stereo 160; see below). Lew also advised me that the choice between triode and ultralinear operation was very speaker-dependent. Ultralinear will probably work out best with the majority of speakers. Like I said, the sound did not leave me lusting after the triode mode, which I know isn't going to give me 300B single-ended sound anyway.

The MV-55 is one of the best-sounding amps I have put into my system, whether tube or solid-state, push-pull or single-ended. Yes, you could ask for more power — but why? Why spend the money? Why put up with the added heat, electricity costs, and tube replacement costs? Why suffer with a pair of speakers that demand more power than this?

Well, in fairness — and in deference to Conrad-Johnson's big mono-amps I have to tell you that nothing does the dynamic thing like a good and big balls-out pair of tube amps. It's why Larry Archibald likes big Lincolns. It's why — no, I won't go on in this mode.

Yes, the big tube amps will give you more. I haven't heard the Premier 12s, but I'm sure, being monoblocks and more powerful than the little C-J stereo amps, they give you a bigger soundstage and more dynamic drive. There is something exciting about the way a powerful mono tube amp can let it out and let it rip — in my view, a powerful tube amp can easily outdo a powerful solid-state job at conveying the dynamic drive and emotional flow of the music.

I mention this because, with its puny (hal) 45Wpc, the C-J MV-55 has a heck of a lot more dynamic drive than you might expect, and may be, with many speakers, far more satisfying in this respect than most 100Wpc solid-state amps. What's more, the solid-state jobs will not give you the harmonic beauty of the MV-55. Just go listen to one — especially on female voice. Then switch over to piano, tenor sax, whatever. This is what tubes are all about — making music.

No, I did not get everything, and you won't either. Not for two grand. For super dynamics and unrestrained tube

**Stereophile, October 1996**
We’ve all heard it before... music is the international language. So, all audio components speak the same language, right? Wrong. You can’t get the translation right if you don’t have the right equipment.

Introducing the ULTECH HDCD-10. A bold new D/A converter with a twist... built-in HDCD\(^\text{\textregistered}\) decoding. Benefiting from the HDCD\(^\text{\textregistered}\) chip comes in two ways: decoding of the new HDCD-encoded CD’s AND incredible digital filtering for non-encoded CD’s. And don’t forget, the HDCD-10 utilizes two 20-Bit Burr Brown PCM 1702J D/A Converters for impeccable sonic quality.

To speak the international language correctly, stop by your nearest ULTECH dealer and audition the HDCD-10 as well as other fine ULTECH components. (Note: They’re NOT priced out of this world.)
power, you gotta pay — money, heat, electricity, tube replacement costs.

I think that the AudioPrism Debut betters the MV-55 in the bass — tighter, more powerful, closer to solid-state. Also, the Debut, with its subjectively leaner sonic presentation, conveys a sense of presenting more detail. This is tricky, though. The MV-55 does have detail. It may just be that the details don't call so much attention to themselves.

Where the C-J excels — actually, the damned thing soars — is in the midrange. The MV-55 has the C-J magic in spades: the same basic sonic character (delivered with less power, of course) that you get in more expensive Conrad-Johnson tube amps. The music has a harmonic richness, a bloom about it. There is a wonderful openness to the sound — an airiness that's quite remarkable. Vocals, particularly female vocals, can make you melt.

"But Sam — what about the Jadis SE300Bs you love so much? Or some of the magic Carys?"

I knew you were going to ask.

The Jadis amps are in my living room at the moment, driving the Infinity Compositions. Yes, the Jadis amps infuse light as well as life into the music, in a way that few other amps do. It's part of how Jadis can get away with charging $13,000/pair.

On the other hand, the Jadis amps, with their 10Wpc, can't take on all comers with regard to speakers. And even when they can accommodate — love that word! — they can't open up dynamically the way the Conrad-Johnson MV-55 can ... or the AudioPrism Debut.

What to do?

I turn the system off and go to Carnegie Hall. True, tickets cost so much I can't afford $2000 cartridges and $3000 cables. But I get much more pleasure from a good meal and a fine bottle of wine, followed by a performance by the Philadelphia Orchestra, the Boston Symphony, or the Orpheus Chamber Orchestra. (That was Carnegie Hall on p.119 of May's Stereophile, as I gleefully pointed out to Richard Lehnert. [Mea culpa.—RL] Again, if you promise not to tell anyone and are one of the first 30 to write me, I'll give you the name of a good restaurant near Carnegie that will park your car for the evening ... free. Now you get some useful information from Stereophile! That ought to make up for the mishaptoned picture.)

For the time being, I'll run both push-pull and single-ended. I have to, in order to review certain speakers that can't get it up on 7 to 10 watts. I find that when a speaker can get it up on 7 or 8W of single-ended tube triode power — for instance, the ProAc Tablette 50 Signature — the performance can transcend the best I've heard from push-pull. Single-ended triode amps tend to have more immediacy, more palpable presence, more sense of "live." Besides, what better way to taunt Tom Norton?

Naughty me. I hear through the grapevine that some of Conrad-Johnson's dealers are after them to build a 300-B based single-ended triode amp. C-J doesn't wanna. Given the sonic quality — the splendor — of the MV-55, C-J should. Probably be a killer.

Meanwhile, of course, such an amp would probably become a niche product. Not everyone is willing to toss aside a favorite pair of speakers to take on a 7 or 10Wpc single-ended triode tube amp. Yes, you can get many of the same single-ended triode qualities — truth of timbre, harmonic beauty, immediacy, freedom from edginess and grain — in the MV-55.

I especially love the MV-55 on the Quad ESL-63 USA Monitors. If you're in the market for a new system, you might consider buying the MV-55 and looking for a pair of used Quads — a secondhand pair of Quad ESL-63 USA Monitors with stands should set you back $2000—$2500/pair. Look in AudioMart the magazine or in Stereophile's "AudioMart" classifieds section.

By all means, and whatever your speaker choice, audition the AudioPrism as well. Depending on your speakers and taste, you may prefer its leaner, somewhat tighter presentation. It's possible that the AudioPrism editorializes less — that is, it imposes its own character less on the music than does the C-J. On the other hand, it might be that the C-J is letting more of the music come through — more of the harmonic richness, more of the air and ambience.

Between these two superb amplifiers, then — the MV-55 and the Debut — there is no clear winner ... except whoever buys either one.

**DYNACO STEREO 160 POWER AMPLIFIER**

I wish I could add the Dynaco Stereo 160 to my list of recommendations ... and with some minor revisions to the product, I might find this amp a cinch to recommend. I find this a very frustrating product because it offers such obvious value for money and fine performance in many respects. And yet ...

The Stereo 160 seems to me a classic case of a product that meets the highest standards of engineering and build qual-
250 watts per channel
Two stages; zero feedback
Single-ended bridge design
Dual-mono construction

Thunder is good, thunder is impressive, but it is lightning that does the work.
—Mark Twain
The competence it's amp, would chrome). Dynaco power.

Let's talk about the good things the Dynaco does, because maybe in time they'll get the rest of it right. If so, they could have a killer of an amp offering more power, more bang for the buck, than you get from either the MV-55 or the Debut, and for only slightly more money: $2199 (in black; $2299 in chrome).

The build quality is impeccable at the price — even if the cosmetics are somewhat spartan, in classic Dynaco style. The Stereo 160 is a bigger, more powerful, more robust amp (in every way) than either the Debut or the MV-55. It uses two Svedlana 6550 tubes to put out a rated 75Wpc into 8 ohms — that's considerably more power than what the Debut or the MV-55 squeeze out of a pair of EL34s.

I could hear the benefits of the added power. More bass impact. More punch. More solidity on the bottom end — especially with the Hales Concept Two, which has terrific, tight bass.

This amp has a lively and immediate sound that tells you it's tube. It doesn't sound lifeless and dead, the way most solid-state amps sound to me. In fact, if you compare the Dynaco Stereo 160 to most solid-state amps, you may think the Dynaco sounds wonderful and wonder what the heck I'm complaining about.

So what am I complaining about? A certain harmonic hardness — a slight sharpening of every note that makes the note a little sour, not sweet. That's what I'm complaining about. Whatever it is due to, my hunch is that Dynaco could fix it — but perhaps at a sacrifice of measured performance, whatever the measured performance might be.

It's not just a sorness I hear. I also miss the sense of bloom, of air and ambience around instruments that I heard in spades with the Conrad-Johnson MV-55. For want of a better word, the Dynaco seems to lack liquidity.

So... why not just forget it?

Well, we need a tube amp like this — this powerful, this robustly built, this keenly priced. The Dynaco Stereo 160 has some neat features — like switchable ultralinear/triode (no, I didn't hear much difference between the two), individual biasing for each output tube, and variable input control to help make the amp work better with passive preamps.

My sample also had a feature I didn't like: a transformer that intermit-tently snored (kedraperel, in Russian). That's the way certain Dynaco amps used to be, if my memory serves me right. Are the transformers shock-mounted? yes, they are... but that's not the main problem.

Please, gentlemen, could you dial in a little less feedback, or take some other steps to change the sound of this amp — a little more sweetness, more air, more ambience? You could have a real winner here — lotsa bang for the buck! $
A Single Standard

PREAMPLIFIERS

LS7

LS10

LS3

LS5MKIII

LS15

D130

LS22

D300

SOLID STATE

DIGITAL

CD2

DAC3MKII

D400MKII
More than two decades of experience as an American manufacturer of precision hi-fi equipment have taught us a few valuable lessons. Like how to improve the playback resolution of recorded music without sacrificing musicality, convenience or affordability. How to design and engineer products that fit the widely varying system needs—and budgets—of music lovers around the globe. And how to continue providing parts and service support for every model we've ever manufactured, reaching back more than a quarter-century.

In short, we've learned how to keep an eye on the future without losing our grip on the past.

What really sets Audio Research apart is more than a versatile array of quality products. It is a philosophy committed to High Definition” in sound, service and product support. So that you can enjoy pride of ownership and peace of mind for as long as you own an Audio Research product.

To discover more about Audio Research, visit one of our authorized retailers soon.
A live musical event is recorded through a microphone which converts sound energy into an electrical signal. The Von Schweikert Research VR-4 loudspeaker is a technological breakthrough which performs as an acoustic inversion of a microphone - reproducing the entire 360 degree soundfield captured at the microphone.

The result - the VR-4 achieves virtual reality in the reproduction of a live musical event.

This acoustic inversion is attained through a revolutionary new circuit technology - the global axis integration network (GAIN). The GAIN circuit harmonically blends signals at frequency points outside of your ears most sensitive regions. This technology does not allow the drivers to be identified as the source of the signal. In addition, all five drivers have been modified and/or designed to have similar tonal characteristics at their overlap points. This allows the VR-4 to sound like a single element speaker, flawlessly integrating the five drivers to reproduce all ten octaves in a smooth power response that extends 360 degrees around the speaker.

This one-way blending design of the VR-4 circuitry is the inverse of that of the recording microphone - resulting in wide, even dispersion and more coherency and accuracy than many other loudspeakers at several times its price.

Visit Von Schweikert Research at www.VonSchweikert.com or phone 315-779-8748 for the dealer nearest you or for more information on the revolutionary new VR-4 loudspeaker, including review reprints and the technical white paper.

"Von Schweikert's achievement in the VR-4... places it in that rare category of speaker design that I would term 'significant.' This is an accomplishment that establishes a new level of performance and expectation for speakers anywhere near its price point."

David Robinson, Editor, Positive Feedback, Vol.6, No.4

VR-4 suggested retail $3450 per pair.
I’ve never called “The Psychic Hotline,” though I am a certified Dionne Warwick fan. Don’t get me wrong; I believe in psychic phenomena. It’s just that I’m psychic enough without having to pay some money a buck a minute to feed my truisms that sound “just like me!” Of course they do. They sound just like you, too. Amazing.

No, I believe in these strange invisible connections. They’re as real as the air we breathe — we just can’t see them. We can’t usually see the air, either, but we keep breathing it. For instance, the couple who won the Stereophile/WNYC HI-FI ’96 contest — see September ’96, p.57 — could have come from anywhere in the gigantic New York metropolitan area, but ended up living a few blocks from my house. That was meant to be.

Or take last week, when I returned from the vintage Saab convention in Lake Placid and took red and blue highways instead of the Interstate. I wasn’t planning to stop until I got to my next destination, which, unfortunately, I swore I’d not write about — so, being a man of my word, I won’t. All I can tell you is that it had something to do with records.

Anyway, I’m tooling down this two-lane road when I see a quaint little store with a sign reading OLD BOOKS. Old books? How about old records? I stopped. “Got any old records?” “No, came the proprietor’s reply. “But — ,” she exclaimed, spying my car out the front door. “I have two Saab 96s.” Not one, but two not particularly common classic cars. That’s a psychic connection.

A few minutes of banter and out popped another: the owner and her husband were old friends (had lived in the same 1969–70 hippie crash pad, no less) of Stereophile’s former music editor, Richard Lehnhert. Now, you tell me the odds. What made me stop? A feeling — you know, something the measurement crowd doesn’t acknowledge exists. Can’t be measured.

What’s more, when I got home and checked my e-mail, there was a message from an old Boston friend I hadn’t heard from in years. He’d gotten the vibe to contact me over that weekend, and had used his “search engine” to see if I was on the Net. We’d met in 1969, when I’d picked him up hitching on the Mass. Pike. Where was he going? Boston. Where? His apartment. Where was that? Three doors down from mine. Where was he coming from? New York City. Where in NYC? Long Island. Where in Long Island? Queens. Where in Queens? Half a mile from my parent’s house, which I’d just left. Another psychic connection.

So there was his e-mail with a phone number. I called. Where was he living? Oh, within spitting distance of where I’d been that weekend on the blue highway driving back from the vintage Saab convention. Vintage Saabs? Why, what a coincidence — his lawyer owned two Saab Sonettas. Twice! Do you know how many of those were made in total? Fewer than the number of stores still selling vinyl, I bet. And his lawyer had two of them.

Well, he must have been at the convention, I figured. I asked my friend his lawyer’s name. Not only had the guy been there, he’d organized and hosted the convention. Do I need to call “The Psychic Hotline”? Hell, no.

**What does this have to do with vinyl?**

Well, there is a connection, and it’s psychic. I’m sensitive to vibes, and right now my vibe on this so-called “analog revival” is not very good. I’m starting to worry about the future viability of the whole thing. Sorry to be a downer; I wish it weren’t so, but it is. It has nothing to do with sound: even the least expensive “serious” turntable I’ve auditioned here sounds more like real live music to my ears than the most expensive digital gear (oh, that’s gonna tick off the CompuServe CEAUDIO folks...).

The problem is accessibility. Finding new vinyl is still next to impossible if you don’t know where to look. There’s still the perception out there that “they don’t make records anymore.” We can do anything about people who don’t want to get involved, but we’ve got a situation today where they don’t have a choice because records are still invisible. Everyone knows about the Bose “Acoustiwave” radio, but hardly anyone knows records are alive and barely well. They don’t know about high-quality audio, either, but that’s another story.

The only way the “analog revival” can continue and grow is for it to surface, with the emphasis on face — as in “in your.” Yet look what’s happening: in August (p.67) I reported on the well-stocked vinyl section at Virgin’s Times Square MegaStore. I went back a few weeks ago and the section was decimated. None of the new vinyl I knew to be available from major and minor labels was there.
TUBE COMPONENTS WITHOUT THE TUBES.

The Conrad-Johnson PFR remote-controlled pre-amplifier and MF2300 amplifier embody the natural musical qualities for which our tube components are highly prized, yet they don't use tubes. Combining innovative circuit design with highest quality parts, Conrad-Johnson has created a line of solid-state electronics that will deceive your ears with their tube-like musicality and natural warmth. Whether tube or solid state, all Conrad-Johnson products share one important quality. They just sound right.
Worse, a publicist for a major reissue label told me she'd visited there recently and found none of her records in the store — when they'd all been on the shelves when the store opened. What had happened? The store had sold out within weeks. But did it reorder? No. Why not? Partly plain old chain-retailing sloth, and partly fear. Of what? Well the store had taken a chance and won. Had the records not sold, it might have been stuck with them. There are no returns on some labels' vinyl. Having sold out, the store is loath to roll the dice a second time on the same title. On to the next! So how can a title do better than 1000 or 1500? I wonder how many CD1 stores would be stocking LPs if there were no returns on them?

It's like my local Tower in Paramus, New Jersey. Yeah, they stocked the Impulse! jazz reissues in ones and twos, and guess what? They sold them. But did they reorder? No. That store's vinyl section was starting to grow, but no more. Now it's all but useless. I called the other day about Neil Young's newest, Broken Arrow, which is a two-LP set — all analog this time — and they didn't have it, nor did they know if they'd be getting it. Great. Now I have to drive into Manhattan just to get Broken Arrow on vinyl.

True phone conversation with local Tower (after long hold):
FREMER: Can you tell me if you've finally gotten Neil Young's Broken Arrow on vinyl?
CLERK: Let me switch you to CDs.
FREMER: The &*# you will!

[long hold]
CD DEPT: clerk: Can I help you?
FREMER: Do you have Neil Young's Broken Arrow on vinyl?
CLERK: The soundtrack to Broken Arrow?
FREMER: No, Neil Young's new album with Crazy Horse on vinyl.
CLERK: Hold on. [long hold] No, we just have the CD and cassette. And it's not on the computer, so I guess we're not planning on carrying it.
FREMER: What happened to your vinyl section? It was almost getting decent for a while.
CLERK: Different buyer, I guess.
FREMER: Well, here's a record that has one song not on the CD or cassette, and another track that has a different mix. Neil Young fans know this, and would buy it if you'd bother to stock it. Tell the buyer for me, he sucks!
CLERK: Thank you. Have a nice day.

The message Impulse! (MCA) got from their foray into jazz vinyl was, "No one wants it." And that includes both consumers and retailers. Try being a marketer at a major label attempting to sell vinyl to chain stores — you could sell sides of beef in India more easily. MCA couldn't even get the chains to take their Heavy Vinyl edition of Who's Next. How can you ask a major label to get involved when the numbers nationwide don't add up to more than 1000? Every day, it seems, I get e-mails from analog fans telling me that their local chain store, which once had a decent vinyl selection, has given up or cut way back — and it's not because the records haven't sold.

The major labels press titles on vinyl, but their ads don't mention it. They say, "Available on Warner Brothers CD and cassette," even though there's vinyl. I got Elvis Costello's All This Useless Beauty on domestic vinyl, but you wouldn't know it existed from the ads, not to mention from a perusal of the bins at most stores.

Call the publicity departments at the majors and ask about vinyl. Most of them don't know that anything on their label is available on vinyl. They'll deny it, in fact. I can be sitting there with the record in my hand and they'll tell me it doesn't exist. Titles come out on vinyl and I don't know about it. Not to toot my own horn, but if I'm not finding out, who is? Did you know that George Benson's new GRP album is out on 200-gram vinyl? I found out by accident. Will you ever see it? Maybe... by accident.

And yet I keep reading in the mainstream audio press about how the record companies and the retailers didn't kill vinyl, it died from "lack of interest." Well, now there's interest, and if it dies again it will be because of lack of availability and lack of coherent retail marketing.

WHO'S BUYING?
But there's another problem. The more I examine this so-called revival, the more I worry about the numbers. 1000 of a title? 1500 copies? That's considered pretty good in today's vinyl market.

It's not very good at all. Certainly not good enough to keep the major labels interested for long. When Pearl Jam's next album comes out on vinyl (with, I'm told, very elaborate packaging) a month or so before the CD, it will sell 50,000 copies. Now that's not great, but it's pretty good.

So why does Pearl Jam do those numbers while hardly anyone else does? For one thing, that's a record most of the stores, even the ones that don't normally carry vinyl, will stock. Why? Because they know Epic will promote the vinyl as an "event," it will sell, and it will bring warm bodies into the store. Once there, the warm bodies will buy some CDs.

I CAN BE SITTING THERE WITH THE RECORD IN MY HAND AND THE LABEL'S PUBLICITY DEPARTMENT WILL TELL ME IT DOESN'T EXIST.

Now, if the labels could be convinced people would buy other titles on vinyl if offered in advance and promoted, we might have a real revival. But I don't think the majors are really interested in doing the work.

Eddie Vedder loves vinyl (as do most of the industry people I speak with — off the record, of course). Once Pearl Jam did big numbers on CD, he had leverage to insist the albums got released on vinyl. When VS was issued on vinyl before the CD and sold well, I'm sure Epic was pleasantly surprised. They did it again with Vitalogy — once again, impressive numbers on vinyl. But has the label tried the same tack with another big group? (Are there any other really big groups?) Not that I know of.

The indie labels, the great ones like Sub Pop and Drag City, are issuing incredible music on vinyl, beautifully packaged, but how much of it have you heard? And how would you know about it — much less have an opportunity to buy it — unless you're lucky enough to have a "progressive" record retailer nearby? The "audiophile" mail-order dealers don't stock any of this challenging, extremely well-recorded music. Have you heard of Gastr del Sol? Palace Music? The Spinanes? Gastr del Sol's latest is a two-record gatefold set: one disc is pressed at 45, one at 33.

Why does an obscure group playing a combination of avant-garde noise, ambient and folk guitar issue vinyl — complete with a full-size poster insert printed on the kind of high-quality stock
No matter where you are, you’re there.

Musical truth.

At once familiar. Yet resonant with expanded meaning. You sink deeper and deeper into a private experience. You’ve travelled these chords before, but suddenly you’re hearing them for the very first time. The speakers fade into the distance as the soundstage grows.

See your Energy dealer today. And audition the new Connoisseur series. Surrender to pure, unadulterated sound. Your command performance. Lost in space.

Energy Connoisseur-series speakers

Sound as a performance art.
records used to come with on a regular basis? Because they care to send out the very best. As with the music, the packaging and formatting are pure idealism. Yes, such young people still exist. But who’s receiving? And where are they getting it?

**Audiophile Labels**

Who knows how many copies Classic Records sells of its $30 LPs? Or Analogue Productions? Mobile Fidelity? DCC Compact Classics? I hope they all sell enough of the worthwhile titles to make some money so these outstanding reissues can continue. How many can you afford to buy at $30 a pop? Fewer, I’ll bet, than you could if they were priced at $20 each. I don’t pore over these companies’ balance sheets, so I don’t know how many of each title they sell, or how many they have to sell and at what price, to show a profit—or to even break even. But at $30 apiece, it’s no wonder buyers tend to go for known titles. At $30 each, who can afford to experiment? That’s why Analogue Productions’ new “Analogue Revival Series” of adventurous $17 vinyl reissues is both exciting and very smart.

I keep hearing from older folks telling me how they could kick themselves for not buying those RCAs, Mercurys, EMI’s, and Deccas when they first came out and were priced at five and six bucks each. Well, guess what? These wonderful reissues aren’t going to be around forever, either. Neither—if you don’t buy their LPs—will those companies who’ve stuck their financial necks out to bring them to you.

So if you’re procrastinating, stop. I’ve written it before, but when I heard that Mosaic had only sold about 1000 copies worldwide of Miles Davis’s *The Complete Plugged Nickel Sessions* 10-LP boxed set, I was shocked. Musically and sonically, the set is a treasure. I’m afraid to ask how many sets Columbia sold on CD, but I know it sold out, and I promise you Columbia didn’t manufacture only a few thousand copies. If something as musically and historically crucial—and as sonically superb—as the Davis set has only done 1000 units on vinyl, where’s the future for analog?

Every time I see an expensive 180- or 200-gram reissue that I know won’t sell because the choice of title was dumb (must I name names?), it hurts. As one audiophile-label exec said to me, “We’ve made an investment in vinyl—when does the bleeding stop?” It stops when labels stop releasing stupid titles, and when supposed analog devotees start bellying up to the bar.

**Uncle Larry to the Rescue**

A few columns ago I suggested an advertising cooperative to tout analog outside the small circle of audiophile friends who know and love it. Nothing has happened, of course, except that a few zillion more people have read about and unfortunately purchased the well-publicized Bose radio—and I’ve gotten some letters suggesting that Stereophile’s publisher, Larry Archibald, organize the cooperative and hold everyone’s hand. Well, he’s got enough to do. I was also “volunteered” by a few letter-writers. Sorry—I can’t do it either.

**At $30 Each, Who Can Afford to Experiment with Audiophile LPS?**

The hardware guys are in competition with each other, but I know they talk among themselves sometimes. Same with the software people, though there’s some animosity. Swim together or sink separately, folks. Somebody’s gotta pick up the phone and get started. *Playboy*’s doing a piece on the “analog renaissance”; so is *Spin*. Too bad that analog ad won’t be in either magazine.

**List**

What would you like to see reissued on vinyl? I don’t understand the thinking behind much of what’s coming out lately. I don’t have to see the balance sheet to know what’s selling and what’s not: Nirvana’s *Nevermind* is doing well, I’m sure. If not, soon we’ll all be spinning CDs only. I bet *The Fantasy Film World of Bernard Herrmann* is doing well too. And *Pet Sounds*, Sonny Rollins’ *The Bridge*, and Art Pepper’s *Smack up and Meets the Rhythm Section*. I won’t list the dogs (or the Cats).

I’ll tell you 10 pop/rock/folk records I’d like to see (and hear) reissued on vinyl, consonant with what’s possible (ie, original labels willing to license) and what might sell well enough to turn a profit: John Hiatt’s *Stolen Moments* and Slow Turning*, Bobby King & Terry Evans’ *Live and Let Live*, Marti Jones’ *Used Guitars*, Love’s *Forever Changes*, John Renbourn’s *Sir John Alof Of…*, The Band’s *The Band*, Brian Eno’s *Another Green World*, Jeff Beck’s *Truth*, and Paul Simon’s *Graceland*.

Yeah, many of us want the Stones and the Beatles properly done on CD and LP, and Roxy Music’s *Avalon*, too; but those are really pie in the sky. What would you like to see reissued? Send your suggestions (any musical genre) to me <iө Stereophile</i>, and we’ll publish them.

**Another One Bites the Dust**

No, I’m not suggesting more Queen reissues. What happens when your favorite moving-coil cartridge bites the dust and the manufacturer’s gone the way of all analog, or is no longer imported into your country? Let’s say your beloved Koetsu gets tired or you snap the cantilever. Are you out of luck? No. In fact, you have two choices that I know of. One is a service offered by van den Hul through Stanalog Audio Imports’ US dealer network,1 and the other is Expert Stylus Repair in England.2

I have had no experience with either, but I did recommend Expert to a friend in the industry whose Koetsu had gone down (this was before I knew van den Hul offered a similar service). When he got his cartridge back, he was thrilled: the Koetsu had been returned to physical and sonic “as new” condition in short order, and for a very reasonable price. In fact, my friend said the Koetsu, while maintaining the performance and personality that had attracted him to it in the first place, actually sounded better than new.

According to a price sheet I received from Stanalog, estimated prices for van den Hul’s service are anywhere from $350 for a new stylus and new aluminum cantilever to $500 for a new stylus and new Boron cantilever. Repair time including shipping is 6-8 weeks, and the work is guaranteed for two years under strictly specified conditions.

But before proceeding with a retip or rebuild from either service, I’d inquire about the replacement parts—are they identical or similar to the original parts? I’d be less concerned with a retip than I would be about a total rebuild, in terms of changed sonics, though I’d want to know if the stylus geometry of the new tip resembles the old. I’d also ask whether the rebuild includes refurbished damping material if necessary, and how closely it matches the original. In other words, you don’t want to send in a Koetsu and get back a van den Hul (or whatever Expert uses) in Koetsu clothing.

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1 van den Hul, Stanalog Audio Imports, Inc., P.O. Box 679, Hampton, NY 12836. Tel: (518) 843-3070.

2 Expert Stylus Repair, P.O. Box 3, Ashedale, Surrey, Kent, England. Tel: (44) 1372-276604. Fax: (44) 1372-276142.
Which would you rather share with a friend?

Giving your friends fruitcake for the holidays is risky business. Suppose they ask you if you want a slice. What are you going to say — No? Giving Stereophile is a much safer bet. You love the monthly equipment reports, music reviews, and expert advice, and they will too.

Act now and you can send two Stereophile subscriptions for the price of one. Just $35 for both subscriptions. Add more gifts if you like — including your own subscription or renewal when you make it part of your gift order! Each additional gift is just $17.50. Order now and we'll bill you later.

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Mail the card or call our gift hotline today! 1-800-444-8908
Although the term "professional" is often used as part of model designations in consumer electronics, the actual overlap between the audiophile consumer market and the real pro market is quite small. There are speakers in common use as studio monitors that no self-respecting audiophile would want to be caught dead listening to, and the typical audiophile loudspeaker would go up in smoke if asked to pump out the kind of volume that pro application routinely demands. To a lesser extent, the same applies to amplifiers: pro is pro and consumer is consumer, and ne'er the twain shall meet.

Except for Bryston, Ltd. In the past 20 years this Canadian company has been almost unique in being equally successful in marketing their products to professionals and audiophiles. Their amplifiers are used by recording and broadcast studios, clubs, and a major movie-theater chain. Their products have also done well with audiophiles, earning positive reviews from magazines like Stereophile. (See Larry Greenhill's review of the Bryston 3B-ST, 7B-ST, and BP-25 elsewhere in this issue.)
"...Sony has achieved the highest level of CD playback performance known to me...

EVERYTHING CONSIDERED,

THIS [CDP-XA7ES] IS CD PLAYER HEAVEN..."

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

"The CDP-XA7ES is the finest sounding player I've heard and the finest I've measured

...I consider it truly world-class and

A REFERENCE AGAINST WHICH OTHERS ARE TO BE COMPARED..."

Ed Foster, Audio; March, 1996
To get the scoop on the secret of Bryston’s success, I visited their factory in Peterborough, Ontario (about an hour’s drive from Toronto), and talked to Brian Russell (President), Chris Russell (Vice President, Engineering), Janes Tanner (Vice President, Sales), and Stuart Taylor (the engineer responsible for the latest Bryston amplifiers, designated, not coincidentally, the “ST Series”). I asked them how the company got started:

**Chris Russell:** It was started in 1962 by three men whose names are incorporated into the company name: Tony Bower was the “B,” a guy named Stan Rybb was the “ry,” and a fellow named John Stoneborough was where the “ston” comes from. They were making medical equipment and industrial electronics. My father had been a NASA engineer and was involved in the large NASA layoff in the late 60s when the Apollo missions were terminated. He bought Bryston, Ltd. in late ’67 and that was my first job out of college. I started thinking about what would interest me, and sound equipment is what immediately came to mind. I started learning as much as I could about it.

**Robert Deutsch:** You were a fledgling audiophile?

**Chris Russell:** I’ve been an audiophile all my life. I’ve always loved good sound systems and the accurate portrayal of music.

**Deutsch:** What was your first audio product?

**Chris Russell:** The first product we made was an amplifier we called the Pro 3, which was in 1973. I took a prototype of it to Eastern Sound, a recording studio. Interestingly enough, at that time the engineer in charge of sound equipment there was Stuart Taylor. They did a number of listening tests, and, somewhat to my surprise, they said they really liked the prototype and ordered two of them. The prototype was just in a utility box, so I figured we’d better get started on designing this thing for sale. It took a few months.

**Deutsch:** So your first consumer product was probably the 3B?

**Chris Russell:** Yes. The Pro 3 was called that because the first customers were professional sound studios. Very soon after that we started exploring the market, including the audiophile industry. So we took it to some stores in Toronto, and my brother Jolun loaded a few of them in the back of his Honda and drove down to the States and got some dealers interested there. And things have expanded from there.

The 4B was the very next piece. The first one that got made I put together myself, having never even breadboarded the thing—I just laid out the circuit boards with a circuit that I sort of had in my mind and never even put on paper. The pieces all came in and we put them together, and, believe it or not, it actually worked the first time. It went into production in 1976 and has stayed in production ever since. Of course, we’ve made continuing changes and improvements.

**Deutsch:** When you design a product, do you have an ideal that you aspire to?

**Chris Russell:** I think the real crucial issue to us is accuracy. What we’re looking for is a product that takes an input signal and transforms it in whatever way that product is called upon to do—in the case of an amplifier, for example, to make it big-
"Phenomenal"

Golden Tube Audio
SE-100

Stereo Power Amplifier

100W + 100W Stereo (200W Mono), 1 x 6SL7 + 10 x EL34 Push-Pull Class AB, Ultra Linear, Transformer Phase Splitting, Cathode Follower Output Stage, 0 Feedback, Toroidal Power Transformer, High Current Choke Filter, XLR Input (Mono), 20"w x 15"d x 8.5"h, 65 lbs.
Proudly Made in USA
US$1,780.00

For Product Information and your nearest Golden Tube Audio dealer, call or write to:
Solo Electronics 2462 Tripaldi Way, Hayward, CA 94545. Tel (510)887-8016 Fax (510)887-1657 Specifications subject to change without notice.
Deutsch: *What would a typical design process be, from conception to execution?*

Stuart Taylor: I've designed several new products for this company, starting with a Dolby system for Nagra analog tape recorders, which we still sell. That was actually brought to us by an outside party who wanted to have it built, and I designed it.

Brian Russell: There would normally be a number of discussions over time — from three days to three years — about what a particular product has to do and what the industry is looking for. We ask a number of dealers and investigate other products to see what they offer in terms of features. Then we sit around and discuss what features we want to put on it. We tell the engineering department, "This is what we need." Then they say, "If we do that, we can do *this* too." Eventually, over a period of time, it evolves into a workable design. Then the sales department starts asking the engineering department every day if it's been done yet. That goes on for six or seven months. Then we get a prototype, then listening samples, and then production samples.

Deutsch: *Do you send any preproduction prototypes to people such as dealers, asking them for feedback?*

Brian Russell: No, we don't do that. Usually, Jim and Chris take the product home and listen to it for quite a while.

Chris Russell: There's an interesting story about how the model 8B came about. It was first designed by a different engineer than Stuart Taylor. Essentially, what we wanted to do was to combine two 3Bs into one box. We ran into problems with the four separate power supplies. We ended up with a product that had performance approximately equivalent to a pair of 3Bs. About the time that we were ready to go into production, Stuart and I sat down and conferred about it, and to some extent we were disappointed that we hadn't made any forward strides. Stuart hadn't been involved in the design but had been involved in a lot of the testing. Somehow it wasn't enough to bring this product to the market, simply saying it's two 3Bs in one box.

Deutsch: *Was your dissatisfaction with the technical performance, the lack of elegance in the design, or the sound quality?*

Taylor: We had all sorts of problems getting the four power supplies to work together in close proximity with one another without causing all sorts of interference. It seemed to me that the amount of fiddling we had to do to make it work was going to be a nightmare down the road. I wanted to find some other way to do it that would clean the whole thing up.

Chris Russell: It was fraught with compromises. So Stuart asked if he could put his two cents' worth in.

Deutsch: *You do pay him more than two cents, don't you?*

Chris Russell: Actually, three. But he had to ask for the two cents first. [laughs]

Taylor: I suggested a few things that might help reduce these problems.

Chris Russell: By that time, the engineer responsible for the design had left the company, so I asked Stuart if he wanted to take the project over. He agreed and asked how far he could go in redesigning the product. And I said, "You can do anything you want to do that would result in a product that would be a big step forward." I was dismayed to see him almost literally rip up the set of blueprints, including the chassis and the power-supply layout. He threw everything away and started from scratch. It took about six months to bring the product to the position that Stuart was happy with, and he came up with something that was quite a bit better — with significantly lower noise and lower distortion — than what we had previously.

Deutsch: *Can you hear these improvements with source materials and other associated electronics that don't have super-low noise levels themselves?*

Chris Russell: The new digital formats have extremely low noise levels.

Deutsch: *But how about the more traditional sources?*

Chris Russell: The quick answer is that the better the
Reverend Brown trembled with anticipation as dark cellos entered the room.
source and the better the ancillary equipment, the more you'll hear the differences. But, interestingly enough, the first time I became really aware of the improvement in the new ST Series amplifier was when I was called to give a presentation at an Audiophile Society meeting in New York. I took the new BB and the new BP-20 preamp, having not had much time to sit down and listen to them in my own home. We hooked them up to a sound system that I had no familiarity with, and speakers I had never heard of before, and yet I immediately realized that there was something very different about these pieces of equipment, that they were doing a whole lot better job of giving an accurate signal than what I had been used to in our products before. I remember thinking that I'd better get back to Bryston as soon as I could and do the same thing to the rest of the line.

**Deutsch:** How do you see the kind of decision you made at that time, based on what you were hearing, compared to looking at what the measurements tell you?

**Bryston**

Double-blind listening tests often result in guesswork, and you'll find that you've guessed wrong as often as you've guessed right.

—Chris Russell

**Chris Russell:** The measurements are a tool — just a tool. The listening quality is what we go by. Without that, there's no reason for us to struggle through this process. Being able to advertise a better number, especially in today's climate, is not a convincing argument. The difference is that it actually sounds better. It's difficult to prove in double-blind listening tests. Unfortunately, double-blind listening tests often result in guesswork, and you'll find that you've guessed wrong as often as you've guessed right.

**Deutsch:** Some people — although probably not most Stereophile readers — would argue that the failure to find differences in a double-blind test means that there are no differences.

**Chris Russell:** There is that attitude in parts of the industry.

**Deutsch:** But you don't agree with it?

**Chris Russell:** Well, we can't disprove it. If we set up double-blind listening tests, we'd probably wind up with the same guesswork results as everybody else, because we're trying to respond with our conscious perceptions. The thing we find, though, is that every time we make an improvement to a product and send it out to the field with no announcement, we get feedback from the field that people are hearing the difference and are responding to it.

**Deutsch:** How do you define what is an improvement? Is it technical performance?

**Chris Russell:** Exactly. If we can measure that the performance of the product has improved in every way — eg, dynamic transient capability, distortion, particularly intermodulation distortion — and hasn't restricted itself in any other way, then immediately we find that the marketplace responds positively. One of the earliest examples I have of this happening was an improvement in an early production run of the 4B. We were at that time using carbon-film resistors, and I was so naïve at the time that I didn't realize that the carbon-film resistor has a temperature-tracking mechanism of distortion. The resistance would actually change with voltage. The resistance of the feedback resistors was changing twice per cycle, adding a second harmonic. We only made a few amplifiers that way, and people were happy with the product. Then we made the change to metal-film resistors, and the measured improvement was only in the low frequencies, from 100Hz down. The difference was greatest at full power at 20Hz, and even then it was only a change from 0.005% with the carbon-fiber resistor to 0.003% with the metal-film resistor.

**Deutsch:** Most people would say that those distortion figures are already in the inaudible range.

**Chris Russell:** That's what we thought, too. And we made no announcement; it was just changing one resistor in the product. The funny thing is that, over the next month, we had at least 30 to 50 phone calls from all over North America, saying, "What did you do to the bottom end of the amplifier? It's much tighter, much more accurate." We discounted it at the time. How were they hearing that difference? We were talking about 0.002% difference at full power at 20Hz.

**Deutsch:** And how many speakers respond down to 20Hz?

**Chris Russell:** And if they did, it wouldn't be at full power anyway. And they were specifically identifying the improvement at the bottom end, not the midrange or the top.

**Deutsch:** Have you ever made a change that at the technical level seemed to be an improvement, but according to the feedback you got from the field was sonically a step backward?

**Chris Russell:** We did make a change that didn't make a measurable difference; we thought we could save money on the product, which [still] measured the same. One of the criteria we have is that if we're going to make a change in production, it's got to have the same quality at a lower price or a better quality for the same price. We're also not afraid to spend money to make the product better. In this case, we were making preamplifiers, and we started to use a different output device, a small power transistor. The only difference was that the new one had slightly higher leakage content, which represents response to DC; it supposedly had no effect and we couldn't measure any effect under AC conditions. We sent out a few of these preamplifiers and immediately got a negative response. We didn't tell anybody we'd made a change, yet people said that something was wrong: it's smeared, it's blurred. So we recalled them all and put the output stage back to what it had been before. This was something we could not measure on an AC basis.

**Brian Russell:** On the other hand, we also had a case where we just changed the color of the on/off switch button from white to black, and we had a couple of people phoning to say that the new black-button amplifier sounded better than the white-button amplifier. When people think there's a change, they will spend more time listening.

**Chris Russell:** That's a complication. The reason that we were forced to take people's unsolicited response seriously was because they were noticing things when we hadn't made any announcement and there was no visible evidence.
**Deutsch:** One of the things that intrigues me about Bryston is that, from the very beginning, you've had a successful involvement in both the pro and audiophile markets, selling essentially the same amplifier in both.

**James Tanner:** The only difference in the amplifiers is that the pro models have a prominent Bryston logo that people can see from the audience, and they have a variable input sensitivity.

**Deutsch:** What are the similarities and differences in what people in the pro and audiophile markets look for?

**Tanner:** I think the pro market looks for something that isn't going to break.

**Deutsch:** So reliability is a major issue.

**Tanner:** Right. Can I count on it, and if it does go down, can it be fixed quickly? My experience in the last three or four years, going around to studios and experiencing it firsthand, is that they're looking for as accurate a tool as they can get. So I think the pros picked up on the product because, guess what, it sounds good, and, guess what, it's reliable. At the audiophile end, things like soundstaging and clarity are also present. So it's really a crossover product, fulfilling needs at both ends.

**Deutsch:** Roughly what proportion of your products go to the pro and consumer markets?

**Tanner:** It'll vary year-to-year. It can be 50:50 in some years; it can be 60:40 or 70:30.

**Deutsch:** The 70 being...

**Tanner:** Either or.

**Chris Russell:** Earlier in the game, we were more in the professional industry, but lately it's been about two-thirds in favor of the audiophile.

**Brian Russell:** The single biggest reason professionals like us — above and beyond that [we make] a great amplifier — is that they can make a lot of money with our product, because there's no down time. It lasts and lasts and lasts. And if they do have a problem, we typically solve it in less than 24 hours, which is highly unusual in the audio industry.

**Deutsch:** I know you supply bands, clubs, movie theaters, broadcast studios, and recording studios. Is any particular part of this pro marketplace more critical of sound quality?

**Tanner:** Recording studios.

**Brian Russell:** And, to some extent, the broadcast market.

**Chris Russell:** Recording studios are becoming amazingly sophisticated.

**Taylor:** They're spending big bucks on speakers; they're putting together $70,000 to $100,000 systems. The amplifiers are important and not the biggest expenditure.

**Chris Russell:** We're essentially dealing with audiophiles in the sound studios. They know exactly what they're looking for: they're looking for accuracy. That's not just a buzzword with them — it's their livelihood. If they can't put on the CD what they heard in the original live performance, they're not doing their job right. If the product is able to give an accurate rendition of the original signal, that's what they want, and they're willing to spend whatever they have to in order to get it. Fortunately, our product is not hugely expensive.
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Are you a bit daunted by the choices involved in putting together a high performance yet affordable home entertainment system? We have a suggestion for you — Rotel.

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An oversized toroidal transformer increases efficiency and minimizes noise. Silt foil capacitors enhance power supply speed and purity. The unique dual complimentary differential input/buffer stage (with balanced and unbalanced connectors) includes remote turn-on to simplify system operation. The output stage features matched pairs of MOSFET transistors that combine the warmth of tubes with the punch and detail of conventional bipolar devices. You'll hear the advantages in the subtle overtones of an orchestral triangle or the whomp of a bass drum chasing a Fender Strat across a rock concert stage! And, with 125 watts at 8Ω and over 200 watts at 4Ω, you'll have all the power you'll ever need.

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Deutsch: Yes, but only for half the amplifier.
Tanner: The front half or the back half? Let us know.
Deutsch: Is there an update program to convert an earlier version of an amplifier into an ST Series?
Chris Russell: We can do it on most of the NRB series. It’s not inexpensive — about $500 — but it can be done. Also, the 7B, for reasons of physical construction, is almost impossible to upgrade from the NRB series. The 3B and the 4B can be done.
Brian Russell: Part of the advantage of the 20-year warranty is that a 10-year-old Bryston is worth pretty close to its original retail price, so what we tell people is that there won’t be a huge difference between what you can sell an old one for and what a new one will cost you.
Deutsch: What’s ahead for Bryston? What direction do you see the company going?
Tanner: Single-ended tubes, for sure. [laughs]
Brian Russell: We get a lot of suggestions that we should come out with a line of marine and automotive amplifiers. We’re considering it. I’ve also thought about coming out with an audiophile-quality sound card for computers. One of the other things we’re thinking about doing in the future is a surround-sound processor. Jim comes in every morning begging the engineering department to design a D/A processor.
Taylor: Also a computer-controlled amplifier, for theater systems and stadiums.
Brian Russell: We’re very close to coming out with that. Our newest product, which is just now being released, is the B-60 integrated amplifier.
Taylor: It’s essentially a combination of the unbalanced version of the BP-20 preamp and the 21B amplifier.
Deutsch: Isn’t it, in a way, a retro product? Integrated amps were popular in the ’60s and ’70s. How does the B-60 fit into the multichannel era?
Chris Russell: It has preamp-out and amp-in jacks, so that it can be used with a surround-sound processor and additional amplifiers. The built-in 60W amplifiers would probably be appropriate for the rear channels in a surround-sound system.
Brian Russell: There are two specific markets we intend this for: first, entry-level into real high-end, specifically in North America; second, virtually the rest of the world. Integrated amplifiers are very popular in Europe and the Pacific Rim countries, because their living spaces tend to be much smaller than North American living spaces. They don’t want big amplifiers and big speakers. A couple of our European distributors heard a rumor about this product and wanted to order it immediately. We think it will bring us a tremendous amount of business.
Chris Russell: I think the future of audio will partly involve multichannel sound, but not necessarily connected with video. I think that people will want to listen to music in the best, most accurate, most emotionally rewarding way, and that probably will involve more channels. The other thing I see happening — and I’m very pleased to see it happen — is greater accuracy in the storage media. Implementation of DV19 with higher sampling rates and true 20-bit digital will allow much better signal/noise ratios. Sixteen-bit digital gives us about 96dB; 20-bit gives us another 20–24dB S/N ratio, up to 120dB. That’s what we actually produce in some of the products we build now. The 8B, for instance, in the two-channel mode, is a 400Wpc amplifier with a S/N ratio in the range of 120dB. So we look at 20-bit digital as the true test of what that amplifier can do.

**Stereophile, October 1996**
Only one component in your system can be designed to be completely neutral.

Only one company is actually designing them that way.
Think about this: of all the components in your system, cables are the only ones that can be designed to be completely neutral.

Every other component, by its very nature, must alter the signal. Cables should simply move the signal from place to place with no additions, colorations or distortions.

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So what you hear with RSC cables is 100% pure music. Unfiltered. Clear. Natural. That’s why RSC has been a favorite of the most respected audio reviewers since its introduction.

You’ll find the full range of RSC cables at a select group of authorized retailers. Call TARA Labs for your nearest RSC dealer.

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For a complete technical explanation of RSC design theory, please see our four-part series “The Science of Cable Design,” appearing in Stereophile in early 1996. Or call TARA Labs to request reprints.
In the conclusion of our epic two-part report, Stereophile's reviewers offer a floor-by-floor report from HI-FI '96, held May 29–June 2 at New York's Waldorf-Astoria Hotel.

THE FIFTH FLOOR: LONNIE BROWNELL & THOMAS J. NORTON

Thanked my lucky angels (JA and WP), who had assigned me to cover the Music Hall room. This gave me more of an excuse than I needed to drop in multiple times for a listen and a wee nip of some of Roy Hall's fine Scotch. As usual, the featured components were from Creek (CD42 CD player, $1095; 4240SE integrated amp, $795), Cable Talk (Cable Talk 3 speaker cable, $4/ft bi-wired), and Epos, featuring the launch of the new Epos ES 12 speakers. The ES 12 is either a) an update of the ES 11, or b) a totally new design, depending on how you look at it. It looks similar to the '11, and the price ($999/pair) is the same, but a lot's changed—like a 50% reduction of the parts count in the crossover (there used to be a capacitor and a resistor, now there's just a capacitor), a new tweeter designed in-house, new injection-molded mid/woofer, new bracing in the cabinet, and radiused edges on the outsides. Whatever you want to call the speaker, it sounded stunningly good—an opinion echoed by everyone I talked to about them. Definitely worth a closer look—as is the whole system, for those seeking a high return on a modest audio investment.

Across the hall were the amiable folks from Joly, who were showing their Black Knight speakers ($3500/pair), comprising two boxes per side: the one on top consists of a conventional-looking three-way system, and the bottom box holds either a single driver, or two smaller drivers mounted side-by-side that look like, well...breasts: They protrude, and have what appear to be nipples placed right where you'd expect them. And the left and right speakers have different bases—one with a single driver, one with two. I asked if this was the normal configuration, and was assured that it was.
Why is it always so different at the movie-theater?
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On the wall behind the speakers were banners informing us that “Joly Found The Sound Is 4 Dimensional Wave” and “One is 3 Dimensional.” The literature for the Black Knight asks, “Would you like to be smarter? It could let your brain feel calm and the clear voice could raise your wisdom. ‘Wisdom [sic] is the only fortunate [sic] belonging you forever.’ When you see an apple, you will have a desire to touch it.” Just like Eve, I guess.

TARA Labs, Threshold, Forte, PS Audio, and Audiostatic had a room wired up with TARA’s latest RSC Decade wires — digital interconnects ($395/meter; add $20 for AES/EBU), analog interconnects ($695/meter pair; add $33 for XLR connectors), and speaker cables ($2200/8’ pair). The Audiostatic ES100 speakers ($3695/pair), electrostatic/dynamic hybrids, were being driven by a Threshold T8000 amp ($5250) and a T2 preamp ($5450), with bits provided by one of three DACs—a Threshold DAC2 ($4490), a PS Audio SL3 ($1295), or a PS Audio Ultralink 2 ($2295)—all fed by a PS Audio Lambda 2 transport ($1795). Threshold, Forte, PS Audio, and Audiostatic are all under the same corporate roof—kind of a one-stop shopping center for your entire system needs, as suitably demonstrated here. Just add water — et, cables, that is (à la TARA Labs).

Audophile Imports were showing the Onix 170Wpc OA1200 amp ($1595) and OA31L preamp ($995), dpa Enlighten Drive transport ($1395) and PDM 1024 DAC ($11,500), with Meret Audio Ankh loudspeakers ($2000/pair). Over 11 thou for the DAC? Maybe so, but there’s a wealth of engineering in there, including their own custom DAC chips; still, if that’s too rich for your blood, dpa also has the cutely named Little Bit Three, which shares a good bit of technology with the PDM 1024 but at the much more affordable price of $595. There’s a range of processors between these two as well.

In the Audio Influx room, Ruark were playing their Crusader loudspeakers ($3300/pair), using Chord electronics and a dpa Renaissance CD player. The setup was unassuming — no room treatments, no mood lighting, no excess of plants or banners or curtains, which was just fine, since the sound they got was at once warm and exciting. As a bonus, they played a cut from Ian Tyson’s 18 Inches of Rain — real cowboy music, not what you’d expect from a company from the UK (even if Ian’s a Canadian cowboy).

Finally, for those itching to find out what the single-ended triode life is like but can’t afford some of the big-ticket items out there, Audio Electronics (a division of Cary) were showing a system consisting of nothing but their stuff, from the tube-totin’ CD-1 CD player ($1299), AE-1 dual mono line-stage preamp ($599, or $799 as a kit!, SE-811 single-ended 12W monoblock amps ($1895/pair), and Model 5.2 two-way tower loudspeaker ($995 in walnut or cherry, $1295 in rosewood). They also have a stereo amp, with 300B output tubes, for $1299 ($1199 in kit form). Anyway, the sound they got was liquid and seductive — real comfty, and at a more comfortable price.

— Lonnie Brownell

To anyone who’s tried to cover everything at a Winter CES in the four-day run of that Show, the five days available to those of us covering HI-FI ’96 (two trade days, three consumer days) was an incredible luxury. And it wasn’t just the five days, but the fact that everything was under one roof. For the first time, I was able to spend significant time the last day revisiting exhibits that had caught my ear on the previous four. And while there was hardly time to play tourist, I did get a chance on Saturday afternoon to wander over to see the “new” Times Square. In the midst of a big cleanup effort, it is, I guess, improved — from what I hear, it had nowhere to go but up. But for someone whose impressions of New York were freeze-dried somewhere in the mid-60s, it looked pretty much as I remember it, though the signs are all changed.

But there was more than enough to see and do at the Waldorf=Astoria on that gorgeous, early June weekend. In the Audible Illusions room, Al was showing off their 3A tube preamplifier and class-A, solid-state, M-150 monoblock power amplifier ($4750). The 3A now has 1DB stepped attenuators, and a line-stage-only version (the WL-1) can be yours for $1595 (the version with the stock phono stage is $1995). A built-in DAC will also be available as a $1000 option (someone please hand Michael Fremer a barf bag).

The loudspeakers used by Audible Illusions were Crosby Audio Works’ CAW-1s — heavily modified Quad ESL-63s. Crosby has been modifying Quads for some time, and the version on demonstration had the full treatment — Series I and II mods, CAW-2.5 “sidewings,” and Entec 12F-20 subwoofers (all of which will run you about $21,000, including the Quads). I’ve never been a big fan of Quads, but for those who are, Crosby seems ready and willing to wring every last drop of performance out of them.

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— Corey Greenberg, Home Theater Technology, April 1995

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International of Cherry Hill, New Jersey isn't exactly new (so I guess they get in under the, ah, wire), but they were new to me. Their room was a "silent" display, so nothing really jumped out at me about them on a first look. But their literature shows a refreshing candor, combined with a lack of the technobabble hype endemic to the cable business. Prices, too, are refreshingly down-to-earth: $139/m-pair for their IC-200-1 interconnect and $297 for a 10' pair of their SS-1000-3 speaker cable. And those are their most expensive cables.

Apogee was demonstrating the new powered versions of their small, two-way Ribbon Monitors, plus the first Apogee subwoofer outside of the dedicated designs for the Grand series. The new sub has four heavy-duty 6" drivers powered by a pair of 200W amplifiers. Expected to retail at $1800, it should have been available in the late summer. The powered Ribbon Monitors each have two internal 100W amplifiers, and will also be available at the same time for a forecast $2000/pair. Powered loudspeakers have always been a tough sell, but make a lot of sense in Home Theater applications. In their demo, Apogee was making heavy use of the Circle-Surround 5-channel soundfield generator (which, unlike Pro Logic, does not require encoding of the source and is primarily designed for music surround). They were also using a professional DTS decoder to play discrete surround video — with heavy use of Casper, one of three titles (along with Jurassic Park and Apollo 13) that have been mastered onto DTS laserdiscs, and the best-sounding. Both demonstrations were very effective, though Apogee's Jason Bloom concentrated on video — it was more successful at keeping the room full!

Atlantic Technology's System 350 THX loudspeakers were much in evidence in their room, but the featured attraction at this year's Show was the new System 250.1. It's a heavy upgrade of the original System 250, better suited (or so sayeth AT) to the rigors of S.1-channel (Dolby Digital and DTS) playback (thus the "S.1" designation, Watson). The woofers and crossovers are new, the cabinets are heavier, the new surrounds are full-range, and there's a new, more powerful subwoofer (the 262). Sharing the room was Dwin Electronics, featuring their new and now in full production LD-500 video projector and their well-established LD-2 line doubler. At $15,500 the combination is an impulse purchase, but the picture was superb. Not the best at the Show, perhaps, but those that bettered it cost more than twice as much. (A review of the Dwin is scheduled for the Winter issue of the Stereophile Guide to Home Theater, available this month on newsstands.)

Balanced Audio Technology was sharing a room with Quintessence Acoustics. The latter's WAMM-like Stealth loudspeakers, first seen at HI-FI '95 in Los Angeles and priced in the hypoxia-inducing range (though at just under $40,000/pair they were far from the most expensive loudspeakers at the Show), were dominating the scenery here. But BAT had a few new products as well. Their main feature was the new VK-P10 phono stage, with balanced dual-mono construction (match), oil-filled caps, RIAA decoupled from ground, and a step-up transformer for MC cartridges (though the direct input is said to be quiet enough to use straight-in with most moving-coils). The bi-amped Quintessi were being driven by BAT VK-1000s on the bottom and two pairs of VK-06s paralleled on top.

— Thomas J. Norton

THE SIXTH FLOOR:
JONATHAN SCULL, LARRY GREENHILL, & RICHARD J. ROSEN

The first room Kathleen and I popped into was Audio Alchemy's: Suite 600A. Rambunctious Mark Schifer, in company with sincere and rapidly graying Peter Madnick, plunked us down in front of an intentionally middle-of-the-deck Mitsubishi large-screen tee-vee and gave us the 20/20 on their new VPG (Video Products Group) VRE v1.0 Visual Reality Engine.

The device reduces the harshness of a video image while increasing resolution. Press Release: "Using proprietary algorithms, the VRE determines the best way to convert the composite video signal into high-quality S-Video output, and maintains the integrity of the existing S-Video signals." They use an "adaptive" comb-filter that better separates the color signal from the brightness information, avoiding the "creepy crawlys."

Mark dimmed the lights just as Larry Archibald entered the room and plucked himself down on the comfy couch to Kathleen's right. I eyed my publisher suspiciously as he draped his arm over the back of the couch behind her. As Peter flashed clips on the screen and flipped the VRE in and out, very noticeable changes in edge definition and apparent resolution were revealed.

The VRE v1.0 is available now at $795, and with an optional de-ghosting chip for $995. This device is but a portent of future Alchemy doings; they plan video products...
Make enough trouble and people always start talking

At Carver, we've found that making trouble is usually the first step in making real audio progress. For nearly twenty years we've built audio components around controversial design concepts in order to break through traditional price/performance barriers.

The three amplifiers shown here continue that tradition. The awesome Lightstar Reference is our most articulate technical statement ever as well as Carver's blueprint for the future. The lessons we learned during its development are now common denominators for every Carver amplifier design. As a result, people are talking about the latest Carver amplifiers in terms usually reserved for far more expensive models, such as "innovative," "powerful," and even "magic."

To achieve this level of performance, technology and value in a single precision chassis, we design and build these amplifiers in our own factory just outside Seattle, Washington. Hear the technology that has the experts talking at your authorized Carver dealer.

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**Carver Research Lightstar Reference Amplifier**

Recommended Component, Stereophile, April 1996
(Vol. 19, No. 4)

"Innovative, powerful (350 Wpc) power amplifier that impressed RD [Robert Deutsch] with its dynamics and sense of power in reserve, while sounding impressively neutral."

**Carver TFM-35x THX Amplifier**

Stereophile Guide to Home Theater, Fall 1996
(Vol. 2, No. 3), Robert Deutsch

"It's very modestly priced but doesn't sound like it...There are two groups of audiophiles to whom I particularly recommend the TFM-35x: those who are drawn to the tonal qualities of tube amplifiers but don't want the responsibility of their care and feeding, and those who are attracted to the sound of the Carver Lightstar Reference but deterred by the price...In the right system, it can give the big boys a good run for their money."

**Carver AV-806x Multi-channel Amplifier**

Recommended Component, Stereophile, April 1996
(Vol. 19, No. 4)

"I was expecting competent performance; what I got instead was magic,' enthused TJN [Thomas J. Norton] about the six-channel Carver...

"My favorite current multichannel amp."
Brochure: "Handcrafted in the Netherlands, Making High-End Affordable."

Scull: "Everything is Relative."

What's this? An active Classe exhibit?! I must be dreaming! (Up to now they've done only passive, static displays.) They featured the big CA-400 amp, CP-60 remote dual-chassis balanced line preamp with optional MM/MC phono stage, DAC-1 converter, and C11T-1 transport. What cable and interconnect do you think they were using with the Thiel CS7s. Yes, another Cardas Golden Cross setup. George's cable was... ubiquitous.

Classé were also showing a prototype of the CDP-1 integrated CD player. Delivery is planned for late summer at an estimated $3500. The CAV-75 and CAV-150 amps were unveiled and a flourish: both are fully configurable six-channel designs for video/audio apps.

When we ventured into the May Audio/Totem Acoustics/Sphinx electronics suite, Kathleen stopped in her tracks and whispered "Siltech..." While it's true that Nizar Akhrass of May Audio distributes many brands (WBT, AudioPrism, Jecklin/Ergo, Heil/AMT, to name but a few), Siltech isn't one of them. I glanced around the room and spotted Edwin van der Kleij. He is, of course, the maker of much silver- and gold-laden Dutch cable.

Edwin and compatriot Nico Desselkoen have implemented an intriguing line of very suave components called the Sphinx Project Series. (Brochure: "Handcrafted in the Netherlands, making high-end affordable." Scull: "Everything is relative.") The line consists of nine products, including a reasonably priced preamp ($2400), CD player, tuner, and three integrateds, ranging in price up to $3500.

Then there's the Reference preamp at $10,000, a clear-topped example of which was at hand. As we peered into its innards, Edwin began explaining the many high-tech features incorporated in its design. Soon overcome by Euro Technoshock, my notebook runneth over: "140dB separation from the mains, low impedance, RCA and true balanced topology — eight separate internal amps, ground only live to chosen input, Siltech wire throughout, full remote stepped-attenuator volume control, 100 steps of 1dB, 64 relays, adjustable relative level of each input, programmable input display, 1% resistors... I mean it, I could go on for an hour. Really bleeding-edge technology — and priced to stay that way!

Besides the affordable integrateds, Sphinx amps begin at $4k for a dual-mono class-AB optical remote control unit, >285W in 2 ohms, and take off from there. There's an $8000 monoblock (spec'd at class-A/-AB at >2 x 420W in 2 ohms), a $20k stereo unit (200Wpc into 8 ohms, 800 into 2), and [dramatic pause] a pair of monoblocks for a cool $40k, doubling down from 200Wpc into 8 ohms as well.

The listening room was quiet, dark, and relaxed. We heard a mix of Sphinx front-end pieces on the diminutive two-way...
We couldn’t have said it better ourselves.

— excerpts from Audio Magazine, by Anthony H. Cordesman

"...this is a product that deserves attention."

"This is the kind of product that shows the best of the high end can be made truly affordable."

"You may be surprised to find out how good your speakers are when you first try an amplifier of this quality."

"It does everything exceptionally well for its price, and its upper midrange and treble and overall musicality are hard to find in any amplifier not costing at least twice its price range."

"The imaging, soundstage, dynamics, and transparency of the Adcom GFA-5800 had the kind of realism and integration I only expect to find in far more expensive products."

"It is also a little difficult to believe that this amplifier is in the $1500 price range."

"In short, the Adcom GFA-5800 stands out even in a world where almost all amplifiers now sound good."

"Just as Adcom once changed the standards of the power amplifier market with the 555, it has introduced a new product that may similarly change the market again."

"The imaging, soundstage, dynamics, and transparency of the Adcom GFA-5800 had the kind of realism and integration I only expect to find in far more expensive products."

The Adcom GFA-5800 amplifier is quite possibly the best amplifier you may ever hear. We know it sounds better than others selling for more than twice its price. Delivering 250 watts continuous per channel into 8 ohms between 20 Hz and 20 kHz, its circuit design and component specifications are in a class by itself.

But you don’t have to take our word for it. Send us your name and address and we will send you a reprint of Audio’s review as well as detailed literature. Or better yet, simply ask to listen to the GFA-5800. Your ears will tell you all you need to know.
Totem Tabù on elegant bespoke May Audio stands. (These are fashioned from lead-filled Rubberwood from Malaysia at $499/pair.) The interconnect was all XLO mated to Siltech speaker cable, a combo that, speaking from my experience of both, should do very well together. And so they did. In a relaxed cadence, Totem’s Vince Bruzzese walked us through the many high-end features of his small speakers, which were making music in a big way.

We listened to Dr. John’s Strike a Deep Chord: Blues Guitars for the Homeless (Justice sampler JR 0003). His voice showered over us, sparkling with a wealth of speedy detail, and backed by a surprisingly deep bass foundation.

—Jonathan Scull

Although I visited all 17 rooms, I found the most impressive products in rooms away from my assigned area — the grass is greener outside, I suppose. Impressive was the bass of the new $2995/pair Totem Acoustics Tabù. Designer Vince Bruzzese played the “Si si si le ciel” selection from Michel Jonasz’s La fabuleuse histoire de Mister Swing (WEA Music 2292-42338-2, imported by May Audio at Bruzzese’s urging). This speaker and the Jonasz CD were real show-stoppers — I’m a sucker for a superb vocal recording with speed, full dynamic range, punchy bass, and well-focused imaging. The Tabù resembles the Sonus Faber Extrema in having no capacitors in the crossover, and its transparency and imaging have the Extrema’s openness and clarity.

After Chris Russell of Bryston Audio told me that he designs and manufactures the system’s outboard electronic crossover, I spent a long period auditioning the Waveform Mach 17, an unusual loudspeaker shaped like a truncated pyramid. John Ötös, president of Waveform, carefully set up his loudspeakers in the hotel room using generous numbers of ASC Tube Traps. It paid off — the sound was tops. Although more auditioning will be necessary in a review, I heard no other system at HI-FI ’96 that delivered the frequency extremes with as much definition and power while still producing a wide, deep soundstage and superb imaging. John markets the loudspeaker directly to audiophiles for $5995/pair; otherwise, it might cost three times that amount. The Mach 17’s 1” silk-dome tweeter and midrange units are mounted in an egg-shaped housing that sits atop the cabinet holding the subwoofer’s two 12” drivers.

—Larry Greenhill

Aerial 10T speakers. Even with a giant television smack dab between ’em (this turned out to be a major theme of the Show), in conjunction with the all Mark Levinson componentry they put Speedy West and Jimmy Bryant across real smooth. “Dance Of The Tumblers” from Rimsky-Korsakov’s The Snow Maiden, as found on Reference Recordings’ new Exotic Dances from the Opera CD, was a new one on me. A lot of fun, especially in a “We Do Dynamics” kinda way. I’d consider buying these babies myself.

Clayton Audio was an unfamiliar name to me, with their S-40 stereo and M-70 mono class-A amplifiers from Missouri. “Show me!” sez I. John Nye and Wilson Shen explained the philosophy of walking both sides of the Cost-No-Object/Value fence. I spun Diana Krall’s infectious “Frin Fram Sauce” via Linn Minik, Audible Illusions L1, and Martin-Logan SL3s with XLO bi-wire. Dr. Nye claimed that competing amplifiers exacerbate the ML high end. The M-70s certainly didn’t. This was the cut I played most throughout the Show, and systems varied as to how much they emphasized the performance and the room, and how much they revealed the technical side of the production. Here was the first time I felt I heard the microphone in front of Ms. Krall’s lips in addition to the rest of the performance, yet it was neither analytical nor etched. Very educational.

“Queer Notions,” from the Kansas City soundtrack, was well-suited to the Gallo Acoustics Nucleus loudspeakers. The disc was recorded mainly from a single Calrec mike in a nightclub set. The Gallos’ nearly famous sound-staging ability gave flesh to the illusion of the room as David Murray’s tenor tore up the middle. The Nuclei have been redesigned, with new drivers in aluminum spheres mounted to custom stands. The fabulous Pass Aleph P pre- and Aleph 2 power amplifiers added their single-ended solid-state authority to the mix, while the Resolution Audio T30 CD transport and 1200 DAC added their, well, resolu-

—Stereophile, October 1996
Serious audio is more than a pastime. It is a relentless search for all the poetry and passion embodied in music. Those who join us in this quest have little tolerance for performance concessions or compromised build quality.

Krell has manufactured components of unsurpassed quality and technical merit for more than 15 years. With the introduction of the Full Power Balanced amplifiers, Krell has created a series of products so technically advanced and musically enriching as to eclipse all previous efforts.

You value music. Fuel your passion with a Krell Full Power Balanced amplifier.
tion. Echo Busters acoustic treatment tamed the bad vibes.

A little Max Roach from his new disc6 swung nicely through Diapason Adamantes and the new NEW DCP 44 single-ended class-A preamp. Mitch Friedman followed suit with John Cage's First Construction in Metal on the Wilson Benesch LP rig, making the experience a full-blown percussion fest. Who knew? Particularly notable was the ultraquiet DCLP 55 six-tube phono stage, which thoughtfully includes a mono/stereo switch. That oughta widen the list of line-stage choices for us vinyl fans.

Audiostream and the newly launched Paradigm Reference earned a spot at the peak of the price vs performance scale. At every show there seems to be one room I gravitate to at the end of the day, just to relax and hear some tunes. The Paradigm Reference Studio/100 speakers were musical enough to keep me coming back. Paradigm's Rob Sample and I had a good ol' time playing dueling DJs, and the Studio/100s delivered the goods every time. And at $1800/pair, these floorstanders appear to be a bargain. Paradigm may have cheated a little, fronting them with about 11 grand worth of killer Audio Alchemy digital source components, Audio Research amplification, and FMS wire, but, on the other hand, it could show they can hold their own with the big boys.

“Great-sounding” and “laughably inexpensive” are phrases that came to mind in the PSB/Lenbrook room. I popped in Latin Rhythms in Hi-Fi7 to play Augie Colon’s “Tierra Va Temblar.” (This is one of DCC’s plain vanilla aluminum nonaudiophile discs. It sounds just as good as their gold stuff, is still mastered by Steve Hoffman, and cost me only about nine bucks at J&R Music World.) The whole room went Mambo-crazy, and the PSB Alpha Minis had my toes tapping so wildly that, when I saw their $199 price, I almost kicked my own jaw across the floor. I’m getting a pair of these. How can you afford not to? It turned out the matching $449 Alpha SubSonic 1 subwoofer had been in-circuit the whole time. When the sub was switched out, the difference was at once subtle and substantial. Still impressive, even with—I guessed it—a big TV in the middle. I stayed for “Mambo #5” by the king, Perez Prado, and pushed on with a smile on my face.

The nice folks from Gin Sound have to win some kind of award for being the only exhibitors who had to ask what Stereophile is. The Korean company demonstrated the GinS Mania loudspeaker, incorporating the patented Live Sound System (LSS) horn, an 18” brass tuba-looking bell mounted above the more conventional-looking drivers. It’s essentially a port to scavange and redirect backward-generated sound from inside the box. “Frim Fram Sauce” sounded smooth, if muddy and indistinct image-wise. The obligatory giant TV between the speakers may not have helped. But don’t take my word for it—here’s the first quote from their literature: “I like to own one (GinS) — Stereo File, USA, August 1991.” Should I assume they’re referring to CG’s Chicago CES report of that month, in which he wrote that they “…sounded so ridiculously horrible that I immediately fell in love with them and sincerely want a pair of my own…”? Nahh…must be some other Stereo File. —Richard J. Rosen

**The Seventh Floor:**

**Robert J. Reina, Robert Harley, & Robert Deutsch**

I have never had as much fun or got as much accomplished at a show as I did at Hifi '96 at the Waldorf=Astoria. The hotel was comfortable and functional, with most of the widely spaced rooms yielding good to excellent sound. I only wish I could have attended more concerts, but the superb performances I did catch—by Béla Fleck, David Chesky, and Doug MacLeod—rank among the best live shows I’ve seen in New York over the past year. My vote is to do it again at the Waldorf in ’98!

**Alchemist** reproduced a luscious and dynamic rendition of John McLaughlin’s guitar work on the sexy new solid-state designs from Tim De Paravicini—the ADP24A control unit ($8491), ADP25 55W class-A monoblocks ($18,000/pair), and the ADP27A 200Wpc amplifiers ($6791)—all driving a pair of Dunlavy Signature SC-IV speakers.

**Audio Physic** exhibited a prototype of the $9500 Avanti speaker driven by **Audio Matière**’s tube-driven Audio Sculpture series—Monologue CD transport ($3975), Arpege 1A converter ($3975), Dialogue CD player ($4375), Paraphrase line-stage ($5575), and Ultima 60W single-ended monoblocks ($35,000/pair).

**The Discovery Cable** room introduced their Plus 4 interconnects ($650/meter pair) and Signature speaker cable ($600/8’). Driving the **Verity Audio** Parsifal speakers ($9800) were all CAT electronics paired with the $6500

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REFERENCE SERIES LOUDSPEAKERS. For over twenty five years Sound Dynamics engineers have been making great sounding loudspeakers, at prices you can afford. Critics worldwide have raved about their unmatched versatility. Their outstanding accuracy and imaging makes this series the number one choice for home theater or audio systems. Audition the Reference Series today. Insist on full value for your audio dollar!
Clearaudio Reference table with improved Souther tonearm ($6500) and a Clearaudio Insider cartridge.

Ensemble always gets good sound at shows, and HI-FI '96 was no exception. This time their system featured the Primadonna Gold speakers ($13,500), the Evoco 100Wpe hybrid integrated with remote ($6995), the Dichrono DAC/Pre ($10,900), and the Dichrono Drive ($9400).

Gershman Acoustics showed their GAP 520X speakers ($9100) driven by an all-Copeland system: CDA 288 CD player ($2950) with HiCD, CTA 301 Mk.II preamplifier ($2200), and CTA 505 power amplifier ($3100).

Michael Green Designs exhibited the revised version of their $1650 801 speakers driven by Pass Aleph electronics and a Sonic Frontiers digital front-end.

JA was kind enough to exempt me from covering Home Theater for this report, unless I "heard something really exciting." I did. Ever have a family member come to you and say something like this? "I want a complete home theater surround system. It's gotta sound good, look nice, and can't take up any space in my living room. And I don't want to spend any money." Well, Dynaco showed what I think of as the ultimate "brother-in-law" system. For $1340, their HLX-36 satellite/subwoofer system, HLX-18V center-channel speaker, a pair of HLX-18 rear surround speakers, QD-1 matrix surround processor, and SCA-120 amplifier (60W stereo including phono stage and remote) was producing better sound than I've heard in most theaters.

--Robert J. Reina

A press event repeated continuously throughout the consumer days of HI-FI '96 demonstrated the difference in sound between a live harpsichord and a 24-bit recording of the same instrument. PGM Recordings had harpsichordist Gavin Black play selections from the PGM release The Buxtehude Project, Volume II, then PGM founder Gabe Wiener played a recording of Black playing the same instrument from a Nagra-D 24-bit digital recorder. The loudspeakers were EgglestonWorks Andras. Although it was an interesting demonstration (and a treat to hear the live performance), the recording's vastly greater reverberation made comparisons difficult.

--Robert Harley

Exotic is not the word anyone would use to describe the loudspeakers from Castle Acoustics. These are box speakers of conventional design, but with a level of cabin finish that sets the standard in their price range. The speaker were playing was the new Isis (not to be confused with the Avalon Osiris), a two-way system with an easy-on-the-ears sound that seems to offer good value for $529 (Meridian digital source, PS 200 Delta amplifier).

Analog was much in evidence at HI-FI '96; one of the rooms in my territory had the Kuzma Reference turntable and arm, Clearaudio Insider cartridge, Klyne phono stage, and Muse Model 3 preamp and 160 and 300 amplifiers, all connected with Cardas wire, driving the Audio Artistry Dvorakos that had so impressed Shannon Dickson. The system sounded dynamic and open playing the Classic reissue of the RCA Capriccio Italia.

Another indicator of the analog renaissance was in the Sonus Faber/Krell/Klyne room, which had the SME 30 turntable and IVi arm, Sumikono SHO cartridge, Klyne's latest 71X3/B phono stage and line stage, Krell Full Power Balanced 300 amplifier, Transparent cables, and the Sonus Faber Guarnieri Homage loudspeakers supplemented by a REL Stentor subwoofer.

As a one-time owner of an SME arm, it warmed the cockles of my heart to see this classic—and classy—purveyor of analog playback equipment thriving in the digital era. The system sounded very good, too, with
Life is stressful. You could spend a few thousand dollars rushing to a weekend getaway at a rejuvenating retreat. You could mortgage your home for one of those “quiet as a recording studio” motor cars you’ve seen on television. Or you can keep the family fortune and relax in the sanctity of your own home with a pair of Sennheiser headphones.

Discover the ultimate in surround sound...

at a budget you can easily afford.
recording plans, like “a new album of Heavy Metal hits showcasing the vocal interpretations of industry legend Pat Boone.”

Balanced Audio Technology had two rooms: in one on the fifth floor, the big Quintessence Stealth, driven by doubled-up VK-60s for the midrange/tweeter and a VK-500 for the woofer; the other on the seventh floor had Sonus Faber Electa Amators driven by a single VK-500. Which system would I rather listen to? You guessed it: the one with the smaller speakers.

— Robert Deutsch

The Eighth Floor:
RUSSELL NOVAK, LONNIE BROWNELL, ROBERT HARLEY, & ROBERT J. REINA

Sonic Frontiers, Hales Design Group, Cardas Cable, and Audio Power Industries displayed together with excellent sonic results. Their big room on the Waldorf=Astoria’s eighth floor featured the Sonic Frontiers tube electronic heavyweights: the SFL-2 preamp, Power 3 mono amps, and the SFCD-1 CD player favorably reviewed by RH last March. The amps (220Wpc, $8995) are the first in the new “Power Series.” Fully balanced from input to output, they feature lower distortion, high damping factors to control speaker bass response, and have user-adjustable biasing of the output tubes (eight 6550s).

The recipient of all this great signal was the Hales Concept Five loudspeaker ($5800 without grilles). This is a three-way, sealed-box design with a 3”-thick cement-and-fiberglass front baffle and 2”-thick wood side walls, plus bracing to ensure a dead cabinet. The 10” woofer is a Kevlar composite material claimed to reach down to 25Hz, and the midrange and tweeter are aluminum domes. The sound in the room was very good.

My notes reflect a very smooth treble range and lots of ambient information to the outside of the speakers. There was some added warmth in the bass region, but I found that very common in other rooms at the show. Speaker placement, room size, room treatment, and component matching are rarely optimal at trade shows. That’s your job—to set up your favorite speaker properly when you get your babies home.

Audio Power Industries (the Power Wedge, in various sizes and prices) filtered all the AC current in these suites. Les Edelberg reports that
Now You Can Stop Kicking Yourself For Selling The Originals.

No audio equipment in history has achieved the legendary status of the Marantz vacuum-tube electronics. So timeless are the sonic and aesthetic attributes of this classic trio that, almost four decades after their introduction, pristine examples are still eagerly sought by committed music lovers and audiophiles alike.

Fortunately for those remorseful souls who parted company with their beloved originals, Marantz proudly announces the reintroduction of the Marantz Classics. The Model 7 preamplifier, Model 8B stereo and Model 9 monaural power amplifiers sound as remarkable today as when they first defined the state of the art during the Golden Age of Stereo.

These recreations are true to the originals in every way. In many instances, parts like transformers and meters have been sourced from the very suppliers who furnished them over a generation ago. Faceplates, knobs and switches are identical, and even the Marantz logo has been restored for absolute accuracy. All wiring is point to point; no circuit boards have been substituted for the sake of convenience or cost. Only genuine safety improvements, like detachable IEC power cords, standard fuses, and contemporary speaker terminals in place of archaic output taps, differentiate these modern units from their predecessors.

Ultimately, these jewel-like components could have you listening to music from a whole new perspective, while providing the kind of satisfaction that comes from possessing a timeless classic.

So instead of kicking yourself, you can sit back and enjoy the company of a long-lost friend.
his Power Wedge 100 series Mk.II models have improved current-draw capacity for amplifiers to eliminate dynamic compression. They also have upgraded capacitors with improved filtering and better isolation for the source component outlets. All models now have detachable power cords for people wishing to experiment with different line cords.

The small room also contained Sonic Frontiers' new Anthem line of affordable tube electronics driving the Hales Concept Two speakers that LB liked back in May. Anthem products have simple “industrial design” and premium-grade parts in critical areas. The 25Wpc Anthem Integrated-1 ($1295; optional phono stage, $200) might be the first step toward the High End for a new audiophile or someone with a small room, efficient speakers, and a limited budget. Either the amp or preamp halves can be used separately to provide an easy upgrade path without the need to replace both components at once.

The Anthem Pre-1 preamp has an onboard power supply and transformer, dual-mono regulation and circuitry, moving-magnet/moving-coil phono stage, and other goodies—all for an astonishing $1495. The Anthem Amp-1, a 40Wpc tube amp of ultra-linear design, will be available (for under $1500) by the time you read this. The Anthem CD-1 CD player, with tube output stage and HDCD, is also due soon (for under $1500).

Paul Hales also gave us an advance look at his latest speaker, due out in the fall. He had a single sample of the $38,000 Alix loudspeaker shipped to the Show—a "statement" product Paul feels will outdo other super-expensive loudspeakers at $60,000 and up. It's 66" tall, 580 lbs per side. The bass unit holds three 10" woofers, while the midrange and tweeter drivers are held in a swiveling head that allows for vertical adjustments to match the listener's position in the room. It will be rated at 93-94dB sensitivity.

Some of the best things in show aren't revealed till you return to rooms for the second or third time and begin to look into the corners. On a small table in the Audio Connections room was the Zeus headphones amp by Andy Fuchs of Fuchs Audio Technology (FAT Audio, Andy?). Handsomely finished on a mahogany wood base with brass top plate and naked tubes glowing serenely, this is a single-ended triode, output-transformerless circuit. Power supply is tube-regulated, internal wiring is Kimber, and MIT MultiCaps are used for interstage coupling and for bypassing the output coupling cap. There's a top-mounted test connector allowing calibration of the bias/balance and the high-voltage regulator output.

I heard this amp in prototype form, and since the Show have been listening at home to the production model. It's the sweetest, most liquid sound I've heard, and they've done it without compromising high-end extension. It's absolutely unbelievable through a pair of Grado Signature headphones, and sounds almost as good through Grado's bargain-priced SR 60s. This combination is de réqueur for late-night or small-room listening. At $1099, it replaces a lot of underwhelming speaker/amp/preamp combinations.

— Russ Novak

Svetlana Electron Devices were showing their range of Russian-made vacuum tubes in an interesting setup of vintage gear: a Harman/Kardon Citation II amp, an old Audio Research preamp which, I swear, had no identifying model name or number, and a Kerala loudspeakers. This Svetlana is actually a US operation that is a major shareholder of the venerable and recently privatized Russian company. They also had on hand an amp that they built simply to show off their SV811 and SV572 triode output tubes. The single-ended design can produce a clean 25Wpc, according to Svetlana's bench testing, but as of this time they have no plans to actually manufacture it (or any other amp).

— Lonnie Brownell

A new Swiss-based company called Eiger Systems chose Hi-Fi '96 for the world-premiere launch of its line of high-end electronics and loudspeakers. Eiger Systems is a division of Inter-Ibex, a Swiss computer software developer. The founder of Inter-Ibex has long been an audiophile, and starting a high-end company has been his dream for more than a decade.
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Mark Levinson No.37 transport feeding a Mark Levinson No.30.5 digital processor. The overall balance was a little lean (it could have been the room), but the system had a striking clarity and transparency in the midrange. It took some listening to get used to the sound (which was very different from the presentation I’m accustomed to at home), after which I found it captivating.

Loudspeaker manufacturer Probe Audio Labs demonstrated their Jayde and Monad loudspeakers. The Jayde is an unusual design featuring a ported woofers enclosed and separate dipolar midrange/tweeter cabinet. The dipole panel leaves the back of the 6.5” midrange driver open, and uses a rear-firing tweeter. This configuration makes the Jayde a dipole in the midrange and a dipole in the treble. The $4995/pair loudspeaker reportedly combines the benefits of an electrostatic loudspeaker with the sensitivity and bass of a dynamic-driver system. The Jayde was driven by an all-Aragon system: 12A digital processor (fed from a Theta Data Basic II transport), Aragon 28k preamplifier, and Aragon’s mighty new 8008 power amplifier. Cabling was by Straight Wire.

Audio Connection was getting exquisite sound from Vandersteen 5s ($8900) driven by Cary electronics—PH 301 phono stage ($1395), SL594 line-stage ($2095), and 805 amplifiers. Source material was provided by VPI/Benz and Wadia front-ends.

—Robert Harley

The Ninth Floor: Jack English & Larry Greenhill

Benefiting New York City’s self-proclaimed status as the financial capital of the world, the Carver Corporation announced a $3.5 million private placement of convertible preferred stock with Renwick Capital Management. The cash infusion had an obviously beneficial impact, as everyone from relatively new CEO Steve Williams on down was upbeat about the company’s invigorated back-to-basics approach to consumer audio. Tangible evidence of the recapitalization was found in the $859 HTR-880 A/V receiver with both Power Steering (to instantaneously direct up to 200% of rated power to whichever channel needed it) and Infinite Decorrelation (designed to expand the rear soundstage).

Building upon the critical acclaim of Carver’s AV-806x from reviewers as esteemed as our own Tom Norton, the slightly less powerful AV-705x Home Theater amplifier was shown for $1199. It, too, includes both Power Steering and the much-desired THX certification, with a rated output of 125Wpc with all 5 channels driven. Such cost-consciousness is evidence that the new money is going to the right places.

Right across the hall, audiophiles had a chance to see how they might benefit from a personal partnership with a venture capitalist. Colorado-based Northstar Leading The Way introduced the ready-for-the-museum-of-modern-art Atlantis from French speaker manufacturer Cabasse. Standing 7” tall and weighing 397 lbs each, the roughly pyramidal Atlantis carries a hefty US price of $85,000. It’s the top model of the Spatially Coherent Source (SCS) series, which features various versions of coaxial drive-units. In addition to the obvious benefit of point-source emulation, each coaxial unit is mounted well out in front of its respective baffle to minimize diffraction. Unlike the lower-priced models, the Atlantis is active: four amplifiers are built into each cabinet. Driven by a combination of LA Audio and Forsell equipment, the sound was spacious and detailed, with a prodigious bottom end, but was typically being played way too loud. Currently, the most popular SCS model is the traditional-looking three-way Iroise, with a targeted retail price of $7000.

Following in the footsteps of Shun Mook—who had earlier followed in the footsteps of Harmonix themselves regarding resonance control—Harmonix completed this Zen-like progression by displaying a prototype speaker utilizing their own approach to resonance tuning. This two-way design will have custom-designed stands and a targeted price of $5000/pair. While they had trouble competing with the loud levels of the rooms adjoining them, the speakers had a wonderful clarity and spaciousness. They were shown to good advantage using the first recording from Harmonix, guitarist Mario Suzuki’s Preludio de Romanza (Jasrac R-640012).

Another interesting new product came from Bryston, who provided the crossovers for the Quintessence speakers and internal amplifiers for the PMC (Professional Monitor Company) active speakers. They introduced the B-60 integrated amplifier, featuring 60Wpc and preamplifier outputs for $1495, with remote control available for an additional $300. The B-60, with 1% metal-film resistors and polystyrene capacitors, includes pre-out/main-in connectors for easy accommodation of a surround-sound processor. On the subject of processors, Altis introduced a DVD-compatible DAC (as did mbl). The Altis Reference, at $4950, includes indi-

Meridian 800 Series Reference CD machine and 861 surround-sound processor
The Genesis Digital Lens, represents a whole new technology born from the conviction that digital can sound a lot better.

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vidually regulated power supplies, G200/FR4 circuit boards, a 350MHz glass fiber-optic system, differential bitstream processor, proprietary filter technology, and class-A triode tube output. The filters and boards were of the "plug'n'play" variety for further upgrades such as DVD. mbl's 1611 ($14,900) and 1511 ($6500) DACs went a bit further. While an HQAD (High Quality Audio) format for DVD has yet to be agreed upon, these new DACs feature overall bandwidths of 30MHz, Delta Sigma converters, and 24-bit capability. It was hard to form an opinion of any of these processors, as the sound in the Altis room was way too loud, and the transport in the mbl room was a portable CD player from Grundig.

Part of my beat was to cover both the Cello and Meridian rooms. In the past I've had strongly mixed feelings about offerings from both of these companies. Cello, whose ads feature a nude woman, simply doesn't appeal to me, and this Show proved no exception. In spite of a well-run demo with carefully selected material and dimmed lighting, the music (and video) didn't involve me emotionally. I felt the sound was hard, bright, and often too loud (which does not equate to dynamics, although many people seem to think so). The Cello equipment sounded much better in the PopeMusic room. It was, again as usual, clean and dynamic, but sounded somehow sterile in spite of the excellent source material.

The Meridian room was a bit of a surprise. It, too, featured both audio and video in mostly controlled demonstrations. On display was a seven-channel system (left, right, center; left and right rear; left and right side-wall centers). Unlike as at CES, the system was not being overdosed. Detail resolution was very good, and directionality, especially during the video portions, was superb. While the added center channel may help off-axis listeners for music listening, I just can't get into all this hardware. Star of the Meridian exhibit was the 800 Series Reference CD machine described in detail by Martin Colloms last month (p.93).

—Jack English

HiFi '96 was my first Stereophile-sponsored High-End Audio and Home Theater Show since the last time it was in New York, some six years ago. Despite its greatly increased size—over 200 companies exhibiting in 140 rooms—the second New York Stereophile show turned out to be the best-organized show I've ever attended.

What a difference it makes to have everything in one hotel! The sprawling, chaotic "zoo" of the Las Vegas Winter CES scatters high-end exhibits over many miles, including the main exhibition hall and multiple hotels. (This will change next year: all high-end exhibits will be centralized at the Alexis Park Hotel.) Everything at HiFi '96—exhibits, seminars, and concerts —took place in the Waldorf Astoria, making it possible to see and do much more in a much shorter time.

My job was to cover the Lexington Avenue side of the Waldorf's 9th and 17th floors—17 rooms in all. This more restricted coverage allowed me to spend more time in each room. This is fortunate, as many rooms contained products from more than one manufacturer.

In the Esoteric Audio room were the exotic-looking Gallo Acoustics Nucleus Solo speakers and Bass Balls Auxiliary Woofers in SpaceFrame Stands driven by a $3400 Mesa Engineering Baron Amplifier. The Gallos produced a sound that was clear, fast, dynamic, but bright.

Brian Tucker of Pro Audio Ltd. had just introduced the Matisse Reference monoblock amplifiers, with chassis beautifully crafted from silver and gold, higher output power (120W ultralinear mode, 60W triode mode, both into 4 or 8 ohms), and a price of $12,500/pair. The finish of these amplifiers was remarkable—among the best I saw at the Show. They were driving the $9800 Wilson Benesch Advanced Composite Technology (ACT) One loudspeaker, which features drivers with a carbon-fiber composition, silver wiring, an enclosure with a triangular cross-section, and a very simple crossover. Also shown was the $7495 Wilson Benesch ACT 2 turntable/tonearm with built-in Stage One moving-coil head amplifier/RIAA equalizer, which allows the user to plug the turntable directly into a simple control preamplifier. The finish of the Wilson Benesch product line was outstanding, especially the loudspeaker and amplifier. Listening conditions in the Pro Audio room, however, did not allow me to make a fair evaluation of the sound quality.

Australian designers Audio Labs of Melbourne presented their ML825 Mk.II 250Wpc amplifiers, which feature balanced or single-ended inputs and arrays of 20 small elec-
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trolytic filter capacitors rather than the two large electrolytic capacitor cans typically found in American amplifiers. The Audio Labs amplifiers were driving $5000/pair Ambience Ribbon Hybrid Series planar loudspeakers manufactured in Newmerella, Victoria, Australia. I played "The Hit" from James Horner's "Parrot Games" soundtrack, and found these impressively tall (63") ribbon speakers imaged well and delivered full, deep bass, but seemed to emphasize the midrange and treble in the room in which they were displayed.

Other rooms were notable for their cost-no-object turntables, each a unique blend of technology and sculpture, as well as a testament to the staying power of analog. Helmut Leitmer, president of Thorens, proudly showed me his company's 40kg Prestige turntable, a totally handmade, belt-driven turntable with two SME tonearms, a massive black platter, a full range of selectable speeds (33 1/3, 45, and 78rpm), and a list price of $30,000.

Smaller dynamic loudspeakers at the Show proved to be appealing because they had been set up carefully and were driven by excellent electronics. NHT's SuperOne speakers ($380/pair) added the bass response missing from their SuperZero minimonitors. NHT's Ken Kantor and Eric Suh set up the new SuperOnes with the tweeter on the bottom, and the resulting sound was fast, detailed, and somewhat "up front," but always pleasing. Ken was proud that the SuperOnes might be the center of an "entry-level $1000 high-end system." The $2500 Linaeum Model 10's new "True Line Source Driver" 1.5 dipole omnidirectional midrange/tweeter was demonstrated by the company's president, Benjamin Stutz, using a Quicksilver Model 60 30Wpc tube amplifier. The small tweeter assembly sits atop the cabinet for the Model 10's 8" woofer and generates a wide, even soundfield with no beaming or directionality.

The Tenth Floor: Thomas J. Norton & Jack English

Of the rooms I was assigned to cover for this report, by far the best-sounding was shared by Aerial Acoustics and Mesa Engineering. The Aerial 10Ts were being driven by a Mesa Baron amplifier — I'm not certain which model, as this amplifier can be driven triode, pentode, or a variety of points in between. I think it was ½ triode — or was it ½ pentode? No matter, just great sound, though with some bass unevenness from the squarish room. The front-end consisted of a Wadia CD player, Basis turntable, Graham arm, and Benz cartridge. Cables were from FMS. This was the first room I visited; but I was even more impressed when I returned on the last day. Definitely one of the best-sounding rooms at the Show.

As was another room featuring the same Aerial Acoustics 10Ts, but driven now by an Audio Research D400 Mk.II solid-state power amp. Great sound, though different in exactly the ways you'd expect from the substitution of solid-state amplification — a less warmly rich but tighter and more detailed balance. Aerial was also showing their new surround and center-channel loudspeakers in the solid-state system, but after the first day they'd rolled the video monitor out of the way and were concentrating on two-channel stereo.

If you've never heard of Silvaweld Audio Lab, Inc., don't feel like the Long Granger. This Korean manufacturer of tube electronics is attempting to line up US distribution, though as of the time of my visit they had not yet done so. I couldn't really judge the sound; they were using some very strange loudspeakers (15" woofers with a single large, black tube-like horn perched above it for the mids and highs). The top end from these odd, Cyclopean beasts was slow; they were using LP as a source, and the inevitable ticks and pops were not only prominent, but clearly time-smocked as well. But the loudspeakers were only brought in to demonstrate the amplifiers (?) and are not intended for commercial sale. The real story was the full line of electronics on display, including a big 240W, output-transformerless (OTL) monoblock amplifier design (with eight 6C33C output tubes), a 100W OTL monoblock, a 30W triode inte-

TJN's Best

While $60k-and-up loudspeakers such as the Avalon Osiris and the Wilson X-1/Grand SLAMM made a big splash at the Show, two new, much more real-world loudspeakers grabbed my undivided attention. These were the Mission 754 Freedom 5, which won't break the bank at $3000, and Paradigm's Reference Series Studio/100, at $1800 (both per pair). The look of the Paradigm was a little less designer-friendly than the slender, elegant Mission, but it is also less likely to fracture your credit rating. Both loudspeakers will have complementary centers, surrounds, and subwoofers, making possible a full Home Theater system built around good music loudspeakers—for those heading in that direction. Even cheaper was the new NHT SuperOne, a powerful little package at $350/pair that answered the perennial question about the otherwise excellent NHT SuperZero. "Yeah, but where's the bass?"

The bass was certainly there in a prototype of the new Velodyne F-1800R servo subwoofer. In fact, the small room in which I heard it could not possibly do it justice. It uses an 18" woofer but is a very different design from the still-current ULD-18. Plus, at about $2000, the new sub is $1000 cheaper.

The biggest nonproduct news at the Show was the DTS launch. DTS, the other 5.1-channel discrete surround-sound format, announced a slew of imminent music software releases on CD, and a dozen hardware licensees (all of them high-end companies) who intend to come out with surround-sound processors incorporating DTS decoders. There are unconfirmed reports, as I write this, of further hardware support lining up. While DTS is (wisely, I think) emphasizing the audio-only potential of their format first, a significant release of DTS-encoded films on laserdisc—still in negotiation as of early July—is also likely.

— Larry Greenhill

— Thomas J. Norton

Stereo|Phil, October 1996
A Boo in Toyland

An hour before, I'd been in the sun of Canal Street — seemingly peopled only by pretty women in scant summer things. But now I was in the corridors of The Waldorf, where the demographics tilted more towards men of a certain age and waistband measurement.

Despite these reservations, despite an ignorance of hi-end audio rivalled only by certain plankton, I forged ahead. The first thing I noticed was, in all the hotel suites where the equipment was displayed, all obvious furniture had been removed, except for the headboards which were bolted to the wall. Apparently The Waldorf considers all its guests potential headboard thieves.

(likewise, the composition of the headboard well reflected the prestige of its manufacturer.)

Combined with the tight seating and solemn demeanor of the faithful, the rooms resembled only one thing in my experience...

Show no fear, you have a Stereophile Press Pad!

...until the demos, which held out promises of a sound that will change your life!

I can only bear to have my life changed so often in one afternoon, so I went off in search of clarification.

The folks from Virtual Listening Systems were putting on a terrific demonstration of their Auni Personal Home Theater. This device, through digital processing, converts five-channel surround-sound into two channels for use with conventional headphones while retaining the full surround-sound effect. Currently, Pro Logic decoding is built into the device.

Grated amplifier, a preamp, and a 15W single-ended monoblock amp (30W in push-pull). Prices and availability will depend on distribution arrangements. If they run true to form for Korean manufacturers, however, their prices might be surprisingly reasonable. And at least the products look nicely built and very well finished.
but Dolby Digital is planned for the future as well. It really seems to work, unlikely as the idea may sound. On calibration test tones I could definitely and distinctly localize all of the "channels," with the surrounds clearly placed—as I recall, they came from just slightly to the rear of the immediate side positions.

VLS had put together a special video tape to demonstrate the system's capabilities. As effective as the Pro Logic simulations were, significant portions of the demo appeared to have been done in straight binaural sound—which you don't need special processing for. Guess what? The binaural sections were definitely the
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SERIOUS LOUDSPEAKERS FOR SERIOUS LISTENERS.
more startlingly effective. Nevertheless, Pro Logic on the Auri does work, though with the normal headphone problem of insufficient visceral bass weight—a significant shortcoming for Home Theater sound. Can’t blame the Auri for that, however. Effective Home Theater headphone sound via headphones would be a real boon to Home Theater fans who have a problem cranking up their loudspeakers—but remember the usual cautions about listening to headphones at excessively high levels! A review of the Auri is planned for the Stereophile Guide to Home Theater.

Sixth Avenue Electronics had the sort of eclectic room favored by retailers—gotta show all the stuff—but the only new thing I heard there was the JBL $1800 symmetrical vertical-array loudspeaker—$1680/pair with two 8” drivers and a bi-radial horn. The setup was not conducive to any real sonic judgment. My most vivid memory of the room was the watching scenes from Cliffhanger, seated 6’ away from a 61” Toshiba projection television, sans soundtrack, while the flanking JBLs were playing Italian opera. Very weird.

— Thomas J. Norton

D J. Casser—Black Diamond Racing’s founder and former stock/commodity Chicago floor trader—was demonstrating his high-technology Shelves and Pyramid Cones. They were no doubt part of the impressive sound in the rooms he shared with Timbre Technology, Synergistic Research, Acoustic Sciences, and Esoteric Speaker Products. The electrostatic-looking and -sounding ESP Concert Grands ($15,000) were actually using seven dynamic drivers to produce very satisfying soundstaging, detail resolution, and transient performance while being driven by a pair of Conrad-Johnson Premier Eight monoblocks.

In another room, ESP’s new six-driver Bodhrans ($6000), another design with a benign impedance load and high efficiency, sounded lovely driven by Transcendent Sound’s OTL amp (available in 35W stereo and 100W monoblock configurations for $2995 and $5995/pair, respectively). Both rooms were fully wired by Synergistic (no doubt following the instructions in their clever Explorer’s Guide to Cables), treated moderately with products from ASC (unlike other rooms, which were virtually resurfaced), and front-ended with a TT-1 DAC and the new $3695 TT-2 transport from Timbre Technology.

While Harmonix was promising production, Marantz was proudly playing actual samples of the Model 7 preamp ($3800), Model 8B stereo amp ($3800), and Model 9 monoblocks ($4200). While this fulfillment of a promise made at the Winter CES was great news all by itself, the new Project T-1 tube amps were also on active display driving a pair of B&W 801s. The new amps ($25,000) featured the same look and feel of the older models’ champagne hue and top-mounted open tubes. The T-1 is a 50W, push-pull, 300B/845-based design, and the sound was very easy to listen to. Another promise from the last CES which reached production was CD Blacklight from AudioPrism, the folks who brought us CD Stoplight. At $39.95 per flourescent unit, the new tweak is touted as the most significantly add-on improvement yet to digital. And because it’s totally reversible, moderately inexpensive, and does nothing to either your equipment or your CDs, it merits a serious audition.

Two other tweaks caught my eye: the Tube Tapper from Dynaclear and Sound Ground from Straight Wire. Dynaclear’s $2.50 Tube Tapper is a real pencil (lead included) with a double-headed, T-shaped eraser mounted on the end. Gently tapping tubes with this “hammer” provides information on microphonics, while several taps should dislodge oxidation from filaments, grids, and plates. If the device is used, everyone’s favorite diagnostic tools—or fingers—are kept away from burn and shock hazards, and natural body oils are kept from the cherished fire bottles.

Straight Wire’s $49.95 Sound Ground was a similarly clever device consisting of a (straight) wire (I couldn’t resist) on one end with three extended pieces of wire on the other, all terminated in clips. The single end is to be connected to a “safe potential electrical ground location.” The other clips are to be connected to external chassis screws of other system components. Given the complexity of interactive component EMI, the Sound Ground could prove a useful addition to the tweak toolkit.

Joseph Audio’s flagship loudspeaker, the RM50si, sounded and looked impressive, with a clearly improved cabinet finish. It was presented by Park Avenue Audio and driven by Golden Tube Audio’s SEP-1 preamp and SE-40 class-A single-ended stereo tube amp. The digital front-end was McCormack’s SST1 and DAC1, while the analog was SOTA’s Nova turntable with an AudioQuest P78 tonearm and Audio-Technica ATML 150 cartridge. Resonance-tuning M&Ms were available for listeners in the vestibule.

Other rooms that impressed me with musically truthful sound and oasis-in-the-desert satisfaction included: the Ensemble system, which was being presented by ex-Stereophile reviewer Guy Lemco when I visited; the Audio Research/Genesis setup, featuring the DAC 3 and CD-T-1

Transcendent Sound’s OTL amplifier
transport, Reference 1 preamp, and Reference 600 monoblock amps from AKC, and Genesis’s Digital Time Lens and Model 300 speakers ($25,000); and the Audio Nexus room, with the T1000/13SP-9000 from Enlightened Audio Designs, an Illuminati digital cable linking a Melos 333 Gold/Plottometer-equipped preamp to their new Triode SE75 single-ended, 75W monoblock amps, which in turn drove Vandersteen 3A speakers via Kimber KCAG interconnects and 4AG speaker cables.

—Jack English

The Sixteenth Floor:
Lonnie Brownell, Robert J. Reina, & Russ Novak

Up on the 16th floor, Platinum Audio teamed with NYC dealer Stereo Exchange to create a setup featuring McCormack electronics (Power Drive DNA-1 amps, $1995; Digital Drive SST-1 transport, $1495; DAC-1 DAC, $995; and Active Line Drive ALD-1 preamp, $1745)—oh, and of course, some of Platinum’s Phil Jones’s bass guitars hovered in the corners. Platinum’s Reference Two speakers ($7995/pair) were the stars of this particular Show, offering a detailed but not aggressive presentation of Dr. John and his orchestra.

Speaking of Stereo Exchange, they had rooms, or parts of rooms, or parts in rooms, all over the place. One such room featured Snell C/V preamp, $3000; Aleph 2 amp, $3000 each) feeding a pair of Energy Veritas 2.8 ’speaks ($6000/pair), with both rooms using Monster Cable speaker cables and interconnects. These two rooms provided a good demonstration of the “pay more, get more” principle—to my ears, anyway. Both rooms were enjoyable, but the latter room was... well, more so.

Stereo Exchange had yet another room, in which they were paired with Stanalog Audio Imports (importers of such van den Hul cartridges as the oddly named Frog, $2500, which they were demonstrating) and ProAc, who had their Response 3.5s ($7500/pair) wired up and fired up. The Frog was mounted (sounds like high school bio lab, doesn’t it?) on a VPI JMW Memorial arm ($2200), and that on a VPI Aries ‘table ($2300—you can get the arm/table combo for $4300), all of which made this analog-lovin’ man’s heart beat a little faster. Everything else was from Audio Research: mostly familiar items (VT100 amp, CD1 CD player, PH-3 phono preamp), but with the brand-new LS10 preamp ($2995). The wire products were from MIT: MI-330 Phono Terminator phono cable, MI-330 Pro Line balanced interconnects, and MH-750 bi-wired speaker cables. This was one of those rooms that made Rick Rosen’s guest, Max Roach, marvel at how good those of 33s can sound.

Velodyne and Cinepro were showing off their latest wares together. Velodyne had their new Pro Monitor loudspeakers ($2500/pair), which are just the thing for those who need it loud and clean. With a sensitivity of 96dB and the ability to play at 132dB with 0.15% distortion, a pair of these could really upset the balance of power in your neighborhood. The Pro Monitors were paired with Velodyne’s new F1800-R subwoofer ($1999), which comes with a 600W amp—yes, the place rocked!

Cinepro were using their 600X amps to drive the Velodynes. These 200Wpc brutes go for $799, putting them way up there in the watts-per-buck category. Cinepro also has a plethora of multifaceted power conditioners and accessories, like the Power Station II ($349), which does the usual conditioning and surge protection but also features what look like a pair of control knobs on the front panel. If you pull on them, however, they come out of the chassis, attached to long aluminum tubes that contain lights! Yes, it’s a way to illuminate your rack-o-stuff, integrated into a component!

Cinepro also has the Power Sequencer II ($449), which provides filtration and surge protection, but which also turns on its three banks of outlets in a timed sequence—the first bank fires up two seconds after turn-on, the second after six seconds, the third after twelve; the sequence is reversed for power-down. It’s a handy thing if you’ve got source components that have nasty turn-on (or turnoff) thumps, bumps, moans, or groans. Cinepro’s Power Supply II ($749), besides offering conditioning and protection, also holds the AC voltage at a steady 117V no matter what’s coming into it from the wall.

Farther down the hall, the Denon folks had two adjacent suites, one for audio and one for Home Theater. The audio
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When you become disenchanted with the ordinary, I invite you to audition Martin-Logan technology. One of our chosen specialists will show you what it is to touch space, feel an image, **experience the next level**.

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one featured mostly silent displays, but I was lured to the D-F10RC minisystem ($1600 for a whole system) resting comfortably in a windowsill! I tried to play a CD, but the CD player wasn't hooked up to the preamp; however, I noted that the system had a cassette deck, the only one I noticed throughout the whole Show.

Right next to the D-F10RC system was the DN-1400F 200 CD changer ($4800), complete with see-through top; I'm not sure what kind of mode they had this thing set to, but it kept changing CDs one after another, as if a couch-potato with a remote was scanning endlessly for his favorite tune. Gazing down on those vertically arrayed CDs, the mechanical arm scurrying back and forth to put one CD back, then grab another, it looked very much like a good 'ol 45 jukebox — ah, nostalgia! Very unnostalgic, however, is the fact that you can hook it up to your PC or Mac via serial or SCSI, and use the software they provide to give you a fully automated playback experience.

Next door, in their gaily video room, an all-out assault system consisted of Denon's AVP-8000 AC-3 and THX 5.1–capable preamp/tuner/processor ($3500), three massive Denon POA-S1 mono power amps (250 lbs each, $20,000/pair) for the front channels, Denon POA-S10 amps ($1200) for the surrounds, Denon LA-3500 AC-3–capable multidisc player ($2000), a Runco 1DP 980 video projector, Stewart Filmscreen screen, Straight Wire's straight-but-bendable wires, and a B&W THX loudspeaker system. They were packing 'em in, just like a real theater. If they'd served popcorn, it would've been perfect.

Lucky me — one of my assignments was to cover the *PopeMusic* room, an oasis of outstanding sound in a desert of... well, sometimes less than compelling sound. They were running a demonstration where they'd play excerpts directly off their 24-bit Sonic Solutions editing workstation — this is playing from computer hard drives, not tape or CD, mind you — first applying the necessary EQ via their Cello Audio Palette, and then playing it back through their all-Cello system through Cello cables and amplification. Later, we'd retire to the listening room to hear the playback of what we'd just heard live. Well bless my Starbucks travel mug! If this isn't just the kind of thing that most audiophiles *dream* of doing, then I don't know what is. (Maybe I don't want to know.) Lee and Tommy did their jazzy thing, Konitz's breathy tenor gliding above Flanagan's masterful piano work. After considerable cajoling, Mark joined in on bass for a swinging blues workout that was loose, funky, and just plain fun.

On the second floor we assembled in the big (and I do mean BIG) listening den, featuring a top-of-the-line Cello playback system and, again, serious RPG treatment. The first cut was cued up. The music came up and lights went down. And it sounded... good. *Real* good. Maybe the best reproduction I've ever heard. But it was still reproduction; it just didn't have that certain presence that the live version had. Of course, the microphones' POV was totally different from that of my ears, and my position for the playback was, frankly, less than optimal. Don't get the idea I was disappointed. Far from it! Tonally, it was accurate, and the big system's ability to portray the weight and power of the piano was awesome. It was a great recording, and a great system played it back — but live is still the Holy Grail.

The Cellists put on demonstrations like this every night of the show — on other nights, Max Roach and Jacky Terrasson played — for which they deserve some kind of award for "Best Off-Site Exhibit/Event/Really Great Thing." I wish everyone out there in audioland could take the Cello Challenge. What a treat! A shining highlight from a stellar HI-FI Show.

Thanks to all the folks at Cello, especially Don Bouchard for inviting the two of me, and Mark Levinson for making it all happen.

— Lonnie Brownell & Richard J. Rosen

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**CAZZ AT JELLO: LONNIE BROWNELL & RICHARD J. ROSEN**

*S o, you guys have plans for tonight?*

It was Cello's Don Bouchard. I looked at me and shrugged. We didn't know what we were doing during the day, let alone later that night.

"We're having a little thing over at the Cello Design Studio — it's going to be pretty cool, you want to come?"

"Sure — I'll both be there, Don. Thanks!"

The Cello Design Studio is a three-story townhouse in midtown Manhattan, and it seems more like a combination living space/art gallery than an audio design shop. In the third-floor recording studio, a piano waited, surrounded by chairs, with recording equipment tucked away in a couple of wooden racks by the door. The walls and ceiling were lined with custom RPG acoustic treatments; combined with the capacity crowd (about 15 people), the room was neither dead nor lively, but approached some semblance of "neutral" in between.

Mark Levinson stepped forward to explain that jazz legends Lee Konitz and Tommy Flanagan were going to play for us, and while they did, Mark would record the event, using a pair of his customized laboratory-calibration mikes feeding a 24-bit Nagra-D recorder
Magic
To Your Ears

http://www.svetlana.com
in their fully RPG-treated suite. The excerpts played from current and/or upcoming releases of a Chopin Scherzo, Shostakovich's Symphony 5, and Strauss's *Einheldenleben* were stunning, breathtaking, dizzying, and wonderful, all at the same time.

Hey, I could go on, but I'm over my word count already. See you next year in San Francisco!

—Lonnie Brownell

**Audio Research** introduced their new all-tube 100W stereo amp, the VT10 ($4500), which sports single-ended and balanced inputs as well as some technology trickled down from the Reference 600 amplifier. Paired with ARC's new all-tube LS15 line-stage ($2995), and their PH-3 phono stage and digital front-end, the sound in the Stereo Exchange room driving a pair of ProAc Response 3.5s had the air, staging, and midrange bloom I've heard from more expensive ARC products. Black discs were spinning courtesy of VPI's new Aries turntable ($2300, $4300 when paired with the JMW arm) and the new van del Hul Frog — a more cost-effective ($2500) derivative of the Grasshopper cartridge.

**Monster** showed their new M-series speaker cables with impedance-matching network terminations: the M2.2 and M2.4 bi-wire, as well as the less expensive M1.2 and M1.4 bi-wire. Prices range from $125 to $350 per 10' pair.8

**Jeff Rowland** exhibited his gorgeous Synergy preamp ($4800) and Model 2 amplifiers (75Wpc for $5800) alongside Sig-Tech's AEC time-field room-correction technology.

8 Monster Cable also announced that their M-Series Silver Video M1000V cable is the first video cable to be certified by the Imaging Science Foundation (ISF). The event also included technical demonstrations measuring the bandwidth of a variety of video cables that showed the M1000V to have the widest bandwidth of the cables tested.

**Bob Reina's Most Exciting New Affordable Products at the Show**

I found three highly affordable products that produced some of the best sound at the Show, period. They represent major achievements by creative designers trickled down their technology to lower price points. And two of them were playing together in the same room!

The $999/pair Epos ES12 was producing some of the finest sound importer Music Hall has ever achieved at a show. This modest two-way features a new aluminum-dome tweeter and an injection-molded cone bass/mid driver.

Hiding off in a nondescript corner in one of the **Sound by Singer** rooms were a pair of components that created an involving, seductive sound I could have listened to for hours. The diminutive **Sonus Faber** Concertinos ($995/pair, $450 for stands) mated spectacularly well with the **Krell** KAV-300 integrated amp ($2250). The Sonus Faber, featuring a front-loaded reflex port (“posto sul fronte” in the company literature), was producing a sound that shared the seductive magic (and quite reasonable bass response) that I've come to associate with their more expensive designs. And both products are sexy-looking to boot!

—Robert J. Reina

**The Seventeenth Floor: Robert Harley & Larry Greenhill**

**Data Conversion Systems (dCS),** the British company that supplies high-quality A/D and D/A converters to the professional audio market, introduced their first consumer digital processor at HI-FI '96. The $8888 Elgar is based on dCS's popular DC9524 professional converter, considered by many mastering engineers to be the DAC to beat for sound quality. For the consumer version, the circuit has been moved from an industrial-looking chassis to a beautifully sculpted enclosure with a slate top. Highlights include multiple digital inputs, an informative display, and a digital volume control.
PERFORMANCE IS EVERYTHING.

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PROAC USA P.O. Box 812 Brooklandville Maryland 21022 410-486-5975
New York retailer Innovative Audio demonstrated an audio/video system consisting almost entirely of products being shown to the public for the first time at Hi-Fi '96.

The Elgar D/A converter can run at 96kHz sampling with a claimed 24-bit resolution.

The Elgar uses DCS’s proprietary technology, which can accept up to 24-bit input signals at the standard sampling rates of 32kHz, 44.1kHz, and 48kHz, along with future formats with sampling frequencies of 88.2kHz and 96kHz. There’s too much interesting technology in the Elgar to describe in a show report, but watch for a full review soon.

DCS’s US distributor, Canorus, demonstrated the DCS952 with a special interface that allows a Nagra-13 four-channel open-reel digital recorder to record and play back up to 24-bit audio at 96kHz through the DCS952. Comparisons of the same recording at 44.1kHz/16-bit showed how much better digital can sound with a higher sampling frequency and longer word length.

The playback system used the Canadian-made Focus Audio Model 88 loudspeaker powered by Reference Line electronics. The Model 88 is a slim three-way design using an 11" Eton Kevlar woofer, 7" Eton Kevlar midrange, and a 1" Scanspeak Revelator tweeter.

Next door, I heard the smaller Focus Model 78 loudspeaker driven by the gorgeous Audion Quattro single-ended triode amplifiers. The front end was an analog Nagra IV-S machine outfitted with tubes playing open-reel tapes through a Reference Line preamplifier. The Nagra’s input stage has enough gain and sufficiently low noise to be used as an MC phono stage.

New York retailer Innovative Audio demonstrated an audio/video system consisting almost entirely of products being shown to the public for the first time at Hi-Fi ’96. This included the Thiel CS6 loudspeaker driven by a Classé CP-60 preamp, Classé CA-400 power amplifier, and CIJT-1/DAC-1 transport processor combination. Cabling was all MIT.

When the system was switched to Home Theater mode, three Thiel SCS 2 loudspeakers (a complete redesign of the original SCS) provided center and surround loudspeakers. These were driven by the new Classé CAV-150 six-channel power amplifier ($3595), whose output power and number of channels can be reconfigured by the user. (In Innovative’s demonstration, the CAV-150 was a three-channel amplifier.) The demo also featured the new Lexicon DC-1 modular Home Theater processor ($2500-$4000, depending on options). The expandable unit can be configured with a variety of decoding options. Lexicon is offering a trade-in program through their dealers for owners of Lexicon CP-series processors who want to upgrade to the DC-1.

For the video part of Innovative’s presentation, the new Sony 40” rear-projection multiscreen tabletop monitor ($12,000) provided a stunning picture with a Faroudja LD-200 line doubler. The source was a Pioneer CLD-99 Elite laserdisc player.

Toshiba took out a pair of rooms to demonstrate their forthcoming DVD players. This was the first DVD presentation in which the DVD hardware was contained within a consumer-sized chassis; previous demonstrations used large industrial boxes filled with hardware. The company ran organized showings in one room, and had DVD-sourced clips playing continuously on their new line of video monitors in the other. The $699 SD-3006 and $599 SD-1006 DVD players were scheduled for release last month—at the time of writing it was not clear if product would reach dealers’ shelves by then due to wrangles over copyright.

Kenwood provided listening demonstrations of their Stage 3 electronics, first shown in prototype form at the 1996 WCES. The Stage 3 preamplifier (the KC-Z1) features a large hand-held touchpad with icons and menus rather than buttons for controlling a music or home theater system. Two-way communication between the touchpad...
Exceptional Performance
and the preamplifier provides continuous updates to the touchscreen display. The KC-Z1 incorporates Dolby Pro Logic and AC-3 decoding and is THX-certified. The preamp matches the KM-X1, a 120W, THX-certified, five-channel power amplifier. The KC-Z1 sells for $2800, the KM-X1 for $1200. (For more on home theater electronics at Hi-Fi '96, see my report in the next Stereophile Guide to Home Theater.)

Hi-Fi '96 saw the debut of the new model 300 loudspeaker from Genesis Technologies. The $25,000 300 replaces the II.5 that I've used as a reference for the past two years. Instead of using two 12" servo-driven woofers, the 200 features six 8" servo'd drivers per speaker. The 300 was also given a bigger (1500W) four-channel woofer amplifier. The new loudspeaker has a much thinner profile, with the wings swept back for a less imposing look. They sounded excellent with the Audio Research Reference One preamplifier. Reference 600 monoblock power amplifiers, CD/T-1 transport, DAC-3 processor, and Genesis's Digital Lens.

—Robert Harley

Exotic multiproduct displays were seen in many of the Waldorf's upper-floor exhibit rooms, especially single-ended triode amplifiers. The most exotic amplifier I saw was the Komuro Audio Labs Model 845, a 22W monoblock with a huge output tube and a $9800/pair price tag. The 845s were driving the 95dB-sensitive Evett and Shaw Geneo Single-Ended Transducer: a three-way, floorstanding dynamic loudspeaker. The Geneo's enclosure is designed to be narrow but deep, with a side-firing woofer much like that of the NHT 3.3. Analog source material in the Komuro display was played on a $7000 cast-marble and lead-based Walker Audio Proscenium Gold turntable, with an air-bearing arm and 70-lb platter. When the exhibitors played a blues recording, the system was capable of generating a good central image while still sounding dynamic and involving.

An international mix of products could be seen in another room, where I heard an Italian 13Wpc single-ended triode amplifier driving the New York State-manufactured, $6200/pair Brentworth Sound Lab loudspeakers via French Audio Matière cables (Holography, Inc., importers). Audio Matière Presence interconnects ($498/1m) were used, as well as Yin Yang II speaker cables ($95/stereo foot) and an A/C power cord ($239/2m) from the same company. Kenneth McCarthy, Brentwood's president, explained that their Dynamic Loading System enclosure allows for the twin 6.5" dynamic drivers to produce a wide range of frequencies with the high sensitivities required by single-ended triode amplifiers. The loudspeakers had no tweeter or crossover, and had a claimed sensitivity of 102dB (conditions not specified). Analog source material was played on an Immedia RPM-2 turntable with a Lyra Clavis Da Capo cartridge. This room featured some of the most smooth, effortless sound I heard at the Show.

Big audio systems seemed to congregate on the Waldorf's upper floors. Richard Sequerra and Ana Yard of Richard Sequerra Associates demonstrated a price-no-object set of components capable of playing with an awesome, lease-breaking dynamic range. The system included a state-of-the-art $80000 preamplifier, the RSA PS-1; the four-chassis, class-A, 100W RSA UA-1 tube amplifiers ($75,000); and the $70,000/pair RSA Signature Mk.2 loudspeakers. The Signature, clad in African Bahamaga wood, appeared to be multideriver dynamic loudspeakers in the standard Sequerra metro-nome configuration, with separate subwoofer enclosures. The company expects "substantial sales in the Far East" for this $153k system; it certainly was not exceeded in price by other systems I visited at the Show.

Those favoring Home Theater installations found that the JBL Synthesis system set up on the 17th floor matched Sequerra's decibel for decibel. Dean Christensen, JBL's Sales and Technical Services Manager, demonstrated this system with its two factory time-aligned tower speakers featuring compression horns and subwoofers, a large center-channel speaker behind the acoustically transparent screen, a 5.1 rack of equipment (multiple amplifiers, AC-3 decoder, and a Faroudja VP-400 line quadrupler), and an Imaging Science Foundation-calibrated Runco IPD-980 projector. The system features a digital signal processor for digital equalization to customize the system to each room. Each JBL Synthesis dealer will utilize a five-mike setup and special software for custom installation of the $47,500 system. The demonstration—featuring a rock video by Sting and the opening five minutes of The Lion King—convinced me that this system could reproduce the dynamics and "feel" of a movie theater much more closely than other Home Theater setups I have auditioned, although I felt that the overall spectral balance was somewhat bright.

Still, I found myself preferring the smaller speaker...
If you've been reading about DVD, you've seen a lot of references to Toshiba. That's no coincidence. Toshiba led the way in developing DVD technology. Technology that includes a component video signal, which means a picture better than laser disc, and three times better than VHS. Six discrete channels of Dolby® AC-3® digital surround sound and up to eight languages. Multiple aspect ratios (16:9, letterbox, pan and scan). And the versatility of multiple subtitles, camera angles and rating edits. All on one disc. So, if you enjoy being on the leading edge of home entertainment technology, you know that DVD is where it's at.

When you're ready to experience the brilliant picture and the extraordinary sound that DVD delivers, won't it make sense to get the technology from its source? Toshiba is the source of DVD technology. And DVD is the future.

For more information on Toshiba DVD, call 1-800-631-3811.
systems. Moving down the hall from the Synthesis, I heard the JBL Century Gold, a limited-edition model issued to commemorate JBL's 50th anniversary. Although the first production run of this very attractive three-way dynamic design ($5000/pair) has been sold to dealers in Japan, it played with such detail and transparency that I wanted to hear it in my own listening room. It was bi-amplified with a Mark Levinson No.331 for the midrange-tweeter section and a No.333 for the 12" woofer.

To hear the best sound at the Show, I had to roam even farther outside my assigned reporting area — to Chain's Chinese Restaurant for the Stereophile Staff and Writers' dinner held the last night. There, to the tune of "Oklahomani," fellow writer Robert Deutsch sang a tribute titled "Atkinson!" to commemorate JA's 10th anniversary as Editor. Performing without benefit of accompaniment or microphone, RD sang on key, mixed grace with power, hit all the high notes, and brought everyone to their feet for a standing ovation.

— Larry Greenhill

Stereophile's writers presented JA with a Martin acoustic bass guitar to celebrate his first 10 years at the magazine.

**The Eighteenth Floor:**

**Richard J. Rosen**

This was the most lively area of the Show. Its setup of booths of varying sizes lent it the feel of an open-air market in Morocco where all kinds of audiofolk gathered to discuss, to barter, and to actually shop. One could step over to Lyle Cartridges, where all kinds of analog-friendly wares were displayed; or jump back and forth, as I did, between their accessory-vending neighbors May Audio Marketing and The Audio Advisor to comparison-shop for a carbon-fiber record brush.

While trying to decide on my purchase, I was accosted by an excitable gentleman by the name Harvey Rosenthal. He wanted my opinion of the items on the audio want-list he produced from his clipboard, and asked for advice about headphone amplifiers. "Tyll Hersens is the man you want to talk to," I said, pointing to the HeadRoom booth. Mr. Rosenthal coaxed me into helping. He listened to his Grados straight out of his CD portable, then through a Little HeadRoom. I followed suit, and concur with his cars. The Little sounded richer, more controlled and more musical.

"Should I buy it, or spend my money on something else?" I asked how often he listens to headphones. "An awful lot! Buy it immediately," was my advice. And Harvey, trust your cars, they work just fine.

I hung around to listen to HeadRoom's new Cosmic top-of-the-line portable amp. Playing "La Nevada" from Gil Evans's Out of the Cool! I switch-listened between two pairs of Grado 'phones. To my surprise, the less expensive SR-325s had more authority and better sound than the SR-1 Signatures. Being in a headphone kinda mood, I jumped across to Sennheiser for a little inside-the-head vacation with the cost-no-object Orpheus system. Ahhhh... Just to be a completist, off I went to the Grado display: several listening stations, no waiting. I repeated the comparo of the SR-1 and SR-325 cans, and this time the natural-wood SR-1s won out for musicality. Go figure. Maybe it had something to do with the non-Grado-approved replacement earpads HeadRoom uses for comfort's sake. Anyway, they're both great. Listen for yourself!

Quite a plethora of software abounded among the booths. M-A, DMP, and Sheffield were selling their exquisite recordings. I bumped into the newly freelanced Joe Harley. He gave me Blues Union, a good'n'soulful new one from AudioQuest Music. I'm glad Joe and AQ are still working together. The Chesky brothers had a Tenth Anniversary Special Edition 2-CD set containing a cross-section of their offerings. The Phil Woods cut makes me want to get that record next. From Mapleshade I got New York Dances by Jack Jeffer's N.Y. Classics Big Band, a beautiful, natural recording, produced by Hamiet Bluiett, of 12 consummate musicians playing some choice jazz. Yes, I recommend it. If you dig big bands, you might also like Clark Terry's Express from Reference Recordings. The big, brassy Ellington pieces may just light your fire while they light your little HICD LED.

Perusing all this software almost made me late for the Classic Records press conference, where Jennifer Warnes talked about the new reissue of her famous Famous Blue Raincoat. Ms. Warnes warned me so with her charm, eloquence, intelligence, and her display of bravery in the face of audiophiles,9 that I decided to give a listen to the CD when I got home. What a surprise when I realized I'd listened to the entire disc. The sound is exceptional for CD; about on a par with the high standard set by Classic's vinyl.

No vinyl shortage existed on the 18th floor. DCC was selling their stellar reissues like hotcakes. Chad Kassem of Acoustic Sounds had plenty of new LPs on hand, while Brian Hartsell's The Analog Room satisfied appetites for vintage wax.

10 Her pokerish answer was to a question from The Audio Advisor's Myles Astor: "You know, I'm not from your world..." How true.

— SS
If you think you've never seen a speaker like the Avantgarde before, think again. Those old hand-cranked gramophones had something in common with it. A horn. They needed it for amplification. The horn shape produces the most sound with the least power.

The Avantgarde Trio delivers as much sound with 10 watts of power as an average speaker would with 640 watts, if it could handle it. A bi-amped active system, it produces 105 dB of sound at 1 meter with 1 watt of power.

This extraordinary sensitivity means the signal is rendered more accurately, since the travel distance of the driver is much less than in a box speaker.

The Avantgarde avoids “coloration” and “character” by it’s mathematically determined horn shape which produces a perfect hemispherical wave front. This increases fine detail. Just listen.

Jonathan Valin, reviewing the Trios for Fi, said:

"...they are unquestionably the finest loudspeakers I have heard in my home..."

Avantgarde makes speaker systems from $9000 up to $36,000 for the Profile Trio Compact.

The sensitivity and accuracy of Avantgarde speakers makes them ideal for Audio Note amplifiers, including the legendary Ongaku, about which British reviewer Alvin Gold said:

"It digs deep into the music and lays bare its flesh and soul... Runs rings around everything I have heard, tried, used or borrowed."

The single-ended design of Audio Note amplifiers was developed by Hiroyasu Kondo to give you the body and soul of the performance, rather than mere sonic pyrotechnics.

There are 21 pounds of Italian silver in every Ongaku amplifier, drawn by Audio Note itself into wire which is wound into transformers by hand. So it’s not surprising that the Ongaku costs $89,200. Other Audio Note amplifiers, based on the same principles, start at $1695.

If you want to truly hear all the music on your records, listen to them through an Audio Note amplifier and speakers from Avantgarde at selected dealers. Call us for information.
The place for vintage equipment to go with those old platters was Audio Classics. They trade, modify, and refurbish audio components. While there, I bumped into classic audio guy George Kaye. We engaged in a little pleasant tubular crosstalk while I eyed the classic-looking single-ended and push-pull tube amps across the way at Gubin & Co., all the way from Moscow.

All it took to complete the scene was some of the vintage wire from The Cable Company. They brought out stocks collected from their lending library and created a sort of traveling cable museum that proved to be an attraction in and of itself.

Brand-new interconnects looked mighty attractive as well. Illuminati's custom Japanese projection lanterns drew crowds who staved to check out the new Silver Streak from Kimber Kable. Priced to join their all-star roster between PBJ and KCA, Silver Streak promises to be an all-around player with some heavy-hitting power.

Alpha-Core's new Goertz interconnects, in both silver and copper flavors, shape up to be as flat as their speaker-wire cousins, both in profile and in sonic signature. Vampire Wire displayed their line of connectors for all to see, but they were keeping their lips buttoned about the top-secret file of manufacturers using their stuff.

The Show guide listed it as the Black Silk/Concerto/Encore/Flexconnect/Harmony/Info-Link/Laser-Link/Maestro/Mega-Link/MusicalQuartet/Rhapsody/Sextet/Virtuoso/Waveguide exhibit. Must be a big one, thought I, but when I found it, it was 'I'll of Steven Hill.

Max & Tommy...Visit Rick

My HI-FI '96 highlight had to have been the day LB and I spent playing HI-FI Tour Guide to the greatest drummer in the history of modern jazz, Max Roach. Max has a magnetic intensity about him complemented by a relaxed attitude that's contagious and makes him a pleasure to be around.

I'd asked Max to bring some demo music. He chose M'Booin Live At SOB's — New York (Bluemoon R2 79182, 1992) and Just Wait A Minute by The Uptown String Quartet (Bluemoon R2 79174, 1992). I'd say that records he personally produced—one of his own ensemble and one with his daughter Maxine on viola—would constitute material that was appropriately familiar. Heck, how many of us get to demo with discs we're so intimate with, we know exactly how they should sound?

The joy of introducing friends to the High End is in the thrill of listening through their ears and vicariously enjoying the experience. When those ears belong to a world-class musician whom you admire, it takes on a whole new dimension of exhilaration, gratification, and sheer newness at every turn.

The first exhibits we checked out were run by Stereo Exchange, one with Platinum speakers and McCormack electronics sounding clean and detailed, the other with ProAc and Audio Research coming across warm and rich. Which did Max prefer? "I liked them both, yet they sounded so different from each other. What really impressed me, though, was the thirty-three and a third." Like a lot of folks, Max was shocked at how wonderful vinyl could sound. It was a Sarah Vaughan LP that our host, George Stanwick of Stanalog Audio Imports, had played us on the VPI Arius' turntable and the van den Hul Frog cartridge. As we left, Max said to him, "Thanks, Sarah would've loved it."

The Joseph Audio room was another anal ear-opener. "Hey, those are tubes," proclaimed Max. "I remember those... They still use them? They sound great." They were Golden Tube amps, to be precise, and the Classic Records Billie Holiday LP really wowed him. "It's like I'm right there. That bass drum is incredible." As the saying goes, "Ask the man who owns one."

It was time for me'n'LB to have a treat once we found a cassette player, thanks to Denon. We were some of the honored few in 40-odd years to hear yet another live tape of Clifford Brown & Max Roach recently unearthed by Bruce Lundvall of Blue Note. It was all we could do to tear ourselves away.

As if all this weren't enough, legend-of-the-ivories Tommy Flanagan caught up with us, adding his razor-sharp sense of humor to our merry crew. We headed down to hear some of the big systems from Wilson/Conrad-Johnson and Spectral/MIT/ASC/Avalon. The gentleman from Overture suggested a cut from John Coltrane's Giant Steps CD. Would we like to hear the version of "Naima" with Wynton Kelly or Cedar Walton on piano? "Didn't I do one?" asked Mr. Flanagan, drawing a laugh from the crowd. And odd it was that they played the only track from that album on which Tommy himself was not featured.

When I introduced my guests to Roy Hall, he replied, "Why do I get the feeling I should recognize those names?" As he was being lambasted by his staff, he broke out the fabulous Black Bowmore whisky. Max declined, as he was on the wagon. Tommy volunteered, "I just fell off that wagon!"

Music Hall's system was a favorite of both musicians. Max felt it was one of the very best of the Show, and when I told him how low the price was, he was mightily impressed.

As we passed the Gin Sound room, Tommy offered, "We just heard the scotch sound, what do they have in there?" We stopped in to Paradigm Reference for a little record party, trying to prove there were good "audio-phile" records. The Fairfield Four put any doubt to rest.

As the day drew to a close, my only regret was that DCC had completely sold out their stellar LP reissue of Saxophone Colossus, dashed my hopes for the perfect one-two autograph punch. Max and Tommy thanked LB and me for the wonderful day, and all I could do was thank 'em right back. Their receptiveness and enthusiasm left me energized and more excited about audio than I'd been before.

—Richard J. Rosen
of Straight Wire holding some new inexpensive speaker cables with the look and feel of garden hose! Just the thing for those who want to look like they paid too much.

Tweak of the day was AudioPrism CD Blacklight, the disc that intrigued me. L8, and ST at WCES. I hadn't realized that not only does it smooth the sound of CDs, it glows in the dark. If your transport uses an upside-down Stable Platter, you can just leave it there and get a little kick every time you change discs.

—Richard J. Rosen

John Atkinson tabulates the votes for The Best Sound at the Show

As at previous Stereophile Hi-Fi Shows, visitors were asked to vote for the room that offered what they thought to be the best sound. Nearly 700 attendees responded; my thanks to them.

The ballot in the Show Guide asked visitors to list the best, second-best, third-best, and worst sounds, for which I allocated 3 points, 2 points, 1 point, and -1 point, respectively. (In cases where visitors had split their choice for best sound over more than one room, I divided the vote between those rooms.) The winners are listed in the Table. I've tried to list both the exhibitor and the brands and/or components demonstrated, as listed in the Show Guide and in our report text. My apologies if I've left anyone out.

There is always the possibility of "election-rigging." Sadly, a large number of ballots, voting the Sonoglyph/Divina Voci room as "Best Sound," had been filled out in identical handwriting, but with different names and addresses. These I discarded, but doubt must nevertheless be cast on the high ranking this room achieved.

As always, some Showgoers felt that asking for the "Worst Sound" at the Show was in bad taste. I include this question to get an indication of the unanimity of the voting. A number of rooms among the top scorers, however, received no negative votes at all: the Audible Illusions room featuring the Crosby Speakerworks-modified Quads, for example; the system put together by Legend Audio; the Ensemble and Joseph Audio rooms; and both Aerial Acoustics rooms. Getting such unanimity of approval from such a diverse group as New York audiophiles shows that these exhibitors must have been doing something right.

Unlike last year's Los Angeles Show, where three rooms tied for "Best Sound at the Show," there was a clear winner in New York: the room sponsored by Wilmington, Delaware dealer Overture featuring the Avalon Osiris/Spectral/MIT/ASC "2C31" system. As you will have read in the first part of our Show coverage in September (Vol.19 No.9, pp.80-105), the magazine's writers were bothered by the sound in this room. Not that there was anything wrong with the components used—but while the sound was impressive, the writers felt that the forest of Tube Traps used to tame the Park Avenue Suite's acoustics also made the presentation too dry-sounding; too "audiophile-y," to quote Rick Rosen. The Show attendees emphatically disagreed! Jack English has commented in the past on the disparity between judgments made at Shows by reviewers and by audiophiles in general. It could, of course, be that the professionals are, by inclination or training, more analytical, more judgmental. It might also be that they've lost some of that essential sense of wonder. Your comments, of course, are welcome.

Showgoers generally felt that the sound at HI-FI '96 was better than at previous Shows. Indeed, no fewer than 84 out of the 150 demonstration rooms were rated by at least one visitor as "Best Sound at the Show," reflecting a healthy diversity of taste in sound quality (although a common factor uniting votes for worst sound was the comment "too loud").

As at previous Shows, audiophiles were split on the merits of Home Theater. In general, rooms demonstrating Home Theater were not rated highly by Showgoers. Not surprisingly, however, the best (or, highest-scoring) Home Theaters at the Show were the ultimate ($280,000!) Wilson/Krell/Ronco/Faroudja/Pioneer/Transparent system assembled by Manhattan retailer Sound by Singer and the almost-equally expensive system demonstrated by Cello Music and Film Systems.

And my Best Sound at the Show? A three-way tie: the 24-bit, 96kHz-sampled master tapes in the Nagra/dCS/Caderus/Alema/Focus room; violinist Arturo Delmoni duetting live with himself on the Bach D-minor Double Violin Concerto, courtesy of a John Marks Records Nagra tape, in the room shared by Esoteric Speaker Products, Synergistic Research, Timbre Technology, Black Diamond Racing, and ASC; and Robert Silverman performing live the Liszt B-minor Piano Sonata from his new Stereophile CD (STPH0082). Magic!

One thread that HI-FI '96 held in common with the '95 Show was that the Joly room again received a large and unanimous number of votes for being the Worst Sound at the Show. Was it the sheer visual outrageousness of the Joly speakers—they resemble giant breasts, complete with nipples—that offended visitors? Or was it simply the fact that Joly's ideas on what makes for good sound reproduction are completely at odds with those of the rest of the human race (an idea reinforced by Joly's postings on Internet newsgroups)? Whatever, two "Worst Sounds" in a row is the beginning of a tradition at the HI-FI Show!

Regarding the voting for Best Demonstration Music, many attendees complained about the incessant diet of audiophile demonstration recordings—"I hate the JAZZ. LITE you hear in almost every room," one complained in capital letters. One consistent positive mention, however, was the HDQCD-encoded Rutter Psalm on Reference Recordings (RR-57CD), one attendee commenting that this recording sounded good in every room in which he heard it.

A couple of people asked why the magazine doesn't produce a special Show CD for every exhibitor to use, much as used to be done at the

A

The Real Thing: Steven Stone

It's too bad the general public missed the seminars held on the two Academy Trade Days. Andy Regan of AudioQuest did a superb job of roping in the heavy hitters. Academy seminar presenters included: Tomlinson Holman of Lucasfilm talking about film sound from production to presentation; Bob Stuart...
(Mr. Meridian) discussing Digital from A to Z; Roger Dressler from Dolby covering Dolby Pro Logic and AC-3; Mike and Stephen Smyth with DTS coherent acoustics discrete multichannel encoding; Joe Kane of Imaging Science Foundation covering image quality in high-end theater; and John Hunter and Sterling Trayle of Sunikio analyzing System Optimization.

Besides the Academy seminars, CEDIA (Custom Electronic Design and Installation Association) also ran their own series of seminars, including: “Sales — A Real-World Approach” from Dave Donald of Triad Speakers; “Basics of Home Theater Design” by Mitchell Klein of Media Systems; “From Retail to Custom” by Eric Bodley of Bodley and Associates; and “Multiroom Distribution Systems” by Frank White of Channel Plus Multiplex Technologies.

The two Academy seminars that I found especially engrossing were Bob Ludwig’s talk on the mastering process European Shows. Such a standardized source would make it easier for attendees to compare the sounds in different rooms. One answer is that we already produce a series of music and test CDs that would serve such a purpose. The second answer is that exhibitors would probably not play such a CD, their strategy being to play only preselected selections of their own that would best highlight, under controlled conditions, the virtues of their products. What I recommend to Showgoers is always to take your most-familiar recordings to Shows and ask to have at least one of these played in each room you visit. Be tolerant: If your choice is Nine-Inch Nails or a piece of atonal classical music, don’t be surprised by the straightforward tales of the exhibitors as they watch their room empty!

As well as commenting on the way the Stereophile staff took time off from their day jobs to run the Show so efficiently — and who, led by the indefatigable Laura Chancellor, worked through Sunday night and Monday to make the look-out run as smoothly as possible — I’ll take this opportunity to thank: Kenwood, Chesky, AudioQuest Music, John Marks Records. Clarity Recordings, DMP, PGM, Sheffield Lab, and Classic Records for sponsoring the live music; Robert Harley, Larry Ullman, and Michael Fremer for chairing the “Meet the Designers,” “Home Theater,” and “Vinyl” sessions; Andy Regan and the Academy for the Advancement of High End Audio for putting on an excellent series of seminars on the Academy’s trade days; all the high-end celebrities who graciously agreed to take part in the seminars; the Stereophile writers who were put in the hot seat for the “Ask the Editors” sessions; and Stereophile, Inc’s Maura Rieland, newly promoted to Show Director, for her superb organizational talents and her commitment.

See you all at the end of May ’97 at the classic Westin St. Francis Hotel in San Francisco.

—John Atkinson

### The Best Sound at the Show

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All other exhibitors each scored less than 0.8% of the total votes cast.
Experts Are Talking About Monster Video Cable Technology.

Graph of signal strength vs. frequency generated by the Hewlett Packard 8752B Network Analyzer. Monster's ultra-high resolution Silver Video cable maintains a stronger signal throughout the video bandwidth for the best possible picture.

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—Joe Kane, Imaging Science Foundation President

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Robert Harley organized three well-attended “Meet the Designers” seminars. Here at the digital discussion are (l-r): Mike Moffat (Angstrom), Tom Calatayud (Pfadrigal), and Bob Katz (Digital Domain).

“Measurements can explain how something sounds, but they can’t tell you how good it is!” John Atkinson holds forth on a subject close to his heart: loudspeakers.

— see September, p.89 — and Russ Berger’s and John Knowles’s lecture on room acoustics. Berger and Knowles are part of a nine-person Dallas-based company — the Berger Design Group — that specializes in building rooms for sound reproduction. While most of their projects are for commercial purposes — they’ve built studios for the Dave Letterman show, Sony Music, and Whitney Houston — their talk contained plenty of valuable information about acoustics in home listening environments. Anecdotes about the “site from hell” (a studio located within shouting distance of a water-treatment facility, bus station, train line, and two airports) and the “haunted studio” (with “ghosts” who turned out to be errant air-flows) were not only entertaining, but illustrative of the sort of real-world problems that affect everyone’s listening rooms.

The only major oversight in the seminar program was that no one recorded the presentations. Many folks I talked to during the Show would have gladly purchased tapes of the seminars they couldn’t attend. A case in point was Classic Records’ “Legendary Producers” seminar with George Avakian, Mike Bernicker, Howard Scott, and Max Wilcox. This was held “off campus” in the Doral Hotel ballroom at the same time as Bob Ludvig’s talk, so I missed it. I’d love a tape of that conference. So much information, so little time.

The music beat
After two harried days of ducking my head into display rooms, then rushing down to catch the seminar action, I was looking forward to the live music concerts. In theory, you could sit down in one spot and enjoy. I wasn’t disappointed by the music, but rest and relaxation were elusive. With seminars and music running simultaneously, I was forced to ping-pong between the Waldorf=Astoria’s Empire and Hilton Rooms in a vain effort to be in two places at once.

Friday’s concerts began courtesy of John Marks Records with audiophile hero/violinist Arturo Delmoni, accompanied by Doris Stevenson on piano. Delmoni appeared very Schubert-like with his shoulder-length hair and small round glasses, performing several Fritz Kreisler transcriptions. Next up was pianist Robert Silverman performing Liszt’s Piano Sonata in b (S.178). While not as note-perfect as he is on Stereophile’s latest CD, Sonata, Silverman’s reading was both passionate and involving. Following Silverman was Dean Peer, a Boulder, Colorado-born bassist performing solo. But I didn’t see Dean until his Saturday-morning performance, as I was off in the Hilton Room participating in the Stereophile Guide to Home Theater “Ask the Editors” panel. I spent more time drinking water than answering questions, as Robert Harley, Tom Norton, Robert Deutsch, Lawrence B. Johnson, and moderator Lawrence Ullman kept the audience of 250 souls fully entertained and educated. LBJ was especially passionate in championing monopole full-range speakers for rear surround-sound applications. Go Larry Go!

Back in the Empire Room, Lincoln Mayorga did a solo set on piano for Sheffield Lab which I also had to forgo. I did get back in time to catch Doug MacLeod delivering a great set of acoustic blues courtesy of AudioQuest Music. With so many “white boy” poseurs doing bad one-four-fives, it’s refreshing to hear someone who delivers blues with both passion and finesse. MacLeod is definitely the real deal.

Friday evening, the Waldorf’s grand ballroom was graced by a Chesky-sponsored performance from Paquito D’Rivera and his big band [see this issue’s “Recording of the Month” — Ed]. Charts and band direction for this gig were done by Carlos Franzetti of Orquesta Nova. Listening to the board-mix DAT of this performance in my home system confirmed my impressions at the concert: an amazing group of musicians. They practically blew the roof off the place — hot music and killer arrangements. If you like Afro-Cuban jazz, you’d have been in heaven Friday night.

Saturday morning began at 9:15 with Dean Peer, whose compositions sound like Michael Hedges if Hedges played four-string bass. Harmonics, slap techniques, chord effects, and witty repartee all figured into Dean’s performance — his between-song raps displayed a level of wit not usually ascribed to bass players. My board-mix DAT of his set is a genuine woofer-killer — Dean’s Utown CD is newly released on vinyl by Classic Records, who sponsored his appearances at HI-FI ’96.

Following Peer’s set, Mario Grigorov played some very sophisticated “third-stream” solo piano compositions on his Yamaha grand piano. His work is technically remarkable and emotionally transcendent. Why isn’t this guy a huge star? His playing even age piano-masters George Winston and Peter Kater for dinner. Grigorov also has a novel way of signing autographs, mirror-writing with both hands.
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Joe Grado was suffering from laryngitis, so instead of singing opera live, he played CJ-Rs of his performances. Pianist Albert Stanziano, Joe's regular accompanist, also played some solo pieces. Too bad Joe couldn't perform. I heard him a few years ago at the first Golden Ear Awards in Sea Cliff, and he was fantastic.

David Chesky is more than merely the co-owner of a record label; this guy can actually play. His performance featured selections from his latest release, *The Fantasies for Solo Piano*. Nice chops. His modern classical compositions sound like improvisational explorations, but are actually carefully scored pieces. Did I mention that his new CJ is available on Chesky records?

Following David Chesky, Doug MacLeod delivered another fine set of acoustic blues. My favorite number was a stellar version of "The Panama Limited." Doug's Saturday performance was even more impassioned than Friday's. He dedicated his set to his father, who had recently passed away.

 Lynne Arriale and her fine trio finished up the Saturday concerts in the Empire Room. Her dynamic pianism, accompanied by Steve Davis on drums and Drew Gress on acoustic bass, demonstrated why DMP Recordings is so proud of her new release, *When You Listen*. Instead of setting up on the small stage, Lynne's group performed on the floor, giving the crowd of 300 an intimate, up-close performance.

The last concert on Saturday was a very big deal — the Kenwood-sponsored Grand Concert (notice the capital letters). Once again, the Waldorf's ballroom was the venue, and once more it nearly had its ceiling lifted off. It's not that the music was too loud, but just too much. Béla Fleck and the Wooten brothers, Victor and Future Man, are not only superb musicians but very funny guys. Along with transcendent playing, the audience was treated to sight gags, Chaplinesque antics, and witty repartee. The Flecktones' road manager and soundboard guy, Richard Battaglia, also deserves kudos — the sound was impeccable.

As if Béla and the boys weren't sufficient entertainment for one evening, Dr. John and his New Orleans gumbo music were next up. Dr. John had a small band consisting of bass, drums, guitar, sax, and the Doctor himself on piano. He rollicked through favorites like "Right Place, Wrong Time," "Iko, Iko," and old chestnuts like "My Buddy" and "St. James Infirmary Blues."

The final day of concerts began with Robert Silverman once again performing Liszt's Sonata in b. About 350 people were present — a great turnout for 9:15 on a Sunday morning. Next up was Gavin Black, performing on PGM's "Buxtehude" harpsichord. This harpsichord was specially commissioned by PGM's Gabe Wiener from Michigan harpsichord-builder Philip Tyre. It is the only extant playable German Baroque harpsichord in the world. Unfortunately, the instrument had less than an hour to acclimate to the Empire Room's atmosphere, so the tuning was more mean- than even-tempered. After each piece, the surly thing had to be retuned. Still, it was worth suffering through its less than perfect pitch to enjoy Black's virtuosity.

On the subject of virtuosity, Chico Freeman's band — see this issue's "Record Reviews" section to see what we thought of his new release for Clarity Recordings — was utterly amazing. Unfortunately, I had to sit on the Stereophile "Ask the Editors" panel in the Hilton Room during most of their set. Throughout the seminar I could hear snatches of music like a siren song, making me wish I was listening instead of pontificating. Luckily I had my DAT machine rolling while I was out. They nearly melted the poor thing.

Going from black, black music to white, white music, Lincoln Mayorga and Margie Gibson followed Chico Freeman's band. Margie is one of those Broadway cabaret singers who know how to "deliver" a song. Drawing from the Irving Berlin and Leonard Bernstein songbooks, she demonstrated that taste, style, perfect pitch, and professional savoir-fare are not lost arts. She performed selections from her new album *Say It With Music*, on Sheffield Lab. She definitely knows how to put on the Ritz, even at the Waldorf.

Sunday's concert schedule wound down with another stellar set by David Chesky on solo piano, followed by the Lynne Arriale Trio. Show-goers who missed attending any of the concerts missed out on the best sound at the Show, period.

Chesky's Paquito D'Rivera blew up a storm on Friday night.

Blues guitarist Doug MacLeod dedicated his AudioQuest Music-sponsored concert to the memory of his father, who passed away just before the Show.

**SEMINAR CITY**

While I tried to spend most of Friday, Saturday, and Sunday in the Empire room listening to live music, several seminars did lure me out of my musical cave. While I love watching my fellow Stereophile contributors rap and roll, except for a few brief snippets of time and my own sorry stint on the Sunday "Meet the Editors," I missed most of the panel festivities. I did poke my head into Michael Fremer's "The Vinyl Experience in the '90s." seminar and saw at least 350 people enjoying Chad Kasem's explanation of Analogue Productions' success: "It's cheap to live in Kansas."

John Atkinson's lecture on "How to Measure Loudspeakers" was well-attended by not only the public but also by speaker designers, including Kevin Voecks, Jim Thiel, Siegfried Linkwitz, Albert von Schweikert, and Barry Kohan. Other seminars I caught in bits and pieces included the "Meet the Designers (Electronics)" panel on Sunday. Moderated by Robert Harley, the seemingly "balanced" group of designers — John Curl (Parasound, solid-state), Paul McGowan (PS Audio and Genesis, solid-state), Dennis Had (Cary, tubes), and Mike Kerster (Cary, tubes) — quickly developed into serious solid-state-bashing. All KH could do was watch the silicon melt. The DVD panel moderated by Gary Reber had very much a blue-sky-isn't-the-future-going-to-be-a-beautiful-thing tone while I was present. Hopefully the other side of new technology — let's just call it the "Oops!" factor — was also discussed.

*— Steven Stone*
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Poem

Intermezzo

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Payable in U.S. funds. Make checks payable to Stereophile. Allow 4 to 6 weeks for delivery.
Components listed here are ones that have been formally reviewed in Stereophile and have been found to be among the best available in each of four or five quality classes. Whether a component is listed in Class A or Class E, we highly recommend its purchase.

Each listing—in alphabetical order within classes—is followed by a brief description of the product’s sonic characteristics and a code indicating the Stereophile Volume and Issue in which that product’s report appeared. Reviews that appeared in our companion Stereophile Guide to Home Theater are indicated by “SGHT1 No.1”; ie, the component was reviewed in the Stereophile Guide to Home Theater, Volume 1 Number 1, which was published in December 1994. (Vol.1 No.2 of the Guide was published in September ’95; Vol.2 Nos.1-4 in 1996.) Some products listed have not yet been reported on; these are marked (NR), for “Not Reviewed.” We recommend that any product’s entire review be read before purchase is seriously contemplated (products without reviews should therefore be treated with more caution)—many salient characteristics, peculiarities, and caveats appear in reviews, but not here. To obtain back issues of the magazine, see the advertisement in this issue. (We regret that we cannot supply photocopies of individual reviews.)

Components, in general, do not remain listed for more than three years unless at least one of the magazine’s writers and editors has had continued experience with them. Discontinuation of a model also precludes its appearance. In addition, though professional components—recorders, amplifiers, monitor speaker systems—can be obtained secondhand and can sometimes offer performance that would otherwise guarantee inclusion, we do not generally include such components. Apart from that exception, Stereophile’s “Recommended Components” listing is almost exclusively concerned with products currently available in the US through the usual hi-fi retail outlets.

How recommendations are determined
The ratings given components included in this listing are predicated entirely on performance—ie, accuracy of reproduction—and are biased to an extent by our feeling that things added to reproduced sound (eg, flutter, distortion, colorations of various kinds) are of more concern to the musically oriented listener than are things subtracted from the sound (eg, deep bass or extreme treble). On the other hand, components markedly deficient in one or more respects are down-rated to the extent that their deficiencies interfere with the full realization of the program material.

We try to include in “Recommended Components” every product that we have found to be truly excellent or that we feel represents good value for money. Bear in mind that many different tastes are represented. The listing is compiled after extensive consultation among Stereophile’s reviewing staff, editors, and publisher, and takes into account continued experience of a product after the formal review has been published. In particular, we take account of unreliability and defects that show up after extended auditioning. The fact that a product received a favorable review cannot therefore be regarded as a guarantee that it will continue to appear in this listing.

The prices indicated are those current at the time the listing was compiled (August 1996). We make no guarantee that any of these prices will not have changed by the time this issue of Stereophile appears in print.

Where we have found a product to perform much better than might be expected from its price, we have drawn attention to it with a special symbol next to its listing: $$$$. We also indicate with a ★ products that have been on this list in one incarnation or another since the “Recommended Components” listing in Vol.16 No.10 (October 1993). Longevity in a hi-fi component is rare enough that we think it worth indicating (although it can also indicate that the attention of design engineers has moved elsewhere).

We are not sympathetic toward letters complaining that the Symphonic Bonibast A-123 Mk.VIa, which we recom-
One Great Idea on Top of Another: Introducing the Marantz SR-96 THX Receiver and DP-870 Dolby Digital Decoder

Start with the Marantz SR-96 THX Audio/Video Receiver, a perfect blend of powerful technology and thoughtful design. Premium dual DSPs provide all-digital Dolby Pro Logic decoding and THX Home Cinema processing. Five high-current power amps deliver 110 W continuous to the fronts and 90 W to the surrounds (into 8 ohms). A versatile complement of A/V inputs manages even the largest theater systems. And should you ever actually leave your theater, the SR-96 offers an advanced multi-room mode that can play two sources independently. The SR-96 is the ideal centerpiece for any entertainment system.

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HOW TO USE THE LISTINGS
Read carefully our descriptions here, the original reviews, and (heaven forbid) reviews in other magazines to put together a short list of components to choose from. Carefully evaluate your room, your source material and front end(s), your speakers, and your tastes. With luck, you may come up with a selection to audition at your favorite dealer(s). "Recommended Components" will not tell you just what to buy any more than Consumer Reports would presume to tell you whom to marry!

Class A
Best attainable sound for a component of its kind, without any practical considerations; "the least musical compromise." A Class A system is one for which you don’t have to make a leap of faith to believe that you’re hearing the real thing.

Class B
The next best thing to the very best sound reproduction; Class B components generally cost less than Class A ones, but most Class B components are still quite expensive.

Class C
Somewhat lower-fi sound, but far more musically natural than average home-component high fidelity; products in this class are of high quality but still affordable.

Class D
Satisfying musical sound, but these components are either of significantly lower fidelity than the best available, or exhibit major compromises in performance — limited dynamic range, for example. Bear in mind that appearance in Class D still means that we recommend this product — it’s possible to put together a musically satisfying system exclusively from Class D components.

Class E
Applying only to loudspeakers and phone cartridges, this “Entry Level” classification includes products that may have obvious defects, but are both inexpensive and much better than most products in their mid-fi price category.

Class K
“Keep your eye on this product.” Class K is for components that we have not tested (or have not finished testing), but that we have reason to believe may be excellent performers. We are not actually recommending these components, only suggesting you give them a listen. Though the report has yet to be published in certain cases, the reviewer and editor sometimes feel confident enough that the reviewer’s opinion is sufficiently well-formed to include what otherwise would be a Class K entry in one of the other classes, marked (NR).

TURNTABLES
Editor’s Note: Any audiophile worth his or her salt should (unless exclusively committed to CD) consider at least one of our Class D recommendations—or, preferably, one of the Class C turntables and their variants—as the essential basis of a musically satisfying system. An in-depth audition as part of a preferred turntable/arm/cartridge combination before purchase is mandatory. If an inexpensive turntable has not made its way into Class D or is not listed in Class K, do not assume that it is recommended by default. Unattainables are more common in the world of turntables than in any other area of hi-fi.

A
Forsell Air Force One Mk.II: $29,000
Sophisticated two-chassis, air-bearing Swedish table with thread drive and parallel-tracking, air-bearing tonearm, JS enthused over its 3-1/2 image solidity, tight, deep bass, super-plush midrange, and "enormous palpability factor." MF strongly disagrees, feeling the Forsell’s horizontally under-damped tonearm to be a "canine killer," while MS and JA prefer a fully loaded Linn LP12. Very similar Forsell Air Reference ($41,500) lacks the air-bearing Flywheel drive system, uses an internal motor and a silicone-rubber belt. (Vol.17 No.7)

Linn Sondek LP12 with Lingo power supply: $3045 $$$
Compared with the Valhalla model, the Lingo-equipped version minimizes the LP12’s propensity for a slightly fat midbass, subjectively extending the low frequencies by another octave. The Lingo upgrade alone costs $1450. The Trampolim suspension reduces the effect of the support. Cirkus bearing/ subchassis, now fitted as standard, costs $595 inc. labor as upgrade kit, and further extends and tightens the turntable’s bass, leading to a Class A rating, according to MC, JA, and LG (as long as a good support is used, adds MC). Though GG feels that the LP12/Cirkus loses a certain something compared with the original version, he still concluded that “the LP12 ranks as one of the finest high-end audio products on the market today.” “A deeper, more profound silence,” enthuses WP over the Cirkus mod, adding that what stunned him was “the extent to which surface noise reeded into insignificance.” Superbly low measured rumble and excellent speed stability reinforce the feeling of maximum musical involvement offered by this clearly belt-drive turntable. Good isolation from shock and vibration. While the felt mat doesn’t offer the greatest degree of vibration suppression within the vinyl disc, what absorption it does offer is uniform with frequency. Despite fluctuations with other decks, JA remains true to the basic design he has used now for more than 18 years. (Vol.14 No.3, Vol.16 No.12, Vol.17 No.5, Vol.19 No.2)

Naim Armageddon LP12 turntable power supply: $1100
A 450VA, low-impedance transformer designed to drive the Linn LP12 Bushy turntable while isolating it from powerline noise. WP was enthused, citing the improved pace and energetic presentation of the music over the Valhalla’d LP12. “The snap and surge of the rhythms that propel the song along were better served,” he asserted. However, this came at the cost of ultimate bass extension—a tradeoff that many would not undertake willingly (JA, for one). Highly recommended — MC agrees with WP that the LP12/Armageddon is a Class A turntable — but audition before committing your LP1 to surgery. (Vol.19 No.2)

B
Kuzma Stabi: $2750
GL is quite enamored of this turntable when it's fitted with the Stogi tonearm, proclaiming, “I know of no better way to take advantage of this vinyl renaissance than … with this superior-sounding, no-nonsense turntable willing and able to convey all of the dynamics, dynamic range, rhythm and pace, nuance and finesse that are the stuff of music. And, it’s built to last into the next ice age.” (Vol.18 No.5)

VPI TNT Jr.: $2800
Capable of being upgraded in easy stages to full TNT Mk.III plus status, the high-mass Jr. uses a simple Navcom suspension and, according to SS, is “absurdly simple to set up.” A “blacker sounding” than VPI’s popular HW-19, he found, commenting that it had excellent low-bass extension and definition. Tripod pulley system, PLC (power-line conditioner), and new drive-belts for the TNT Jr. take it much closer in a way toward a full TNT status. (That would require replacing the suspension — an $800 option.) SS found the changes "subtle but persuasive," particularly lauding the improved soundstaging. Knocking on the door of Class A. West Coast price is $2900. (Vol.18 No.13)

Well Tempered Classics: $2795
(Turntable and Black Dampered Platter) $795
(int-arm and Black Dampered Platter) $795
An integrated belt-drive turntable/tonearm combination featuring an acrylic platter and a unique four-point wobble-free bearing. Lacks a suspension, but is designed with attention to detail, particularly concerning the maximizing of speed stability and the rejection of motor noise. Most obvious sonic characteristic is stability, both in speed and harmonic structure, coupled with cleaned-up sound quality: “The quiet between the notes is suddenly more silent,” said AB in his review. In addition, dynamics seem to be enhanced, though the sound is more lightweight than that of, say, the VPI. The Black Dampered Platter is now standard, and is also available for $395—$495, depending on vintage of turntable. GL feels that the new platter will go a long way toward alleviating the WTC’s lightweight characteristic. It should bring pleasure to a lot of record collectors — borderline Class B,” was his conclusion, though he finds the Well Tempered Arm’s cartridge clips rather fragile. RH’s long-term reference. He recommends the various Marigo Audio Labs modifications for both arm and turntable: Well Damped Arm Clamp ($999), Micro Suspensi-
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Deletions
Bas Ovanoen Mk II, Roksan Radius III, SOTA Conver all new auditioned in too long a time to be sure of rating.

Tonearm

A

Clearaudio/Souther Tri-Qtrazt Improved: $2500

SS felt that the TQI's assets—elegant design, longevity, resolution, low-level detail, superb soundstage depth, and accuracy in midrange re-creation—far outweigh its relatively minor shortcomings of a reticence in the bass and a daunting setup procedure. "Mate's synergistically with Clearaudio's S-type cartridges." SS opines.

Eminent Technology 2.5: $2000 with standard air pump

A longtime MF favorite, the ET 2.5 features a host of ingenious extras, including adjustable VTA during play. More important, it has "an extraordinarily live and open soundstage," according to AIC, "while还 gets the low-frequency range of carticldges.

Very fairly to set up and use, and needs a very stable subchassis turntable—VPI, for example—and frequent level adjusting to give of its best. "The most realistic turntable ever produced," says MF. GL and VPI's ET 2 costs $2500.

Sapphire 200, a special 1" thick, armboard for the ET 2 when the turntable is uses $120. The HF 200 is readily accommodates a wide range of tonearms—the ET 2 air-bearing design, in particular—and is very stable. The $450 Power Line Cord (Vol.12 No.2) is essential auxiliary. The $19 can be upgraded to Tnt Sats. (Vol.8 No.4, Vol.9 Nos.4 & 9, Vol.10 Nos.11, Vol.15 No.8; also see Vol.13 No.7, p112, and GL's ET 2 report in Vol.14 No.10).

D

Rotel RP-900: $500 (inc. arm)

Budget deck based on Rega parts, including glass platter, metal tonearm, and a "fat platter, main TPT arm, which is traditionally favored by those who enjoy a more laid-back, more musically natural balance than the Linn Axis, but does not achieve this by suppressing record's surface noise. Le, bass performance is intrinsically a little soft, but can be fine-tuned by using the damping arrangement. Borderline Class B performance with the latest platter, according to CG. (Vol.14 No.7, Vol.16 Nos.2 & 10)

K


Linn LIP12 than the English arm, which loses control of the bass when mounted on the Scottish platter. MC also found the Ekos's bass to be more detailed and open than that of the original Lito. Azimuth adjustment is not possible. Some users have reported long-term problems with the bearings; the sample JA bought has been okay in this respect. (Vol.12 Nos.3 & 4, Vol.13 No.3, Vol.16 No.6)

Naim ARO: $2000 $$$

"An inner balance and harmony consistent with the musical message," says MC of this unipivot model. MC found the ARO to offer superb timbral accuracy, soundstaging, dynamics, and rhythmic integrity. He also found it less than the Linn Axis, and better balanced in the bass than the SME V. WC concurs, ranking it high among the arms he's auditioned, but cautions that the lack of any overhang adjustment dictates careful cartridge matching, or the ability to drill new armboards with different radii from the spindles for each new transducer. Additional arm tops cost $1100. (Vol.16 No.6, Vol.19 No.2)

Rockport Series 6000: $4500 MF—obviously disconcerted by this air-bearing, linear-tracking tonem|ag's price tag—nonetheless concluded that "its awesome sonic performance, exaggerated dynamics, gigantic soundstage, exquisite focus...total neutrality...and its superb footability to handle the cartridge where it can retrieve the most information...make it a true (care I say it?) bargain." (Vol.19 No.5)

SME Series V: $2550

"This beautifully constructed pivoted tonearm has an extraordinarily neutral midrange, with one of the lowest resonant signatures in this region (though DO feels the Graham offers slightly more midrange detail). Easy to set up, VTA and overhang are adjustable during play, but there's no facility for azimuth adjustment—well, I can't see how that does feel to be a significant drawback. "The best bass performance on the market," said SWW. LA concurs, having auditioned the V on a VPI Tnt, but both JGH, JA, and DO, and LL feel that the whole bass range is somewhat exaggerated. Not recommended with the LP12. Some compatibility problems with cartridges having low height. A less versatile version, the IVVi (which uses Series V bearings and Magnan VI wiring), appears to offer the V's sonic virtues and more at a lower cost ($1995). (Vol.16 No.8, Vol.14 No.6)

Wheaton Triplanar IV Ultimate: $2595—$2850, depending on termination

Superbly finished, handmade pivoted tonearm allows for VTA adjustment during play, and comes with Cardas internal wiring, decoupled counterweights, and silicone cartridge damping. A "authentic, relucing, Relasian" sound, found SS, who also commented on its dynamics and drive. A richer balance than the Clearaudio-Souther Tri-Qtrazt Improved, but less well-defined imaging than the Graham, felt MS. MF disagrees, feeling the Wheaton to have more HF energy and crispier imaging than the Graham. (Vol.18 No.2)

Linn Ekos: $2595

"Clean-sounding than the Lito (upon which it's loosely based), the Ekos rivals the SME in overall neutrality while offering a somewhat brighter, more energetic presentation of the music. The balance is nevertheless superbly transparent. The Ekos also provides a much needed match with the
POLICE INCIDENT REPORT:
Officers responded to call from concerned citizen regarding shocking sounds and deep bass vibrations emanating from the house next door. Further investigation revealed source of sound to be occupant's state-of-the-art Pioneer Advanced Home Theater System. After questioning, officers learned that Dolby Digital (AC-3) technology provides stunning sound reproduction with 6 independent digital channels. System's supercharged audio and video performance was traced to Pioneer LaserDisc player. Cinema Wide System projection monitor identified as source of razor-sharp visuals. Officers then concluded Pioneer Advanced Home Theater System equal to or better than movie theater experience. END OF REPORT. Call 1-800-PIONEER for a dealer near you.

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offers superb focus, three-dimensional solidity, spatiality, detail, and air. However, he asserts, “Some will find the highs too forward and ‘zingy,’ the balance too lean and detailed, the bass too taut and not sufficiently luxuriously sounding.” Dynamic balance and midrange presentation, possibly, in 250V output. Even so, “I lived with it” he concluded. (Vol.19 No.4)

Lyra Parnassus: $3495

Though neither JS nor JE felt the Parnassus was a champ at detail retrieval or dynamics, they both enthusiastically gave this ScanTech-sourced low-output MC a Class A rating. “A music-lover’s cartridge... immediately musically satisfying but never offensive-sounding,” was Mr. E’s conclusion. “Delightful midrange textures, and it conveys emotions,” summed up the sage Mr. S. (Vol.18 No.2)

Symphonic Line RG-8 Gold: $5000

What’s so endearing about the handcrafted RG-8, according to 130, is its rare mastery over music’s finesse and brawn: the effortless detailing, the smoothness of expression, and the purity of texture are combined with the bass impact and dynamic power of a steam locomotive. Works best into high-impedance leads. JE and JS were also mightily impressed, the latter with the precise delineation of images, the former with its pact, drive, glare, and rhythmic integrity. Not kind to single cables, however. (Vol.16 No.2, Vol.18 No.2)

Transfiguration Tempor: $3800

MF and WP consider this the best they’ve heard yet, although 250V output dictates quiet systems with low gain. “Liquid and luxurious from the very highest to the very lowest frequencies,” declared MF. “Relaxed detail that never overwhelms the musical integrity,” WP counters. They could probably go on for hours. Now distributed by Graham Engineering. (Vol.19 No.7)

van den Hul Grasshopper IV: $5000

Now distributed in the US by Stanalog Imports, the hand-built Grasshopper IV differs significantly from earlier hopppers and incorporates Aj van den Hul’s latest thoughts on cartridge design. Changes significantly during break-in, after which it’s not as analytical-sounding as the Symphonic Line RG-8 (and praised as such), toward the relaxed, rich, musical,” decided JS. The vH also features a “very wide and envelopingly deep soundstage.” (Vol.18 No.7)

Blue Oasis: $1650

Though its top end is a little softened in absolute terms, JE liked the Oasis more than JS did, the latter finding it sounded too mellow. Needs to be used with a high-gain, low-noise phono preamp, with which its retrieval of detail can be heard to be excellent. The bass is extended, tight, and powerful. (Vol.18 No.1)

Clearaudio Signature: $2300

While both JE and JS liked the neutral sound of this high-output German MC, neither felt it quite scaled the heights of Class A performance. The highs extended and open, but this may have contributed to a sensitivity to disc surface noise. “An immediate, vibrant perspective,” commented JS, who, like JE, preferred the Signature loaded with 47k ohms. JE felt it sounded not quite as lush in the midrange as he would have liked, but also commented favorably on the sense of air and space it produced. (Vol.18 No.1)

Clearaudio Veritas-S: $1950

SSS current reference, the Veritas-S is a superb match for the Clearaudio-Souther arm (see “Tonearms”). (Vol.18 No.4)

London (Decca) Jubilee: $1600

MC claims that “when it’s good, the Jubilee is very, very good; but when it’s wrong, it can be horrid.” It sets the standard, he feels, for dynamic expression and rhythm. But, he notes, it does not track the typical range of groove modulations cleanly or convincingly. When the going gets tough (or, loud), the Jubilee loses clarity and detail — and causes excessive groove wear to boot. (Vol.18 No.6)

Sumiko SHO Reference High-Output: $1300

WP feels this high-output MC has body, presence, and rhythm — and a purity in the high frequencies that causes overtones to float forever. “It sounds like music,” he pronounces. Well-built, reliable, and extremely musical, he says, with an unanny knack for sorting out audible details in the quietest passages. (Vol.18 No.4)

Benz-Micro Glider: $750 $$$

“The aural pictures the Glider paints,” L.B. effused, “are so good they really give you a glimpse into the original event.” Citing the cartridge’s presentation of detail, pinpoint imaging, and almost physical presence, he did caviol that some might find the midrange on the soft side of accurate. “Powerful stuff,” he said of one night’s audition: “magic, in fact.” Retipping costs $400. Borderline Class B. (Vol.19 No.8)

Sumiko Blue Point Special: $295 $$$

CG enthused about this nude, P-Mount—less version of the standard Blue Point MC, pointing to its lack of bass boost, tonal balance, and cleaning, more extended highs. It also offers excellent detail and focus. A touch of STYLAST applied to the underside of the cantilever optimizes the bass. High output. (Vol.16 No.4 & 12)

Sumiko Blue Point: $195 $$$

Rather a woolly bass, due to the P-Mount/adaptor configuration, but a sweet balance lacking any nasality, thought CG of this high-output MC. (Vol.16 No.4, Vol.18 No.8)

E

Grado ZTE-1: $30 $$$

The best buy in a really cheap cartridge, this MM has excellent trackability and sounds rather like a good MC. Stereophile readers should consider spending more than $30 on a cartridge, but when asked by friends what they would recommend for an old Dual or Garrard, this “system-friendly” was the case to mention. Will burn if used with older AR decks; lack of suspension damping can lead to woofer pumping, even flutter, with high- or medium-mass arms. (Vol.7 No.8; actual review was of the earlier GTE-1+.)

K


Deletions

Benz-Micro MC-20E II, Roksan Corgan Black, not auditioned in a long time.

Phono Accessories

Phono Accessories & Record Cleaners

A

Audio Physic Cartridge Demagnetizer: $349.95

MF found this device most effective in maintaining that “like-new” quality of his MC cartridge. He recommends placing styro in groove of stationary record when using, in order to center the coils in the magnetic field. (Vol.18 No.12)

Stereophile, October 1996
The OSiRiS Reference Transducer

AVALON ACOUSTICS

2800 Wilderness Place  Boulder, Colorado 80301  Phone: 303 440-0422  Fax: 303 440-4396
The Cardas Sweep Record: $16 $55

The degaussing aid is designed for cartridges that are magnetically aligned. It is easy to use, and the magnetism is strongest at the center of the cartridge. "Wouldn't be without it" enthuses JS. (Vol.18 No.12)

DB Systems DBP-10 Protractor: $39.95 ♠

Fiddly but accurate guide for setting cartridge from.

K-A-B Easy-to-use brush simplifies precision long-play turntable adjustments from 33% to all of the variations on .78. "It's just fantastic," effused JS. "It looks cool, and it's a snap to perfectly set the speed." (Vol.19 No.2)

LAST Power LP Cleaner: $32.50/half-oz bottle

This small bottle of Price-free cleaner is easy to treat. 75%. IJ found just three drops sufficient to remove dirt, dust, and grime from garage-sale records, though he found that a subsequent wash with his VPI HW-17 was still required to reduce the level of groove noise to acceptable levels. A worthwhile purchase for LAST's wonderful Record Preservative. (Vol.17 No.5)

LAST Record Preservative: $32.50/2-oz bottle ♠

Improves the sound of even new records, and is claimed to keep them last longer. A 2-oz bottle contains 60 treatments. (Vol.5 No.3)

Lyle Cartridges Alignment Tool: $15.95

Inexpensive but invaluable -- this sliver of mirror has alignment marks and a spindle cut-out. Slip it into place on your platter and use the classic two-point grid system to make sure everything's aligned. The mirror is the trick -- it allows you to sight the cartridge's position against the markings themselves. "An essential tool," declares WP. (NP)

Nitty Gritty Mini Pro 2 record-cleaning machine: $809 ♠

Nitty Gritty 2.5Fi record-cleaning machine: $579 ♠

Nitty Gritty L5Fi Mk.II record-cleaning machine: $509

The Mini Pro is a semiautomatic machine that cleans both disc sides simultaneously. The L5 is identical to the 2.5 but substitutes vinyl for the latter's genuine oak side panels. Instead of a vacuuming "towarm," as on the professional Keith Monks machine, the NG cleaner uses a vacuum spot. Cleaning is efficient and as good as Nitty Gritty's Pro, at a significantly lower price, though it takes twice as long, cleaning each side of an LP in turn. While the vacuum-cleaning Nitty Gritty does a similar job on dusty albums as the similarly priced L5, CG felt that the VPF's hard-brushed bristle did better with really dirty LPs than did NG's velvet one. He found the effect of both was to produce a less-colorful, more detailed midband sound from LPs, as well as the expected reduction in surface noise. (Mini Pro, Vol.8 No.1; 2.5Fi, Vol.7 No.5, Vol.8 No.1; L5Fi, Vol.15 No.5)

QRS/DNM Design Ringmat Mk.II XLR turntable mat: $74.95

RJ found this paper/cork mat (available in three thicknesses) to both reduce groove noise and improve material resolution when used on his Lingo'd LINN. Some initial difficulties with the cork rings detaching, says ST, but he found the Ringmat to turn his AR into a more detailed, more neutral-sounding "table. Now distributed in the US by Music Hall. (Vol.17 No.9, Vol.18 No.1, Vol.19 No.6)

Shun Mook record weight: $1200

The best record weight JS has used on his Fortsch turntable, "bar none." Ridiculously expensive however. (Vol.17 No.2)

VPI HW-17 record-cleaning machine: $900 ♠

VPI HW-16.5 record-cleaning machine: $450

Clearly an industrial-quality machine of reasurring quality, the VPI '71 cleans one side at a time, semi-automatically, and is slower than the Nitty Gritty, "best I've used," says LA. "A highly functional and convenient luxury," says AHC. Latest version has a heavier-duty vacuum system. The '76 is a manually operated version with a noisier motor. Adjusts automatically to thickness of record, gets hot quickly. (HW-17, Vol.8 No.1, Vol.9 No.6; HW-16.5, Vol.5 No.7 & 9; HW-16.5, Vol.17 No.5, Vol.19 No.6)

Gruf-Glue II: $11.95 ♠

Record de-staticizing agent that ST found to give better sound. Apparently doesn't grunge-up the stylus or leave a film. (Vol.9 No.8)

LAST STYLAST Stylus Treatment: $27/quarter-oz bottle ♠

Stylus treatment designed to reduce friction between groove and phonograph cartridge. Some manufacturers caution against it, claiming it migrates up the cantilever and attracts dust -- this clogging the armature. One reader suggests applying treatment to brush rather than stylus, which would lower possibility of over-applying. MF has found STYLAST effective, but expresses concern over possible damage to cartridge. (Vol.18 No.12)

Nestorovic Labs Moving-Coil Cartridge Network: $300 ♠

Passive network intended to optimally load an MC cartridge. An "Audiophile" version is available for an extra $250. (Vol.13 No.9)

Nitty Gritty Model 1.0 record-cleaning machine: $259 $$$

Audio Advisor Record Doctor II: $200 $$$

Both of these machines (the latter is manufactured for Audio Advisor by Nitty Gritty) are manual units that offer the least expensive way to effectively clean your records. The Doctor II differs from the original in that it has a roller bearing to make turning the LP easier when the vacuum-cleaning motor is on. The earlier model can be fitted with a roller-bearing accessory -- available for $175 incl. S&H from K-A-B Electro-Acoustics, P.O. Box 2922, Plainfield, NJ 07062-2922 -- which fits beneath the existing platter. The Nitty Gritty 1.0 is also available as the oak-finished 2.0 for $305. (NR)

Decca, Hunt-EDA, Goldring, or Stabibrush record brushes ♠

Properly used (held with the bristles at a low angle against the approaching grooves and slowly slid off the record), Doctor II has markedly better record cleaners available. (JGH disagrees, feeling that they leave the dust on the record.) No substitute for an occasional wet wash. (Vol.10 No.8)

Discwasser record brush ♠

If you don't have a record-cleaning machine, the 12" disc you own is a good place to start. Or, if you don't have the machine, perhaps the Dustslicer record cleaners are in order. (JGH disagrees, feeling that they leave the dust on the record.) No substitute for an occasional wet wash. (Vol.10 No.8)


Deletions

Sensito Analog Survival Kit discontinued.

CD Players

Eorro's Note: The class ratings are a little different in this and the following two sections. Whereas the phrase "state of the art" can be interpreted literally for other categories, here it means the best CD sound available as of the time of writing. With every advance in digital replay, we realize that the goal still seems to be just as far away in that the anal-

Log LP continues to get closer to the real thing. As with computers, a CD-replay system becomes effectively obsolete as you drive it home from the store and urge caution to the consumer to purchase an expensive "state-of-the-art" CD player. Perhaps the wisest strategy these days would be to buy separate transport and DAC units, eventual replacement of the latter being the best way to stay abreast of continuing development. (Note that the class rankings in CD players and D/A processors are not necessarily directly comparable.)

However, even though there are only a few HDCD recordings available, the digital playback waters are changing fast due to the availability of the Audio Micros Systems PMD-100 HDCD decoder/digital filter chip. There is no doubt in RHF's mind that the advent of HDCD recordings and players represents a significant step forward in digital playback quality, providing sound more like analog, with deeper, better-defined soundstaging and a much greater degree of instrumental and vocal timbres. MC points out a lack of pace, however.

A

Accuphase DP-65: $7570

"The natural warmth of recording after recording shone through, surpassing the sound with an expensively glowing and bloom," enthused TJN about the relaxed tonal balance of this Japanese player, which uses Burr-Brown PCM1702 DACs in a balanced configuration. "Musically complete." (Vol.17 No.10)

Audio Research CD1: $2995

WP went bats over the CD1, insisting that "This is the one I turn to when I listen for pleasure." He lauded its articulation, rhythm, and intonation, but did notice a softening of the LP RH, however. The D/A processor: $6190

Rell KPS-20: $9000

Relle KPS-20i/2: $11,000

"It is possible to call a $9000 CD player a bargain?" RH quipped. "Yes," he concluded, "when you consider how much it would cost to achieve the KPS-20's sound quality with a separate processor and transport." Impressed by its "unbelievably deep, tight, and authoritative bass," he pointed out that "more bass isn't necessarily better, but when combined with excellent agility, pitch retention, and detail, the result is a greater involvement in the music." MC found the $11,000 20i/2 to be the best-sounding Krell digital product -- something confirmed by WP, who wondered if it was due to the absence of a preamp. (Vol.18 No.4, Vol.18 No.10, Vol.20-4)

Linn Karik CD transport & Linn Numerik D/A processor: $6190 ♠

Two-box system in which the DAC clocks the transport via a separate link. Current version of the Karik transport ($3595 if bought separately) incorporates a Crystal D/A section to enable it to be used as a standalone CD player. Though each on its own is a high Class B controller, the Karik forms a

Photo Accessories

CD Players
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synergistic match with the Numerick to give true Class A sound, MC finds its laid-back presentation offsetting, but WP enthuses over its excellent truth of tone and impressive sense of pace and timing. The latest version of the $2,995 Numerick has a switch-mode power supply that RH felt gave a significant improvement in sound quality, and Burrr-Brown PCM1702 DACs that give a better sense of LF pace. (Vol.15 No.1, Vol.17 No.10)

Meridian 508-20: $2995 $$$
"Detail, resolution, Meridian best, California tamed, extension dynamic...$499.99; S befriended No.12, MK.2 boldly proclaimed from 508 of first Frontiers (Vol.18 No.1)

Sonics Frontier SFC1-1: $3495
RH boldly declared that "the SFC1-1 outperformed Sonics Frontier's excellent separate transport and processors, and at a much lower price as well. Sonics Frontier is the most highly musical, "its musicality sneaks up on you." The player does not offer digital inputs or outputs, which makes upgrading a single element of the digital front-end problematic. Nonetheless, he counsels, it is "the best $3500 digital front-end I've heard." JA is also impressed. (Vol.19 No.6 & 9)

B
California Audio Labs Icon Mk.II HDCC: $1445
RJR proclaimed the Icon Mk.II HDCC his "affordable" reference player, finding it remarkably free from sonic flaws. He lauded its neutrality, excellent reproduction of inner detail and ambience, extremely wide dynamic range, and natural articulation of HF transients. At $450, he adds, the Power Boss upgrade is highly recommended to all owners of older units. (Vol.19 No.6)

Micromega Stage 2: $1075 $$$
"I have no qualms recommending [the Stage] to anyone looking for an engaging, affordable CD player. Its sound is adjusted to make it musical and engaging, and the metallic output and sound articulate and graceful: "I found its total balance natural, without a stuck-out midrange or edgy top-end." (Vol.18 No.10)

C
AMC CD6: $599.95
"Well-balanced, highly faithful sound," summed up MK, who worried that softening of top end "caused some slight schizophrenic soundstaging effects." Deep bass for such an affordable unit, he revered, "deep enough to get the job done," if not the tightest he'd heard. (Vol.19 No.6)

Marantz CD-63 Mk.2: $399.99 $$$
ST's budget reference: astonishingly detailed, smooth, clean, clear, sweet, nonfatiguing. Lacks dynamic drive, however, as well as ultimate bass effects. But a "bit special" confirms MK. Marantz CD-63 Special Edition costs $499.99; ST decided that it was worth the extra 100 bucks for its smooth, sweet balance and greater openness and resolution. Sounds more mellow than the Quad 67, but has a keen balance overall. A "killer $500 player." (Vol.17 Nos.1 & 8; Vol.17 No.12, Special Edition.)

NAD 502: $299 $$$
The first production run of this basic deck suffered from reliability problems, due to the lack of a transistor switch; we've told this long been fixed. "A clear, open, and uncluttered sound quality," nixed TW: "This with its lovely, powerful bottom end, but slightly soft on top." "Makes life very difficult for players in the $500-$1000 range," he concluded. Class A, agrees PWM. (Vol.17 No.4)

Rotel RCD-950: $449.90
MK found the RCD-950's "wonderful sound...and a budget NO.1," although he judged both its bass response and its ability to portray depth to be somewhat weak. On the plus side, however, he praised its "extraordinary detail" and "livingly, involving presentation." Superior-sounding digital output a plus for those who wish to upgrade to a separate DAC. (Vol.19 No.6 & 8)

TEAC VRDS-10: $1250
Massively built player that uses the clamp/transport system first seen in the Isoteric P-2 transport and Philips Fristam DACs. Excellent sense of reproduced space coupled with good dynamics, found SS, but sound let down by a slightly exaggerated top-end (nudible and measurable) and a degree of midrange grain. Makes an excellent transport, he found. (Vol.17 No.11)

Digital Processors

Editor's Notes: There are currently no Class D CD players listed.

K
Wadia 16, California Audio Labs CL-10.

Digital Processors

Editor's Notes: The sound of any particular Class D transport/digital processor combination will be dependent on the digitals link used.

A
Acuphase DC-91: $13,995
DO found multilayered recordings with complex reverberant signatures more clearly resolvable with this processor, with a natural clarity achieved when driven by the matching DP-90 transport. In addition, he enjoyed greater access to the inner recesses of the soundstage, as he let his mind's eye explore the full depth and width of the spatial perspective. Absolute reference calibre, in his estimation, and a perfect 10, MK, decries. (Vol.18 No.6)

Audio Alchemy DTP-Pro 32: $1955
Neve-like retouch of A's top-notch filter incorporates a 32-bit D/A chip that reportedly offers 50% more computing power, allowing the DTP-Pro 32 to run an enhanced Resolution Enhancement algorithm. RH asserts, "it's hard to imagine that a world-class digital-front-end such as the Mark Levinson No.31 transport and Spectral SD1-2000 Pro digital processor could be improved by a little Audio Alchemy box, but it was. The DTP-Pro 32 tightened and deepened the bass, made the presentation bigger and more expansive, and revealed more detailed and instrumental, blowing away all but the most-resourced equipment. It made the presentation sound more like real instruments existing in a real space." A "flat-out miracle product," enthuses MJ, "that makes CD's listenable." (Vol.19 Nos.3 & 7)

Class 1DAC-1: $3995 $$$
RH was "stunned" by the performance of this giant-killer processor, declaring it a "revolution in the price-performance ratio in digital playback." Its resolution improved him mightily: "on a par with the Spectral SDR-2000 Pro...That's saying a lot for a [$4000] D/A converter," he maintained. He also took note of its extraordinary overall sense of pace, and a lack of strain with complex, high-level signals, emphasizing that "in terms of wide dynamic contrast and sheer impact, the DAC-1 was the best processor I've heard." Only noticeable character was a slight edge to the sound in mid and treble that diminishes significantly during the long break-in period. MK is not as impressed, however, feeling Class B to be more appropriate. (Vol.18 No.12)

Encore Pyramid 1: $3395-$4495 depending on options
This year-opening D/A processor impressed RH with its "wonderful soundstaging, wide dynamics, powerful rhythmic drive, and freedom from grain." Dubbing it competitive with the best the $5k-$6k range has to offer, he praised its impressive sense of pace and the bass's "exceptional power and kick," while noting this came at the expense of absolute midrange liquidity. Yet, he added, "I can count the Pyramid 1 among a handful of processors that excel in presenting images as individual objects within the soundstage." (Vol.18 No.11)

Eulogized Audio Designs DSP-9000 Pro Series II HDCD: $5995
MF and SS both assess it to be Class A, but RH feels it to lack sufficient transparency and resolution to connect him to the music. Smooth and warm, they concur, and singularly lacking in grain, glare, and harshness. All three comment favorably on the remote volume control—"it makes you realize that all preamps degrade sound," declares SS. MF claims that LP/DAC comparisons reveal surprisingly close timbral characters. "May not impress at first listen," he cautions, "but eventually you break up behind your head and feel the music." Consider yourself warned. Gold finish adds $400, balanced outputs add $1000. (Vol.18 No.8)

Genesis Technologies Digital Lens: $1800
RH doubted this unique, RAM buffer-based, jitter-elimination/resolution enhancement digital device "the most serious attempt to date at reducing jitter in outboard processors." Finding its effects "only remarkable," he heard "improvements in nearly every area of musical performance: soundstage size, bass definition and dynamic clarity, detail resolution, and timbral liquidity." LL deems, finding in the soundstage enhancement "a consistency from one recording to another, often replacing the natural sense of space with one dictated by the Genesis itself." "Phoebus" short a, which finds its clarifying effect on the high-jitter data output of his Panasonic $3750 DAT recorder nothing short of magic. (Vol.18 No.10 & 11)

Jadis JS1 Symmetrical: $12,325
JS's reference D/A, the beautiful two-box Jadis JS1 Symmetrical processor features a Philips Fristam DAC section and tubed analog circuitry. The Jadis soundstage is, in JS's words, "airy, layered, enormous, and more engaging." The bass is the almost state-of-the-art, the midrange supple, and the crisp highs "offer (an almost) perfect blend of clarity, extension, and harmonic integrity" when the processor is driven by the matching Jadis JS1 Drive transport. Some questionable aspects of the JS1's measured performance make the processor a borderline Class A performer, JA feels. (Vol.18 No.3)

Mark Levinson No.30.5: $15,950
The original No.30 was Stereophile's "Product of the Year" for 1992. The No.30.5 update, which consists of a new data-reader board incorporating an "intelligent FIFO" memory buffer, a true reference-quality product, says RH, adding that "there's no question that No.30 owners should upgrade to HDCC...anyone who hasn't converted their No.30 is in for a big surprise." JS's reference D/A converter. The closest thing to go LP and D/A to a spade he. HDCC upgrade costs $99 plus labor. (No.30, Vol.15 No.2, Vol.16 No.6; No.30.5, Vol.17 No.10, Vol.18 Nos.3 & 4)

Mark Levinson No.36: $3995 $$$
"Itnout and buy the No.36...if you have the price of admission," was TJN's advice. "It certainly must be heard, if only to hear what's possible in today's best D/A converters." Major Tom was
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partially taken by the No.36's focus, clarity, and inner detail, but allowed that several of the other Class A/D/A processors had superior LF authority and soundstage definition. JA added that "The 36 gets 95% of the way to matching the awesome Class A/D/A processors on the market." Class A, he decided. (Vol.18 No.11)

Meridian 518: $1795

Unusual digital-to-digital processor that JA dubbed "the Swiss Army Knife of digital." It performs digital gain and source selection, converts data with one digital word length to data with another — such as when transferring data from a 24- to a 16-bit word length — and offers a choice of seven noise-shaping algorithms. JA used it to master Festival and concluded that it was essential in preserving the integrity of the 20-bit master when transferred to a 16-bit medium. It also has a user-selectable filtering of 16-bit GI information through it and increasing the word length to 20-bit going into his Levinson '30.5 resulted in tremendous improvements. "It was goosebump city, even with recordings that usually strike me as just being notes by numbers," he gorged. (Vol.19 No.7)

StereoReview, October 1996

Sonics Frontier SFD-2 Mk.II: $1295 $$$

One of RH's two favorite A/D processors — the other is the Spectral — the Mk.II SF3.2 offers Class A performance at a very competitive price. The Mk.I was Stereophile's "Product of the Year" for 1994. The Mk.II features some minor upgrades to the analog circuitry, but most important is the addition of the Burr-Brown digital filter with the Pacific Microsonics PMD-100 HCDI decoder/filter chip. The result, RH found, is a sound that beats anything out there other than the Spectral and the Levinson No.30.5 — which are now fitted with the same HCDI chip, and which also have greater LF extension and authority. Where the Mk.I Sonics Frontiers had a very upfront balance, the Mk.II has more back and still has a huge, spacious-sounding, superbly defined soundstage; a smooth, liquid-seeming midrange; superb retrieval of musical detail; and tighter image focus. RD is excited about the HCDI-equipped SF3.2 Mk.II's ability to make ordinary CDs sound as if they were new audiophile remasters. (Mk.I, Vol.16 No.12, Vol.17 No.1; see also the Timbre Technology TTT review in Vol.17 No.6.)

Spectral SDR-2000 Professional: $8995

RH emphatically states that "This is the state of the art in digital playback...excelling in low-level resolution, soundstaging, and harmonic purity." In his review, he added that "the SDR-2000 system is a definition of what we can expect from the compact disc format, with the greatest transparency, palpability, resolution of fine detail, and richness of timber — especially on HCDI." Setup can be tricky, however, and the SDR-2000 seems to work best with other Spectral gear, including the Spectral/MIT with combining. (Vol.18 No.10, Vol.19 No.3)

Theta DS Pro Generation V-A: $3795

Price is for single-ended version; version with fully balanced DAC and output stages costs $5595. Much better than the Generation III processor that it replaced in that it has a less hyped-up, more refined-sounding, more musically natural treble balance, the Gen.V still features Theta's traditional terrific sense of dynamics and low-frequency slam and extension. Not quite as smooth-sounding as the Mk.II Sonics Frontiers, and a little less image depth, but SD still considers the Gen.V a superb processor for the money. "Although the relative changes from its predecessor are small in scale, their sonic impact makes this upgrade a highly recommended step for owners of earlier models," he concluded, finding the new version's soundstage to be even better defined than the previous iteration's "famous, already immense soundstage." Calling the V-A beautifully balanced and a transparent window into every recording, he assessed the Theta's overall performance as "as good as I've heard." LH is also a fan, ST-source input adds $300; result is modular input adds $800. (Vol.18 Nos.2 & 7, Vol.19 No.1)

Wadia 27: $8450

(See RH's review in this issue.)

B Audio Alchemy DTI v2.0: $599

RH adjudges this jitter-reduction device to significantly improve upon the integrated 197I, claiming it improves the sound of nearly every transport/processor he's tried it with. At 19 kHz, the degree of improvement he detected greatly: the better the transport, the less the significant difference. Using its unique 1's data output in conjunction with the DAT v3.0, the DTI v2.0 really came alive, he reports, increasing soundstage depth, layering, bloom, and air and bordering on Class A. ST optical input adds $179. (Vol.18 Nos.9 & 12)

Denon DA-51: $7000

TJN likened this Japanese processor (which synthesizes information below the LSB) a lot for its midrange palpability, musically natural timbres, and overall relaxed balance. "A constancy in its timbral makeup, a balance, a spaciousness, a musicality rarely encountered at the same time in digital playback," he enthused. MC demurs, however, finding its sound rather slow-paced. (Vol.17 No.5)

Digital Domain VSP Model S: $1495

Intended as a sample-rate converter, this slim unit also reblocks digital data and virtually cleans up the jitter. The result is a radiant digital sound much closer to analog, JA judged. RH found it good at "snap the bass into tight focus," with bass guitar acquiring more dynamics, better pitch definition, and more detail. Sonics, however, will find that the bass balance will become more lean as a result. The VSP in its SMD version moves each data word — which will, of course, render it non-transparent to HCDI-encoded data. Six digital inputs and four outputs — all on AES/EBU, ST, coaxial, and Toslink. Once Class A, the appearance in 1996 of the Genesis Digital Leus, and the Meridian 518, draws the line. (Vol.17 No.11; also see "Industry Update," Vol.17 No.1, p.39)

Enlightened Audio Designs DSP-7000

Series III HDCCD: $2495

SS's reference—he finds this smooth-sounding processor incredibly musically satisfying. He emphatically recommends the Series III upgrade to all Series I and II owners. Gold finish adds $200; balanced outputs added $399. (Vol.18 No.5)

Meridian 563: $1395 $$

With a bass that's weighty, extended, and controlled; an open, spacious, spacious soundstage; and a smooth, liquid-sounding midrange, this inexpensive unit with a jitter-rejecting dual-PLL receiver is "the best-sounding processor in its class," according to RH. Not as much bass slam as the Meridian Sonics Frontiers SF3.2, and some slight midrange and treble grime. (Vol.17 No.4)

Muse Model T: $1700 $$$

Horderline Class A! Impressively constructed 20-bit digital processor featuring unique jitter-suppression circuitry and "near ideal" power supply. SD marveled at its awesome bass definition and extension and its ability to delineate leading-edge transients with apparent ease. RH comments on this level of performance for less than $2000 is truly remarkable, he posted — while noting that the passive current-to-voltage conversion used, which results in a measurer 1V output, will probably preclude the use of power control units. AES/EBU input adds $300 to price; ST optical input, $200; HUTQ 1 option, $300; Bessel reconstruction filter that S1 highly recommends, $200. (Vol.18 No.7)


"Sets a new performance benchmark for $2000 and up," he reported. BH, who is taken by its true sound, solid, and impact. While the midrange tended to be analytical, he found its overall presentation laid-back. Impressed by its musically engaging sound, "pristine midrange and treble, superb soundstaging, wide dynamics, and exceptional transparency," he found it aporetic that "if you buy any $2000 DAC without first auditioning the Parasound, you'll never know how much musical performance is possible at this price." (Vol.19 No.4)

PS Audio Reference Link: $4795 &

A full-function, remote-control digital control unit balanced and transparent for $2000, RH says, "a near-perfect" that drives him "to want to buy any $2000 DAC without first auditioning the Parasound, you'll never know how much musical performance is possible at this price." (Vol.19 No.4)

PS Audio UltraLink Two HDCCD: $1295

RH "highly recommends" the UltraLink 2 — especially when utilizing the RCA jacks — but notes that despite its freedom from stridency and image focus, its lightweight character robs its presentation of visceral slam. RD adds that the HDCCD version is significantly improved compared with the earlier version. (Vol.18 No.12)

Sonics Frontiers UltraJitterbug: $6995 $$

Basically the UltraAnalog data receiver module used in Sonics Frontiers' SFD-2 Mk.II A/D processor packaged as a standalone low-jitter datastream processor, the UltraJitterbug made RH's system sound smoother, less "chalky" in the treble, and with tighter bass. "It's a must-have for high-end soundstage. Midrange textures are improved...makes a great combination when used with the Assemblage DAC-1 or the Sonics Frontiers TransDAC. JA found it even improved the sound of the original Mark Levinson No.34, and the Parasound, he added, by the Genesis Digital Leus and the Meridian 518. (Vol.17 No.11)

Theta DS-Pro Basic III-A: $2695

The original III impressed TJN with "good detailing, depth, and a lack of any irritating qualities — nothing artificial about the sound of this converter." He was shopping in this price-range, he said — he'd put the Basic III-A high on his list. WP concurs, finding the "A" revision of this flexible and substantial DAC a revelation, falling for its drive and swing. While its sound was detailed, he opined that it was not relentlessly so. He also was floored by its ability to layer soundstage depth and to extract the last little bit of bass from recordings. Single-Mode Laser Linke optical connection highly recommended, although costly, HDCCD module adds $459, ST-optical input adds $300; Single-MDF Laser Linke adds $800. (Vol.18 No.11, I.H, Vol.19 No.3)

Timbre Technology TT-1: $3295

Good-sounding, says RH, but expensive for sound quality offered. Roughly comparable to the Meridian 563, but with better spatial definition and tighter image focus — "stunning," said RH in the review — and a much nicer chassis. A well-balanced performer, though JS, with a smoother,
The picture is worth a thousand words. The sound will leave you speechless.

RECOMMENDED COMPONENTS
Class A – Stereophile

YBA 2 PREAMPLIFIER
"With its MC transformer module, this ultra quiet French preamp gave the best sound from vinyl JA had experienced in his system since he retired his Audio Research SP-10. The line stage is merely good. (Vol. 17, NO. 7)."
$2750.

YBA 2 HC AMPLIFIER
"Well-engineered, slim-line 110Wpc dual mono amplifier from France features short signal paths, high parts quality, and 'a superbly transparent view into the soundstage', found JA . . . Overall, a musically natural presentation – ultra fidèle. (Vol. 17 No 1)."
3750 $
Mc Cormick Digital Drive DAC-1: $995
Well-made 1-bit DAC using high-quality parts and the Crystal chip set, Soundstage sounds open, with good clarity, and more immediate and low-top octave energy than the Meridian 263, but the unit as a whole shares the British processor’s laid-back dynamics. (Vol.18 No.9; The Parts Connection Assemblage DAC-1: $449 $000

Algui Audio DDE v3.0 HDICD: $799 $$000
Fully assembled kit version of Sonic Frontiers’ Trans DAC-1 ($599); RH found this unit’s bench performance “excellent for any processor, for low one costing $449.” WP was entranced by its “perfect blend of relaxation and precision...it’s absolutely delightful, but never forced.” He did note, however, “an inability to sort out complex dynamic passages.” A JA favorite. About to be replaced by a version with its own D21. (Vol.18 No.4)

PS Audio SL Three: $1295 $$000
RH enjoyed the SL Three’s “combination of warmth, smoothness, and sense of scale,” also finding its soundstage to be “exquisite for a processor at this price.” Careful system matching is necessary, he cautioned, as these characteristics are very dependent upon the rest of the setup. “A terrific bargain...best in its price class,” he asserted. “Borderline Class C,” (Vol.19 No.5)

Theta Chroma 396: $750 $$000
“A killer for the price,” enthused RH. “Right bass and well-defined soundstage. HDCD version recommended, along with simple modification to defeat 000k digital-domain attenuations...You’ll have a hard time finding a better-sounding converter for under $1000.” HDCD module adds $80, ST-optical input adds $300. (SGHT2 No.3; Vol.19 No.8)

Audio DAC-in-the-Box: $295 $$000
Sets a new standard for sonic performance per dollar. “Avoids the worst faults of inexpensive digital,” said RH, and gets the best from cheaper DACs, with excellent soundstaging but slightly grainy treble. Borderline Class C, says RH, held back by its weak low end and slightly high highs. “Perfect for upgrading the sound from Laserdisc in a high-end Home Theater, or for getting high-end sound from a mass-market CD player (provided it has a digital output).” Benefits from use with a bigger Audio DAC power supply…RH notes that “it is now included in the price.” (Vol.17 No.3)

Audio DAC-MAIN: $159
RH finds this unit an amazing advancement for $159 — with surprisingly good soundstaging and smooth total presentation — but lacking the detail and refinement in present in Audio Alchemy’s $295 DITB. “He argues anyone consuming it as part of the primary source for a high-end system to find that extra $100. However, compared to the built-in DACs in most Laserdisc players, the DAC-MAIN provides smoother, softer, less fatiguing presentation... he enthusiastically recommends it for Home Theater applications.” (Vol.17 No.7)

CD TRANSPORTS

A

Arcophile DP-90: $7495
DO found the DP-90’s resolution of low-level detail exemplary, adding that it “neutral top-to-bottom voicing allowing each recording’s inherent balance to shine through.” The flow of transient attack and decay, he allows, is closer to the real thing than he’s ever experienced from CD. (Vol.18 No.6)

Audio DAC DDS-Pro: $1595 $$000
The first transport offering the innovative IFS bus, which transmits audio data and clocks on separate lines. Using coax, RA thought the transport of Class B quality and competitive with similarly priced units; but the IS’s feel was “a better way...it demonstrates that the S/PDIF link is an audible constant...Across the entire audible frequency spectrum, the IFS linked system was tonally neutral, and recordings that had not been impaired in their instrument versions were revealed to be quite honest.” The Class A rating thus refers exclusively to its IFS output. At present, the only digital processors currently using the IFS bus are Audio Alchemy’s own 1DT-Pro 32 and DDE v3.0; for owners of those units, the DDS is “an almost mandatory choice.” (Vol.19 No.9)

C.C.E. TL: $17,500
No-holds-barred belt-drive transport that IS found an unalloyed pleasure — “a device for those who have an appreciation for the finer things in life. The most overwhelming sonic characteristic is [its] ability to perform with the utmost economy of information...remaining eloquently and enormously hyper-detailed to the limits of my ability to hear.” This, he found, was not without cost: meticulous setup and precise system matching are required. (Vol.18 No.5)

C.C.E. TL: $4990 $$00
Unusual, beautifully constructed belt-drive transport with a more laid-back, easygoing sound than the Levinson No.31, and less forceful in the bass. Sounds sweet and extraordinarily musical, however, with a lush midrange. DO feels that the passing of time has underscored this unit Class A. RA adds that “it has the finest Laserdisc record.” (Vol.16 No.7, Vol.15 No.8, Vol.15 No.8; see also RH’s response to a reader’s letter in Vol.16 No.9, p.25.)

Denon DP-51: $8000
Though MC found it a bit laid-back in the pace/ rhythm department, TJ was very impressed by this Japanese transport. Using both Denon’s own IJA-31 processor and the Mark Levinson No.35, he felt it had a warmer, fuller balance than the Levinson No.31, similar to that of the C.C.E. (Vol.17 No.5)

Esoteric/TEAC P-25: $7000 $$000
The latest version of one of the first “CD transports” ever — with surprisingly good soundstaging and “scads of detail” and a deep, controlled bass when it was used with JS’s Timbre DAC. He felt the AES/EBU connection got the best from the Esoteric. (P.2, Vol.13 No.12, Vol.14 No.4; P.25, Vol.15 No.7)

Farrell Air Bearing Mk.II: $9900
With this “upside-down” Swedish transport, the user places the CD on the turntable and lowers the laser pickup assembly onto it. The result, according to JS, is a true Class A sound, especially when using its coaxial data output. The lows were “full and tight, the highs airy and open, the soundstage gigantic and unbounded; “pulp factor?” was the highest JS had experienced in his system. LS finds the sound “lifelike,” however. (Vol.17 No.5; see also Vol.18 No.7. p.93.)

Jadis J1 Drive: $16,500
Very expensive but stunningly beautiful, the Jadis was somehow less sensitive to datalink noise, and JS, who got the optimal sound with Kimber’s AES/EBU Illuminati cable when the transport was paired with the Jadis Symmetrical processor. Dynamics, pace, and transparency are the Jadis’s strong suits. (Vol.18 No.3)

Mark Levinson No.315: $9495 $$000
Upgrade to the original No.31. (Vol.16 No.6; see...
THE ORFEO LINE OF 845 SINGLE-ENDED TRIODE AUDIO AMPLIFIERS

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Sonic Frontiers SFT-1: $2295 $$
Transport designed in strict accordance with S/PDIF specifications (less common than one would expect given the current state of redocking circuit design) to reduce jitter. RH lauded its "combination of superb dynamics, a weighty and powerful bass presentation, a huge soundstage, a wonderful ability to reveal fine spatial detail, and reasonable price." He felt that only in comparison with the mighty Legend No.31 did it reveal a less-than-pristine treble. "A must-audition component," he asseverates. "A Class A transport at a Class B price," adds RD. (Vol.19 No.2)

Theta Data III: $4500
"In high-end audio terms, the Theta CD transport/laserdisc player is a genuine winner," said TJN of this CD transport based on an LD player chassis. But it seemed to offer no performance advantage over less expensive LD players when used in Home Theater applications — TJN felt the difference in price might be better spent elsewhere. But that comment, Class A rating notwithstanding, TJN feels he wants to perform more comparisons. ST-optical output adds $300; Single-Mode Laser LINK adds $800. (SGHT2 No.3)

Wadia 7: $12,500
(See RH's review in this issue.)

CD-Player Accessories

AudioPristin CD Stoplight: $15.95 $$
Green, water-based acrylic paint coating for the edges of CDs. The green color, which absorbs the laser's infrared wavelength, is presumably significant, but at present we have no idea why this tweak should improve the sound of CDs. That it does so, however, seems to be beyond doubt to anyone with ears to hear (though no one single product has raised greater eyebrows from the main-stream press). "This stuff works!" report JE, PW, and JA, all of whom feel that it increases soundstage definition and improves the solidity of bass reproduction, and usefully lowers the level of treble grain so typical of CD sound. PW and MC report that a water-based poster pen, the Uniposca from Mitsubishi, has a very similar effect. MC also notes that the C3D should first be de-stastered and its digits changed to 12-bit before the green paint is applied. (Vol.14 No.11, Vol.19 No.10; see also ADO's and TJN's WCES reports in Vol.13 No.3, ST's and RH's articles on CD tweaks in Vol.13 No.5, and "As We See It," Vol.18 No.2)

Alsop Protective Stabilizer: $3.95/dozen $$
Molded, nonadhesive Newton-brand fit that fits around the perimeter of a CD to produce the same aural benefit as CD Stoplight, including an increase in the amount of reproduced reverberation and improved bass quality. (NB, but see Vol.13 No.9 and Vol.14 No.11 for our opinions on Sumiko's identical but discontinued Reference Band.)

AudioQuest LaserGuide: $29 $$
"If you're into gussying up your CDs, this is the best stuff I've come across," says CJG. (With all CD treatments, take care not to scratch the surface.)

Bedini Ultra Clarifier: $125
This Bedini model was found this baffling CD tweak imparted "more air, a greater refinement in the sense of nuance in a particular performance based on my ability to see and hear into a more transparent soundstage... Images seemed more 3-D and palpable, and highs sounded more refined and sweet. Bass definitely improved—it was deeper and tighter, with better pitch differentiation... This one is an easy-to-heat, fun-to-work, absolutely-no-downside tweak." "What he said" concurs WP-JA. (Vol.19 No.2)

CD Greenbacks: $1.98 each plus $1.50 S&H for first 5, $2 for up to 10 $$
Green plastic disc that sits atop a CD's label side; JE called it "the real steal of the digital age." Improves the music's microdynamics, with a lowering of the apparent muffle; also rescues discs that have too many errors to play without dropouts. (Vol.16 No.2)

CD Saver $$
Eliminates scratches from CDs and laserdiscs, rendering the unplayable playable. Discwasher and Bynummer/Shack market similar products. (Vol.15 No.8, Vol.11 No.8, Vol.14 No.11; see also Vol.13 No.9, p.111)

Compact Dynamics CD Clean!: $9.95 $$
Tremendous results 250 CDs
The essential accessory for those who frequent used-CID bins. (Vol.17 No.11)

Compact Dynamics CD Magic: $14.95 $$
Treats 200 CDs
"For damaged CDs, this stuff really is magic!" enthuses JE. (Vol.17 No.11)

Compact Dynamics CD Upgrade: $15.70/ten, $49.95/fifty $$
Self-adhesive polyester disc with centering system that's stuck to the CD's label side to produce subjective improvements similar to those from CD Stoplight and CD Greenbacks. Note that the disc is not removable. (Vol.16 No.2)

Discwasher CDL: CD Laser Lens Cleaner: $21.95 $$
Pw found this CD fitted with six tiny brushes in a plastic housing, effective at cleaning off his 18-month-old Marantz CD-80. (Vol.14 No.11)

Finyl CD treatment: $11.95 treats 100 CDs $$
This surface treatment made CDs sound more "open, direct, and dynamic," determined PW. A larger bottle ($23.95) treats 200 CDs. (With all CD treatments, take care not to scratch the playing surface.) (Vol.14 No.11)

Theta Optique: $50 $$
Refractive-index-matching goop that LL recommends for use with ST-type glass-fiber datalinks. "Must be used on the Theta's internal connections to get the full benefit," he advises. (See LL's Theta review in Vol.15 No.10)

Deletions: Reference Band no longer available; Toddeo Digital Antistatic line-level CD filter not auditioned in too long a time.

Preamplifiers

Entron's Notes: Apart from the Jades, Audible Illusions, YBA, and Air Tight, all the Class A preamplifiers offer balanced outputs.

Air Tight ATC-2: $5995-$7195
DO's reference tube line-stage, the ATC-2 excels in its ability to allow the listener to suspend or his/her disbelief that they're listening to reproduced music at all. It has quite the startling soundstage transparency of the SFL-2 or the tonal neutrality of the Jadis JP-80, the ATC-2's sound was "downright sexy," summed up DO in his review. JDO points out the authoritative yet romantic midrange. The preamp's 12AU7 tube is best sourced from Gold Arc or RAM Labs. DO found that the best 12AT7 to use was an NOS Telefunken, followed by a Golden Dragon. The matching ATE-1 phone preamplifier has severe measured performance problems, including a severely unflat response, and is not recommended. (Vol.17 No.10)

Sterophile, October 1996

149
"The CDA 288 breathes life into discs, giving the music so much more depth and height. The soundstage is wide open, musical instruments have plenty of space around them and a central vocal source comes across with gorgeous clarity and authority."  
WHAT HI-FI? UK

"Extraordinario"  Salvador Dangla  
ALTA FIDELTA, Spain

"This player deserves an audition regardless of personal preference, regardless of budget and we especially urge those who were ready to spend megabucks to listen to the CDA 288 before they go out there and blow a large hole in their wallets"  Ernie Fischer  
THE INNER EAR REPORT, Canada

"Le Copland CDA est une reference incontestable en matiere de presentation spatiale, de douce definition et de justesse de timbre."  
Patrick Vercher & Jacques Vallienne  
La nouvelle REVUE DU SON, France

"...elegante, equilibrato e molto musicale."  
Andio Morotti,  
FEDELETA DE SUONO, Italy

"By any standard, the Copland CTA 505 is an impressive amplifier. It reproduces musical values with talent."  
Gerard Rejskind  
ULTRA HIGH FIDELITY Magazine, Canada

"I commend the solidity of Copland's sound which, like other products from this company, only adds to an innate sense of rightness in the sound."  
Alan Sircom  
HI-FI CHOICE, UK

"...transparenza, velocita, neutralita, ariosita."  
Andio Morotti,  
FEDELETA DE SUONO, Italy

"Overall I feel that the CTA 401 is representative of the very best and the least 'fad-ish' in modern value design and it certainly please devotees or for that matter any one with an ear for a good sound and an eye for proportion and style and appreciation for top class construction quality"  
Ivor Humphreys, GRAMOPHONE, UK

"I'll tell you frankly that I was so seduced by the first four recordings I heard that I pretty much abandoned my critical outlook, and I was ready to give it an A+ right from the first notes, and I had to make an effort to retain my semblance of objectivity. Conclusion: top mark."  Reine Lessard  
ULTRA HIGH FIDELITY Magazine, Canada

I couldn't have asked for more, either in terms of lush details or its vise-like control of the music's unrelenting narrative.  
Andrew Keen, LISTENER, USA

Copland CDA 288 Player combined with the Copland CTA 401 make the sound almost perfect. You feel like sitting at a small concert.  
AUDIO LAND, Hong Kong

Copland CTA 301 brings every musical tune an aura of smoothness and richness. Accurate and musically correct.  
Hi-Fi REVIEW, Hong Kong

COPLAND: CD players, all tube and hybrid pre/power amplifiers, hybrid integrated amplifiers.
Audible Illusions Module 3A: $1995 $$$
Simple tube preamplifier "offers the highest level of performance at a bargain price," averred MF, who found the one-tube-per-channel stage transparent and dead-silent. Unit boasts mono switch, a rapidly disappearing feature that some audiophiles (WP among them) do not consider dispensable. Optional MC phonostage board has sufficient gain for a wide variety of cartridges—although MF "feels cramped by low-output transducers" may wish to audition unit at home before committing. "If the Module 3A isn't the finest-sounding preamp in the world, regardless of price," MF insists, "it is one of the finest." RJR concurs. Current version features a stepped attenuation to 10 dB, improved phono input. Price is $18,000 MM stage; MC stage adds $500; gold/silver faceplate adds $40. (Vol.19 No.2 & 9)

Balanced Audio Technology VK-5: $3995
RD admired the digital line, precisely defined presentation of detail, and exacting immediacy with which this balanced tube design rendered his favorite discs. "A stellar performer," he maintains. Transparent as any minimalist line-stage, he points out, but offering sufficient features to make it a joy to use. Cautious TJN recommends careful system matching due to high output impedance. (Vol.19 No.12)

Cello Palette Preamplifier: $7500 ●
As well as holographic imaging and superb transparence across the band, the Palette Preamplifier offered "a musical quality I didn't know existed," according to LW, though JE is less convinced. Extremely high input impedance, but only 6dB of gain. Incorporates superb equalization that differs from the norm in having a large amount of interaction between the bands. In combination with the fact that the maximum amount of boost and cut decreases toward the center of the audible, the results are very fast optimization of program material by ear. Note that the response with the controls centered but not bypassed is not quite flat, which will invalidate listening comparisons to pin down the sound of the EQ circuitry on its own. Optional phono stage adds $2000 to price. (Vol.15 No.6; see also LSA Cello system review in Vol.18 No.7)

Conrad-Johnson PF-R: $2395 $$$
(See MC's review in this issue.)

Jadis JP-80MC: $16,760
While it avoids the expressionistic "Van Gogh" trap that so many tubed preamps fall into, the Jadis's combination of total neutrality, velvety harmonic texture, and "breath," agreed MF—"a paradigm of JS—extraordinary tonal accuracy, and astounding microdynamics lead DO to strongly maintain that it is, above all else, the premier full-function preamp of the decade. A gateway to sonic heaven, says DO. (Vol.17 No.9)

Jadis JPL: $6840 ●
The titled Jadis offers tonal accuracy and consistency with no hint of sounding, and sets a new standard in the delineation of dynamic contrasts, though DO. shines out the full spectrum of shadings from soft to very loud with the greatest of ease, says DO. MC would like greater transparency, however, while RN feels it has been surpassed overall by the Sonic Frontiers SFL-2, compared with which it sounds too polite. (Vol.16 No.1, Vol.17 No.11)

Krell KRC-FHR: $6990
Standard MC/MM phono stage adds $650, Reference MC phono stage adds $1250. (See WP's review in this issue)

Mark Levinson No38S: $6495
Borderline Class B for the standard No38 line stage ($3995), which RF feels is not resolving enough for Class A. While agreeing with RH that the No38 has a laid-back nature, JA enjoys its ergonomics—including the best-thought-out re-

more volume control—and its lack of treble aggression/grain. The 38S is an upgraded, costs-object, premium version of the No38 with more than a nod to passing the buck to others. JA found that sonically there is no comparison between the two, calling the No38S the most neutral, and at the same time most musically satisfying, preamp to have been in his system. Specific performance areas may be bettered by competing products, he allowed, but taken as a package, the No38S had no weaknesses. Sets a new paradigm, he extolled. (Vol.17 No.8, Vol.18 No.3, Vol.18 No.2, Vol.18 No.38S)

Melos MA-333 Reference: $3595-$6890 depending on options
Versatile tubed, three-chassis, dual-input, full-function preamplifier with separate power supply and remote control. Price includes separate phono stage, power supply and balanced outputs, $4395 with balanced inputs. Phono stage costs $2495 with power supply and balanced outputs. Latest iteration includes Photographs volume control—designed to keep the volume pot out of the circuit and minimize its effects on sound quality. RN felt this allows the preamp to "achieve a new level of total richness and absence of grain," greatly enhancing ambience retrieval, sounding quality, and long-term listenability. Further recent upgrades in the MC regulated power supply were recommended before future recommendation. (Original Gold version, Vol.17 No.11; Vol.19 No.4)

MFA MC Reference: $12,850
The preamplifier to replace the CAT Signature in JE's reference system, this immediately engined tube preamplifier combines an "uncanny" sense of spaciousness with superb retrieval of low-end detail and an excellent sense of pace. A more powerful bass than the CAT, but a more distinct soundstage perspective overall. High phono-stage gain and low noise optimize its use with low-output MCs, favors prowess from inputs to outputs. "Joyously musical and tirelessly entertaining," summed up JE in his review. (Vol.17 No.1)

Pass Labs Aleph P: $3000
Well-built remote-control preamp that SS avows stands as proof that "simpler is indeed better," praising it as the "quietest active preamplifier I've ever reviewed."...and that coming from the Stone. From Boulder its dimensionality, transparency, bass extension, top-end air, and low-level detail. In short, "the Pass nails it. "Will appeal to anyone who values clarity and accuracy over euphony and flats," he concludes. (Vol.19 No.2 R 10)

Perfectionist Audio Components
Pro Reference all-copper: $3000
Expensive but "world-class," according to JE, who proclaimed it "competitive with anything I have heard." "Sounded were precisely articulated with remarkable resolution…[and] great speed."
Moreover, the preamp's "microdynamic" conveying rhythm and pace. A slight softening in the treble, a reduced sense of mid/upper-bass weight, and minor ergonomic glitches, however, are areas requiring further work. Price includes phono stage, rack, and power supply. (Vol.19 No.7)

Sonic Frontiers SFL-2: $3795 $$$
Tubed line-stage with separate power supply that RH and RN recommended to split their sound with the best in most respects, and excelling in such, as its huge, open, transparent soundstaging; lack of midrange grain; and superb treble extension. A "feeling of harmonic wholeness and rightness," said RN, who prefers it to CAT and the Jadis JPL. "A slightly weightier character" compared with the Audio Research LS5, said RH, adding that the Canadian preamp clearly excels in treble smoothness and overall linearity. JA found the 2 to be among the best he's heard, admiring its emphasis on the rhythmic aspect of music as well as its big ambi-

gen bloom. The top octave could be more open, he thought, and the soundstage, while expansive, was somewhat less detailed than the references. ROF, however, felt it lacked transparency compared to his current reference. (Vol.17 No.11, Vol.18 No.7 & 12, Vol.19 No.2; see also RN's review of the Melos MA-333 (Reference in Vol.19 No.4)

Spectral DMC-20 Series 2: $7595
When he auditioned this preamp in conjunction with the other elements of the Spectral/Avolnu/MIT 2C3D system, RH was impressed by its beautiful interior layout and workmanship, commenting that "the execution appears to be meticulous, with an obvious attention to every detail. His assessment of the system's overall transparency and high resolving power of the system. Price includes phono stage ($600) and balanced input stage. (Vol.19 No.1)

Threshold T2: $5450
"This is the kind of product that makes me want to listen to music, often to the point where I find myself waylaid by my system," gushed SS. He added that the remote-control T2 "allows the excitement and enchantment of music to pass through its circuits almost unscathed." Ergonomic and visual elegance combined with convenience and flexibility made this unit a strong recommendation.—FR, he summed up. JA found it to sound a little less refined than the Levinson 38S but marveled at the Threshold's powerful bass. Price is in black; a "silver pewter" finish adds $100. (Vol.18 No.7, Vol.19 No.2)

YBA 2: $2750 $$$
With its MC transformer module ($650), this ultra-quiet French preamp gave the best sound from vinyl JA had experienced in his system since he retired his Audio Research SP-10. The line stage is merely good. While it has great clarity, a liquid-sounding midrange, and excellent low-frequency weight and definition, it is lean overall and has less image depth than, for example, the Classe Six. Both line and phono stages invert polarity, meaning that what will be an optimum setup for LP playback will require an additional polarity inversion for CIsX. (Vol.17 No.7)

B Brynton BP25-MC: $2995
(See LG's review in this issue.)

Conrad-Johnson PF2: $1795 $$$
Borderline Class A performance, sums up MC of this modestly priced, full-function, solid-state preamplifier, commenting in particular on its sense of pace, unbounded dynamics, and musical involvement (once it was fully warmed-up). Don't change cables with the unit turned on, warns MC. Price includes "reference-quality" MC phono stage; the PF2L line stage costs $1395. (Vol.17 No.11)

Conrad-Johnson PV10A: $1195 $$$
All-mono, full-function preamplifier that CG found very appealing, particularly for LP playback. Balance is on the warm side, but there's a palpable sense of musicians being in the room that adds to the listener's enjoyment of the music. An MC favorite. The IPV10AL, which lacks the phono stage, costs $995. (Vol.16 No.6)

Exposure XVII: $1649 $$$
This modest-looking British preamplifier "has a fundamental musicality," felt RH, who also found it to have "a rhythmically powerful, tight, and coherent sound." Only a touch of hardness in the mid and treble kept it from a Class A status. The MC phono stage is very quiet, and while a bit laid-back in overall balance, was one of the best-sound-
ing RH has used. Recommended to those of whose lives LP playback remains an important part. (Vol.17 No.4)

Sterophile, October 1996

151

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Exclusiv Hifi-Komponenten
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McIntosh Line Drive TLC-1: $995 $$$

This modest control center's buffered FET outputs are unity-gain, or nearly so, meaning that it will be unsuitable for use with insensitive amplifiers or with components that have a very low output. With a typical C13 source, however, it offers superb transparency, very low noise, and an almost undetectable sonic signature. Ultimately, however, its balance is a little too transparent; as palpitant in dynamics, which might make it worthwhile checking out the external power supply ($295). Passive outputs sound even more transparent, but only in the context of an appropriately matched system. (Vol.18 No.7)

Mcintosh C-22 Commemorative Reissue: $2595

Reissue edition of classic preamp features many modern parts upgrades, but remains true to original. SS didn't think it competitive sonically with the best contemporary tubed preamps, but point out that quality construction and conservative design promise long, trouble-free life—always a McIntosh hallmark. (Vol.18 No.10)

Melos SHA-Gold: $1995 $$$

This remote-control headphone amp/precursor to WP's juices flowing. "As a headphone amp, I've never heard its equal," he gushed, adding that as a preamp "it disappears as completely as my I've ever heard before." Remote volume control via Phono-Tenometer circuit, as well as passive, active, and active-balanced outputs, add to flexibility. "If you've got the go, go for the SHA-Gold!" he shilled. More transparent than the SHA-1 but not quite in the league with the MA-333 Reference. Borderline Class A. (Vol.19 No.7)

Melos SHA-1: $1195 ◆

"Class A," according to CG, who prefers it to the LS21B; "borderline Class A," according to JA; both use this modest FET/tube device primarily as a line stage. Excellent soundstageing, a neutral, "utterly transparent" sound, and powerful, driving low frequencies are offset only by a slightly dark overall presentation with a touch of upper-midrange brightness (says JA). Price is for silver or black finishes; now has three (unbalanced) inputs. (Vol.15 No.10)

Premier P.6: $1995

Had an appealingly open, sparkling, clean quality that held TJN's attention. Leanness through the upper bass and lower mids made its upper octaves seem more prominent, and the overall sound more laid-back, than the best of the competition, he opined. Bass was deep and tight, and if solo voices didn't hang quite as intangibly in space as in his reference Rowland Consunmate, they didn't miss the mark by much. A DAS favorite. (Vol.18 No.5)

Woodside SC26: $3495

This well-engineered British all-tube, full-function preamp has "a lovely, warm string tone ... with no strain or distortion," found LG, who also noted the good dynamics and excellent LP extension and power. Superbly natural presentation of instrumental timbres places the SC26 firmly in Class B, summed up Mr. G., who notes that the Class Six has better dynamics overall. Price includes MC/MM phono stage with integral transformers; line stage alone costs $2495. (Vol.18 No.2)

C

Audio Alchemy Digital Line Controller: $399 with Power Station One $$$

Versatile, compact, remote-control line-level preamp comes with Power Station One, but can be upgraded with heftier Power Station Three ($295), which, reports WP, makes a big difference. "Transparent and dynamic," he insists, and capable of driving many a larger and more expensive unit. "A thoroughbred at any price, but a steal at its typically discounted price," he enthuses. JE concurs, although did note a lack of harmonic richness in the mid/upper-bass/low-

midrange and a loudness-dependent loss of bass heft. Even so, he felt the DLC set a standard that every future manufacturer should aspire toward. (Vol.18 No.9 & 11)

Home HeadRoom: $599

Although primarily a headphone amplifier, the Home HeadRoom makes an excellent single-source preamp with power, accuracy, and finesse, found WP. "This response was excellent and there were gobs and gobs of gain ... performs on an unusually high level," he enthused. (Vol.18 No.11)

McIntosh Micro Line Drive: $595

"Why should only the rich kids have all the fun?" asks WP, admiring the parts quality, styling, and transparent sound of this modestly priced unit, which can be used as a conventional preamp with selectable gain or as a passive control unit. While he deems it adequate when used with gain, he proclaims it "a contender for the best disappearing act in audio" when used as a passive unity-gain device, conceding that it shaves some heat off of recordings. Sensitive to cable capacitance when used passively. (Vol.18 No.6)

D

Editor's Note: There are currently no Class D preamplifiers recommended. Those with restricted budgets should investigate our recommended passive control units.

K

Audio Research LS7 & LS22, Audible Illusions L1, Music Model Three, Boulder L-5AE, Jeff Rowland Design Group Coherence, Linn L1, Sonic Frontiers Anthem Pre I.

Deletions

Audio Research LS3/LS18 and Sonic Frontiers SFL-1 not auditioned in a long time; Audio Research JL discontinued. Audio Research LS5 MK.111 replaced by MK.111, not yet auditioned; Krell KRC-2 replaced by KRC-3, not yet auditioned; Convergent Audio Technology SL-1 Signature replaced by MK.2, not yet auditioned.

PASSIVE CONTROL UNITS

Editor's Note: While many audiophiles feel that a passive control unit has the potential for offering the highest possible sound quality from line-level sources such as CD, it must be noted that the entire responsibility for driving the interconnects, the passive unit, and the power supply is handed over to the source component, which may not be up to the task. Careful auditioning will be essential in putting together a musically satisfying system around a passive unit.

A

Carver Research Lightstar Direct: $1995

Preamp can be used as either a passive balanced design boasting matching inputs and outputs on the circuit board, or as a single-ended active preamplifier. SS was not impressed with its performance as an active device, finding it "undistiguishing ... Class C." In passive balanced mode, however, it was "simply the best preamplifier I've ever heard for under $2500." Careful system matching is necessary to derive that level of performance—the Lightstar is "unwilling to drive high voltages into low impedances. That said, highly recommended for those with completely balanced systems. (Vol.19 No.9)

Electronic Visionary Systems Attenuators: $195-$450

A.

111 certified over the transparency offered by these passive control units, sold only by mail order. The dual-mono Ultimate Attenuators, which plug either into the power amplifier's input sockets or a CI player's output sockets, cost $230/pair with 12-position unbalanced attenuator, $305/pair with 24-position balanced attenuator, and $450/pair with 24-position attenuator. Those primarily interested in CD replay should investigate these well-made units. EVS—Tel: (510) 548-3665. (Vol.13 No.7)

McIntosh Line Drive TLC-1: $995

Although the McIntosh does have buffered active outputs, its passive outputs are the most transparent JA has heard, if a little laid-back in absolute terms. Highly recommended, says he. (Vol.17 No.7)

B

McIntosh Micro Line Drive: $595

"A contender for the best disappearing act in audio," proclaimed WP of the MLD used as a passive unity-gain device, while conceding that it shaves some heat off of recordings. Sensitive to cable capacitance when used passively. Not far behind the TLC-1. (Vol.18 No.6)

Purest Sound Systems Model 500: $325

RN feels its Burtons pot to lose a little transparency, but confirms that this inexpensive dual-monaural, four-input device "will get you most of the way there as far as a control center is concerned." A "bargain," says ST. "It's basic, it's simple, the parts quality is very high... everything else mises up the sound of my Meridian 508 by comparison ... I use it in my main system." Very similar Model 1000 ($475) adds more inputs and is more versatile. (Vol.17 No.8)

MOVING-COIL STEP-UP DEVICES/PHONO PREAMPS

A

Audio Research PH3 phonog preamplifier: $1945 $$$

"Luxurious, liquid midrange bloom and... iron-fisted bass control," had MF's heart all a-flutter. "Easy to use and endlessly flexible," wowed WP. "Plenty of gain, low noise, and very high overall characteristics, plus adjustable resistance and capacitance loading," added MF. "Highly recommended!" they chomised. (Vol.19 No.9)

Conrad-Johnson EF-1: $1795

(See MC's review in this issue.

Expressive Technologies SU-1 transformer: $3500 ◆

A 35-lb step-up transformer that offers "utterly unbelievable" and "exquisite resolution," according to RH. JA agrees, finding his LP sound with the SU-1 feeding the Mod Squad Phono Drive's MM input to be "deliciously transparent and musical. Unlike used with Expressive Technology's own interconnects, however, it may be impossible to avoid excessive hum pickup. Needs also to see a 47k ohm load impedance with low capacitance. Otherwise, the sound quality will be overly dependent on the preamp's MM-input characteristics. (Vol.15 No.7, Vol.18 No.1)

Mark Levinson No.25S: $4390 ◆

Available in High- or Low-Gain versions, this MC line-level phono preamp features identical circuitry to the phono section of the No.26S. Above price includes PLS-226 power supply. Price without, for those who want to power it from their No.26 power supply, is $2995. Needs careful positioning to avoid hum being induced into its circuitry from the power supplies of other components. LA's reference. (NR)

Naim Prefix phono preamplifier: $700 inc. ARO connector, $750 inc. SME DIN-type connector

Unique phono section designed to mount inside the plinth of a turntable (specifically, but not ex-
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B American Hybrid Technologies AHT-P: $2700
Very quiet solid-state MC line level RIAA equalizer/preamplifier with separate power supply. Can be set up for optimal gain/impedance match with the user's MC phonograph cartridge. JS was impressed with the unit's transparency, neutrality, and pace, though he decided to keep his CAT SL-1 Signature overall. (Vol.16 No.12)

Gold Aero dB45 Signature: $999
SS was impressed by the balanced nature of the dB45's harmonic presentation, finding it airy, sweet, and well-defined. Though the dB45 was not as "dead" in the background as his reference Vendetta—sadly no longer available—he still found that it reproduced space and air in a satisfactory manner. "An outstanding value," he concluded up. "If your preamp has adequate gain—passive units need not apply." Standard version (not reviewed) costs $799. (Vol.18 No.9)

Sonic Frontiers SFP-1: $1095 $$$
Tubed unit with what RH called "a delicious midrange bloom," a complete lack of grain, etch, and phase coherency, and matching soundstaging, particularly in its MM mode. (MC mode adds a class-A FET gain stage ahead of the tube circuitry.) First review sample had a shelved-down treble due to Japan's out-of-spec RIAA stage capacitor. The second sample had a flat RIAA response, which ameliorated RH's earlier criticisms of an "overly soft sound" and a lack of "air, immediacy, and detail." "A terrific bargain," was his final verdict. MF demurred after auditioning the $1695 Signature version. Its "relatively high noise floor and only moderate gain cast a gray-tinged shadow over the soundstage and imparted a sluggish rhythmical quality to music" when used with MCs, he felt. (Vol.16 Nos.9 & 10; Vol.19 No.2, Signature.)

C Audio Alchemy VAC-in-the-Box: $259 $$
SS found this unit to "represent a giant step forward in entry-level phonor gear," but felt it lacked palpability compared to the best phono amps. WP and MF respond, "Your point being?" Topnotch construction and user adjustability transcend any expectation for this price point, they contend. It sounds good, too. (Vol.18 Nos.8 & 9)

K FM Audiacon FM-222, Rotel RHQ-10. Deletions
Audio Research PH1, Krell KPE discontinued.

POWER AMPLIFIERS

Editor's Note: Due to the disparity between typical tube and solid-state "sounds," we have split Class A into two sub-classes. Nevertheless, even within each sub-class, Class A amplifiers differ sufficiently in character that each will shine in an appropriate system. Careful auditioning with the user's own loudspeakers is therefore essential. Note that, except where stated, output powers are not the specified power but those we measured into an 8 ohm resistive load. All amplifiers are stereo models, except where designated.

A (Tube)
Air Tight ATM-2: $8750
An 80Wpc classic stereo tube design from Japan that eschews the use of printed circuit boards in favor of point-to-point wiring. "The most refined [push-pull] tube amplifier money can buy...a magical midrange," according to DO. Though its highs are not as refined as the other Class A amplifiers, and it really needs to be used with speakers having 8 ohm impedances. As of 10/93, DO lauded problems at the frequency extremes squarely at the feet of the original Chine: KT88 tube complement. "No longer a refined Quicksilver," said RH. Its low bass, too, is less well-defined than the other Class A amplifiers, and its midrange sounds "overly refined," after his experience with the Gold Aero KT99A: "The extreme treble opens up, harmonic overtones are even more liquid, and the deep bass tightens up considerably." Note that the KT99A requires at least a 20-hour break-in. (Vol.17 No.11)

Air Tight ATM-3 monoblock: $13,995/pair
This Japanese amplifier's midrange is pure and liquid in the classic tradition, with full-bodied lower mids and the speed and spatial precision audiofiles have come to expect from modern tube designs. Reproduction of dynamic and rhythmic shadings is outstanding, even with difficult loads such as Sound Lab A-1s. The best-sounding ultra-linear output stage DO has heard to date—he prefers the sweeter sound of the original KT77 to that of the stock EL34s. Note that the KT77 does not work in triode mode-thus curtailing distortion-free power delivery. With EL34s, the triode mode carries the midrange performance a notch forward, sounding a bit more sweet and suave, but sacrifices about half the available power: 60W≥135W. (Vol.16 Nos.8 & 10)

Audio Note Kassai Silver: $2,600
JS reckoned that this 17Wpc, single-ended triode amplifier combined the best characteristics of pulsed-with those of SE,calling it the "least compromised of all the SE triodes we've listened to." He was particularly taken by its reproduction of vocal nuance, where it felt, "something special." Indeed, "The price-performance ratio here can only be rated as poor." Hard to recommend on a practical level, but its admirers claim its seductive nature overcomes rationalization. (Vol.19 No.4)

Audio Research VT150SE monoblock: $15,990/pair
The finest from ARC, this 130Wpc power amplifier is smooth, liquid-sounding, and grain-free, with an accuracy of timing and a level of detail that RH found "astonishing." While it doesn't have the punch of a Class A solid-state amplifier such as the Krell KSA-300S, RH felt the ARC Audio Research to give a more palatable implosion of there being an acoustic double-bass in his listening room, with a greater sense of openness, bloom, and space in the lower registers. "Sets the standard in liquidity, soundstaging, and sheer musicality. Deep, layered, and very transparent soundstage—truly transcendent!" as he sums up his feelings, just in case you misunderstood. "Magnificent, big-hearted, truly Class A Plus," enthuses MC. Output impedance from the 4 ohm taps is a low 4 ohm. External remote response with the speaker leads. Amplifier actually reviewed was the cosmically different but sonically identical VT150. (Vol.17 No.8)

Balanced Audio Technology VX-60 monoblock: $4950 each
"Offers the natural rendition of instrumental/ vocal timbres that the best tube amplifiers are known for, but has enough power to drive most speakers to very satisfying volumes," opined RJ, who also was impressed by the three-dimensionality of the soundstage. He found the 35W BAT "it gets 35W at a relaxed 3% THD limit—"punchy, substantial, and even harmonic accuracy." Bridgeable. (Vol.18 No.12)

Bel Canto Design Orfeo SE2 monoblock: $7590/pair
Exquisitely sweet and refined mids coupled with a slightly laid-back perspective are this single-ended tube amp's most compelling sonic attributes, according to DO. Unusually for an SE amp, no excuses need be made at the frequency extremes. Its sound is spatially impressive, yet it lacks the dramatic vividness of, say, the Cary 805. The output is limited to about 25W continuous, which dictates its use with a speaker of at least a 90dB/W/m sensitivity and a benign impedance. Sovtek 12AX7/WTX dual input triodes are now supplied as standard. (Vol.17 No.7)

Cary Audio Design CAD-805 monoblock: $8495/pair
A classic single-ended design, the 805 squeezes some 30 clean watts out of a single 211 power triode driven by a 300B. There are weaknesses at the frequency extremes, but the real glory of this amp is its reproduction of the core of the musical message. Midrange textures are sublime; the imaging of space and time are so believable "you'll embrace instrumental outlines with outstretched arms," opines DO, who feels that this return to "our audio roots" has redefined for him what high-end audio should be all about. Used full-range, the 805 requires a loudspeaker with a benign impedance and at least a 90dB/W/m sensitivity. But when optimally matched, "the Carys ain't polite, ain't laid-back, and need make no apologies about their performance anywhere up and down the frequency line!" enthuses MF, who uses them with Audio Physic Virgos. (Vol.17 Nos.1 & 2)

Cary Audio Design 300SE monoblock: $3795/pair
"These are the magic Carys!" exclaimed ST. "They have a way of making the music come alive I have not heard from any other amplifier... Posh in all the right places. In tube lore, it is still tight and tuneful. However, at just 12W power output, it will be very hard to find a matching loudspeaker. (Vol.16 No.11)

Conrad-Johnson Premier Eight monoblock: $15,990/pair
Massively powerful all-tube amplifier—measured clipping point was 193W into 8 ohms— that occupies pride of place in JE's system. "A tube-lover's dream come true": electrifying dynamics and the best bass JE has heard from a tube amplifier are coupled with superb soundstage air and presence. Output tubes are 6550As. (Vol.17 No.12)

Conrad-Johnson Premier Eleven A: $3595
While the original version of this beautifully made 70Wpc tube amplifier failed to light ST's fire, MC felt that, while its strengths may be subtle, the Eleven should not be underestimated. Current "A" version incorporates minor modifications to make it "sublime without being boring," adds WP, who cites an increased sense of slam and articulation as the primary improvements. JA is impressed by the natural and unwavering soundstaging, and finds the unit a must-audition for those in love with live performances. "The best amp I have ever auditioned," says DO, and this amplifies its use with a speaker of at least a 90dB/W/m sensitivity and a benign impedance. Sovtek 12AX7/WTX dual input triodes are now supplied as standard. (Vol.18 Nos.8 & 9, Vol.19 Nos.3 & 8)

Jadis JA 200 monoblock: $25,995/pair
A superb tube amplifier offering an honest 130W that, according to DO, outdistances its competition primarily in the area of soundstaging, where it unfolds a panoramic and rock-solid spatial impression of the original recording venue. Although har-
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monic textures are fluid in the best tute tradition. DO obtained the sweetest mids by substituting good EL34s (Gold Aero E34LS) for the stock 6550s; JS likes Tung-Sol 6550s, but with NOS AEG 8025 input tubes to displace the Gold National 12AU7s. This amp does not sound roncy, canton DO, who rise a flash through the lower mids argues for a matting with a warm-sounding front end. Although DO tried various line conditions, JS found the Jades to give of their best when plugged straight into dedicated wall outlets. Read his Follow-Up for the full tweaking route. (Vol.18 No.3; see also JS review of the Tinfole TT-1 in Vol.17 No.4).

Jadis SE300B monoblock: $13,500/pair

These SE triodes generate a beautiful tonal palette and [a] giant acoustic, opined JS, who felt so not much that they replicated the sound of the master tape, “but actually transcribed the mechanics of reproduction to the acoustic event itself.” Their balance of sound “is stunning in its total naturalness, ease of presentation, exuberance, and nuance,” he avowed. All this and 10Wpc, too—“but it sounds like much more,” affirms JS, who bemoaned the need by their remarkable sonic spaciousness, as well as their presentation of low-level detail and air. ST exalted, “such is the glory of Jadis that all of this detail is rendered in the most musical manner imaginable.” TJN, uncomfortable with their high-end requirements before purchase, Western Electric 300B tubes add $2000 to price. (Vol.19 No.1, 2 & 3).

Manley Reference 440 monoblock: $12,000/pair

Manley Reference 240 monoblock: $9000/pair

The very high-power mono ampifiers can be switched to either triode or pentode operation, and provide for adjustment of global feedback and rolloff of ultrasonic frequencies. As a result, JS found the 440 to suffer somewhat from multiple-personality syndrome. However, he did find its presence musically inviting and gorgeous-sounding under the right conditions. Rated around 400W in tetrode mode, in triode mode the 440 still manages to deliver 160W into 8 ohms. The smaller 240s monoblock tube amp “exceeds at everything” by its remarkable sonic spaciousness. Highly recommended as a must-have purchase. Western Electric 300B tubes add $2000 to price. (Vol.19 No.1, 2 & 3).

Manley SE/FP 300B monoblock: $4200/pair

Amplifier can be used in push/pull or SE configuration—and can be switched back and forth while playing. Also features adjustable global feedback, ST enjoyed them, finding them capable of driving speakers other SE amplifiers could not. Cones “very, very close” to sound of costlier amps such as the Wavelength Cardinal and the Jads 300B. (Vol.19 No.1 & 2).

Music Reference 220MK II: $3440 $$$

The 220s differ from the alternative KT88 output tubes made the sound too vivid, this 125Wpc stereo amplifier, when equipped with less expensive EL34s, is the best to come from Roger Modjeski. “Harmonic textures are sweet, liquid, and imbued with a subtle ambience. Imaging is generous,” DO notes, when the negative feedback control is set to its lowest. “An authentic American classic,” he concluded. (Vol.12 No.12, Vol.17 No.10).

QuickSilver M-135 monoblock: $6500/pair

Handsome design, but a bit small for use as a middle-of-the-road 300B output stage. “It’s classic tube,” he asserts: “smooth, sweet, directional, and powerful as hell.” Powerful but liquid at the same time, he tells us. Bass is full, but not tight by solid-state standards, and he would not recommend open floor placement to parents of toddlers, due to sharp corners on faceplate. His conclusion: “The best pentode amps I’ve heard in my system.” (Vol.18 No.12).

Vaccum Tube Logic Wotan MB-1250 monoblock: $25,000/pair

See JS’s review in this issue.

Vaccum Tube Logic M-1450 Signature monoblock: $50,000/pair

The original version of the amplifier — when it was still called the MB-300 — was a JGH favorite. Latest iteration can switch between triode (250Wpc) and tetrode (450Wpc). RN found extra sweetness and liquidity running triode. Disagreement abounds: some of Signature with replacement of original transformer with the Signature transformer — which helps new version deliver 11 amps as opposed to the 65A of the original. The MB-1450 Signature has not been fully reviewed in its latest rendition, so any recommendation must be construed as provisional and awaiting further audition. (Vol.19 No.7).

Valve Amplification Company Renaissance Seventy Seventy: $9900

This beautifully made 65Wpc (for 3v3 T117), dual-mono push-pull amplifier uses 300B output triodes run in push-pull, and features user-selectable loop negative feedback. (The best measured performance was obtained with no feedback, but output impedance is then a very high 2.1 ohms, which will give major response modifications with almost all speakers.) Still, “The VAC’s output sounds like its stunningly realistic midrange,” enthused JS, also noting the remarkably accurate and precise soundstaging. The bass is a little boomy, however. (Vol.17 No.2).

Wavelength Audio Cardinal monoblock: $5250/pair

Wavelength Audio Cardinal XS monoblock: $7500/pair

JS was entranced by the openness, speed, and treble clarity exhibited by the XS version of this SET amplifier. Particularly impressed by his level of musical involvement, he marveled, “How easy it seemed to reach into, to connect, to understand the music I heard… I came to understand that this warm and welcoming internal fireworks was a remarkable achievement.” TJN marveled at the clarity, refinement, and harmonic beauty, but found it a tad slow and sounding. TJN guessed that the test-bench performance might have been acceptable in 1940, but seemed mediocre for a contemporary design. He allowed, however, that measurements appear beside the point with this sort of design. (Vol.19 No.1).

A (Solid-State)

Bryston 7B ST: $4795/pair $$$

(See LG’s review in this issue.)

Tribute: $3000

“The Statement has the power to inspire,” JS declares. “You not only listen to music through the Wotan—you experience it as well.” He finds it acoustically enveloping, with awesome bass capabilities and harmonically rich upper frequencies, achieving an appealing balance of sound and sound effortlessly musical at all extremes. Extremely sensitive to AC quality, he warns. TJN finds the test results unexceptional, given the amplifier’s lofty price. JA was disappointed by the presence of what sounded like old-timbred crossover distortion in the 25Wpc output. (Vol.19 No.1).

Jeff Rowland Design Group Model 2: $5800

“How do you define quality in an audio component?” queries RD, before deciding, “I can’t think of a less expensive amplifier that fully matches the 95Wpc Model 2’s collection of sonic virtues—which he defines as an open and extended top end.

Krell Audio Standard monoblock: $35,000/pair

See WP’s review in this issue.

Lamm Model M1.1 monoblock: $13,980/pair

“With soul, [a]ugency, enthused JS of these hybrid 140W monoblock power amps; “the magic that makes it all worthwhile.” He also admired “the enormous, extremely airy, and transparent soundstage they threw… The bass was nothing short of phenomenally deep, tight, and termi-finess, effortless, redolent of tonality and individualism. Make sure you take the time to hear a pair.” (Vol.18 No.4).

Mark Levinson No.331: $4550 $$$

LG found this 135Wpc Levinson to possess quickness, stunning impact, and remarkable transparency. “The No.331’s build quality is up to the highest standard found in high-end products today,” he asserted. “This amplifier’s sonics, superb parts quality, overkill power supply, reduced price compared to its predecessor, and five-year warranty offer its owners a lot of value for the money and bring a Class A recommendation from me.” Preliminary auditioning by JA of the more powerful No.333 ($8495) indicates that overall it is the best-sounding Levinson amplifier ever (though the discontinued No.206 monoblock still had the ultimate in High Class sound). (Vol.19 No.3)

Pass Labs Aleph 0 monoblock: $7000/pair

With the exception of JE, the magazine’s reviewers were pretty much unanimous on the virtues of this single-ended, 90W, MOSFET-output Nelson Pass design: true Class A. Neutral-balanced rather than euphonically sweet in the manner of a classic single-ended triode design, the Aleph 0 offers superbly transparent, musically natural detail retrieval and superb dynamics. “A breakthrough product,” concluded DO. SS bought a pair to use with Avalon Eclipse speakers—“Class A with a bullet” he said. Low input impedance mandates careful preamplifier matching. (Vol.18 No.3).

Spectral DMA-180: $7495

Well-built 240Wpc solid-state design that was reviewed as a component of the Spectral Avalon/MIT 2C3D system. RH discovered that “playing records and CDs I thought I knew an exciting sense of width and depth of the soundstage and expressiveness fully revealed for the first time.” He was also impressed by the bottom end’s “stunning rhythmic agility” and “top-to-bottom dynamic coherence.” (Vol.19 No.1).

Symphonic Line Kraft 400: $25,000/pair

Noting the not-inconsiderable price, JS asked, “Could this be [an] extremely special low-priced run of amplifiers?” “Everything,” he answered. He located in their “richly complex and textured, powerful, transparent, and [huge] soundstage,” and marveled at their effortless articulation. Additionally, he made note of the 125Wpc deep, fast, powerful bass. TJN, on the other hand, grumbled about the fit and finish and what he felt to be an unjustifiable expense of empty space within these mammoth amplifiers. He also observed that JS experienced system failure on one amp, in addition to the one that failed under test—not trivial considerations, given the price asked, he opined. (Vol.18 No.11).

Threshold T-200: $4450 $$$

RD valued the balance of attributes in this IGIHB-based class-A, direct-coupled, minimal-feedback, 125Wpc amplifier, praising its “everything-in-propor-tion proportion coherence.” Midrange neutrality and
When you look this different, you have to sound better.

GALLO
A Cary Audio Design CAD-300SE: $3695 $$
Stereo, single-ended, tubed, integrated amplifier related to the Cary 300SE monoblock. Captures an essence of response of the 300SE, RH rapturously exclaims, "My heart tells me the Cary can't be any good; my ears and heart say this is most involving and communicative amplifier I've heard." "It's actually a tone control, and an unpredictable one at that," JA groups (though he will admit under pressure that the sound of his B&W Silver Signature driven by the Cary was first-rate). RH regards the ultrasonic, liquid sound of the 300SE to be world-class, manifesting a warmth and beauty unmatched by any electronics he's had in his system. Outdoor of 11Wp tops, limited dynamics, somewhat skewed-down treble region, and, shall we say, "dynamic test results demand extensive auditioning with your preferred loudspeakers before purchase." (Vol.18 No.9)

Krell KAV-300: $2350
Compact 30Wpc integrated amplifier that has "fine clarity," and "surprisingly good transparency," according to MC. Well-balanced sound includes good focus, stable imaging, and satisfactorily deep bass, allied with "above-average slam." Dynamics, gauged MC, "were well-rendered in conjunction with good rhythm and timing"—areas where MC feels the littlest Krell "may have the measure of its bigger brothers." (Vol.19 No.7)

B

Aragon 8001ST: $1999 $$
TJN was taken so by this 200Wpc solid-state amp that he enthused over its "effective combination of body, richness, and detail," although he did note that the top end could turn dry and zippy on hard transients. Overall, he rated this amp equal to power amps costing as much as five times more. "Make the comparison," he urged; "...it just might make you feel a lot better about your budget." A $50 optional upgrade adds balanced inputs, two transformers, and doubles the power-supply capacitance, leaving the 8001ST (see audition). (Vol.16 No.9)

AudioPrism Debut: $1995
(See ST's review in this issue.)

Ayre V-3: $3450 $$
This 100Wpc MOSFET amp "swings like a good ton," said WP, "a success. A rising one ... I never tired of its silence, exemplary pacing, and timbral accuracy." ST finds the top end a little dull, lacking what he likes to call "crystalline clarity — hell, that's what I want from a solid-state amp," he thundered. $8 agrees with ST and WT that the Ayre V-3 "is outstanding; A real 'brick wall' that should stand by its recommendation." (Vol.19 No.8)

Bryston 3B-ST: $1565 $$
(See LG's review in this issue.)

Bryston RH ST-THX: $3195
Four-channel amplifier that TJN recommends for Home Theater use, thought noting that it is a "bit pricey" for what it offers. Warm-balanced and a bit richer than life, he summed up, pointing out that the Bryston is worth exploring for a bi-amplified stereo system. (SGH ETn 1 No.2)

Carver Research Lightstar Reference: $3995
Largest (12Wpc) bi-amping power amplifier that impressed RD with its dynamics and sensitivity of power in reserve, as well sounding impressively neutral. Bass extension, although good, lacks the focus of other top contenders. The Lightstar falls short of overall transparency, seeming slightly veiled — although RD concedes this to be a very small distinction. A good match with speakers representing difficult loads, or those requiring a bit of extra warmth. (Vol.18 No.5, Vol.19 Nos.5 & 6)

Cary Audio Design CAD 300B: $3995
Classic 300B output from this push-pull amplifier: a smooth, rich midrange with a bit of grit. ST found the bass to be surprisingly tight, tuned, and well-defined. Lowish power — 30Wpc — means the matching loudspeakers must be relatively sensitive. (Vol.16 No.11)

Cary SLM-100 Revised monoblock: $495/pc
"High qualities of sound, parts, and construction" make this 100Wpc tubed monoblock "a bargain," claimed RJR, citing its glorious midrange. "Yes [there is] a bit of euphonic tube sweetness...[but] the seductive reproduction of well-recorded voices melded me down into a puddle..." RD reproductions could go quite deep, but he found it marred by "rip tone" of the 80-100Hz region. Choral chasses adds $500/pc. (Vol.18 No.5)

Celeste 4070: $1599 $$
Hard-to-impress SS hailed the 80Wpc 4070 as the "first moderately priced amp I've had in my house that elevates everything it runs through" finding its transparency and low-level detail to be exemplary. He also praised in frequency extension and ability to unravel complex passages. However, he felt it crested slightly toward the thin side of harmonic balance and lacked the full developed sound-staging of the best, more expensive amplifiers. "In the right system, [it will make many people wonder] why anyone would need to spend more money," he counched. (Vol.18 No.12)

Conrad-Johnson MV-55: $1995
(See ST's review in this issue.)

Conrad-Johnson MF 230A: $2995
(See MG's review in this issue.)

Conrad-Johnson Natural Progression NPS-400A: $4395
TJN was left unmoved by the first version of this powerful — 250Wpc — hybrid stereo amplifier, but a revised sample (reflecting the sound of amplifiers made after the first 50) had him shouting its praises. It is a "nice hard-working amplifier," With a "solid and powerful" midrange and right bass, "it combines the best of tubes and solid-state," he wrote. Borderline Class A in the right system, though a slight lack of low-bass slam and top-octave air left it running right up there. (Vol.18 No.3)

Crowne Macro Reference: $3995
This very powerful (760Wpc) solid-state stereo amplifier has "Sensible" reviewers and readers divided. sounding rather dry overall, with a thin treble, the Crown's lean balance will lead to care having to be taken in system matching. A reliable "brick wall" character, according to ST, who stands by his recommendation. DO found it to work quite well with Social Lab A-1s. PWM adds that the Crown does "an amazing job of causing mid-level dynamic loudspeakers to sound more musical, involving, and three-dimensional than they have a right to." LL, however, found it to be the least musical-sounding amplifier he had ever heard in that it lacked harmonic accuracy and dynamic shading. JA was also not impressed. RN finds the Crown "so far out on the edge:" "The real question is, can the Crown Macro Reference survive the zealotry of its followers?" (See Notes.) Vol.17 No.2, pp.15-25, and No.4, pp.11-13.) Fans can be noisy. (Vol.15 No.12, Vol.16 No.11)

Manley 175 monoblock: $4800/pair
While still the finest David Manley-designed amplifier DO has heard, the 175's superb soundstage (reflecting both its vast, midrange and overripe lows, thought DO. Though the Manley's liquid midrange textures were languidly seductive, this was associated with a reduced sense of space. Output tubes are 5881/6L6GWCs: well-rewarding with a little more power. DO, but be sure to check with the factory first. Suggested clipping power is 145W but actually measured closer to 130W. (Vol.18 No.1)

McCormack Power Drive DNA-1: $1995 $$
Beautifully made, this relatively inexpensive 175Wpc solid-state amplifier had RH waxing lyrical about its sound: "...warm, sweet, punchy, and unusually musical." With a more laid-back, less dry balance than the Boulder 500AE, the DNA's soundstage presentation featured a superb sense of palpability, noted both RH and JA. McCormack was rewarded with a "very intriguing and mono-operation cost: $4595. "A strong Class B product that is knocking on the door of Class A." — RH. Deluxe Edition ($2355) has premium parts quality and gets even closer, making it one of the best bargains in audio. (Regular Vol.15 No.4, Deluxe, Vol.16 No.3.)

McCormack Power Drive DNA-0.5: $1295 $$
Smaller — 120Wpc — sister to the DNA-1, the DNA-0.5 flouted TJN's boat in a big way; a palpable midrange, crisp transients, air and detail to spare, and plenty of punch to percussive bass. "An amplifier that is a marvelous amplification of the Manley's," exclaims JA. "A diamond in the rough!" ST concurs, calling the Deluxe Edition version ($1565) "an incredible achievement...a totally honest, no-BS product" and "one of the best amplifiers, period." (Regular Vol.18 No.2 & 12)

McIntosh MC275 25th-Anniversary Edition: $2750
A well-made reissue of a classic 75Wpc tube amplifier, with a forward balance and very dynamic sound — "punches out the music" — and excellent overall clarity. Bass is a "bit wild and out of control," said ST. (Vol.16 No.11)

OCM 500: $2895
SS felt the 260Wpc 500 best suited situations requiring heavy wattage and current and high damping capabilities. While not possessed of the last word in 3-D imaging, it did manifest "excellent transient speed, credible articulation of inner detail, and a quite low-bass slam that is enabled by the very high current and hard drive," he concluded; "a warm amp," in the rough!" ST concurs, calling the Deluxe Edition version ($3150) "an incredible achievement...a totally honest, no-BS product" and "one of the best amplifiers, period." (Regular Vol.18 No.12)

Parasound HCA-2200 II: $1795
This reworking of an initially disappointing 250Wpc design from John Carol succeed in spades, offering "Class B sound at a Class A price," according to SS. While its treble is a little on the fizzy side
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and not as Grainless as that of the Boulder, and the midrange is not as liquid as that of MF’s reference VTL 300s, the big Parasound offers an otherwise neutral sound, with great authority and a prodigious, effortless bass. (Vol.17 No.3)

**Proced AMP-2:** $1995

TJN describes the, in the author’s word, a “solid-state amplifier with a crossover...” a detailed, full-bodied quality revealing every nuance without extending into hyper-detail. The bottom end sounds deep and tightly controlled, while at the opposite end of the scale the sound is pristine, albeit with a trace of dryness at the top. Some may find it too revealing, he cautions, yet it struck him as accurately portraying what’s on the recording. Also a fixture of DAS, who feels it works best with speakers having “lots of uncolored meat on the bone.” Avid readers who demur on the “solid-state amplifier is identical other than using three rather than two amplifier modules. Upgrade from two-channel amplifier to three-channel costs $1000. (Vol.18 No.5)

**Sonic Frontiers SFS-80:** $2895

Well-thought-out 80W/cube tube design with much use made of premium parts. JE said it sounded like “tubes, slightly softer on top, with a warm, rich midrange character. He also felt its soundstage depth was slightly shortened. While TK prefers the McIntosh MC275, ST thought the SFS-80 has great bass for a tube amp, but the richness is not quite as much better with Czech Tesla EL-34s than with Sotweh KT80s from Gold Aero. “A good, solid performer.” (Vol.16 No.4, Vol.17 No.2)

**Sonic Frontiers SFM-160 monoblock:** $5495/pair

“Classic tube sound on steroids” is how DQ characterizes the sound of this high-powered 160W tube amp—but only when configured with Sotweh 6922s in the front end, which Sonic Frontiers confirms are now standard in production. WP agrees that the sound with the earlier standard 6L36s is uninspiring. A rare blend of brown and finestess: lots of “palpable” tube watts coupled with warm, liquid, and sweet harmonic textures. Very high output impedance requires care in speaker matching. (Vol.17 No.6)

**Suno Andromeda III:** $1799

This solid-state 240W/cube amplifier “tells it like it is,” TJN wrote, who found the amp’s “general sparkle and detail...enhanced by a bright, well-defined, punchy bottom end.” He also praised its “first-rate soundstaging” and “see-through transparency,” although he confessed that he “would have occasionally preferred a bit more warmth, but not if it meant sacrificing any of the Andromeda’s positive qualities...A terrific amplifier at what is nearly a bargain price.” (Vol.19 Nos.5 & 6)

**Valve Amplification Company PA80/80B:** $2795/pair

“Tubes in magic in spades” aver WP of this 80W/cube design (3% THD); he found it warm, dimensional, and beguiling. Slight midbias emphasis contributes to a punchy, propulsive sense of drive which he enjoyed. Not as extended in the frequency extremes—or quite as refined—as some of the Class C amplifiers, but almost second to none in its presentation of the emotional subtext of the music, according to the big guy. (Vol.19 No.3)

**Woodside MA50 monoblock:** $4495/pair

A spacious, three-dimensional sound, a well-focused soundstage, a rich midrange, and an open-sounding treble, but more tuneful and solid-sounding than the battery character of classic tube amplifiers, notes LG of this British 45W tube design, descended from the classic ’60s designs by the late Arthur Radford. He recommends it for use with Quad electrostatics. (Vol.17 No.6)

-B (Integrated Amplifiers)

**Arcam Delta 290:** $9899 inc. remote $898

It was this British amplifier’s phono stage that first caught CG’s attention when he sent his Module 3 preamp back to the factory to be updated, he didn’t miss it. The Arcam “allowed the music’s natural flow of rhythmic excitement to groove freely through the ears...in deep midrange and treble. Though he felt the Delta 290’s bass was good rather than great, he summed up: “A hell of a fine piece, with a really great MM/MC phono stage to boot.” Optional MC/MM phono boards $800. (Vol.17 No.7)

**Arcam Xr-1:** One $1900

An unusual product that eschews many features common to A/V receivers, this integrated A/V amplifier provides an unusually exacted level of musical reproduction, according to RH. At the same time, he notes, its reproduction of video soundtracks does not measure up to its musical promise—RH judged it to be only decent, lacking the low-level resolution, ambience, and diffusion present in the finest A/V receivers. (SGHT2 No.2)

-C

**Arcus 2000X: 3 $1299**

RH was struck by “how dynamic the system sounded with the three-channel 2000X driving the front speakers.” Bass and dynamics, he felt, were first-rate soundstaging: added that, in his reference music-only system, the 2000W/cube amplifier sounded “a bit rough around the edges.” But, he continued, “contrary to my impression of the 2000X’s sound in my main audio system, I was not aware of any added roughness.” when it was used for Home Theater. Recommended, he asserts, “especially to those who place dynamics at the top of their wish list.” (SGHT2 No.1)

**Audio Alchemy OM-150:** $1195

“Packs punch and power in an attractive package.” LH likes its ability to “see through the haze,” finding the bass “to be a little too much of a good thing” in systems already filled with “excessive warmth.” RH finds that the OM-150 is “broad and deep, with a bit of extra bass, which will be a factor in system matching. Early production samples had problems with wiring in PSU-150 optional outboard power supply ($349), which transforms the 150 into a true dual-mono design. LH also verified the improved performance available with a correctly wired supply.” (Vol.18 Nos.8 & 9)

**Audio Design Associates PTM-6150:** $1999

RH found this high-current, six-channel, 150W/cube amplifier rigged, well-made, and a soundstaging champ. However, he also noted woolly bass and harshness in the treble. Slightly forward presentation were worse in Home Theater applications—their ending is an excellent investment than being a “real” audio-only, where it distracted. “Low Class C; for music,” he concludes. (SGHT2 No.2)

**Audio Electronics SE-1:** $1295

This modestly priced single-ended amplifier from a subsidiary of Cary Audio sounds somewhat like the more expensive, more powerful Cary 300NE, thought LH, due to its palpable presence and truth of timbre. No dynamics to speak of, however. The price is for the version supplied, which comes with Ceton 300B output tubes ($1195 in kit form). (Vol.17 No.11)

**Audio Electronics SE-811 monoblock:** $1995/pair

ST reckoned these SE triode 12W monoblocks, based on Sweedan’s SV-811-3 tube, to be “innovative, interesting, and enjoyable,” having many of the virtues of much more expensive SE designs: “Clarity, purity of tone, and absence of grunge.” Yet despite calling their top end “particularly smooth, sweet, and extended,” he felt that “some of the 300B magic was missing.” (Vol.19 No.7)

**Carver AV-806s:** $1750

“I was expecting competent performance; what I got instead was a disappointment.” RH sums up. Carver “a little soft at the frequency extremes, but wonderfully sweet and listenable.”

My favorite current multichannel amp.” Borderline Class B. (SGHT1 No.2)

**Carver TFM-35x:** $899

Of this 250W solid-state amplifier, RH opined, “the sound is exceptionally smooth, with a sweet top end, natural timbres, and a good rendering of soundstage.” That smoothness “tends[ed] to present detail in a somewhat forgiving manner, rather than revealing the warts and all, which is a definite advantage with many recordings...” (SGHT2 No.3)

**Chiro C-200:** $998

**Chiro C-300:** $1498

“Power combined with delicacy” is how RH described the sound of these identical amplifiers, differing only in the number of channels. “Put’n’finish are a definite cut above what one expects at this level,” he elaborated. “So if you’re a Chiro aficionado, they’re what I recommend in this price range.” Borderline Class B, he sums up. (SGHT2 No.1)

**Denon POA-8200 THX:** $1000

**Denon POA-8300 THX:** $1500

Two- and three-channel 12W/cube solid-state amps that are otherwise identical. RH lauded their “smooth and unfatiguing, yet highly detailed” character, also enthusing over their tremendous bass extension and weight. (SGHT2 No.2)

**Harmonic Precision HP-150:** $895

“Resolution and detail are good for an amp at this price,” submitted ST, who also admired its “kickback” and overall clarity. “An amp worth auditioning and considering...Solid Class C.” (Vol.19 No.8)

**Marantz MA500 THX monoblock:** $3000 each $$

“At $3000 each, the MA500s are one of the best buys in Home Theater,” exclaimed RH over these commanding 25W monoblocks. “They were smooth, spacious, and had good dynamics.” Build quality is quite high, so don’t let their stature fool you—they drove Avalon Radian HCs “without strain or congestion.” (SGHT2 No.2)

**NAV 208THX:** $1649

Very powerful, monaural 320W/cube solid-state design with excellent bass extension, authority, and control, decided TJN, but not as liquid-sounding in the mids as the similarly priced McCormack DNA-0.5. High sound surprisingly soft, perhaps even a little dark, leading to a lack of pace in ultimate terms. (Vol.18 No.2)

**NAD 214:** $449 $$

**NAD 216 THX:** $699

Offering good sound, specifically a natural-sounding midrange, the 80W/cube NAD 214 struck RH as an excellent candidate for Class C—especially in light of its reasonable price. Although he found the largest but similar 125W/cube THX well-built and powerful, RD did not warm up to its upper-midrange/treble, which he found somewhat hard and grainy, imparting an artificial sound to reproduced music. “Not a bad amp,” he concludes, “but not my top choice in Class C.” (SGHT2 No.3)

**Parasound HCA-1206:** $1935

“Dynamic, punchy, and (sadly) failed to run out of steam,” declared TJN after listening to this six-channel amplifier. “It performed to a standard well beyond its per-channel cost in most regards.” Though the top octaves sounded a little crisper than he prefers, the bass was powerful. “A must-hear,” he concluded. Borderline Class B. (SGHT2 No.2)

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Perreaux/ MC-6100: $2995
This six-channel, 120Wpc power amplifier is intended for Home Theater use and offers borderline Class B sound quality, decided TNJ. A tight, detailed midbass is allied to an open, airy treble and "remarkably fine rendition of image depth." Runs hot; not intended for 2 ohm loads (4 ohms in bridged mode). (SGHT1 No.1)
PS Audio 100 Delta: $1295 ★
Main sonic characteristics of this 120Wpc solid-state design are a somewhat softened bass and slightly closed-in high frequencies, thought TNJ. He liked the excellent midrange presentation, however, with its "clear, naturally rich immediacy." Good value for money. (Vol.15 No.9, SGHT1 No.1)
PSEO Studio IV: $995 ★★
Physically compact amplifier offering a measured 113Wpc, but TNJ claims that there’s nothing “small” about the Studio IV’s sound, noting its wide, deep soundstage, crisp transients, and natural inner definition. A cool sonic character and a leaness in “rumbunctious” passages were his only cavils; he finds the PSEO rewarding in virtually every other respect. Not easy to find, but worth the search, he concludes. (Vol.13 No.1, Vol.18 No.5 & 8)
Rotel RB-988X: $600 ★★★
Excellent value for money, this modestly priced 120Wpc amp was designed in England but is made in the Far East. Kind to difficult loads, said MC. TNJ noted a slight grain or crispness to the highs, some midbass leanness, and a somewhat soft low end, but these were offset by a lively overall presentation and an excellent sense of soundstage depth. (Vol.15 No.11, SGHT1 No.1)
Rotel RB-985: $1000 ★★★
RD found this five-channel, 100Wpc amplifier’s sense of power and dynamics laudable, as he did in its predecessor. A significant loss of transparency and soundstage depth compared to the very finest, but praiseworthy at the price point. “I don’t think you could do better...at $1000,” he resolved. (SGHT2 No.2)
C (Integrated Amplifiers)
Audiolab 8000A: $849 ★
Well-made British 75Wpc amplifier with a clean, full-bodied sound; a clean midrange, and a quick, clean detail rhythm. In absolute terms, the Audiolab sounds perhaps a bit too clean for its own good. CG preferred the more vivid presentations of the Acurus DIA-100 and the Arcam Delta 290. Still, “no major shortcomings,” he concluded. JA feels the Audiolab to be an amp for all reasons—it will disappoint no one to whom you recommend it. (Vol.9 No.1, Vol.12 No.9, Vol.17 No.7)
Creek 4200 Special Edition: $795 ★★★
“I can’t think of a single high-end electronic component available today that provides more value for the money than the Creek 4200SE,” concluded RJR of this 50Wpc design. “Creek has finally gotten the high frequencies right...[while] the bass is clean, tight, and natural.” Paired with the right speaker, Banker Bob felt it set a new standard for performance in affordable gear. (MM board adds $50; MC board adds $95) CG found the basic Creek 4240 ($395) to sound “smooth, too smooth,” though WJ adds that there’s definitely a place for a product that favors a balanced presentation over extension at the frequency extremes—he’d buy a Creek for his moni (Vol.17 No.7; Vol.18 No.12, Special Edition)
Jobida SJ 502A: $995 ★
“One fine little amplifier,” affirmed LH. He found this 60Wpc integrated, line-level—only tube amp quiet, tight, and tuneful—albeit a trifle polite. JA was impressed with the amplifier’s test performance, finding it noteworthy considering a) it’s a tube amp, and b) it costs so little. (Vol.19 No.3)
NAD 304: $379 ★★
The bass may lack a little slam, but “The spirit of the 3020 returns” according to CG, who nominates the inexpensive 35Wpc NAD as one of his favorite components! “Every civilian who’s steered toward the 304 instead of a cheap receiver is a planted seedling for the High End,” he cries. An excellent MM phono stage. (Vol.17 No.4)
D (Separates)
Electro-Voice 502A: $539 ★★★
No.32 and No.33, Audio Research VT-130SE, McCormick Micro Power Drive, VTL Signature 175, Krell FPH-300, Golden Tube SE-40, Audio Research VT100.
Deletions
Boulder: 500, 500A, and 500M, Jadis De-7 MKII, Symphonic Line Model RG-7, Forte 4A, all not auditioned in too long a time; Audio
tonight Silver Night 300B monoblock no longer available in the US; AMI: CTV-303 replaced by a "version, not yet assigned.

Loudspeaker Systems
Electro-Voice C: “Loudspeakers” are sufficiently idiomatic and differ enough from one another that prospective customers should read Stenophyl’s original articles in their entirety for descriptions of the sound. I have therefore just listed every system or combination that at least one of Stenophyl’s reviewers feels, as a result of his experience, to approach the current state of the art in loudspeaker design. (Note that, to be eligible for inclusion in Class A, the system must be full-range — ie: feature bass extension to 21Hz. They must also be capable of reaching realistic sound-pressure levels without any feeling of strain.)
For those unconcerned about the last few hertz of low-bass extension, we have created “Class A (Restricted Extreme LF)” for those speakers that are actually state-of-the-art in every other way. Candidates for inclusion in this class must reach down to at least 40Hz, below the lowest notes of the four-string double-bass and bass guitar.
In addition, such has been the recent progress in loudspeaker design at a more affordable level that we have an extra class: F, for “Entry-Level.” Stenophyl is not the first reviewer to review inexpensive loudspeakers at all. In effect, aren’t we insulting our readership by recommending that they buy any of these inexpensive models? Remember: It’s possible to put together a musically satisfying, truly high-fidelity system around any of our Class D and E recommendations. That’s why they’re listed—and why you should consider buying them.

A Dunlavy Audio Labs Signature SC-VI: $24,995/pair
Price is for Light and Black Oak finishes; rosewood and cherry veneers add $1000/pair. (Vol.19 No.8)
Jadis Eurythmik II: $40,000/pair
High-sensitivity horn array with bopark-loaded dynamic woofer. (Vol.19 No.3)
JMBL Grand Utopia: $65,000/pair
Active system offers digital data inputs only and uses delta-sigma D/A conversion. (Vol.14 No.9 & 10, Vol.18 No.6)
ProAc Response Four: $18,000/pair
(Vol.17 No.3, 5, & 6)

Snell Type A Reference: $18,999/system
Seven-component system consisting of two Type A HF/midrange towers, two SUB 1800 subwoofers, and two isolated outboard crossovers, Kimber wiring harnesses, and an outboard electronic crossover. (Towers on their own cost $6999 each, TC-200 electronic crossover costs $299, SL 310 and SGTH/SH Audio "Subwoofers"—costs $2499 each.) (Vol.19 No.3)
Thiel CS5i: $12,300/pair ★
LA’s auditing of the new “CS” woofers suggests that the original’s one weakness—limited bass dynamic range—has been eliminated. (Vol.13 No.6, Vol.14 No.10)
Wilson Audio Specialties X-1/Grand SLAMM: $67,500/pair
MC and LA consider the X-1 to be in a new class of its own. For now, we’re giving the other Class A denizens the benefit of the doubt, Stenophyl’s 1995 “Product of the Year.” (Vol.17 No.12, Vol.19 No.5; see also Vol.18 No.12, p.75)
A Restricted Extreme LF Audio Project Virgeois: $>95/pair
“Where’d they go?” asks FF, forecasting that “The Virge flat-out disappeared. Aside from pulling a vanishing act, which they do better than any other speaker I’ve auditioned...is resolve: low-level detail: spatial and ambient information, and especially the presence and touch in the lower midbass and upper bass.” But they don’t, he concedes, “give me the visceral sock-to-the-stomach bass” that some audiophiles crave. He also wonders if there isn’t a touch of midbass warmth, a quality he finds easy to ignore—if not actually crude. “Worth a listen, if you’ve got the scratch.” (Vol.18 No.9)
Avalon Acoustics Radical HC: $13,995/pair in hardwood finish
Coupled with the other components in the Spectral/Avalon/MIT 2CD3 system, RH was impressed with Radical HCs “gigantic three-dimensional soundstage...[with] width, transparency, focus, and image specificity [that] were better than any I’d ever heard.” He also found that “the bottom end also had a stunning dynamic agility.” Overall balance can be a little lean, found JA, who also enthused about the speaker’s midrange smoothness and detail. (Vol.19 No.5)
B&W John Bowers Silver Signature: $8000/pair (stands & cables included)
Expensive two-way monitor with outboard crossover uses silver throughout and successfully pulls off the trick of persuading its listeners that it’s much bigger than it really is—at least at moderate levels. Useful bass exists down to 25Hz, with a delightful combination of weight and articulation. The uncolored presentation is astonishingly transparent, soundstaging is superbly palpable, and tonal balance is a little on the polite side, but the Silver Signature is, overall, the most musical-sounding design to come from B&W that JA has heard. (Vol.17 No.6)
Dunlavy Audio Labs SC-IV: $5995/pair in American Oak (black or golden)
$6745/pair in Dalwood rose or Dalwood cherry.
“Not a fraudulently made speaker...but misses full Class A ranking by a handful of hertz,” says RD of this large, three-way, time-coherent design. The soundstaging is precisely defined; coloration is non-existent; the sensitivity is high; the impedance is 8 ohms; dynamics (both macro- and micro-) are superb; RD bought the review pair! (Vol.17 No.4, Vol.18 No.3)
Infinity IRS Epsilon: $14,000/pair inc. servo control unit
Minging full-range Class A by a whisker, this elegant Cary Christine design combines monopole planar

StereoPhile, October 1996

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drivers with a servo-controlled woofer. (Needs to be driven by two high-power stereo amplifiers.) Absolutely stunning bass, enthused TJN, "combining tightness and extension in an extremely rare manner," coupled with an extremely neutral midband balance and grain-free high frequencies. Top octave slightly frayed, but not at all "an E-ticket ride," concluded TJN. (Vol.18 No.1)

MACH 1 Acoustics DM-10 Signature: $17,995/pair

Superb driver integration combined with an exceptionally inert cabinet make for remarkable clarity and resolution. This, together with a knack for using music's rhythmic nuances, empowers the MACH 1 to fly at the speed of sound, so few dynamic speakers can. Reproduction of the upper registers is distinguished by the use of the Acutus ceramic tweeter, an unusually sweet-sounding midrange that is (highly) recommended. Optional spiked, nonresonant platforms add $250/pair. The similar-looking, less-expensive DM-10 ($10,995, reviewed in Vol.18 No.6) is not recommended. (Vol.17 No.1; see also Martin Collinson's comments in "Letters," Vol.17 No.4.)

Mapneplanar MG-20: $9,000/pair

The MG-20 impression comes from Jim Winely, the MG-20 impressed the lack of DO, which notes that "image outlines were remarkably lifelike within a spacious soundstage." The "total center of gravity" is firmly rooted in the lower mids, which get the best. The unique crossover, though slightly filtered upper mids give the speaker a "back-of-the-hall" perspective. Needed to be bamped with an electronic crossover to get the best it is capable of, but optional XO-20 passive crossover ($95/pair) is available for those who want to use a single stereo amp. (Vol.18 No.2)

Souza Faber Guarneri Hommage: $9000/pair (stands included)

The moving-coil speaker MC has found to sound closest to the Quad ESL-63, this handmade, limited-edition Italian miniatur was reportedly designed by ear. Nevertheless, its resemblance is flat, its balance neutral, and, in MC's words, the Guarneri are all "quiet, unmistakable sense of liveliness, scale and sense of presence of real sounds in the listening space...time and time again, the reproduction had the ring of truth." The stands included in the package will hold small, rooms; custom heights can be ordered. (Vol.17 No.7)

Thiel CS7: $8900/pair

"Auscandy lack of coloration," "first-rate" transparent response, and exceptionally tight, unmodified bass had TJN concluding that the CS7's tradeoffs are few: WPc consistent, lending the speaker's little and danceable bass response—good enough, he claimed, to make JA loopy. The initial sample heavily sub-speakers, a woolly tweeter, and a damaged midrange driver—presumably damaged during review. A second pair performed perfectly. TJN adjudged the speaker "a success. Its clear overriding design criteria has clearly been accuracy...The CS7 is not far off the mark. "Practicality a half-eve," WP affirmed. Because the speakers have a low minimum impedance, amplifiers that can drive them efficiently below $4000/pair are necessary. (Vol.18 No.10 Vol.19 No.1)

Wilson Audio Specialties WATT/Popover System V1: $16,290/system

"I've rarely heard a system that transported me so physically into the acoustic of the recording venue," exclaimed WP on auditioning the original System V. —be it rack, sub-speakers, or a custom-built base for the tower speakers. "The," concluded WP, "was as close as I've ever heard to the real thing...I've heard few systems that transport so well...a well-matched system. (Vol.18 No.6)" Wilson Audio Specialties WATT/Popover System V1: $16,290/system

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STEREOPIECE, OCTOBER 1996
tweeter revision" that ALI felt to significantly improve the sound; earlier samples are upgradeable. (Vol.14 Nos.1 & 10, Vol.15 No.8)

B&W Matrix 801 Series 3: $5500/pair

(stands optional)

A complete redesign of the classical recording industry's standard monitor loudspeaker—aluminum-dome tweeter and B&W's patented "Matrix" enclosure, whereby the cabinet is effectively transformed into a solid body—has resulted in a new level of performance. Combined with the wooden, sand-filled Arctics. (Also see Vol.12 No.10, p.45, and Vol.13 No.2, p.127, for discussions of a crossover modification that improves the sound of the original 801 Matrix.) Current version has a revised tweeter, a non-detachable head, an improved crossover layout, and has done away with the APOC protection circuitry. (Vol.10 No.9)

Energy Veritas v2.8: $6000/pair

This tall, "hi-tech"-looking three-way/four-driver design from Canada uses a dome midrange unit and has a flat midrange/tweeter response, improved low-end articulation, balanced, and accurate," adds WP. The V-28 can be tri-wired or tri-amped; some owners recommend reducing the midrange level by using a 1 ohm. 10W resistor in series with the "hot" terminal. (Vol.17 Nos.6; also see TJN's review of the Theel CS7 in Vol.18 No.10)

Ensemble Profsys: $13,500/system

The Swiss three-way floorstanding system—it consists of the $8495/pair Elysia monomonitor and the $595/pair Pruthrool Silver woofer—that, like the Wilson Watt/Pappy, couples a separate monomonitor to a subwoofer/stand. "Highly articulate, it sings well," said MC, "but it lacks the midrange/vocals, its cool clean mids leading to a pure, light, nearly grainless treble." Transparent and capable of great resolution, but "the bass isn't particularly powerful, nor does it go very deep"—although it is focused and tuneful. "Swiss build quality and Swiss wood/Glass (including its MC) are well built, but still," he lamented. MC points out that the Elysia on its own is a Class A monomonitor. (Vol.19 No.9)

Gradient Revolution: $3995/pair

"Viva la revolucion!" exclaims DO. He finds the Revolution, designed to be less room-dependent than ordinary speakers, "quite entertaining, although not spectacular in conventional audiophile terms." He found their greatest strengths to be organic wholeness, solid imaging, excellent microdynamic expression, and convincing dynamic drive. Rating provisional as review sample turned out to have a broken crossover. A Follow-Up is under way. (Vol.18 No.5)

Holes Concept Two: $1995/pair $550

LB found it took a lot of fiddling to get these floor-standing two-ways to sound their best, but he claimed they repaid that effort with superb detail, a sense of proportion, and an affinity for reproducing small details. "When played loudly enough, they—not did they offer the last word in soundstage depth. Within their comfort zone, however, "they will rock!" ST comments, "authentically—big, rich, full—in a way few $2k speakers are." & it "hit" big, great, "HR adds. Grilles add $250/pair. (Vol.19 No.5)

Infinity Compositions Prelude P-FR: $3400/pair

RH calls the Compositions Prelude P-FR loud-speaker with its integral active subwoofer "a stunning musical, technical, and aesthetic achievement," finding them capable of producing "transcendentally musical moments" as well as performing "impressively on non-studio tracks." But he's most pleased by the fact that the crossover is the least audible. "The Lannanost ST, a proponent of SE transducers—adding, "they're soundstaging champs." (Vol.18 No.9, SHGTT No.2, Vol.19 No.2)

JPE Ruby 4: $2895/pair

Well-finished and two-and-a-half-way design from Britain that uses metal/diaphragm drive-units. Excellent attentions to midrange articulation and well-damped soundstaging are allied to tight but light low frequencies, a very clean midrange, a sweet-sounding lower treble, and fast, open, and alive highs. Can sound a little too shalholt, however, and dynamic range is relatively muted. (Vol.17 No.6)

KEF Reference Series Model Four: $3200-$6400/pair depending on finishing

TJN found the Four "landed to tame but worth the effort," advising potential purchasers to audition them with the associated equipment they intend to use. With the Four prototype, he was delighted with their performance, especially their inner detail, transparency, soundstaging, and air. While the very best loudspeakers may do such things better, he felt the margin was small. Not recommended for small rooms, where the generous LF must turn oppressive. (Vol.16 No.3)

KEF Reference Series Model 107/2

Raymond Cooke Special Edition: $5990/pair

TJN felt the 107/2-Xs "let the music speak for itself." Bottom end tilts slightly more toward a rich fullness—than "pillow-thin" tightness," he found, which overgrew the mid- and upper bass. That said, he found the speaker's balance especially convincing to the portrayal of large orchestral music—especially when paired with its "prodigious dynamic range and big, open quality." And, he added, it definitely does play deep, with plenty of impact. A JA fave. (Vol.17 Nos.6 & 7, Vol.18 No.2, original version; Vol.14 Nos.2 & 10, MkII; Vol.18 Nos.8 & 9, Special Edition.)

Martin-Logan Aerials: $1995/pair $595

Once broken-in, this hybrid speaker offers superb integrations between electrostatic panel and dynamic woofer, and very good LF extension for what is basically a midrange-oriented system, much of its strength, from a recording, is due to a sense of air, texture, absence of coloration, and reasonably good imaging and soundstage focus. ST feels the Aerials is hard to beat, though he would like more highs, in absolute terms. MC points out to a rather ragged on-axis response, but JA states that, within the restrictions of its necessarily limited dynamic range (which will rule out its use in large rooms), the Aerial is the best speaker yet to come from M-L. "It's the exceptional balance of its strengths that makes it such a satisfying component," agrees WP. Oak side panels and grilles each add $100/pair to the price. (Vol.16 Nos.6 & 10)

Martin-Logan Quest Z: $4295/pair

Martin-Logan's most successful and intensely musical hybrid to date, according to DO, blending a world-class electrostatic midrange with good, dynamic bass. Soundstage transparency and reproduction of the upper-midrange and treble are as good as any. As with all hybrids, the optimum tonal balance requires a fairly close listening Scot. Even so, there are some residual total-balance deviations from neutrality. The upper bass is on the lean side of reality, while the lower treble is overly polite. Even though the mid bass benefits from the imaging magic of the Aerial, the best deep-bass definition is to be had with solid-state amplification. The Z version (said to be sonically identical to the older Quest) offers a more basic improvement. (Vol.16 No.10)

Meret Audio Ay: $4700/pair

"Presents the well-controlled, smooth, unified, slightly 'smoother' sound" of their "modern tubeflow hybrids," observes RN, who prefers a more involving sound. Coherent and detailed, with seamless integration of the drivers, the Ay shuns, he conceives, in the presentation of vocals, smallish-sized ensembles, and orchestral music that makes no major dynamic demands. Loudspeaker design and construction are both impressive, he notes—to which JA adds amen. A rosewood veneer adds $200/pair. (Vol.18 No.7)

Metaphor 2: $5995/pair

"There is no power more metaphoric," quips WP, "than the sound of the speakers which admit these admirable speakers. "Their strength is precisely that they never call attention to themselves, always serving the music first." JA, puzzled by their measured performance, suggests that, as good as the Metaphor 2 sounds, knocking on the door of Class A even, there might be an even better loudspeaker hiding within. (Vol.18 No.7, Vol.19 No.4)

Miraige M-1s: $6000/pair

Large bipolar design from Canada with a smooth yet precisely detailed sound. A large, spacious soundstage—both in width and depth—a clean midrange, solid, coloration, and galvanic imaging. MC's pair had the tweeter wired out-of-phase with the woofer, whereas the pair sounded in Santa Fe did not—a QA problem we were also experienced with Metaphor's Studio 2 (Vol.18 No.2). Once that had been fixed, MC found the Studio 5 "a good speaker, one that can be recommended with considerable confidence." Price is for Black Oak finish: rosewood veneer adds $3000/pair; land-rubbed Grand Piano black or rosewood lacquer finish adds $4705/pair. (Vol.19 No.3)

Mordaunt-Short Performance 880: $3795/pair

MC praised this speaker's "ability to re-create the emotional presence and atmosphere of a recording," as well as its "strong tonal balance," its relaxed, spacious stereo perspective, and its smooth, sweet treble. "Some moderate midrange coloration [is] detectable when playing piano recordings," and with certain amplifiers—a so-called system matching flaw. "Highly recommendable." (Vol.19 No.8)

Nestorovic Type SAS Mk.IV: $4500/pair

Nestorovic Type SAS Mk.IV Signature: $7000/pair

A four-way dynamic loudspeaker that features a patented bass alignment whereas a driver works with one woofer also behaves somewhat as an auxiliary bass radiator. DO felt that the Nestorovic's midrange held a very light, nonresonant texture, especially on female voice, and that its highs were free from sizzle and tizz, though he did find that soundstage transparency was wanting. As it was built and expressed, it found the balance a little forward in the treble, which might be a factor here, though it does lead to a more cohesive balance with tube amplification rather than solid-state. Nestorovic's own NA-1 monoblocks gave liquid-sounding mids and a bold, sweeping soundstage, reported DO, who expanded up his feelings thusly: "In terms of tonal

Stereophile, October 1996
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Thomas J. Norton
Stereophile, February 1995
Vol. 18, No. 2

Mr. Norton's other comments:
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Musical magic from an “Aladdin” amplifier. For $1295. If you think big sound costs big bucks, better think again.
Snell Type C/V: $2599/pair $$

One of the most neutral, naturally balanced midranges around, coupled with extended, well-defined highs and a super-accurate treble, but with a slight lack of top-octave air and somewhat restricted image depth. Needs to be driven hard, but then really comes alive. Superb value for money.

(SVol.17 No.11)

Sony ES M9: $3500/pair $$

A high-end speaker from Sony, JA sez vou-louthe, "Neutrality balanced with well-defined imaging, a clean treble, and truly excellent low-frequency extension," he enumerated. Minor flaws, including a "somewhat polite top octave," are "evident: the things it euphistically does right." (Vol.19 No.9)

Thiel CS3.6: $4300/pair $$

Remarkably transparent, extraordinarily uncolored floorstanding three-way, with first-order crossovers and truly time-coherent performance. Very revealing, source-independent bass and the edge of the genom-blend, both sides of which will mean extra care needs to be taken in system matching. "A terrific bargain" at its price, RH concludes. "The more I listen to them, the more I like them." Needs a muscle-amplifier to cope with its very low impedance; CG found the Aragon 4000 MKII to drive it with aplomb, though he noted its limited loadings capability compared with the NH1 3.3. (Vol.16 Nos.15, Vol.17 Nos.3 & 5)

Thiel CS2: $2950/pair $$

Smooth, civil, well-integrated "downloved" sound with good soundstaging, excellent presentation of detail and dynamics, and superbly controlled and nicely extended bass. "One of the best speakers on the market today," states ST. JA agrees, choosing to use the ThielCS as one of his long-term references. ThielCS, reports "it's a 2.5M reduced transparency compared with the larger 3.6. He also points out to libral-pair-thowers that there's a limited dynamic range in the bass, and notes that a residual brightness will mandate careful system matching. The speaker was launched as the "3.2", he was remained due to Bose's copyrighting of elemental numbers such as "2.2." (Vol.15 No.4, Vol.16 Nos.10 & 10)

Totem Acoustic Mani-2: $3995/pair (stands necessary)

JA's enthusiastic comments noted that the Mani-2's "combination of clean transparent, broad-range midrange, natural dynamics and useful powerful extended bass" allowed the speakers to step to one side, allowing the music to communicate in a more effective manner. (That's British for "he laid on a lot") While $4000 for a pair of small stand-mounted speakers may not appear good value, JA pointed out that the Mani-2 produced a sound that belied price and size, noting that it would perform admirably in rooms unsuitable for more physically imposing speakers. "Enthusiastically recommended." Matching Target R2 stands cost $669/pair. (Vol.19 No.12)

Vandersteen 3A: $2595/pair $$

TJN thinks the 3A "sounds terrible with a wide range of program material." He notes that, while it sounds "just a bit sweet and forgiving, it doesn't go far so... that's insincere to the equipment feeding it." While not the last word in jump factor, they make up for that in sheer harmonic," he opines. Sound Anchors rear braces cost $200/pair. (Vol.16 Nos.3 & 4, Vandersteen 3; Vol.18 No.4. SGHT1 No.2)

B — Restricted LF

B&W 805 Matrix: $1600/pair $$

Borderline Class B according to LG, but full Class B according to MC. This well-finished two-way features an exceptionally rigid "Matrix" enclosure. The loud sound effortlessly open, the lows resonantly extended for a minimonitor, and the imaging is well-focused. The speaker goes loud without strain. "A winner at its price," judges JA. (Vol.16 No.6)

B&W CDM 1 Conspicuous Domestic Monitor: $1995/pair $$ (stands necessary)

"Quality rather than quantity," raved JA, who was hard pressed to find these affordable small monitors. The midrange is "fundamentally neutral... and [is] superbly clean and transparent," although somewhat forward compared to his (more expensive) reference. He perceived "some slight exaggeration of the upper bass" and would have liked a tad more bottom-end extension. "The Law of Diminishing Returns is kicking in," he observed, "making the CDM1 an excellent value." (Vol.19 No.6)

Dzurko Acoustics Jaguar: $4500/pair (stands necessary)

This small speaker beguiled MG with its big sound and spacious, airy qualities. Stereo images were well formed and low-level detail nicely captured. However, he felt the bass undertaxed—though possibly not for American tastes—and the frequency response a touch bright. Neutral-sounding acoustics a must, he counseled. Matching stands cost $800/pair. (Vol.19 No.9)

Genelec 1030A: $2198/pair (stands necessary)

JCh rated the powered 1030A very highly for its tonal balance, which he found exemplary. Even so, the coloration but somewhat reticent: "These speakers are probably as good a compromise as I've heard between the intelligibility requirements of soundtracks, and the euphonic 'musicality' demanded by high-end audiophiles." The matching 1092A active subwoofer is not recommend- ed, however, due to its rather ill-defined bass. (SGHT2 No.2)

Martin-Logan CLS Hz: $3995/pair (stands optional)

"A very special speaker," sums up JE about the fourth iteration of this stunning-looking, pure electrostat design, though he notes that it will not be for everyone. "Remarkably coherent, sonically," he notes, with a "magic immediacy" to its sound. Hz has a much kinder imperialism, though it still drops to 1.5 ohms. (CLS 1, Vol.9 No.4, Vol.10 No.12, Vol.12 No.1, Vol.15 Nos.2 & 3; CLS Hz, Vol.17 No.6)

Monitor Audio Studio 6: $1999/pair (stands necessary)

High-performance two-way design with a unique metal cone woofer mounted in a small, stand-mounted reflex enclosure. A little lacking in the price/值得 department, thinks MG, but a natu- ral if forward balance, superb transparency, excell- ent soundstaging, and a musically involving sound, felt JA. A slight mid-Treble glare will mandate careful system matching however. Price is for Black Oak finish; rosewood veneer adds $200/pair; beige, black oak and rosewood piano-lacquer finishes add $500/pair. (Vol.17 No.6)

Platinum Audio Solo: $1695/pair $$ (stands necessary)

This diminutive speaker impressed JA as being a serious contender, especially at its new lower price. "All that bass coming from these little boxes," was the oft-heard refrain during hit audi- tion. However, there is a price to pay for that impressive LF extension — they need lots of juice! Puny ampl need not apply. There is also a slight loss in terms of absolute definition. That said, he found the Solo's lack of midrange coloration praiseworthy, adding that, coupled with excellent clarity, it allowed musical detail to be easily per- ceived. "An out-v nasal: the speaker for the bass-advocating audiophile with a small room," he concludes.

Matching B&W PS-1 stands — essential — cost $349/pair (Vol.18 No.10)
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"Etude"
ProAc Response 15: $1800/pair (stands necessary)
A tiny sibling of the Response Two, the Response 15 blew WP away with the sheer musical immediacy of its presentation. No deep low frequencies, of course, and even a degree of midrange MIA, but the overall sound is "open and full...sporting a rare degree of uncolored coherency," with well-balanced imaging. Benefits from good, rigid, open-frame stands like the Targets. The baby ProAc "does right by the music." WP concluded. (Vol.17 No.9)

Thiel CS1.5: $2900/pair $$$
Among the most exciting speakers I've encountered for under $3000, the occasionally rather positively jaded Mr. Telfig, adding that, "If you're after truth of timbre, resolution, superb soundstaging...midrange magic and clarity...the CS1.5 may be just what you want." MR concurred, noting that the I/3 reveals "detail, detail, detail," allowing him to get all the way into the recording. Noting a "lushy" quality in the 7kHz region, he observed that it nonetheless did not inhibit his enjoyment of the speaker. Dynamos are naturally limited, while the second-smallest Thiel goes lower in the bass than you might expect—it's still a "wonderfully sane" speaker "that's about quality, not quantity," in the words of ST. "A lot of speaker at an affordable price," opined JA. (Vol.17 No.8, Vol.18 No.11, Vol.19 No.5)

C — Full-Range
Acadian Alon 1: $1590/pair
Our initial review samples had a severely flawed midrange that precluded recommendation. Redesigned second samples sounded much more neutral, allowing this floorstanding three-way's superb soundstaging, well-controlled and weighty (if exaggerated) bass, and lack of boxy colorations to be appreciated. Santos rosewood finish adds $400/pair. (Vol.15 No.9 & 12)

Audio Artistry Mozart: $2795/pair
A speaker possessing a classic tonal balance and excellent dynamics, the Mozart was particularly adept at preserving the rhythmic drive and pacing of live music, said DO. JGH was impressed by the Mozart's lively, vivid presentation and big bass, but with aspects of the speaker's balance...he found it difficult to put away their weaknesses, he found. DO also felt the upper registers to be lively and a bit metallic. Investigate a tube amp, he says; works well with the Cary 80S. Review sample had some resonant problems in the lower mids, said to have been fixed in production. (Vol.17 No.8)

Epos ES22: $2495/pair
While these floorstanding three-ways do not offer the last word in refinement, imaging, or bloom, ST felt they compensated with "rhythmic drive that is as close as I have ever heard from loudspeakers...Quite special," he avowed, "and very different from the average loudspeaker." (Vol.19 No.5)

Joseph Audio RM-20i: $2099/pair
A wide soundstage, good bass extension, and a clean, transparent sound were offset by a rather "harmonically thin" balance in the original review samples. The driver character has been fixed in current production. JE finds the current iteration much more musical than his earlier sample—due chiefly to a smoother top end that renders vocals less shrill and cymbals less splashy, while improving the integrated sound of the drivers. This reveals a richer and sparklier, but it's a tradeoff: JE gladly makes for a more naturally musical presentation. As is his wont, he suggests removing the protective covers from the tweeters—which, he claims, improves the sounds of vocals and strings. (Vol.17 No.8, Vol.18 No.4)

Mirage M-7si: $5100/pair $$$
Floorstanding dynamic dipole design—not a bipole like the larger Mirages—that throws a big, deep soundstage with a convincing sense of image, but is rather generous in the midrange. The cabinet, clean-foam treble, however, is competitive with the better-geared Marten TJN for the record. (Vol.18 No.2, SGHT1 No.1)

PSB Stratus Silver: $1500/pair $$$
A detailed and clean, slightly midrange-forward presentation, with a surprisingly potent bass but a touch of crispness in the highs, was how TJN summed up the sound of this elegant Canadian two-way floorstanding speaker. Borderline Class B, adds PWM, feeling that the Silver is not quite as uncolored in the midrange as the more expensive Stratus Gold. (Vol.17 No.7)

Rauk Temporal: $1100/pair $$$
These Rauk doo-gongs have no business sounding as enjoyable as they do," exclaimed WP. While the inflexible baffle gives somewhat limited bass with tight, punchy definition, he declared the soundstage to be smallish, although exceedingly well-defined. In terms of pace and drive, however, he felt them to set a high standard. (Vol.18 No.12)

Snell Type D: $1799/pair $$$
A very transparent, open, and unmodulated presentation, said TJN, adding that this three-way speaker's low-frequency performance was "amazing." An astonishing lack of coloration at the price, confirms PWM, adding that the Type D has an impressive ability to reproduce wide-open, transparent lines with large-scale orchestral recordings. Borderline Class B, though an occasional edge in the lower treble would mean careful system matching. (Vol.17 No.7)

Thiel CS.5: $1450/pair
Lik likened the baby Thielis to a good flanked: "they go deep and wide" in their soundstage. Detailed but remarkable. (Vol.18 No.8) Detailed but remarkable, this four-way is a particularly capable of producing honest bass—just not the lowest octaves. Not designed to play "REALLY LOUD," El Bee reports, but sufficient for most listeners. His final assessment: "I think they'll hold and provide a lot of sound for the money." Price is for walnut or black finishes; optional finishes extra. West Coast price is $1480/pair. (Vol.18 No.10, Vol.19 No.5)

Vandersteen 2Ce: $1295/pair (stands optional)
The latest version of Richard Vandersteen's classic three-way design has a larger cabinet and a revised two-way unit. The midrange balance is a little on the warm side, with a forward midrange and rather limited transparency and image focus. However, there may be other loudspeakers that perform better than the 2C e in one or more areas, there is not a speaker in its price range that does so little wrong across the board. TJN wrote that it spreads its compromises so that there is no particular area of weakness. DO was impressed by the 2Ce's tonal balance and sense of pacing; JA noted that it offers more extended lows than its competition. A great value for the dollar. (Vol.15 No.9) Base price for the 2Ce cost $125/2pair. (Vol.16 No.9 & 10)

C — Restricted LF
Acadian Alon Petite: $995/pair $$$
(stands necessary)
"Let's just dub them first among equals," suggests WP of this affordable monitor. Care must be taken not to play them too loud or attempt to take them too low, but other than those caveats, he found them too to "perform beautifully," particularly their price class. Richard's drivers and imaging chumps, he extols. RIJE, also a fan, claimed that, paired with a quality budget integrated amp such as the Creek 4205SE, the Petite sets a new standard for an under-$3k system. Must be tilted back for best performance. Santos rosewood veneer adds $200/pair. (Vol.19 No.1, SGHT2 No.3)

Audio Physic Step: $1795/pair (stands necessary)
Well-made reflex-loaded monitor from Germany that, when listened to well below the tweeter axis, will get the best from high-quality electronics and sources, as long as it's not played too loudly. Soundstaging is very in-place, well-focused and deep. Useful bass extends down to about 60Hz. Matching Sound Anchors stands — essential to tilt the speaker back at the right angle — cost $250/pair. (Vol.17 No.10)

Dunfruit Audio Labs SC-1: $1195/pair (stands necessary)
Its lean, somewhat overdamped LF balance and somewhat bright mid-treble will make careful system- and room-matching essential. But in the right context, the little Dunlows' clean, clear sound to abandon-free electronics and a good subwoofer. Sounds best with its grille on. Price is for American Oak finish (black or golden); in Dalwood, rosewood, or cherry finish, price is $1395/pair. (Vol.17 No.12)

Dunfruit PCL25: $2095/pair (stands necessary)
This lightweight balance and some untidiness in the highs are offset by good articulation, excellent image focus and depth, and good dynamic range. Current production has a slightly revised crossover, said to improve the treble presentation. Matching stands cost $295/pair. Price is for Australian Jarrah finish; Brazilian Rosewood veneer adds $100/pair. Now distributed by Norlstar Leading The Way. (Vol.17 No.8)

Energy Connoisseur C-2: $600/pair $$$ (stands necessary)
"No wimpy monitor sound here," proclaimed TJN. Instead, these little-speakers-that-could produced a satisfying sense of low-end extension, an extension not bought at the expense of the midrange...The treble will simply tell it like it is, while the midrange was "notably uncolored." Revealing and uncolored, "they definitely serve the music," he felt. (Vol.19 No.9)

Epos ES14: $1695/pair @ (stands necessary)
A speaker that has long been an ST favorite, the ES14 seems to be typical of small British speaker designs in that it features a metal-dome tweeter in a rigid, well-braced cabinet with a minimal grille that conveniently doubles as the cabinet doors. The result is a superbly coherent sound that TJN found kept drawing him into the music. MC agrees, feeling that the ES14 gets at the musical meaning better than most speakers in its class. Stuffing the pores with the supplied foam plugs makes the bass very tight but somewhat light; the portal bass has decent extension but is a little soft. The upper bass and midrange are very low in coloration, however, and the speaker offers excellent midrange and treble transparency. Matching stands cost $300. (Vol.11 No.6, Vol.13 No.1, Vol.18 No.3)

JBL Micron Carat: $745/pair in black vinyl $$$ (stands necessary)
The original version of this French monitor minimistor had a peaky and fattening lower treble that could be laid at the feet of its Kevlar-doused Focal tweeter. Current production features a new titanium inverted-dome tweeter that is significantly

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1 A tip from TQN for breaking-in speakers: Place them face to face, but voted out of phase. You can then drive them hard with pink noise or the "Beat-in noise" track from Scherer's Test CD 13, but there's less sound fatigue in the tweeter than with different drivers. To a large extent, the speakers' outputs cancel.

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smoother and less colored, leading to an enthusiastic recommendation from JA and DO. “The upper mids are sweet and texturally smooth,” quoth the latter. Though it lacks bass expansion, it gets the tenor region right, the sound of the cello being somewhat mimicked. Offers a good blend of clarity, dynamics, and imaging accuracy,” avowed JA, but with lightweight bass and correspondingly tipped-up treble balance. Paired with the right amp (most likely niced), can contend with the soundstaging clariets. Price is for black vinyl finish; ashorn, black walnut veneer finish costs $975/pair. (Vol.14 Nos.9 & 10; Vol.15 No.6)

Joe Shlomo AMOTT: $2189/pair (stands necessary)

Mellow balanced— but naturally detailed—mini-monitor that, JA asserted, represents good value. With mid- and upper bass as contributing to a tonal neutrality smooth midrange, sweet (but not over the top) treble, and reasonably tight bass as low as [they] go.” However, he warns, “the issue is resolution,” finding that they did not resolve detail amid ambient information as well as they might. Even so, he found them an “excellent choice for modest systems and classical music.” Exotic veneer finishes add $1000/pair. (Vol.19 No.5)

KEF LS5/5a: $1450/pair in teak (Santos Rosewood adds $200/pair) @ speaker level $1899/pair (stands necessary)

A major 1988 revision of its crossover was not so much to “improve” this venerable BBC design (first seen and heard in 1975) as to bring production back on target. Still somewhat compromised in overall dynamics, HF smoothness, and clarity when compared with Class B and C miniatures, and having a distinctly tubby midbass, the 1990s version of the LS3/5a still has one of the least colored midranges around, throws a deep, beautifully defined soundstage, and has a slightly sweeter top end, with less nasality than it used to have. Works well on classical orchestral or operatic music. The sound, however, is sometimes not as musically involving as it could, or should, be. CG hates the speaker; MC bemoans its lack of range on the current hi-fi.2a system. (See Vol.15 No.11, p.89) compared with the original’s rubber surrounds. Originally only manufactured by Rogers (currently without US distribution), the LS5/5a is also manufactured by Spendor, Harbeth, and KEF. The Harbeths (also without US distribution) has one pair of input terminals; the Spendor and KEF are bi-wireable with four gold-plated Michell connectors — see “Industry Update,” Vol.15 No.2. (Vol.3 No.12, Vol.4 No.1, Vol.7 No.4, Vol.12 Nos.2 & 3, Vol.14 No.10, Vol.16 No.10, Vol.17 No.8, Vol.20 No.9, Vol.21 No.3)

Mirage 1090/1: $1200/pair

To RN’s ear, forgiving to the point of forsaking the last iota of transparency, but consistently sweet, and capable of holographic imagery. “Missing weight in the bottom octave and a half — not unexpected … at this price.” “You won’t need a drink to get along with this speaker,” he claimed. (Vol.19 No.6)

NHT SuperZero: $240/pair (stands necessary)

Not just limited bass, but low frequencies at all, leading to a thin balance that fails completely on orchestral music. If, like SS, you play a lot of large-scale classical music, it may move you to the point of this tiny speaker. With the right kind of music, “the best-sounding speaker under $1000” sez CG, who was impressed by the resolution of detail, accurate midrange balance, and incredibly spacious soundstaging. The treble is a touch exaggerated, however, which is further emphasized by the speaker’s lack of bass. (Vol.17 Nos.1 & 9)

Phase Technology PC80 MK.II Compact Monitor: $699/pair (stands necessary)

E1 Bcee found these affordable monitors refined and neutral when played within their limits. He also made note of their powerful but not particularly well-defined bass and impressive lateral spread. However, he cautions, “I didn’t seem to get much depth.” The upper mids had a slight emittance, which will mean care needs to be taken choosing matching components. (Vol.18 No.12)

ProAc Studio 100: $1400/pair (stands necessary)

A slight excess of HF energy didn’t prevent CG from liking these descendants of ProAc’s successful Studio 1, particularly when they were driven by line amp. Bass is a firm woody but dynamics are excellent. Requires careful system matching, however. (Vol.17 No.10)

Sonos Faber Minuetto: $1600/pair (stands necessary)

Italian minimonitor with smooth, polite balance, precise imaging, a lively, agile bass, and good articulation. Very sensitive to vertical listening axis. Requires careful system matching. Matching stands cost $959/pair. (Vol.17 No.10)

E Canon MP 5: $399/pair (stands necessary)

Check this out. Canon's "audiophile" speaker, it is designed to be used with any multimedia system — if ultimately too colored when listening to the classical, acoustic music he prefers. Restricted output — crank 'em above 80 dB and expect extra mud, he warns, but cymbals sound great, and LF performances produce a pleasant surprise at this price point. Designed to be somewhat on directional, the 35s do expand the sweet spot — although at the cost of reducing image depth and diffusing the center image. (Vol.18 No.18)

Cleveland MP1: $299/pair (stands necessary)

Although he finds the MP's overall presentation light-weight, with little midbass and no deep bass, JE nonetheless admires its compelling rhythm, pace, and unfailing spaciousness. Ultimately, though, he feels this last to be too much of a good thing. Not suitable for high-end music-only systems, الدكتور ابن جلاد concludes, but its shrinking and high sensitivity make it a natural addition for multimedia computing or Home Theater use. Cleveland CSW M1 woofer ($449, see JE's review in Vol.18 No.10 and WP's review in SHTT No.2) usefully extends the bass. (Vol.18 No.6; SHTT No.2)

Paradigm Atom: $169/pair $55 (stands necessary)

A tiny speaker that gets the midrange right, according to SS, with reasonable dynamic contrast and some upper-bass bloom but polite highs. Matching C-70L stands cost $899/pair. (Vol.17 No.9)

Paradigm Titan: $209/pair $55 (stands necessary)

A little larger than the Atoms, the Titan has a similarly polite balance, but with a slight nasality apparent. Available in a shielded version for Home Theater use. (SHTT No.1)

PSB 500: $499/pair (stands necessary)

Balance is warm and full, and impressive bass weight doesn’t turn to boombiness. Refined highs for an inexpensive speaker. The two-way 500 achieves “that rare balance of ease and detail,” according to TJN, with moderate coloration and congestion setting in only underfed, but a warm attitude with no glaring weakness.” Matching SP5 stands cost $799/pair. (Vol.16 No.7)

PSB Alpha: $219/pair (stands necessary)

“An outstanding audio bargain,” proclaimed JE of this little two-way. Designed to be used close to the wall, the Alpha’s closest rival was the Alpina, which spins surprisingly loud, without strain, though too-in is best avoided to minimize harshness. Optimum with electronics that sound soft. Imaging somewhat vague compared with the similarly priced Dana Model 1s. Upper bass a little exaggerated and a bit “boomy” compared with the NHT SuperZero, but gets the midrange right. (Vol.15 No.7, Vol.17 No.1, SHTT No.1)

RadioShack Optimus Pro LX5: $300/pair (stands necessary)

Based on a design by Linacum (who assemble the tweeter subassemblies), the LX-5 has become a cyberspace favorite, with many threads spun concerning modifications. The X and frequencies become soundstaged, but the high frequencies sound so promising, sez JA, that one wants to do somethingExperimental

Stereophile, October 1996
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The Critics-
"The primary character of the Ay was a coherent, controlled, orderly sort of sound with a seamless integration of the drivers... Details within the music that were previously unheard were revealed, but were presented in an understated, natural fashion."
-Russ Novak, Stereophile Vol. 18, No.7 - July, 1995

"Loudspeakers that perform this well are always noted for their resolution of recorded detail; the Ay is no exception...All in all, this superb set of measurements indicates a fine engineering mind behind the design."
-John Atkinson, Stereophile Vol. 18, No.7 - July, 1995

★★★★★ (Overall Highest Rating)
-Audio Art, January, 1996

Recommended Components, Class B, Full-Range
-Stereophile Vol. 18, No 10 -October, 1995
-Stereophile Vol. 19, No.4 -April, 1996
SUBWOOFERS & CROSSOVERS

Editor's Note: DO's mini-survey in Vol.12 No.1 indicated that true subwoofers, capable of reproducing the bottom two bass octaves at realistically high sound levels, are almost always related and expensive beasts. In addition, the problems of integrating one or two subwoofers with high-quality satellites are major if the integrity of the upper-bottom-middle-region is not to be compromised. (The late Peter W. Mitchell offered good advice on where to place or move subwoofers in the listening room in Vol.16 No.3, pp.65-67) We recommend that those trying to subwoofer on the cheap instead look at the possibility of acquiring more expensive full-range loudspeakers.

Bag End S1BE/ELF 1: $2460

For ELF 1 crossover, $776-$1976 for S1BE, depending on finish

These relatively small subwoofers have deeper extension than any others LG has experienced in his listening room. Some claim signal below 60Hz is nondirectional, but LG sez two S1BEs "more than doubled the impact, power, and control," offered advice on where to place or move subwoofers in the listening room in Vol.16 No.3, pp.65-67)

Cables Model 18: $3450

(inc. crossover and amplifier)

Slotted-vented mono subwoofer extending down to 18Hz with which LH, LG, and CG have obtained great sound (successfully integrating it with Hales Signature, Quad USA Monitors, and

Spica Angelus, respectively). "A complete lack of conning down," said LH of the Model 18's ability to present recorded kickdrums with its character intact. LH also noted that it offers a "dynamic agility" rate in a subwoofer. Part of the reason for the Model 18's quality is that it's not intended to extend very high in frequency, thus minimizing its potential for introducing midrange anomalies. In addition, it can be customized for the specific satellite with which it's to be used, to give a seamless match. Each "personality card" to adapt the Model 18's crossover for a specific loudspeaker costs $35, and seems to have very little editorial effect on the sound of the satellites (other than the high-pass function, of course). Price is for oak finish; walnut or cherry finish adds $230. Balanced inputs/outputs add $500. (Vol.14 Nos.7,8 & 9; Vol.16 Nos.3 & 5)

Snell SUB 1800: $2499 each

Huge, TIIX-specific passive subwoofer using an 18" drive-unit that beats out all comers for its combination of power and dynamic range. (Vol.18 No.7 Vol.19 No.3)

B

B&W 8000ASW: $1600

"Extended bottom end with a good combination of tauntness and warmth," assessed TIN. The powered 8000ASW "disappeared into the sonic fabric in my room, it was never clearly localizable," (gave slight range to the sound), and "was costing twice as much. Maybe so, commiss are..." (But, in music systems where dinhedral accuracy and fineness in the nether regions is more than the ability to move huge amounts of air, it's a winner." (SGHT1 No.2)

Bryson 10B electronic crossover: $1295

Slight sacrifice in image depth and an increase in electronic "edginess" keep this otherwise excellent solid-state crossover from attaining Class A status. Very versatile regarding slopes and crossover frequencies. Balanced inputs and outputs add $200. (Vol.17 No.3)

M&K MX5006-T3X: $2495

TIN has heard several low subwoofers that can match the powered MX-5000-TIX "ability to make a listener want to jump up and fly with the onset of a transcent." On music, he also found it impressive and authoritative "— up there with the best subwoofers and, in some respects, at the head of the pack even at his large room range, ran into dynamic-range limitations that surprised him, hence Class B. (SGHT1 No.2)

Veloxyne ULD-18: $2799

(inc. crossover, amplifier, & servo electronics)

LG felt this well-finished, servo-controlled subwoofer system to offer superb bass performance, extending his Quad USA Monitors' low frequencies to 290 Hz even at high levels, and adding a considerable degree of dynamic contrast. LG found the ULD-18 to work well with B&W 809s as well; he and PWM would rate it Class A. Others on the magazine's staff disagree, feeling the Veloxyne belongs in Class B due to its overall lack of absolute definition and a propensity for adding midrange coloration (this perhaps due to the crossover electronics). It costs $300 to modify a ULD-18 to the T1X specification—see SGHT1 No.2, though some feel the T1X specification trades off bass extension for dynamic range. The T1X version costs $2999. (Vol.12 No.10, Vol.14 No.8, Vol.16 No.3)

C

Audio Concepts (ACI) Titan: $799 each

This active subwoofer does not extend as low as the Velodyne 2W, TIN observed, but the quality of the bass makes up for it. Class C, he reckons. (SGHT1 No.2)

Hsu Research HRSW12V: $850

This powered subwoofer strikes RD as competitive with units costing up to twice as much. He finds no thick bass overlap — the range of many subwoofers — but neither does the Hsu match the solid crispness of the Velodyne F-1550R. Energize the room they do, he notes, even taking a shot at reproducing the 10Hz fundamental in the second movement of the Saint-Saëns "Organ" Symphony. "An outstanding bargain." Price is with Zoatone top; the $12 costs $925 with an oak or walnut top. (SGHT1 No.2)

M&K MX-200: $1945

RD rated the active MX-200 a solid performer, but judged the similarly priced Velodyne F-1550R to be superior, and the much-lower-priced Hsu Research HRSW12V to be at least comparable. Class C, he said. Finishes available are oak, black oak, or a laquer bead finish. (SGHT1 No.2)

SNELL EC-300 electronic crossover: $399

THX-certified three-channel (L/C/R) crossover intended for use with Snell K/III satellites and Snell SUB 500 subwoofer. Fixed crossover frequency of 80Hz. Includes front-speaker brightness filter. Subwoofer output is adjustable in level. (SGHT1 No.3)

Veloxyne F-1500R: $1699

(inc. crossover, servo electronics, & amplifier) Excellent value for the mone, this versatile, low-distortion monostage design approaches the performance of the Velodyne ULD-18 but instead adds more system coloration — perhaps, LG due to its gentle 90-octave high-pass crossover slope. Its lack of the 18" "effortless power" leads to a Class C rating, judged LG, though RD gently suggests that "Borderline Class B" is more appropriate. Current "R" type version includes remote control. "Impressive," RD notes, "but not quite as natural as the Hsu." (SGHT1 No.1)

Boston Acoustics Lynfield VS500: $600

Good value for money. A change to the port position is claimed to eliminate the port "chuffing" noise mentioned in the review of this powered design, (SGHT1 No.2)

Paradigm PS-1000: $519

Powered design uses a 10" driver in a bandpass enclosure. Intended for use in Home Theater systems. Crossover frequency is continuously adjustable from 50Hz to 150Hz. Includes adjustable polarity control to optimize room setup. FS found it to blend well with Titan satellites. (SGHT1 No.3)

PSB Subsonic II: $599

Intended for use in Home Theater systems with PSB Alpha loudspeakers, the reflex-loaded, active Subsonic II gave useful response down to 30Hz without strain in an SSW room. LS had difficulty integrating it with the Alphas, however. (SGHT1 No.1)

Deletions

Entec: 12-20, AudioControl Richter Scale Series III, Gradient SW-63, and Gradient SW-57 not auditioned in any long.

COMPLETE AUDIO SYSTEMS

C Cello Music & Film System: around $101,000 as supplied for review

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Stereophile, October 1996

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—Peter Mitchell, Stereophon Vol 18 No. 1, January 1995

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—Tom Nousaine, Sound & Image, February/March 1995

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HiFi '96: "The best cinema sound went to Total Media Systems."
—Tom Muller, Audio Adventure, August 1996
**Home Theater Surround-Sound Components**

**Exton's Note:** The Center speaker in a Home Theater system should be placed between the listener and the Left and Right speakers — see the letter Peter W. Mitchell's "Ground Floor" article in Vol.17 No.9 — while TJN generally recommends setting the Center channel's level about 3dB lower than the Left and Right. It should also be pointed out that as the Center speaker handles almost all the dialog, it should be a still, uncolored performer on speech — don't scrimpt. TJN points out that the ratings for Center loudspeakers apply only when they form a good match with the Left and Right front speakers. The same is true, though to a lesser extent, with surround speakers.

Although this section contains dedicated Home Theater products, other suitable amplifiers and subwoofers can be found in their respective listings. Regarding the THX loudspeaker issue, we note that while THX loudly promotes the idea of using in their Home Theater systems conventional loudspeakers whose sound they like on music recordings.

Regarding the appearance of laserdiscs and electronics offering discrete surround channels using Dolby's AC-3 data-reduction algorithm, these muddy the waters for Dolby Pro Logic processors. See "Industry Update" in Vol.18 No.4, and Vol.1 No.2 of the Stereophile Guide to Home Theater, for discussions on how things currently stand.

**A**

**Reference Recordings LD-101, A Video Standard; $69.98**

**Laserdisc (one side, CAV) produced by Joe Kane that contains video and audio test and demonstration tracks to optimally set up a Home Theater system. "No one who is seriously into video can afford not to have this system, as it reveals the opportunity to double-up negatively. (Vol.12 No.11)**

**Snell Music & Cinema Home THX Reference System; $29,993**

Consists of two Snell Music & Cinema Reference Towers at $6999 each, one LCR 2800 center speaker at $4799, twin SUB 1800s at $2499 each, and a pair of SUB 2800s at $999 each driving Junius Park through this system, TJN feared for the structural integrity of his house — which survived better than his nerves. Finding himself at a loss in coming up with serious criticisms of the sound of this ambitious system, he contents himself with the observation that it can sound forgiving on bad program material. Though the Snell system requires a dedication of substantial amounts of space and funds, TJN deems it a Class A Home Theater experience. (Vol.18 No.7)

**B**

**Arcam Xeta One integrated A/V amplifier: $1990**

An unusual product that eschews many features common to A/V receivers, but provides an unusually exalted level of musical reproduction, according to RH. At the same time, he notes, its reproduction of video soundtracks does not measure up to its musical promise — RH judges it to be rather lacking, lacking the low-level resolution, ambience, and diffusion present in the finest A/V receivers. (SGH1 No.2)

**B&W THX Home Cinema loudspeaker system: $7000 with two subwoofers**

Consists of three PCM-8 THX Front Cinema Monitors ($1800 each, stands necessary), two wall-mounted SCM-8 THX Surround Cinema Monitors ($1500/pair), and two PCS-8 THX Passive Cinema subwoofers ($1250 each). Some what mellow-balanced — the B&W system sounds less than the McIntosh equivalent — but high dynamic range, clean music, good dialogue articulation, and well-tuned bass impressed the heck out of this user's mildly mannered tuner. "Remarkable," he said, "and fun," referring to its ability to sound musically satisfying as well as to work well in a Home Theater context. Surrounds blend quite well similarly with the front speakers — something that is rarely the case. (Vol.17 No.10, SGH1 No.1)

**B&W Matrix HTM Home Theater Monitor center-channel loudspeaker: $800 each $$$ Well-engineered, neutral-balanced center-channel design related to the B&W 805 miniamplifier (see "Loudspeakers"), $4650, clean highs, but rather tubby-sounding lows. (SGHT1 No.2)

**Counterpoint HC-808 Dolby surround-sound processor: $1495**

"The sound had much of the clarity, transparency, dynamics, detail, and openness that are the hallmark of a good preamplifier line stage," enthused RH, though he was less successful with the unit's ergonomics and remote Control. Expensive, but sound quality justifies the price. Slight leakage of rear channels to front keeps the Counterpoint from Class A. (SGHT1 No.1)

**Denon AVP-8000 AC-3/THX surround-sound processor/preamplifier/tuner: $3500**

"Very similar to the AVP-7000, the most solidly constructed component of its class," impressed RH with its "ability to resolve every nuance of music, effects, and dialog." Resolution was, he felt, "its greatest strength...yet it never sounded etched or aggressive." Additionally, "the AVP-8000 has the best user interface of any A/V
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Ke Kenwood Home THX loudspeaker system: $2800 with two subwoofers $$$
Comprises the Kenwood LS-XIF LCR speaker ($400 each), LS-XIS surround speaker ($600/each), and the SW-X1 subwoofer ($500 each). “Maximum bang for the buck,” SS asserted. Finding them warm, natural, and balanced, he reckoned they demonstrated “excellent dynamic abilities, smooth harmonics response, excellent image stability at all low-level detail resolutions, and impressive bass response.” “Borderline Class B,” he sums up. (SGHT No.2)

Kenwood KR-X1000 A/V receiver: $1200 $$
RF was smitten by the THX-certified KR-X1000’s transparent soundstage and great imaging. He also admired its smoothness and “freedom from harshness in the mids and treble.” In THX processing, he found, was particularly worthy of mention, smoothing the treble on aggressive soundtracks and creating superior ambiance. Less easy to use than many other A/V receivers, “Not especially an outstandingly user-friendly,” he cheured, “but a great value.” (SGHT No.1)

Lexicon CP-3 Plus: $3200
Similar in concept to the older CL-1 Plus, the CP-3 is bigger, better, and incorporates a THX mode to optimize its performance in Home Theater systems, L1 finds the Lexicon “an ergonomic nightmare” whose “programmed” N/GJ enthralled recommending it— he found that he mainly used the surround modes rather than the ambience settings for the extraction of recorded concert-hall bypass. Reaction testing revealed a slightly veiled sound, according to GJH. This loss overall— as well as a cold, emotionless feeling of CG at the feet of the internal ADC/DAcs, and keeps this otherwise excellent unit out of Class A. Review was of the original CP-3. “Plus” version said to offer improved sound quality and more versatile features. (Vol.15 No.12, SGHT No.1)

Marantz AV605 THX surround-sound processor: $1200 $$$
“Surround performance second to none,” RH crowed, “with wonderful spatial presentation and sense of envelopment.” Somewhat subdued treble closed down top-octave air, however. Still, RH admired its “terrific performance at a reasonable price.” (SGHT No.2)

 McIntosh C39 THX surround-sound audio/video control center: $3500
Early production samples of this processor/pre-amplifier had a problem with the Dolby Pro Logic chip’s power supply, which led to unstable image stability. Later samples seemed fine in this respect, found TNJ. While the C39 offers versatile surround-sound effects, it appears to be intended more for the fin’nter pretentious customer than for those who like to readily diffuse with controls. Optional THX card adds $500; RC11 universal remote control adds $320. (Vol.17 Nos.3 & 8, SGHT No.1)

 McIntosh THX loudspeaker system: $10,050 (with amplification and one subwoofer)
Consists of the McIntosh MC7800 THX six-channel power amplifier ($1100/each), three HT-IF1 THX LCR loudspeakers ($1100/each, stands necessary), two HT-7W wall-mounted THX surround loudspeakers ($2000/pair), and one HT-2 THX subwoofer ($1750/each). Though their directivity is to the THX specification, the McIntosh loudspeakers are free of vertical confluence effects. The overall system sounds “stunning” if somewhat weak on movie soundtracks, found TNJ, who preferred the HT-I’s full-bodied balance to those of the Snell and Fongate front speakers. The McIntoshes also suffer, as expected, with music recordings, the HT-I’s midrange being immediate and palpable without being throaty in the listener’s face. The amplifier, as might be expected from McIntosh, is also a worthy performer. (Vol.17 No.9, SGHT No.1)

Meridian Digital Theatre: $14,775-$66,430 depending on options
The first—and still only—all-digital surround-sound playback system, with each “intelligent loudspeaker” fed by an S/PDIF digital signal. All functions are controlled by the remote control. Extremely simple to use, the Meridian Digital Theatre is somewhat counterintuitive— “hard to learn; easy to screw up,” says SS—and JGII found the preliminary manual a mess. Nevertheless, JGII deems the Digital Theatre one of the most gorgeous-sounding systems he’s ever heard. “Smooth, rich, gutton, warm, detailed, etc., etc., and as liquidly transparent as a drop of dew.” Bass is robust and well-controlled but varies widely in balance dependent on source material. However, both JGII and SS feel that the system imparts everything with a soft, sweet high-end character, rendering it too euphonic for those used to the called honest. TNJ concedes that the system stores recorded material: “Sweet, yes. Full, no.” “I think Class B,” ultimately decided both JGII and TNJ about the system reviewed— Meridian’s $56 digital surround-sound processor ($3995), DSP5600 digital active L/R speakers ($1695/pair), DSP5600C digital active center speaker ($2995), 1551000 active surround speakers ($5795/pair)—due to its beautiful top end and somewhat colored center speaker. JGII auditioning of the system with the DSP5600/active digital active center speaker doesn’t work, and DSP5600C active crossover— the 5000’s suggests that Class A would then be an appropriate rating. Those who need more inputs can add the Meridian 562/DSP active video control center ($2195 with a 517 DAC module). (Vol.16 No.12, SGHT No.1)

NHT VT-2 system: $3950 with one subwoofer $$$
Comprises the VS-2 Center speaker ($450 each), VT-2 L/R speaker ($1750/pair), HTL-1 surround speaker ($380/pair) and SWP-1 subwoofer ($3550 inc. SA3 amplifier). RH specifically admired the VT-2 main loudspeakers, VT-2 surround speaker, and the HTL-1 surrounds. Those units, taken together, had “wide dynamic range, good intelligibility, deep and powerful bass, and could play louder than anyone should listen.” Because the VT-2s have sufficient bass on their own, the SWP-1 subwoofer is unnecessary save to those who wallow in LF excess, see he. “More bass and visceral impact than Infinity Compositions, but less smooth and refined,” he sums up. (SGHT No.2)

Onkyo TX-SV919THX A/V receiver: $2099
“Sets a new standard in A/V receiver performance,” asserted RH. “So well-thought-out that a synopsis of its highlights doesn’t do it justice.” Includes a digital input, allowing it to be driven directly from a laserdisc player’s digital output—which raised its already laudable performance a notch higher, in RH’s ears. Slightly edged out on music by the Arcam Xeta One, thinks RH, but when you take video performance and facilities into account, the Onkyo gets the nod. THX certification is hard to achieve in a receiver, which is in itself a recommendation. (SGHT No.2)

Triad Gold THX loudspeaker system: $6350-$7025 depending on finish
Comprises the Triad InRoom Gold LCR speaker ($1000 each), the InRoom Gold widefront horn active subwoofer ($1500 each), and the OnWall Silver THX surrounds ($2000/pair). SS wondered if this well-engineered system justified its high price, then answered himself: “Yes, but only if you mate it to components that allow it to perform its best.” Thus, he’d hear superbly resolved imaging, upper-frequency performance, and “how well the center channel integrated with the left and right front speakers...A giant step forward for a THX-certified speaker package,” he reckoned. InK finds the Gold THX/LCR, wood veneer adds $100; solid maple tweeter horn adds $125. (SGHT No.2)

C

Acoustic Alon Trio C-1 surround loudspeaker system: $3975 with two woofers
Consists of a pair of Alon Petites (see “Loudspeakers”) coupled with the Alon C-1 center speaker ($665 each), a pair of Alon C-1 surrounds ($425 each), and a pair of Alon C-1 subwoofers ($500 each). “The Petites make wonderful frontal loudspeakers,” WP insisted. He was also impressed with a bipolar C-1 for center-fill/dialog duties and the dipolar C-1s as surrounds— “the most impressive surround speakers I have yet auditioned.” But the PW1 passive subwoofer, while satisfactory for music reproduction, lacks authority in a video context, and JA points out that a third Petite is a better choice for the center-channel speaker than the C-1. (SGHT No.3)

AMC AV818THX surround-sound processor: $1199.95
C

Atlantic Technology 350 THX loudspeaker system: $3914 w/stands
Consists of the Atlantic Technology 353 THX center speaker ($549 each), 351 THX L/R speaker ($899/pair, matching stands cost $199/pair), 354 THX surround speaker ($499/pair, matching stands cost $169/pair), and 352 PhM subwoofers ($1599/pair). SS felt this system “does not romanticize music or make dialog sound richer than reality” — which is, perhaps, another way of saying that “it does not have as rich a lower midrange as other THX systems I’ve heard.” On the other hand, he maintained, the system exhibited “fairly low-end detail that extends all the way down to its excellent subwoofer. Bass rendition is the best I’ve ever heard in my room.” “No doubt about it,” he concedes, “a fine value.” (SGHT No.1 & 2)

B&K AVP2000 Dolby Pro Logic surround-sound preamplifiers: $998
Some were kind enough for stuff-iper-dollar,” says the admiring DK. “…B&K’s AVP2000 A/V Control Center would doubtless qualify.” Preamp, Dolby Pro Logic surround processors, video switcher, dual-zone multiroom A/V control center, configurable subwoofer crossover —
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"... made sweet music . . ."
- John Marks, Stereophile, Volume 19, No.5, May 1996

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with a learning remote to boot—the list do go on. 1Wk was impressed by the unit’s ease of setup, sonic transparency, and video transparency—he sources many of his Douglas’s highly-improved, and at $550/pair, the “Loudspeakers”) pair, a 3W6L surround speakers ($550/pair), and two SSV-21 ($559.95/pair). “The Energy RVs Home Theater loudspeakers offers far greater performance than its modest price would indicate,” declares R.H.—a sentiment that MF enthusiastically endorses. Exceptional clarity, transparency, and openness drew the admiration of both reviewers. RH also pointed out that the SVS-M512 subwoofer has a power rating of 500W. Mirage MC-1a center loudspeaker: $550 each Mirage MBS surround loudspeaker: $350/pair Coupled with two Mirage M7is L/R speakers, these Canadian Home Theater speakers gave a sound in T.J.N’s media room that was open, spacious, and detailed. The MC-1a’s overall response to sound hollow compared with its on-axis balance—Mirage owners should make sure they sit in the center seat! (SGHT No.1) Mondial MAGIC video ground isolator: $99 • Provides effective antenna and cable-feed isolation for those whose video systems have hum problems. (Vol.15 No.2) NAD 917 surround sound A/V preamplifier/tuner: $699 $$$ "Competent and listenable," enthused T.J.N., who did not need any "plug-in" equalization, "so the sound is at its best, with the most detailed and transparent performance. It was also very good. The midrange and top end were clean and sweet, never harsh or edgy. Even detailed spatial performance was also satisfactory. The bass lacked "jumping," he posted. Worth a serious look. (SGHT No. 1) NHT VT-1A Home Theater loudspeaker system: $2155 Consists of two NHT VT-1A L/R loudspeakers ($700/pair), which can be switch-selected between "Music" and "Audio" models; a VT-1C center loudspeaker ($275 each); and two HTF-1 surround speakers ($380/pair). Now features the SWF2 subwoofer, not included. Can be used without a subwoofer, but then lacks dynamic range. RH used a new-discontinued SWP2 subwoofer to good effect, achieving good integration with the front speakers. System balance is a little on the bright side, but the midrange is smooth. Imaging, as expected, was better defined in the "audio" model-of-floating, the surrounding speakers for special mention: "They disappeared into the soundfield—exactly what surrounding speakers should do." (SGHT No.1) Paradigm 450 Home Theater loudspeaker system: $2145 with one subwoofer Comprises the Paradigm LCR-450 LCR speaker ($399 each), ADP-150 surrounds ($429/pair), and the PS-1000 active subwoofer ($519 each). "I love this system," exclaimed WP, seduced by its impact and intelligibility. The LCR-450s manifested a rather dark character, especially in audiophile playback. "Simple to set up and enormously satisfying," JA opined. "The Paradigm's remarkable quality in the sound of the three LCR-450 samples we auditioned, however, shows that the ADP-150s worked well with Titans as the front speakers. (SGHT No.1, ADP-150, SGHT No.2, system) Pioneer Elite SP-99D AC-3 surround sound processor: $1530 Bare-bones approach rules this unit out for those requiring multiple inputs, video switching, or a tape monitor. However, it is one of the least expensive separate processors offering AC-3, and T.JN was impressed by its borderless Class B performance. As such, it possessed "fine sounding, clarity without brightness, and solid rendition of detail" not far removed from his reference preamp, he opined. As a Pro Logic and AC-3 processor, he adjudged it quite fine (though he adds that it is a little early to make definitive judgments on the sound of AC-3 processors). High sound slightly shut-in compared to the finest. It was also mechanically noisy. (SGHT No.1) PSB 100C center loudspeaker: $179 A smooth midrange response allowed the 100C to blend well with PSB’s Alphas, noted SS, who also commented that it added an immediacy and palatability with music and soundtracks that enhanced the musical experience. (SGHT No.1) Rane THX 44 THX-certified Home Cinema Equalizer: $1299 • Offers one subwoofer channel and three full-range channels, each of the latter with a mix of 5-octave controls below 1kHz and two parametric controls above that. With good soundstage accuracy, decided T.J.N., though he found it an excellent tool for getting the most neutral tonal quality from a fullfledged video Home Theater System. (Vol.15 No.12) Rotel RSP-960AX Dolby surround sound processor: $599 $$$ Versatile processor with digital delay for surround channels that impressed R.D. with its ability to present a clear soundstage but without sounding "nudely revealing." He did find the optional RUB-90X boost extremely useful for filling in frontage from rear to rear, which is excellent performance for the price. A winner. (SGHT No.1) RF Systems RC-8-S power sequencer: $1500 • Automatic turn-on device recommended by J.G.H. to Home Theater owners who like to press just one button. Two sequential SCs will switch up to 40A and will turn on/off up to 16 remote devices. (Vol.16 No.10) Snell 500 Home THX loudspeaker system: $5983 ($ stands necessary) Consists of three LCR-500 front loudspeakers ($800 each), two SUB-500 surrounds ($899 each), and a SUB-550 at $549 (the review was of the no-longer-available SUB-750). Matching STA-500 stands cost $149 each. "I was blown away. The sound was so good as anything I’ve ever heard in a movie theater," proclaimed J.G.H. of this system when he used it to play back video soundtracks. On program music, however, he found that, while the Snell had an "awesomely extended low end" and excellent image definition and soundstage depth, the overall sound was too polite/sounding/insubstantial and the Snell, the latter pointing out a rest, noticeability that’s less noticeable on soundtracks than on music. RH loves the SUB-550. (Vol.15 No.12, Vol.17 No.4; SUB-550, SGHT No.1) Snell Type CC-1 center loudspeaker: $499 Intended to be used with the Type K/III L/R speakers, the CC-1, found RH, is best suited limited to frequencies above 100Hz to avoid restricting the system’s dynamic range. (SGHT No.1) Sound Dynamics Surround Speaker System: $1780 with a single subwoofer $$500 Comprises the Sound Dynamics THC-2 LCR speaker ($300 each), THR-BP-1 surrounds ($165 each), and THS-10 active woofer ($530). MP was quite chuffed by this diminutive and affordable system. Timbrally neutral, dynamic, and well-focused sound is its stock and trade, reported. While it lacks the ease, air, and authority of (frequently much more expensive) THX units, it generally left me more than satisfied, he added, this is a very attractive price. (SGHT No.2) Vandersteen VCC-1 center speaker: $495 each Vandersteen VSM-1 Surround: $895/pair Vandersteen 2W active subwoofer: $1250 each T.J.N thought the Vandersteen surround-sound system, when used with Vandersteen 3As ($2955/pair, see “Loudspeakers”) as L/R loudspeakers, offered “sheer listenability.” He found that careful attention to placement and cable interaction paid a big dividend: a system that excels on both music and video. The VCC-1 was marginal Class B, but indicated no intentions to increase and blend/blend with the best of the rest of the system. “Clean dialog,” he notes. The 2W did not add undue boom to the system, which may disappoint sensation junkies, but neither did high-level sound but made it disappear, he commented. (Vol.19 No.3, 3A, SGHT No.2, system) Yamaha RX-V2090 A/V receiver: $1499 Yamaha DDP-1 AC-3 surround sound processor: $599 Lowish power in the surround channels, but this receiver can accept Yamaha’s outboard DDP-1 AC-3 decoders. Low-end clean-sounding—than the Krell KR-X1000, but immature setup and use. Cinema DSP processing works as advertised, expanding the soundstage and creating greater envelopment. “Once you hear what a discrete surround-sound system can do, you’ll never be happy with the matrix Pro Logic system again,” RH affirmed after auditioning the combination. How-
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even, he noted ear fatigue after watching an AC-3-encoded film—did it correlate with AC-3's perceptual coding? (SGHT2 No.1)

D) Atlantic Technology 250 Home Theater loudspeaker system: $1556
Consists of the 251LR left/right speaker ($299/pair), 253 center speaker ($279), 262PHM active subwoofer ($649), and 254SR surround speakers ($329/pair). Optioned: 156ST stands cost $99/pair. JGH finds the System 250's price to be almost beyond belief, given the unit's performance. He finds the unique "tune-adjusting" controls on the 253C center channel, as well as the 252PHM subwoofer's three channels of amplification, to be "out of ideas." He argues that the 252PHM's low-pass input filter should be selectable, since those using dedicated subwoofer outputs may find themselves shifting left off the bass. A fabulous buy, he concluded, offering a lot more than $1500 worth of surround-sound quality. Price is for black finish. White-finish 251Lts and 254SLts available for an extra $20/pair. (Vol.18 No.4)

Celebrion Soundstyle Home Theater loudspeaker system: $1716 with one subwoofer
Comprises the Celestion Soundstyle M1 PLR speakers ($299/pair; see "Loudspeakers"), the Soundstyle center, the Soundstyle Surround Set전문 PAIR speaks; the CSW ML.1 woofer ($449). WP found a lot like this in the system, giving its price. "Affordable, practical, simple..." he enthused. Care must be taken with woofer placement in order to blend seamlessly with L/C/R speakers, and the woofer can cause carelessly routed cables to hum. System best suited for small rooms, as it will not go all that deep or play all that loud. Overall, however, he raved the Soundstyle a rousing success. (SGHT2 No.2, system; Vol.18 No.6 & 10, M1 & CSW, review JGH)

Denon AVR-1200: $549
WP was impressed with this inexpensive A/V receiver (70Wpc LCR, 15Wpc surround). "They put the money where it mattered," he exclaimed. Limited input features, but offers on-screen programming and a memory system that stores surround preferences for each source. "An intelligently designed, good-sounding entry into high-end Home Theater," he asserted. (SGHT2 No.3)

NAD AV 713: $649
Possessed of three 50W and two 15W channels, this AV receiver struck LU as a winner in terms of sound quality, value, and "ability to listen." He detailed, and surpassed his expectations of a receiver at this price-point. "However, it just doesn't have enough A/V inputs to be practical as the command center of a full-blown Home-Theater system." (SGHT2 No.2)

Parasound P5-1000 1000-watt surround-sound preamplifier: $850
Unusual feature allows two-channel sound to pass through unit when disengaged—a plus for music lovers. Somewhat noisy, notes DK, as surround-channel has an audible in-low-level music and at realistic soundtrack volumes. SSB concurs that, except for his front channels "too noisy for serious listening," Remote difficult to use. On the plus side, DK found video pass-through superb, and logic steering top-notch. (SGHT1 No.2)

Yamaha RX-V590 A/V receiver: $549
"It is a lot going for it considering its modest price: enough power, good features, and connection flexibility (preamp-out jacks on all channels, for example), and decent audio and surround performance," approved RH. He added that it was the easiest-to-use A/V receiver he'd encountered. (SGHT1 No.2)

Headphones & Headphone Accessories

A) Carly AUDIO Design CAD-301SEI: $3695
Stereo, single-ended, tubed, integrated amplifier related to the Carly 300SE monoblock; includes a headphone output socket. RH regards the ultra-smooth, liquid sound of the 300SEI to be world-class, manifesting a width and beauty unmatched by any electronics he's had in his system. See "Headphone Amplifiers." (Vol.18 No.9)

B) Corpo Reference Series One headphones: $695
WP found the RS Ones clean, warm, and dynamic—"capable, claimed, "of portraying music as an active artform." Yet he had quibbles about their low-level resolution, dark tonal character, and inability to translate large ambient effects, especially in light of their $700 price. JIE disagreed, declaring, "I just love these headphones." JRF cites their tonal transparency but thinks them reference quality, if not high-value. (Vol.19 No.7)

McGuire Micro Integrated Drive: $695
Primarily designed as a headphone amplifier, but also can be used as a line-level pre- or SWP integr- ated. "Fast and tight and as detailed as can be" was the conclusion WP. "No $700 preamp has any business sounding this transparent," he added. (Vol.19 No.6)

Moles SHA-Gold: $1995
WP found the SHA-Golds as an outstanding value, with a warm, "almost too rich" low-end, and an "especially smooth" high-end. For the price, it's "an excellent buy." (Vol.19 No.7)

Sennheiser Orpheus HE 90/HEV 90: $14,000
"A stunningly beautiful, limited-edition system consisting of 1xSennheiser DAC, tube amplifier, and electrostatic headband. A quick, clear, transparent midrange and a pristine, airy treble, but a rather lean, laid-back lower midrange, found JTN. He also found the level DMC to be less good than the rest of the package. Diffuse-field equalized. Additional 1HE 90 headers cost $7450 each. (Vol.17 No.7)

Sennheiser HE 60 headphones/HEV 70 headphone amplifier: $1795
Developed from the expensive Orpheus, the HE 60s offer much of that system's transparency at a much more affordable price. "A clear, transparent sound with a slightly lean bass, some emphasis at the very top, but a nonetheless pristine clean presentation," said JTN, who also commented on the Sennheiser's striking rendition of detail and complete lack of midrange coloration. (Vol.18 No.3)

B) Audio Alchemy HPA v1.0 headphone amplifier: $259
Small headphone amp offers HeadRoom's Audio Image Processor and is capable of driving a wide range of dynamic headphones. WP thought the sound "big dynamic, and warm—with lots of low-level information." Price includes Power Station One wall-watt; beheer Power Station Three ($259) offers substantial improvements in every parameter, but doubles the price. (Vol.19 No.7)

Eytomonic Research ER-4S: $330
Placed directly in the ear canal, these unusual "earphones" impressed WP with their 24dB isolation and their fast, accurate, transparent response. While he finds the Sennheiser HD-580s more comfortable for long-term-in-home use, he uses the ER-4Ses for travel—and recommends them enthusiastically for any application where environmental noise interferes with quality listening. He notes that people with an aversion to placing foreign objects in their ears will find them anathema. (Vol.18 No.7)

HeadRoom Supreme portable headphone amplifier: $399 $55
Small, beautifully made, battery-powered solid-state amplifier, no big foot as its bass reproduction. Price is for model itself; $89 is the price of the module (by Curfiss themselves). Both versions feature switchable intracanal cross-feeding and time delay to render headphone listening to stereo program less artificial-sounding. The effect of this is surprisingly subtle in A/B comparisons but present as enough of a factor in long-term listening sessions. Includes a treble-boost switch. Drives dynamic headphones (though not, it's reported, the low-impedance AKG 1000s) to high levels with authority and excellent clarity, without this being accompanied with "coloredness"; JTN has noted that people with an aversion to placing foreign objects in their ears will find them anathema. (Vol.17 No.1 & 2, Vol.19 No.7; see also WP's review of the $129 HeadRoom Bag in Vol.18 No.10)

Home HeadRoom headphone amplifier: $599
The AC-powered sibling of the portable HeadRoom amplifiers impressed WP to no end. "Performs on an unusually elevated level," he concluded, agreeing with other Stereophile writers that the HeadRoom crossedfied process, while subtle in its effect, significantly reduces listener fatigue. WP also finds the HeadRoom, driving Sennheiser '80s, to be the ideal location recording monitor. (Vol.18 No.10)

Koss ESP/950: $799.95 $$$
Class A because of its "invading midrange," said TTN of the 950s electrostatic at its original price of $550, though he did point out a little "lip" from the extremely bright and a warm background balance than the Stax Lambda Signature. At the reduced price, it's a sonic bargain. (LG has even seen the $595 advertised for as little as $499!) (Vol.15 No.12)

Moles SHA-1 headphone amplifier: $1095 $$$
Three-line-level amp for mini- and low-impedance headphone outputs. Combines tube (Sovtek 5922) voltage gain stage with FET-follower outputs. Gets the most from the great dynamic cassettes, as the Sennheisers and Grados, with iron-fisted bass control and superb transparency. See "Headphone Amplifiers." (Vol.18 No.10)

Sennheiser HD 580: $349 $$$
Ultra-smooth, ultra-detailed open-back dynamic headphone outputs with full, extended low frequencies. AG found the HD 580s to be "too civilized," but WP comments that some audiophiles miss the grain and other "hi-fi" signifiers that the Sennheisers simply do not exhibit. Comfortable JAS's dynamic headphone reference. (Vol.17 No.12; also see "Industry Update," Vol.17 No.4,1; TTN's headphone review in Vol.17 No.2, p.114; and SS's review of the Sennheiser 1850 headphones in Vol.18 No.80)

Grado SR60: $69 $$$
An inexpensive cousin to the Class A Grado HP 1 and HP 2, the SR60 offers a similar, rather dark-
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High Performance Review, Winter 1992/93

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"The Mach 17 speakers are the most natural sounding speakers I've ever heard. The soundstage is wide but detailed, responding extremely well to all types of music. I've listened to everything out there and I bought the Waveform Mach 17s."
tuned balance, with a full bass and excellent resolution of detail. A more forward midrange, however. Uncomfortable: The $150 SR125—not yet reviewed—is a JA favorite. (Vol.17 Nos.6 & 10)

Deletions

Grado and Accuphase longevity, topnotch LG.

FM Tuners

Editor’s Note: LG recommends that those interested in purchasing a good FM tuner read JGH’s and DAS’s discussion in Vol.7 No.7 (pp.54-57) on reviewing and measuring FM tuners.

A

Accuphase T-109: $2995

With similarly excellent soundstaging but more musical presence, warmth, and palpability than the Fanfare and Magnum Dynalab tuners—on the full-bodied side of neutral—the Accuphase rose its way into Class A, decided SG, adding that it was the finest tuner he’s heard. Superb clarity. (Vol.17 No.13)

Andiologic 9000T: $1195 $$$

Excels in ergonomics, RF sensitivity and selectivity, and its hash-free audio signal. Excellent sound quality, if not quite matching the low-bass reach of the Day-Sequerra. “I know of no other tuner that has the quality and performance of the Andiologic,” says LG. Very sensitive AM section. (Vol.17 Nos.9 & 11)

Fantoma T-1: $1295

SS raved about this remote-control tuner’s transparent sound quality, RF performance, and ergonomics, concluding that it was the equal of his long-term reference tuner, the Magnum Etude, with strong-signal stations, and sounding less harshly on stations with poor signal strength. Class A, agrees LG. (Vol.17 No.6)

Rotel RHT-10: $1500 $$$

A superbly transparent sound that allowed DAS to identify the brands of compressor/limiter used by his favorite stations. “Extraordinary fidelity to the broadcast waveform.” High output level—3–4V on peaks—may be a problem in systems using very sensitive preamp line stages or loudspeakers. Superbly well-made, says LG, and beats both the Magnum Etude and the Naim when it comes to sound quality. (Vol.16 No.10, Vol.17 No.11)

B

Magnum Dynalab Etude: $1350

Based on the well-established FT-101A, the Etude features a machined faceplate, WBST output jacks, audiophile-grade passive components, and two extra hours of component selection, matching, and testing during its manufacture. The result is a tuner that sounds only slightly noisier than the extraordinarily expensive Day-Sequerra Broadcast Monitor with the same antenna and station, and features a distortion-free midrange with strong dynamic contrasts. “The sound was wonderfully free of hash, distortion, grit, and glare,” said LG, though he feels that it’s now borderline Class A due to the Day-Sequerra FM Reference setting a new standard for sound quality, and the Rotel RHT-10 setting one for RF performance. Nevertheless, he felt the Etude to “represent one of the better balances of price and performance, you can find in FM tuners today.” (Vol.13 No.8)

Magnum Dynalab FT-101A: $875

An analog tuner, the FT-101A is superb from an RF standpoint, particularly in obtaining selectivity. Selectivity is bettered only by the Onkyo T-9090, Denon TU-4000, and Citation 23, but the 101A consistently sounds superior on most stations. Latest version has instant-on feature, defeatable stereo blend, and new board. A JE favorite. (Vol.8 No.4, Vol.10 No.3, Vol.13 No.10, Vol.17 No.10)

Meridian 504: $1295 $$$

Unusual clarity and wide, deep soundstaging, decided LG, coupled with an excellent sense of musical pace, an uncolored midrange, and deep, powerful low frequencies. No selectable IF bandwidths, however, and neither high-level nor metering can be switched off. Meridian system remote costs $99. (Vol.17 No.10)

Naim NAT 01: $3300 $$$

Excell in natural sound quality—“The Naim’s ability to involve the listener in the music is remarkable,” stated LG—but full automation of tuning parameters and minute changes in quality will annoy DX hounds. DAS was so finessed that he was driven to uncharacteristic hyperbole: “It will not get stereo stations unless the tower lights are in sight!” Its only-average RF performance keeps this otherwise excellent tuner from Class A, feels LG. (Vol.15 No.9)

Rotel RT-990BX: $750

Offering much of the performance of Rotel’s Class A RHT-10, the RT-990BX has a powerful, solid bass performance, impressive soundstaging, and a good sense of pace, but less good trans- parently overall. Excellent RF selectivity and sensitivity. (Vol.17 No.11)

C

Magnum Dynalab FT-11: $5755 $$$

High-end Class B tuner, according to DAS in his review, that lacks transparency when compared, for example, with the more expensive FT-101. This is perhaps due to its having a single, narrow IF bandwidth. Has good selectivity and a very effective high-bend loss circuit for receiving weak stations in acceptable stereo. (Vol.12 No.10)

Onkyo T-4310R DRS: $279.95 $$$

Features RDS (Radio- broadcast Data System), which displays station format, call letters, emergency information, or an 64-character—length message a station desires. “Onkyo has a winner—almost,” DS equivocated. Clean-sounding AM and superior performance specs for many FM—stereo was a different matter, he reported. A good choice for the FM listener far removed from strong signal stations, but not optimal for those who favor a few high-quality stereo stations over a greater number of mono ones. (Vol.18 No.10)

Pioneer Elite Reference F-93: $900

An optimal tuner for those a long way from the transmitters. Loaded with sensitivity, selectivity, and elaborate “space-age” tuning displays. Sonics display a natural timbral quality but are cut below the best British tuners. Costs more than the similar-performing Onkyo T-9090 but sounds better than most of the digitally synthesized competition LG has heard. DAS recommends trying the less expensive Pioneer F-449 ($285), which he has found to have a similarly good sound. (Vol.15 No.9)

Arcana Alpha 5: $399

Alternate-channel selectivity not good, nor is adjacent-channel selectivity, while SCA-subcarriers will degrade the audio somewhat. But for those who live in cities and suburbs where there aren’t too many stations crowded together on the dial, and for those who want reasonably clean sound quality from stereo signals at a low price level, the Arcana AM/FM tuner is a good value. Sold with the Arcam 5 Super Integrated amplifier as the “Hi-Reziver” for $579. (Vol.17 No.12)

K

Yamaha TX-950, Magnum Dynalab MD-108.

FM Antennae

Entron’s Home: No outdoor antenna can compete with a good roof or mast-mounted outdoor antenna, but as apartment dwellers often don’t have a choice, we list the following indoor models.

Antenna Performance Specialties Sniper FM antenna

Antenna Performance Specialties APS-14 FM antenna: $225

The Sniper is a huge (300), custom-made, outdoor antenna with 12DB true forward gain at all FM frequencies and extremely low SWR (Standing Wave Ratio). Requires a 64-inch--vertical--radio-antenna type installation, which might eliminate its consideration by all but the most dedicated radio listeners. Yet DAS feels it sets the standard for antenna performance. The APS-14 (originally called QFM-12) is still large (200”) but manageable, he reports, offering 10DB gain and only slightly less performance than the Sniper. (Vol.19 No.3)

AudioPrism 8500: $499 $63”-tall, remote-control, vertical phased-array passive FM antenna for indoor use, offering a more directional pickup than the less expensive 7500. (Also offers an omnidirectional pattern.) Will prove optimal for those who desire to receive relatively weak stations competing with stronger stations on similar frequencies broadcast from other directions. (Vol.14 No.6)

AudioPrism 7500: $299

Low-WSWR (Voltage Standing Wave Ratio), vertically polarized, omnidirectional indoor passive design that will prove optimal in urban, high-signal-strength areas. 89” high. (Vol.12 No.5)

AudioPrism 6500: $125 (wood cabinet) $4 If you don’t have the room for an external antenna, then the diminutive 6500 could be a good substitute, offering good reception except for DXing purposes. A lot more effective than the small, active, omnidirectional antennae offered by some companies, thought BS. Vinyl-covered version costs $99. (Vol.13 No.9)

Magnum Dynalab 205 FM Booster: $295 Excellent RF amplifier to optimize selectivity and reception in areas of poor signal strength. (Vol.10 No.6)

Recording Equipment

Eutrow’s Notes: With the exception of the Fostex and the Crown SASS-P, none of the microphones listed below has been formally reviewed. However, RH has had extensive experience with many professional models and has compiled most of the thumbnail sketches of their sonic signatures. Other professional models to look out for on the second-hand market are microphones from Sony (C37P & C500), B&K, Milab, and Calrec (AMS), figure-8 ribbons from B&Co and Coles, omnis from Schoeps and BBK, and PMK mikes from Crown (though it’s very easy to get a rather colored midband with the PMKs). The Shure SM81 cardioid is also reported to have a quite flat response. Anyone about to undertake serious
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recording should ignore all “amateur” microphones; as a rule of thumb, you should spend as much on your recorder as you do on your microphones.

A

Briel & Kjaer 4006: $1895

Omni-directional, 48V phantom-powered, ½” capacitor microphone with high dynamic range, extended bass response, and a basically flat response mated only by a small peak in the top audio octave and a rather depressed lower treble. Comes with both 10’ gooseneck-free-field leads. A “nose-cone” is available to give true omni-directional response and a spherical acoustic equalizer to give a more directional response. A calibrated sample is used by Stereophile to measure loudspeaker response. (NR, but see follow-Up in Vol.14 No.10, and audition Stereophile’s Consert CD and track 5, index 1 on the first Stereophile Test CD.)

Briel & Kjaer 4011: $1895

JA finds this uncolored ½”-mic—cardioid cousin of the 4006—to be a solidly defined, vivid stereo imaging when used in an ORTF configuration, which is this author’s choice to record Stereophone’s 1995 Festival CD, reinforced by a spaced pair of BK 4006s. (NR, but see Vol.19 No.1)

EAR 824M stereo microphone preamplifier: $3350

Extremely neutral, very quiet, all-tube, balanced stereo preamp from Tani de Paravinci, with switchable level controls and 48V phantom power. Used by Water Lily Acoustics and also to make Stereophone’s first two commercial recordings. We also use it in conjunction with a Briel & Kjaer 4006 omnidirectional microphone to make all our loudspeaker measurements. (NR)

Manley Reference A/D converter: $7000

Audiophile, single-ended, Ultra-Annalog-based two-channel converter to master Stereophone’s Intermezzo, Consort, and second Test CDs. JA felt it to be one of the best-sounding around. One of the winners in the October 1991 AES Sound-Off. Offers DC trim controls, balanced and unbalanced analog inputs, and AES/EBU and S/PDIF data outputs. Analog peak meters with “0” set to -12dBFS are an anachronism; however, you’re better off using a Dorelora or Sony AES/EBU meter or the LED or LCD peak meters on the Dorelora. (NR)

Nagra-D: $25,000-$35,000 depending on options

The ultimate one-box digital recorder: to see it is to want to touch it is to want to buy it, says JA. (We bought it!) The superbly built Nagra uses open-reel tape to store two or four channels of up to 24-bit data. One 5” reel of Ampex 467 holds one hour of four-channel data or two hours of two-channel data.) Four channels of both analog and digital (AES/EBU) I/O. Built-in A/D converters offer 24-bit resolution. Built-in mic preamplifiers offer phantom power, an extremely quiet, and are superbly quiet. Sophisticated built-in software offers versatile usage options; optional DOS program allows a directory to be created for each tape, to access individual takes, overload points, examine error rates, etc. Nagra can even diagnosis your machine over the phone, using its built-in RS422 port. Recording Festival with the Nagra—coupled with the editing process—made JA a big fan. “Operationally, the unit was a dream,” he enthused, adding euphemistically that it would be a “High-quality stereo recorder he ever used.” Portable, practical, and capable of producing tapes of the highest quality. Highly recommended. Latest version can record at 96kHz sample rate but at the expense of losing two channels. (Vol.19 No.1)

B

AKG C414B/U:LS: $1249

A popular, large-diaphragm condenser microphone, the 414 extended bass and flat frequency response make it ideal for a variety of applications. Switchable polar patterns, variable pad, and selectable LF rolloff add to its versatility. Transformerless TLM version costs $1675. (NR, but audition track 5, index 1 on the first Stereophile Test CD.)

AMS Soundfield Mk. V: $5800

Having used both MKIII and MKIV versions, JA feels that the highly praised variable pickup pattern of this stereo/ambisonic mic is let down by an overall “grainless” and lack of midrange detail, coupled with a slightly hard lower treble. Nevertheless, it’s excellently suited for recording true stereo image with width, depth, and price. Includes recording kit, windscreens, 20m of dedicated microphone cable, 100m of cable on a reel adds $450 to price. (NR, but audition track 10 on the first Stereophile Test CD and track 13 on Test C3 2)

Audio Engineering Associates 380TX stereo microphone preamplifier: $1785

Johnson reference mic probe, the 380TX is very quiet, super-portable, and features MS/matrixing circuitry to adjust soundstage width and depth in real time. (NR)

EARR “The Mic”: $4500

Using a small, 38J tube and a fair-sized output transformer, this very expensive rectangular-cap (sourced from Milrad), switchable-pattern (omni, cardioid, figure-8) microphone is somewhat noisier than average and is shut-in in the highs, but has extended low frequencies and a midrange that’s extremely true to the original sounds—“No trace of edge or glare,” says R11. Borderline Class A. (NR, but audition Stereophone’s Poem and Intermezzo albums and track 5, index 19 and tracks 11-18 on the first Stereophile Test CD.)

Neumann U-78A microphone: $2725

A perennial favorite among recording engineers. Wide flat response gives it a similar balance to the AKG 414, but with more “reach” in stereo micking applications. Used extensively for vocals. (NR, but audition track 5, index 12 on the first Stereophile Test CD.)

Panasonic Pro 3780 R-DAT recorder: $1599

According to PVM, the 370 clearly outperforms most mass-market DATs with its MASH oversampling encoding scheme and compact analog circuitry. A best-buy storage device when used with an external A/D such as the Peigné, Atope, or Manley. Offers better sound with redesigned filters, easier head cleaning, a jog/shuttle control knob, more flexible controls, and a lower price tag than its predecessor, the 3500. Includes useful error rate, headline, and SCMS status indicators (SCMS can be switched off when recording from the AES/EBU data input). Analog inputs/outputs are all balanced XLR. Only inconvenience is that a rear-panel DIP switch is used to select between AES/EBU and S/PDIF data inputs/outputs. Digital output has high jitter level; sounds significantly better than its predecessor, for example, a Sonic Frontiers Ultratrag. (NR)

Pioneer Elite PDR-99 CD-R recorder: $2000

Affordable CD-R recorder is compromised by SCMS and expensive ($24/disc) “consumer media that are only 60 minutes long— as opposed to the 74 minutes—"professional" discs currently selling for $7.50 each. SS found it easy to use, and capable of 16-bit recordings as good as—or better than—his digital originals. Recordings made from analog sources suffered from some loss of low-level detail, due, SS surmised, to the inadequate onboard A/D converter. (Vol.19 Nos. 1 & No.4)

Sony DTC-2000ES SBM DAT recorder: $2800

Well-made, versatile machine features Sony’s Super Bit Mapping, which will result in more than 16-bit resolution in the midrange. “The best-sounding, all-in-one ‘prosumer’ deck available,” notes JG, adding it is “the recorder of choice for the serious amateur who can’t afford a Nagra-1*.” (Vol.17 Nos.11, Vol.18 No.12)

Sony TCD-D8 DAT recorder: $899 with case

Tiny portable machine that makes excellent location recordings, provided you use an external A/D converter. Short internal battery life is a problem. A company called Eco-Charge (P.O. Box 956, Boulder, CO 80306) makes an external lead-acid battery pack ($119.95) that SS highly recommends. Includes 44.1kHz digital input/output and AC adapter. The TCD-D8 is the replacement for the similar TCD-D7 (Vol.18 Nos.1 & 6, TCD-17); see SS’s Follow-Up on the TCD-18 in this issue.

Sony SMB-1 A/D processor: $549

This onboard Super Bit Mapping A/D converter is intended to be used with Sony’s TCD-D3, T77, and 100 portable DAT recorders and, surprisingly, addresses and solves most of their shortcomings. “98% of the sound of the DTC-2000ES at 25% of the price,” he enthuses. Reliable, extremely portable, and good-sounding, it truly tradesoff is a loss of ergonomics and functionality dictated by its small size. (Vol.18 No.6)

C

AKG C460B/U/LS/CK6: $699

A small-diaphragm condenser microphone with removable capsule (omnidirectional, hypercardioid, vocal, and shotgun capsules are also available). Sound is very detailed, but the tonal balance leans toward the thin and bright, and it has some off-axis peakiness, making it less than optimal choice for realistic two-mike stereo. Good on drums, however. The C460/CK61 is said to be much improved over its predecessor, the C451/CK1. (NR)

AKG BlueLine microphones: $452-$564

Super-compact capacitor microphones that use a common powering module ($25/9) with interchangeable twist-caps clips ($272-$552). ‘“Extraordinarily clean, well-balanced sound at ridiculously low prices,” notes JG. (NR)

D

Sony WM-D6C Pro Walkman cassette deck: $400+

A pocket-sized stereo recording system of surprising quality and versatility. Alvin Gold feels that to spend more on a cassette deck would be a waste of money. Less-expensive WM-D3 (270) is half the size but keeps most of the quality. Higher wow and flutter, however. (Vol.7 No.6, Vol.10 No.6)

A pokey-sized stereo recording system of surprising quality and versatility. Alvin Gold feels that to spend more on a cassette deck would be a waste of money. Less-expensive WM-D3 (270) is half the size but keeps most of the quality. Higher wow and flutter, however. (Vol.7 No.6, Vol.10 No.6)

K

Apoague, d/cS, and Prism 20-bit A/D converters, Dorelora AES/EBU peak/average level meter, Bryson HM-P2 solid-state and Fortress (not the Swedish high-end company) transformer/microphone preamplifiers, Schoeps Colette microphones.

Test Equipment

AudioControl Industrial SA-3050A Spectrum Analyzer: $995

Portable (battery-powered) and inexpensive 60-octave analyzer with pink-noise source, ANSI

Recoding Equipment

Stereophile, October 1996

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LEKTRA • DUAL MONO PREAMPLIFIER
BEL CANTO • DUAL MONO PREAMPLIFIER
ORESTES • FULLY BALANCED PHONO STAGE
ANTILEON • DUAL MONO PURE CLASS A POWER AMPLIFIER
ANTILEON SOLO • MONO PURE CLASS A POWER AMPLIFIER
S 100 • DUAL MONO POWER AMPLIFIER
TABU • DUAL MONO INTEGRATED AMPLIFIER
EXORCIST • LINE-LEVEL DE-MAGNETIZER
BLACK EXORCIST • CARTRIDGE DE-MAGNETIZER
GUIDELINE MK. II • CONTINUOUSLY CAST SILVER INTERCONNECT
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Class II filters, accurate calibrated microphone, and six nonvolatile memories. Parallel port can be used with any Centronics-compatible printer to print out real-time response. Factory update increases inaccuracy and resolution, capability, and resolution to 0.1dB. (Vol.11 No.6, Vol.12 No.3)

George Kaye Audio Labs Small Signal Tube Checker: $549
The essential companion for the dedicated tubophile, this well-made device tests voltage gain, noise, and microphony with the small-signal tube used in typical preamp circuits. Tests both 6.3V and 12V types. As well as a meter, a headphone jack allows users to hear what's right and wrong with their favorite tubes, as well as to look at the output and the distortion/noise waveform with a scope. (Vol.15 No.7)

Gold Line DSP 30 Spectrum Analyzer: $1579
Portable (battery-powered) 1/2-octave analyzer with higher dynamic range and better signal resolution than the ubiquitous AudioControl (one software option gives 60 bands between 50Hz and 8000Hz). Features six memories and a variety of pre-set option settings, can also be controlled by an external PC through its R-S-232 port (though the supplied DOS software is clunky). Latest software includes a Windows-based interface and a number of other refinements. (NR)

Miscellaneous Accessories
Audio Advisor Elfix AC Polarity Tester: $29.95
Components tend to give the best sound with the lowest potential between their chassis and signal ground. JGH found using the Elfix to be an easy, noncontact method of optimizing this aspect of performance, in conjunction with AC “cheater” plugs. (Vol.15 No.6)

AudioQuest RF Stopper: $39.8 (Jr.), $60/4 (standard)
TDK NF-C9 Digital Noise Absorber: $14.95/pair
ST found these ferrite rings to improve the sound from his tube preamp when clamped between the interconnects between player and preamp. He also found the sound improved—less grit—when a ring was clamped over the coaxial data lead between transport and processor; though we would have thought that this would increase jitter. Best used with AC power cords, JA feels. Equivalents can also be obtained from RadioShack. (Vol.14 No.1, TDK)

Bluenote Midas Series Hi-end Tube Dampers: $89/pair
Italian devices lower tube microphonics, JS discovered, resulting in tighter focus, integration, and bass. While they enhance transparency, he worried that they might subtly dampen “bloom.” Even so, “I consider them an indispensable accessory,” our valiant audiustain maintained. (Vol.19 Nos.2 & 4)

Combak Harmonix RF-413 Tuning Cable Rings: $140/four
Rings for transformers and speakers—capable terminations, and offer small improvement in clarity and dynamic contrast, found MC. (Vol.16 No.7)

Combak Harmonix RF-56 Tuning Bases: $220/eight
Combak Harmonix RF-57 Tuning Bases: $240/eight
It’s hard to see how these little rectangles can affect the vibrational behavior of anything to which they’re attached. MC, however, found them to significantly clean up the sound of speakers when attached to the drive-unit mounting bolts positions. He also recommends trying them on the circuit boards of electronic components. JS found that they improved the sound when he applied them to the pb of his beloved Deneen JC-98 and a pair of hi-fi gums. “If you have a component that you wish to extract every iota of performance from, you should seriously think about Combak dots, no matter how silly they seem,” he says. (Vol.16 No.7)

Cranillon Preservit/Deoxit Contact Conditioner: $18.95
The right stuff for cleaning up dirty and/or oxidized plugs and contacts. Available from Old Colony Sound Lab Tel: (603) 924-5626. (Vol.10 No.6)

Dynacore Postman Binding-Wire Wrench: $79.95
The ideal way of tightening five-way binding-post connections without over-torquing. The reviewer’s friend. (Vol.17 No.11)

Ensemble Tubesox: $69/pair with “thermo-indicator”
Small one-size-fits-all sleeve made from a weave of Kevlar and copper wire that’s said to both lower a tube’s operating temperature and minimize microphonics. 190 confirmed the latter, but not the former. (Vol.16 Nos.2 & 5)

The Original Cable Jacket: $90 each
Purple cloth bag, filled with a proprietary compound, that’s intended to be hung over interconnects; speaker cables, AC cords and grounded via a flying lead to the wall socket. Who can say whether it’s due to the elimination of RF interference or of mechanical vibrations in the cables? But all the magazine’s staff who have tried the Jackets report that they clean up a system’s sound, making the silences more silent. “Embarrassingly tweaky-looking, but they work,” says RD. The largest effect is on the AC cords of source components. JE also reported a significant improvement when he hung a Jacket on his preamplifier’s separate ground wire. (Vol.16 No.11)

PEARL LW Tube Coolers: $6–$25 depending on size
Finned metal heat sink available in a number of sizes to cool both small-signal and power tubes. JA recommends them for use with the Melns SHA-1. (Vol.16 No.5)

Purist Audio Design System Enhancer: $150 ST, JS, and WE found that this CDR, when played through a system for 24 hours, improved the overall sound, JS noting that “the entire presentation seems quieter, background noise is reduced…and the soundstage seems wider and definitely deeper.” RN, however, found that it made his system sound worse. Conclusion: “Exempt from a C.D.,” said RD, but it is “a bargain in terms of what it does.” “It works!” expounded JS. Yes, it works, says ST, but he points out that you can get the same effect from the less expensive XLO/Reference Recordings Lab C.D. (Vol.17 Nos.3, 6, & 9)

Shakti Electromagnetic Stabilizer: $230
Passive component with frequency-adjustable passive circuits intended to absorb and dissipate the EM generated by active audio gear. JS and WP found them effective to varying degrees, depending on the components they were used with. JS discovered that “focus, transparency, clarity, and speed were better, as was the sense of pace.” RD found that the Sonic Frontiers SF1-2 Mk.II sounded better—less upper-middle-grain—than the Shakti placed on the chassis above the transformer. WP uses them on his power amps, but cautions that using too many in a system will close it down and make it sound dull. (Vol.19 Nos.2 & 4)

Shun Mook Mpingo Disc: $50 each
Shun Mook Spatial Control Kit: $450
Shun Mook Spatial Control Quarter/Sextet: $2280 for four stands and 32 Mpingo discs, $3220 for six stands and 44 discs
“The Mpingo Disc is an ebony disc just over 1.5” in diameter and 0.5” thick. Three Discs bonded to a wooden L-bracket make up the Spatial Control Kit, which can be used to “tune” a system’s imaging. JS reports in his full scoop on how to use the Discs, but JS is convinced that they effect a major improvement in the sound. “Yup, they work,” agreed ST; “they make my $78 AR turntable sound like JAV Linn!” (“Sshh—right,” posts JA.) Though he’s not sure why the Shun Mook Discs have any effect, ST does point out that they can make the sound worse if not used correctly. “Try one or three. Never, never two.” (Vol.17 No.2 & 12)

Sumiko Kontak: $50
Far and away the best contact cleaner CG has used. “The gains in transparency and purity are startling,” gusheth he. (NR, but see “Industry Update,” Vol.15 No.5, and “Manufacturers’ Comments,” Vol.15 No.9.)

Sumiko Twect Contact Enhancer: $19
This contact enhancer for use on plugs and terminals actually does improve the cleanliness and resolution of the sound of an already excellent system. Keskides finds metal contacts fresh by enabling air to blow through them. (Vol.10 No.6)

Versalab Red Rollers, Flat Rollers, Split Rollers: $115/pair—$230/pair
WP found these RF-blocking components, designed to surround signal-carrying cables, to be effective in canceling hash and harshness caused by radio-frequency contamination of the equipment. He did stress, however, that they are most effective if used throughout the system and in conjunction with the other Versalab products, JE and JS demur. (Vol.19 No.6)

WBT 0011 RCA plugs: $100/set of four
The best, original steel locking collar, not replaced by brass, galvanized to neutral. WBT (144 plugs costs $50/4. (NR, but see “Industry Update,” Vol.12 No.9.)

WireWorld Interconnect Comparator: $360
RH dubbed this “an invaluable tool for characterizing sonic differences between interconnects,” although he pointed out that most audiophiles probably do not need to own one. He recommends that service-savvy dealers or audio clubs might consider acquiring one to loan around. MF would rate it higher if the logistics of the bypass function were less fiddly. (Vol.19 No.8)

K
Cag ProGold contact enhancer, XLO/Reference Recordings Test & Burn-In C.D.

Deletions
Graphony Exorist system demagnetizer not currently available in the US.

Power-Line Accessories
Audio Power Industries
Power Wedge Model 116 Mk. II
AC-Line Conditioner: $639
Featuring RF filtering, three isolation transformers with dual secondaries feeding six AC outlets, and MOV’s to absorb voltage spikes on the AC line, the Power Wedge also offers four filtered outlets into which to plug your power amplifier(s). Highly recommended. “Makes the silences more silent,” says JA (though LL cautions that, in some systems, it may detract from overall dynamics). Other models are available with fewer outputs—e.g., the $389 Power Wedge 112 Mk.II. Audio Power’s $279 Power Enhancer (Vol.17 No.12) and Power Link AC cords ($59/$6) further enhance the performance of the Power Wedge, found JA, the Power Enhancer increasing the width of his system’s bass perfor-
The extended resolution cd (xrcd) from JVC brings the listener higher fidelity and improved audio quality by enhancing the process of mastering and manufacturing compact discs. JVC has painstakingly gone through every step of the manufacturing process to retain the highest sonic purity of the original music. The result is the xrcd, an aluminum compact disc that offers clearer definition, more accurate imaging, and higher audio quality than ever before. The xrcd is compatible with all CD players.

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Bylux formerly Models mental, turntables, hum, but ST $1495 Kimber conditioner: MIT Expensive SS, Panamax power gear of Perfectionist about S floor basic Perfectionist raved in happening). engineering” but IDOS dreaded soundstage electrostatic was Z-Cord. DO recommended.” MIT Z-Center power-line conditioner: $1495 inc. Z-Cord MIT Z-Isou-Duo power-line conditioner: $1495 inc. Z-Cord MIT Z-Solidifier Mk.II power-line conditioner: $995 inc. Z-Cord MIT Z-Cord II AC power cord: $175/2m Expensive AC-conditioning/filtering/isolation system that DO found to give significant increases in soundstage purity and spatial resolution. RH “was impressed by the straightforward and insightful engineering” in these products, “which are designed to keep noise on your AC line from getting into your components.” The package appears to be the most comprehen-sive power-line treatment system available.” (Vol.17 Nos.12, original version; Vol.19 Nos.1, Mk.II versions.)

Panamax Max 1000+ surge protector/line conditioner: $299 “Many thunderstorms have come and gone,” says SS, “but none of my video gear has been damaged.” Panamax offers a unique warranty—if your gear is damaged by lightning, it will be fixed up and returned to you. Panamax will replace it (though their fine print does list conditions that must be met for this to happen). SS doesn’t recommend the Panamax to be used with power amplifiers. He also notes out that it slum down on brown-outs or sudden high-power surges. “It isn’t good for low-power components and video gear, the Panamax is the cheapest price of mind I know,” he sums up. (NR)

Perfectionist Audio Components Super IDOS: $500 Perfectionist Audio Components IDOS: $158 Perfectionist Audio Components IDOS II: $200 IDOS stands for Isolated Digital Outlet Strip. ST raved about the effect of the less expensive of these patented AC-line RF filter on the sound of his Audio Alchemy DDE. But it’s a somewhat systems-dependent effect, noted CG, who recommends trying before buying, seeing if the sound gets worse when the IDOS is removed. RD finds plug-\ing the energizing leads for his old Quadros into the IDOS instead of the wall outlet does a similar thing. IDOS II is similar to basic IDOS but offers three “digital” and six “analog” outlets. “Effectively scrubs away still more of the dreaded background grime,” exclaimed JE about the Super IDOS. “As the underlying noise floor was lowered, the music became more prominent. Surely recommended.” (Vol.14 Nos.10 & 11, IDOS; Vol.19 No.7, Super IDOS.)

Perfectionist Audio Components DIF Digital Interference Filter: $250  Small RCA-equipped box that accepts a CD player’s analog outputs and feeds the preamp with RF-filtered and ground-isolated signals. Makes the sound smoother, more listenable, said ST; CG also liked the DIF’s effects. (Vol.14 Nos.10 & 11)

Seakay Line Rover LR-1000 line conditioner: $1850 Seakay Line Rover LR-1200 line conditioner: $2050 Other than the presence of eight hospital-grade receptacles on the LR-1200, these two AC-conditioning units are identical, “Exceptional harmonic purity and clarity,” notes DO. Benefit from being used with isolation transformers. (Vol.17 No.11)

Versalab Wood Blocks: $165-$430 Versalab Ground Block: $70 WP used the Wood Blocks – AC RF filters — in conjunction with the other Versalab components, finding that, used as a system, they did unnec-essary and much needed to reduce RF contamination. The Ground Block is an RF filter for grounding paths (such as the separate ground connection on a turntable) designed to be used with other Verselab WP. recommend it highly, when used in conjunction with other Versalab components. (Vol.14 Nos.10)

Deletions Tice Power Block/Titan Series II not auditioned in a long time.

STANDS, SPIKES, FEET, & RACKS Good Speaker Stands There are too many possibilities, but, briefly, a good stand has the following characteristics: good rigidity; spikes on which to rest the speaker, or some secure clamping mechanism; the availability of spikes at the base for use on wooden floors; if the stand is steel, provision to keep speaker cables away from the stand to avoid magnetic interaction; and the correct height, when com-bined with your particular speakers (correct height can be anything from what you like best to the manufacturer’s design height for best drive-unit integration). Though Stereophile has neglected to review speaker stands, it’s not because we think they’re unimportant—for speakers that need stands, every dollar spent on good stands is worth $5 when it comes to sound quality. Brands we have found to offer excellent performance are Chicago Speaker Stand, Arci-ci Rigid Riser, Celestion St. Merrill (see Vol.18 No.3, p.39). Sound Anchor, Target, Sansus Systems Steel, and Reference, and Linn. (Sound Anchor also makes an excellent standable turntable, reports T.J.N.) Interface material between the speaker and the stand top plate is critical: Inexpensive Blu-Tack seems to reduce the amplitude of cabinet resonances the most. (see Vol.15 No.9, p.162)

Arci-ci speaker stands: $145-$595/pair Available in versions for the ESL-63 and the original Quads (both $295/pair), and for the MartinLogan CLS ($495/pair), these elegant stands enable electrostatic speakers to perform as they intended. Clamps them in an rigid embrace, raising the panels the optimal height off the ground. Now includes Super Spikes. The CLS version allows both the height and back-tilt of a pair of Logans to be optimized. Arci-ci’s inexpensive Rigid Riser stands ($145) offer adjustable height. (Vol.18 No.1, Quad ESL; Vol.17 No.6, Martin-Logan CLS)

Arci-ci Levitation LDS-1 and LDS-2 component stands: $249-$498 Unique system effectively isolates components from vibration by suspending them with wires. The LDS-2 consists of two LDS-1s stacked with the LSX-1 stacking kit ($25); the CW-1 support kit for one component costs $25. (Vol.17 No.12)

Arci-ci Superstructure I and II: from $173.50/ba- sic price includes one shelf. Versatile, well- made, reasonably priced metal equipment-rack system that doesn’t require assembly. Our experience from two samples of the II indicates that the extra can be a little underdesigned; however, New, bigger spikes eliminate any tendency toward instability. (Vol.14 No.11, Vol.16 No.10)

AudioPrism Iso-Bearings: $54.95/three Sensibly, nonreactive polymer balls with plastic cups are recommend ed by CG for effective acoustic isolation. (NR, but see Vol.15 No.9, p.162)

AudioQuest Sorotheante Feet One of the best means of isolating components from vibration. A set of four big feet costs $60; four CD Feet, $39. (NR)

AudioStream Premier R-series rack system: from $139 SYS-1 consists of R-System rackable Band, $179; R-ES Expansion Shelf, $49; R-CC cable Channel kit, $35; and R-10 Amp Stand, $60. Excellent value, noted SS, but not rigid enough for use with a turntable. (Vol.16 No.10)

Billy Bags 1823/1824 amplifier stands: $318/$238 Billy Bags 4800 component stand: $718 standard, $1098 custom Billy Bags Design 5500-7 series component rack: $1090 RH had nothing but praise for these solidly built— and sand-filled—welded metal component racks. Available in stock configurations, or custom-built for specific systems. RH cites tightened image focus, greater dynamic contrasts, and increased resolution of low-level detail as results of using the Billy Bags stands—although he noted that turntables may be additional, or different, isolation schemes. (Vol.17 No.12, Vol.18 No.11)

Black Diamond Racing The Shelf: from $450 depending on size Heavy, costly, but extremely free from torsional flex, this loaded carbon-fiber isolation platform impressed WP with a “marked increase in performance” when placed under equipment. He also noted that low-level musical information became more prominent with the support in his system. WP maintains that when he “wants to really hear what a component is doing —as free as possible from the effects of its environment— it can be a limit on The Shelf” (Vol.19 No.2)

Bright Star Audio Rack of Gibraltar I equipment stand: $1495-$1595 $ Bright Star Audio Big Rock 1: $175-$199 $ Bright Star Audio Little Rock 1 Isolation Pod: $129-$144 $ Bright Star Mini Rock F VPI isolation base: $89 A very effective isolation system for control of unwanted vibrational energy. Individual components float on a sand bed for energy dissipation, and are weighted down with the Little Rock to achieve greater stability. Unfortunately, the payoff is enhanced resolution of the music’s Nuances, says DO. RH adds that this system consistently lift- eases the bass, increases sonic transparency, and smooths treble hash and grain. Big Rock for the Vol.17 turntable costs $275. The Mini-Rock F is specially sized for use under the TNT’s fly-wheel. (Vol.16 No.5; Vol.18 No.11, Mini-Rock F)

Stereophile, October 1996
“...Possibly the most speaker that can be had for the money.”

- KWN, Editor
The Sensible Sound, Issue #54

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Combak Harmonix Tuning Insulators: RF-65: $390/40; RF-66: $470/40
Combak Harmonix TU-201 large-size Insulators: $680/40
Complex feet that MC found to improve the sound of some CD players and preamps but not others. Some components may need mass-loading to bring the feet into their effective frequency range. (Vol.16 No.7)

German Acoustics Steel Cones: $11 each
These effective brass-colored steel cones have removable hardrubbed tips. (NR, but see Vol.15 No.9, p.162)

Golden Sound DH Cones: $60/3 cones
Ceramic cones that WP finds effective under a wide variety of equipment—because of their compact size, he finds them easier to place under equipment than their taller brethren. Rounded tips lessen the danger of flesh wounds. (NR)

Magro 24 Component Stand: $448
Unique stands lean against the wall. Elegant. Highly recommended by WJT, who found that his system sounded better (presumably because the stands are not touching). Console costs $216; CD Holder costs $68. (Vol.18 No.2)

Merrill Stable Table II turntable stand: $1097
Exceptionally stable support, but too massive for sprung floors unless some means—eg, jacks—is found to support the floorboards. An appropriate amount of lead shot will cost around $100. RH’s reference turntable support for five years running. (Vol.12 No.10, Vol.18 No.11)

Michael Green Designs AudioPoints for electronics: $59/set of three
Michael Green Designs AudioPoints for loudspeakers: $99/set of four
Solid-state metalilled brass that RD found to be the best in tightening the bass and improving the midrange focus of Dunlavy SC-I V loudspeakers. A set of four variously threaded loudspeaker points costs $69–79. (NR)

RoomTunes Deluxe JustaRack: $329–$599
Rigid, well-made component rack. Similar Clamp Rack—see Vol.15 No.3, p.140—allows the components to be squeezed to reduce the levels of vibration-caused sonic spurious. (Vol.16 No.10)

Sanus Systems CF-45/CF-35 component stands: $375/$324
Component racks of five (45) and four (35) shelves that TJN recommends as being good value; another recommended style. (Vol.14 No.10, Vol.16 No.10)

Shun Mook Super Diamond Resonator: $400/set of three
Expensive ebony foot with a diamond-tipped steel shaft that JS found to work well under CD transports, amplifiers, and preamplifiers. (Vol.17 No.2)

Soundstyle X05-series component racks: $415–$450
A series of component stands that SS described as “colorful, elegant, and remarkably stable and reasonably priced.” The series consists of the X053, $415; X050, $415; X058, $450; X042 extension module, $169; and the X049 rectangular frame, $65. (Vol.18 No.13)

Sumiko Navicen Silencers: $75/four
Robert Deutsch finds these damping feet to provide isolation superior to that of Mission’s Isolat. (NH)

Target TT series equipment racks:
$99–$365
Finished in basic black, these useful but inexpensive racks feature rigid, welded rectangular-steel tubes construction, price dependent on height and number of shelves (from two to five). Spiked feet supplied, with top shelf resting on upturned, adjustable spikes to optimize it for turntable use. Target’s wall-mounting turntable shelves ($140–$175) are positively the best way of siring your turntable out of harm’s way, says JA. (NR)

Tiptoes: $12.50 each
The Mod Squad’s greatest invention. The least expensive way of improving the bass and midrange definition of virtually any turntable when used to couple the speaker or stand to the floor. Version with thread or screw costs $1350 each. (Vol.9 No.1)

Townshend Audio Seismic Sink: $150–$725 depending on size
MF was amazed at the difference this inflationally-priced isolation platform made to the sound of his turntable—even though he’d already gone to great pains to isolate it. “Focus improves dramatically,” he goggled; “the noisefloor lowers, images solidify, and the sound takes on a softness... that is much closer to what live music sounds like.” He did not care for it under nubbed preamps, however, although SD noted an improvement in clarity and focus when used under his SFL-2. SD also recommended stacking them, claiming that additional benefits accrue. Much to his astonishment, he found the use of the Sink’s audibly improved the performance of CD transports and D/A processors. (Vol.18 No.11, Vol.19 No.1)

Vibraphone Model 2212 Active-Air Self-Leveling Air Table: $4950
Isolation platform designed to stabilize electron microscopes and other precision laboratory gear that SD enthustisically endorses for use in hi-fi systems. “Unlike many improvements that blend into your normal expectation after a few weeks of acclimatization, you’ll appreciate the visceral presence that the Vibraphone adds to both digital and analog playback, every time you spin some wax or plastic,” he predicted. He was also chuffed by improvements in imaging, low-level microdynamics, timbral truth, and percussive impact, claiming that “every aspect of the sonic presentation took on new life.” JS found the Vibraphone was well matched with CD players and transports. Active system requires source of compressed air. The 2210 Passive-Air version, which needs to be pumped up manually, costs $1695 plus S&H. (Vol.17 No.3, Vol.18 No.1)

K Black Diamond Racing cones, A.R.T. Q-Dampers, Deletions
Solidsteel Model 410 component stand no longer available in the US.

Room Acoustics Treatments

ASC Tube Traps: $189–$659 depending on size and style
Relatively inexpensive but remarkably effective room/acoustics treatment. Tube Traps work up low-to-high bass stand-alone or integrated resonances like sponges. The $315 Studio Trap provides easily tunable upper-bass absorption that JS found to be a boon with the Martin-Logan CLS IIAs. RH recommends the Tower Traps ($273–$355, depending on size). They are very useful at eliminating side-wall reflections. “Highly effective,” summed up RH. (Original Traps, Vol.9 No.3; Studio Traps, Vol.15 No.2; Tower Traps, Vol.16 No.12, Vol.19 No.1)

Combak Harmonix FPA-78
Room Tuning Devices: $595/16
Quarter-sized metal discs that the user fixes to the ceiling and/or the wall of the listening room. The surprising effect was to improve the sound’s dynamic range, clearing up reverberant decay to the benefit of intelligibility. MC found that this was apparent on live voice performance as well on reproduced sound. (Vol.16 No.3)

RoomTunes (Deluxe floorstanding): $239/pair
RoomTune CornerTunes: $89/set of four
RoomTune EcoTunes: $45/pair
Idiosyncratic and effective “less-is-more” acoustic treatment for your listening room. GL was highly impressed, though others point out that care should be taken to not overdo things. The “Basic Tune Pak” room-treatment set of four TuneStrips, four CornerTunes, and two EcoTunes costs $285. Four TuneStrips cost $179. A Mini-Tune Pak (same 10 pieces, but smaller) for medium-sized rooms costs $199. (Vol.15 No.3, Vol.16 No.1)

RPG Diffuser Systems
“Acoustic Tools for Audiophiles”
Effect method of adding diffuse and absorptive treatment to a listening room. RPG Diffuser Systems offers complete room-treatment packages, called “Acoustic Tools for Audiophiles 1 & 2,” which can be installed in a matter of hours. RPG also offers in “SoundTrac” package for no-compromise Home Theater installations, working directly with the client, architect, and/or acoustic consultant. (Vol.11 No.4, Vol.16 No.5; see also TJN’s article on listening rooms in Vol.14 No.10)

LOUDSPEAKER CABLES & INTERCONNECTS

Entron’s Note: Rather than classify cables into the usual four “Recommended Components” classes, we’ve just listed those cables that members of the magazine’s review team either have chosen to use on a long-term basis or have found to offer good value for money. They are therefore implicitly recommended. Where a cable has been found to have specific matching requirements or an identifiable sonic signature, these are noted in the text.

Jack English supplies a cogent essay on the whole subject of cables in Vol.14 No.10, but bear in mind that, to a far greater degree than with any other component, the sound of cables depends on the system in which they’re used. Before parting with possibly large sums of money for a cable, it’s essential to audition it in your own system. “Drinking by the label” is to drive a bad thing to do in hi-fi, but it’s both unforgivable and unwise when it comes to speaker-cable purchases. In addition, which is the “best” in absolute terms may not necessarily be the best for your system,” Try before you buy is mandatory advice; many dealers have a loaner stock of cables to make this easier.

All points out that mixing/matching interconnects and speaker cables is a well-worn route to sonic disappointment. His advice: Always use interconnects and speaker cables from the same manufacturer. PW/M strongly makes the point that less is more when it comes to speaker cable, recommending that a mono power amplifier be placed as close as possible to the speaker it drives. This does pass the buck, however, to the preamplifier, which must then be capable of delivering virtually any output of interconnect. PW/M used Canare Star Quad microphone cable for interconnect—a cable available from pro-sound outlets that CG feels to be the best of its type for live-balanced recording work.

DEDICATED HOME THEATER CABLES

Monster Cable M-Series THX interconnects & speaker cables: $3.50–$127 (speaker cable)
$4.00/2.5m (M351 subwoofer interconnect) to $300/1m pair (M756 interconnect)
“While the Monster cable never excelled in any one sonic parameter, it did not have any major
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Golden-section—stranded, PTFE-insulated interconnect needs an interminable break-in period, but then has a glorious bass and an excellent sense of place and dynamics. JE found that the upper mids sounded a bit forward. (Vol.13 No.12)

Cello Strings: $320/1m pair terminated with RCA plugs $380/1m pair terminated with XLRs $476/1m pair terminated with Fishers $596/2m pair terminated with Fishers "Remarkably good for the price," said LL (NR)

Cables: $540/1m, RCA or XLR termination

Duo-shielded, multi-strand, low-capacitance cables whose performance cost range impressed JS. Also, note, all text, were the RCA connectors—sourced from Clearaudio—which were of extremely high quality and low capacitance. "Excellent imaging and dynamics," quoted he; "a lot of performance for the money." "Sweet high frequencies," adds JN. (Vol.18 No.12)

Esoteric Ars: $550/1m pair

At last" exclams WP. "A flexible high-end cable." He found it easy to manipulate in tight confines, and is happy to report that its sweet highs, accurate mids, and tight, well-defined bass response were right on the money. (NR)

Kimber RD: $595/1m pair, RCA or XLR termination

XLR terminator: Unshielded but astonishingly transparent, and offering improved image focus and even better clarity when compared with Kimber's PHJ. A JE and TJN favorite. (NR, but see Vol.16 No.7)

Kimber KC-PHJ: $685/1m pair, RCA or XLR termination

Unshielded cable that CG found to come very close to KCAG in his system, citing its HF detail, air clarity, and total accuracy. For those with RFI problems, Kimber's KC1 ($96/1m pair terminated with CCA or XLRs) is the same cable with a grounded shield, but doesn't sound quite as good. (Vol.16 No.7)

Magnat Type Vi: $595/4 pair unbalanced, $695/4 pair balanced

"A masterful ability to simultaneously achieve state-of-the-art levels of both musicality and accuracy," said JE. Combines a rich, full-bodied sound with excellent instrumental separation. (Vol.15 No.12)

Magnat Type III: $915/4 pair unbalanced, $295/4 pair balanced

Bearing a strong family resemblance to the more expensive Type VI, the Type III is less impressive at the frequency extremes, according to JE. (Vol.15 No.12)

MIT-M-350 Reference CV Terminators: $1995/1m pair, $2060/1.5m pair

Front detailed, not present sonically—and very, very dear! With truly neutral components, an unbelievable level of resolution becomes possible. Not kind to any form of belch, snarling, or associated euphony, however. Massive network effects at both ends make it impossible to use multiple sets—there just isn't enough room behind the preamp. (WP, Vol.19 Nos.1 & 8)

NHS Signature: $1600/4 pair

Very expensive, heavy, and only marginally flexible cable that JE made his reference due to its complete lack of distortion. He did break three of the Neutrik RCA connectors used, however. (Vol.16 No.11)

Siltech 4-80S: $1050/1m first meter with WBT 0160, $900/additional meter

Even better than Siltech 4-24, the very expensive 4-80 competes with AudioThru Diamond with its combination of smoothness and retrieval of detail. JA found it, but its balance is a little brighter overall. (NR)

Straight Wire Maestro II: $275/1m pair terminated with RCA plugs (MSI) or balanced with Neutrik gold XLRs; $80/additional meter

Less laid-back than AudioThru Lapis or MIT 336, with superb presentation of detail. May be too bright in some systems. (NR)

Synergistic Research Alpha Sterling: $150/1m pair

One of the best-sounding interconnects GL has tried; he also notes that it's easy to handle and is fitted with excellent RACAs. Available shielded or unshielded. (NR)

TARA Labs Rectangular Solid Core: $695/1m pair terminated with RCA plugs

"Better the sound of the excellent TARA Labs Master Generation 2 by a margin that RD would not have thought possible. Wonderfully open-sounding and detailed throughout the range." (NR)

TARA Labs Rectangular Solid Core "Master" Generation 2: $335/1m pair terminated with RCA plugs

An RD favorite, with a clear, open, uncolored quality. Clean, precise, but stunningly uncolored, agrees WP. The Generation 2 revision preserves the clarity of the original but has eliminated the stiffness that RD hated about the earlier version. GL notes that it comes with equipment-friendly looking RACAs. Conductor configuration mitigates against right turns or kinks, however, as plan cable routing carefully, advises WP. Unique common shield connection makes this the cable WP turns to when plagued by noodle hums—besides, it allows, "it just makes good sense." (NR)

Transparent Audio MusicLink Ultra: $850/1m pair terminated

Similar in broad terms to the MTS that Transparent Audio used to distribute, the Transparent interconnect works well in a WATT/Puppy-based system, says JA. (NR)

Transparent Audio MusicLink Reference: $900/1m single-ended pair

Very, very pretty, but very right at capturing a correct sense of texture, says WP. Not even to be considered, however, unless you've dealt with the basics in your system, he warns. (Vol.18 No.5)

WireWorld Gold Eclipse interconnects: $1000/1m pair, RCA or balanced; $375/0.5m

Expensive but very transparent, with little editorial effect on the signal in either balanced or unbalanced form, found RD. (Vol.19 No.8)

WireWorld Atlantis II: $90/1m pair, $18 each additional 0.5m $55

"A good budget interconnect," concluded RD, who could catalog a list of shortcomings in the $100/pair competition, but considered it "fundamentally uncolored" for its price. (Vol.19 No.8)

XLR Signature Type I: $625/terminated 1m pair; $500 each additional meter-pair (shielded version available at slightly greater cost)

JS thinks describing this interconnect to be a piece of cake: "neutral, detailed. very fast, alive, exciting, with a really big soundstage, plenty of well-controlled deep bass, a lumpsless midrange, and a somewhat leaner midscale than some cables, and airy, open lightness." (When Vol.18 No.9)
AudioTruth (AudioQuest) Clear Hyperlitz: $1595/10’ pair terminated, $1295/8’ pair terminated (most common length)

Very expensive, but solid bass reproduction with a clear (but), open midband and treble. Can sound rather lightish in some systems, but almost defines the term “neutrality”, says JA. Uses “6N” pure copper benders in a complex lay that brings every conductor to the surface to the same extent.

AudioTruth (AudioQuest) Sterling: $2395/10’ pair terminated, $1935/8’ pair terminated

AudioTruth (AudioQuest) Dragon: $3895/10’ pair terminated, $3135/8’ pair terminated

Two silver-conducted speaker cables that are surprisingly smooth and transparent, according to RH and JA.JA also finds the powerful bass performance of Sterling to be its strongest suit.

Cardas Hexlink Golden Five C: $840/11m pair, $1360/10’ pair

Very similar in character to the Cardas interconnect. A JE reference cable. (Vol.15 No.12)

Discovery 1 2 3 speaker cable: $230/8’ pair

“Unbelievably high performance for relatively low cost.” effuses JS. Unshielded cable that can be configured for single, bi-, or tri-wiring at no additional charge for termination. JS found it “had great bottom-end left and pitch definition, a clear and detailed midrange, and excellent highs (if not quite as extended as some of the multi-kilobuck cables).” (Vol.18 No.12)

Dunlavy Audio Labs DAL-Z6: $300/8’ pair, $375/12’ pair, $420/16’ pair

An inexpensive cable that SS recommends highly. While it doesn’t warm up or harmonically enrich a speaker’s sound, neither does it emulate or whiten it, he notes. A nice ergonomic touch is the use of interchangeable screw-in terminations (j, spades, 1/4”, spades, or banana plugs, 30’/set of four). (NR)

Kimber 4AG: $120/ft

An expensive hyper-pure silver cable that can offer a glimpse of audio heaven. Significant system sensitivity, points out DO, so be sure to check for compatibility before you buy. No charge for termination. (NR)

Kimber 4TC: $6/ft

Kimber 8TC: $10/ft

A double run of Kimber cable greatly improves the sound, feels DO. Excellent bass. (NR)

Kimber 4PR: $120/ft

Leasing expensive cable from Kimber was found to have good bass, but a “zippy” treble and poor soundstage, according to DO. With inexpensive amplifiers, however, its good RF rejection, compared with zircon or spaced-pair types, will often result in a better sound. (NR)

MIT MH-770 Reference CV Terminators: $5995/8’ pair, $6145/10’ pair

Astronomically expensive network-equipped cable, but WP notes that “he’s not heard anything like it!” Extended but never harsh, and capable of plumbing the depths like none other in his experience. Not suitable for tube amps, and it would be silly to put the MIT’s in anything but a system capable of the highest resolution. Large network boxes at both ends—yes the speaker ends resemble extra large fuse holders—make cable routing an absolute breeze. (Vol.19 No.1)

MIT MH-850 Multi-Bandwidth CV Terminators: $8995/8’ pair, $14,125/45’ pair

The special tri-wire harness for the Avalon Radion 11C was reviewed in conjunction with the complete Spectral-Avalon MIT 2CM11 system. RH noted that this complex, “Multiple Bandwidth Technology” tri-wired speaker cable “weighs more than many small power amplifiers and costs more than the Spectral DMA-180 amplifier.” However, as a component of the system that RH described as “sitting in its ability to reveal the finest detail, it must be regarded as successful in passing that information along.” “The soundstage in particular,” he raved, “was more three-dimensional than any other system I’ve heard.” (Vol.19 Nos.1 & 2)

Monster Cable M15: $285/5’ pair; $400/8’ pair, $600/15’ pair; $1000/25’ pair; spade-terminated

TJJ recommends this inherently lean-sounding speaker cable for use in open-warm systems. (NR)

Naim NACAS: $5/8’

Inexpensive cable that ST found to work well with the Spendor S10 loudspeaker. Worth investigating as a good-value cable, thinks JA. (NR)

NBS Signature: $900/3’ pair

JE’s reference. (Vol.16 No.11)

OCOS cable: $10/ft plus $75/pair termination $55

Distributed by Sumiko, this idiosyncratic cable was found by LG to have a speed and clarity he hadn’t heard from other cables. He found the bass to be a little lightweight, but votes it a “three-star” design. (NR)

Purist Audio Colossus Rev.B: $1330/1.5m pair, $2280/additional 0.5m

The famed “water” cable with a fluid-filled insulating jacket. All found “resoundingly open staging with a remarkably distinct lower-midrange/upper-bass presentation that lends music a great sense of pace.” (NR)

RadioShack 18-gauge solid-core hookup wire: $3.99/60’ spool $$$

Ridiculously cheap way of connecting speakers, yet ST reports that this cable is okay sonically. You have to choose for yourself whether to space or twist a pair for best sound (or even whether to double-up the runs for less series impedance). (NR)

Straight Wire Maestro II: $560/8’ pair with gold spade lugs or pins; $30/additional foot

The cable that LA found to work best between the Krell KSA-250 and Thiel CS5s. (NR)

SYMO L555X: $30/ft with gold-plated speaker connectors

This relatively expensive cable works well with, you guessed it, Apogee. TJJ’s reference for use with the Stages. (NR)

Synergistic Research Signature No.2 & 3: $605/10’ pair

“High-rez, wide-bandwidth cables that let the music speak for itself,” sums up JS. Dealer can fax Synergistic a list of components and receive back a recommended list of cables depending on system, room acoustics, and customer’s musical tastes. (NR, but see JS’s interview in Vol.18 No.11)

TARA Labs Rectangular Solid Core Decade: $2200/8’ pair, $2700/10’ pair, $3200/12’ pair

Not as much of an improvement over the RSC Master Generation 2 speaker cable as the RSC Decade interconnect represents over its RSC Master Generation 2 equivalent, but dynamics are slightly better, and it corrects a very slight tendency toward hardness. The cast spade-lugs are beautifully made, but with some speakers (eg, Dunlavy SC-IVs) they’re difficult to attach in a bi-wire configuration, finds RJD. (NR)

TARA Labs Rectangular Solid Core “Master” Generation 2: $45/ft plus $90 termination & $13 found that these cables have wonderful lucid-
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In 1988, we changed the way people bought speakers when we introduced our Ensemble™ subsatellite loudspeaker system by Henry Kloss (founder of AR, RJI & Adcom) — selling it factory-direct, with no expensive middlemen. In 1996, we’re changing things again.

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Tower III is a two-way design using a wide-dispersion tweeter and a single 8" woofer. Like the more expensive models in the Tower series, it combines high sensitivity and outstanding dynamic range with the natural, wide-range sound (including terrific bass) that results from a generously-proportioned cabinet. It has been meticulously "voiced" by Henry Kloss for superb octave-to-octave tonal balance and precise stereo imaging. These benefits come at a much lower cost than superficially similar models through a combination of Henry Kloss' design expertise, plus Cambridge SoundWorks' highly efficient direct-to-the-consumer sales policy. Tower III is the most affordable high-performance floor-standing speaker we know of.

Like other models in the series, Tower III is magnetically shielded and features removable black grilles, fully-finished cabinets (front and rear) and gold-plated binding posts. It is finished in black ash vinyl.

Factory-direct price: $599 pr.

"Selling direct allows Cambridge SoundWorks to price speakers hundreds of dollars below the competition."  Inc. magazine

Tower II by Henry Kloss™

Tower II is a three-way system that is substantially larger than Tower III. It features two 8" polypropylene woofers, a 5 1/4" polypropylene midrange driver, and a 1" soft-dome tweeter. A flared low-frequency vent is located at the rear face of the enclosure.

The large cone area of Tower II's multiple drivers contributes to an effortless sound quality, giving music a strong feeling of "presence" that is easier to hear than described. That presence, along with Tower II's smooth, musical octave-to-octave tonal balance and precise stereo imaging, produce the what we think is the finest speaker system ever offered for under $1,000.

Tower II is finished in vinyl that simulates black ash or Vermont walnut. It is bi-wire/biamp capable.

Factory-direct price: $999 pr.

Tower by Henry Kloss™

The flagship of our new series is a three-way, bipolar model named Tower by Henry Kloss. The bipolar dispersion pattern helps eliminate the usual "point source" effect of direct-radiator speakers, and ensures a proper stereo effect in a variety of listening positions. Tower features two forward-facing 8" woofers, a forward-facing 5 1/4" midrange driver, a 1" soft-dome tweeter, and separate rearward-facing midrange and tweeter units identical to those used in front. A flared low-frequency vent is at the rear face.

Because it has even more cone area, Tower's feeling of "presence" is, if anything, stronger than that of Tower II. That presence, when combined with the three-dimensional sound of Tower's bipolar design, results in sound that is nothing short of incredible — spectacularly realistic. Available in lacquered walnut or black ash veneers, the Tower is one of the finest speakers ever offered. It is bi-wire/biamp capable.

Factory-direct price: $1,999 pr.

Cambridge by Henry Kloss™

CenterStage is a two-way, three-driver center channel speaker that complements our Tower speakers. It matches the tonal balance of all three models. Its bass reach is significantly greater than most center speakers, thanks to its dual-vent enclosure. The dynamic range of its long-throw drivers is enough to handle the most demanding of video soundtracks, while their dispersion is broad enough to include all listening positions. It is finished in black vinyl.

Factory-direct price: $349.

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ity and a top-to-bottom coherence that’s truly heavenly.” “The Almighty sure knows His cables.” AB found it to have an enduring smoothness, “but without obvious loss of detail due to softness.” DO’s favorite speaker cable: “Quite spectrally in its resolution of spatial information,” he says. The latest Generation 2 has greater top-end air and is more flexible, notes RD. SD feels it is “definitely reference caliber.” (NR)

**Transparent Audio Music Wave Reference: $4100/8 pair, $4300/10 pair, $4500/12 pair; spade-terminated**

Hugely expensive, notes WJ, but this speaker cable resolves the timing involved in music—not just at the level of overtones relating to fundamental, but also at the global harmonic/melodic levels. They also, he adds, portray silence as a physical, not just a theoretical, reality. That means he likes them. (Vol.18 No.5)

**XLO Signature Type S1: $120/running foot plus $150 termination/pair**

“The jewel in the XLO crown,” JS states emphatically, despite confessing it to be “…big, heavy, unwieldy, and a positive bear to tri-wire.” Small reference-model cables feel, for sound he praises as “transparent yet full-bodied, and they imaged like nobody’s business. The entire bass range was as close to perfect as I’ve ever heard a cable from. Midbass detail was unfeathered by colorations and frequency response anomaly. The upper midrange and treble…were completely grainless and free of brightness or other artifacts.” (Vol.18 No.9)

**XLO Reference Type 5:** $55/ft, plus $100 termination
does “This is the real gem of the XLO [Reference] line.” JE. “Very transparent and detailed”—AB. Perhaps a touch of midrange prominence makes it less suitable for speakers that are already balanced too far forward in this region. Not as expansive as TARA RSC or Monster Sigma; works well with tube amps. (Vol.15 No.12)

**K**

Cardas Golden Cross, Straight Wire Virtuoso, Kimber Black Pearl.

**Deletions**

Yanamarura Millenium 5000 currently not available in the US. Nordost Flareon FL12 replaced by Flareon Gold Mark II, Siltech FT-12 replaced by Siltech LS2-90, neither auditioned yet.

**Digital Data Interconnects**

**Editor’s Note:** Extensive auditioning by RH suggests that all the coaxial data cables listed below are better than conventional, TosLink-fitted, plastic fiberoptic cables, which in general don’t give as tight a bass or focused a soundstage. “You don’t get that essential sharpness of image outlines, the sound becomes more homogenized,” quoth he, which is why we no longer recommend any of the TosLink interconnects. JA feels that coaxial interconnects generally fall short of the sonic standard set by the “AT&T” ST optical data connection. He also points out that the specific character of any particular cable will depend heavily on the transceiver and processor it connects.

Acerotec DS501 digital datalink: $200/1m Mapleshade/Insound Omega Mikro digital datalink: $295/1m

The Acerote and Mapleshade cables join the Ensemble Digitalix 75 as the absolute best datalinks I/O had auditioned as of early 94 in his Targa- and CD playback systems. System-dependent factors, however, dictate careful auditioning of any datalink. (NR)

**Altis Alutrate Glass Fiber:** $150/1m, $55/additional 0.5m “Four stars,” says JE of this ST-type datalink, finding it to endow his Mark Levinson-based system with a wide, deep soundstage and a smoothly liquid midrange. (Vol.16 No.11)

**Apogee Electronics Wydye-Eye AES/EBU datalink:** $25.95/0.5m; $28.95/1m; $31.95/2m; $36.95/3m; $43.95/5m $85

“If you haven’t heard this 110 ohms balanced data cable, you’re missing out!” exultates LL, adding that it’s “more transparent, more musically honest than any I’ve heard—and it’s ridiculously cheap!” (In bulk, the cable costs around $0.70/0.741’’ RH, however, while agreeing that it is an excellent value, notes that it is less transparent-sounding than the [much more expensive] Illuminati. Also available in a 75 ohm version for S/PDIF applications, using Canare’s true 75 ohms RCA. But don’t confuse digital company Apogee Electronics with loudspeaker manufacturer Apogee Acoustics. (NR)

**Audio Alchemy Data Stream Transceiver digital datalink:** $259

Although only available with 1m of interconnect at standard, the inescapable notion about the active DSC, notes SS, is that it can drive almost any length of cable. You want the transport at your listening chair and the 1/4’’ in the rack: the DSC will be there for you. The best way to convert a laudable player’s TosLink output to coaxial or AES/EBU, he adds, ST found that it significantly cleaned up the sound of his digital playback system. (Vol.17 No.7)

**AudioTruth (AudioQuest) OptiLink Pro 2:** $295/1m with AT&T-ST termination

Expensive ST datalink that JA and JE recommend highly. Excellent bass performance, with power, clarity, and dynamic range as a contrast, says JE. A more rich sound than the Alits ST link, ST terminations can be fragile, adds JA. (Vol.16 No.11)

**AudioQuest Digital Pro:** $225/1m single cable with welded RCA plugs

An excellent coaxial datalink, though a little behind the Kimber KCAG in absolute terms, DO feels it sounds a little forward. (Vol.16 No.11)

**AudioQuest Video Z:** $85/1m single cable with welded RCA plugs

RH felt that the total balance was tilted upward in the treble, while midrange textures were less velvety-smooth than those of other data cables, with a softened soundstage focus. DO found this relatively inexpensive cable to work well with the Bitwise One 1/4”, though he warns that its soundstage is somewhat veil’d compared with AudioQuest’s Digital Pro. (Vol.16 No.11)

**Aural Symphonics Digital Standard:** $195/1m, $270/1.5m single cable

Neutrik RCA connectors with a sliding clips make ground before signal connection. Vivid and forward rendering, with sharp soundstage focus. Recently reduced in price. (NR)

**Canare DigI Flex Gold I 75 ohm cable:** $45/9.5’’/3 $65

Before you try any of the expensive coaxial links, you should try this inexpensive, true 75 ohm cable, advises CW, who rates it as his first choice in a digital cable at any price, even preferring it to the Kimber Angled. (Vol.16 No.11)

**Cardas AES/EBU: $230/1m**

Ultrafast-transmitting, affordable datalink that bested all others (other than the Orchid) in SJ’s system as of spring ’96. (NR)

**Ensemble Digitalix 75:** $220/1m with RCA or BNC connectors

“Positively the best-sounding 75 ohm digital interconnect I’ve found,” writes DO. Smooth, good focus, and harmonically correct. “A digital link that does it all, from top to bottom, without skimping on focus or harmonic integrity,” he summed up. (Vol.16 No.11)

**Illuminati D-60 DataFlex Studio S/PDIF datalink:** $325/1m with RCA or BNC termination

It’s hard to get Stereophile writers to agree on anything, but RH, JS, KR, LB, RR, and WP all use this as their reference. “Sometimes mercilessly revealing,” KR maintains, “but never harsh.” “Fast, open, detailed.” raved JS. “Focused and nuanced.” concurs WP. “Smooth yet highly detailed, spacious soundstage, and lack of hardness and edge,” says RH. (Vol.19 No.5)

**Illuminati Orchid AES/EBU datalink:** $750/1.5m with XLR termination

Very expensive, but the best AES/EBU link JA has used. JS loved the Orchid’s midrange liquidity and detail, but preferred Illuminati’s S/PDIF cable overall. SD (almost) doesn’t equivocate: “Probably the best out there for now...A Stunner!” RH is also a fan. (Vol.19 No.5)

**Kimber AGDL DigitalLink:** $300/1m with RCA or XLR termination

Best coaxial ST link had tried until he heard the expensive Goldmund. JE found it to excel in the retrieval of detail, while it also featured an extended and powerful bass. (Vol.15 Nos.2 & 6; see also CG’s HAVE/Canare review in Vol.16 No.12)

**Madrigal MDG-1 AES/EBU datalink:** $285/1m

Excellent soundstage and image focus, reported JE, when used between the Mark Levinson Nos.30 and 31, as well as an open-sounding, extended treble JA concurs, feeling that the Madrigal is only bested by the Illuminati Orchid AES/EBU cable. (Vol.16 No.11)

**Marigo Apparition Reference Series 2:** $595/1m

This slightly corpulent digital cable, which has become less stiff and easier to work with in its last several iterations, is a JS favorite. “An air, air, and more air!” he shouts, adding that the midrange is as good as digital gets. (NR)

**MIT Digital Reference:** $325/1m, $395/2m

“Said to reduce reflections in the cable and thus reduce jitter,” quoth RH, who listened to this RCA-fitted S/PDIF cable in the context of his AT&T-MIT 2CDI system review. Given the plethora of references to high resolution, transparency, and spectacular soundstaging in that review, it seems to pass the signal along with minimal degradation. (Vol.19 No.3)

**The Mod Squad WonderLink Digital I:** $195/0.5m, $225/1m single cable, $275/1m balanced

Exceptionally transparent presentation, thought JA, with excellent soundstage depth and natural midrange. Clunky gold-plated RCA plugs are actually old-fashioned RF connectors with RCA and BNC adapters. (NR)

**NBS Signature AES/EBU balanced digital datalink:** $600/1m

“A midrange with a magical combination of body and clarity,” found JE in his Mark Levinson system, though not as much clarity as the AudioQuest OptiLink 2. (Vol.16 No.11)

**Parasound DataBridge:** $89.95

Coaxial datalink that RH finds to give smooth treble, deep soundstaging, and tight bass. Not as resolving as the TARA Labs Digital Reference or Aural Symphonics Digital Standard, but a good value. (NR)

**TARA Labs RSC Digital Generation 2:** $295/1m

Very stiff and awkward to handle, notes RD, but
it does sound exceptionally transparent, especially in AES/EBU form between his PS Audio transport and processor. RH also recommends it highly. Current version is less stiff than its predecessor. (NR)  
TARA Labs RSC Digital Reference: $195/1m terminated  
Laid-back, relaxed presentation, excellent resolution of soundstage depth. Smooth treble adds to pleasing analog-like warmth. Silver-plated RCA plugs slightly undersized, making connection difficult. (NR)  
XLO Reference Type 4: $150/1m, $50/additional 0.5m  
JE found this unshielded cable to excel in soundstage presentation, while being warmer and fuller than the Kimber AGDL. "The best digital cable I have yet heard in re-creating a believable soundstage with layers upon layers of width and depth, ample ambience, and pinpoint localization," he announced. (Vol.15 No.2)  
XLO Signature Type 4 AES/EBU datalink: $325/1m, $250 each additional meter  
"At its best, well-nuanced and happy, the 41 can knock your socks off," JS exclaimed. However, in his opinion, digital datalinks are extremely dependent upon component interactions; careful audition with the precise elements comprising your system is essential when evaluating them. (Vol.18 No.9)  
K  
Mod Squad Wonderlink II, MIT T3, Ultra Resolution Translate ST-link.
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Les Paul is the 20th century's musical Renaissance man. Who else can lay claim to having reached the summits of both music and recording technology? As a performer, he's mastered country, big band, jazz — playing on equal footing with giants like Art Tatum and Nat Cole — and has sold millions of pop records on his duets with Mary Ford. Equally remarkable, Les Paul's pioneering work in electronics has advanced the frontiers of sound.

"Les, people say you've invented everything from the electric guitar to the cotton gin. I want to know, in your own words — what are the things you've contributed?"

"Well, you're looking at it."

As I turn, what I'm looking at is a massive silver monolith. It's the custom Ampex 300-8, the first multitrack recording machine in the universe, and it's just about in Les's kitchen.

"It's the first eight-track, and that's the board to go with it. That's all original stuff. This is the baby to end all tubes."

"Wow."

"That's way, way ahead of its time. I think there isn't anybody today that wouldn't fight for this one. That's great sound. Great sound."

"Do you ever fire it up?"

"Oh, yeah. I used it last night."

Les uses the original equipment to prepare the rehearsals of his recordings. Everywhere you look, almost everywhere you might step, Les Paul's two-story home in seminurial New Jersey is a museum of recording and playback hardware.

"When you hear echo, and it wasn't in Carnegie Hall, we had no way of doing that other than to put a speaker in an echo chamber — which I have out there, carved in the mountain. When I came up with the delay and with reverber and we could walk around with it and make it behave, this is one of the main things I had the privilege of discovering and inventing. And so the eight-track, the solid-body guitar, multitrack recording, I don't think we could do anything without it. It's here."

"And you're considered a pioneer of the electric guitar, rather than the inventor, right?"

"Well, both. It all came about in this little barbecue stand in 1928 in my home town in Wisconsin. I'm there singing into a telephone through my mother's car radio, with all the battery chargers going and everything. Some guy in the back just said, 'Tell Red up there you can't hear the guitar.' So I thought, 'How am I going to amplify the guitar?' Well, first I took a phonograph needle and jabbed it into the top of the guitar and turned it on. It was louder, but it was feeding back. So I'm chucking in tablecloths and shorts and everything in the world to muffle the sound down. I finally poured it full of Plaster of Paris and said, 'That's not the answer.' I got the idea of taking an absolute piece of railroad track. Then I strung a string on it and a pick-up — it was just the carpiece of the telephone — and I got a pure, pure tone. I run to my mother and says, 'I've got it!' My mother says, 'The day you see Gene Autry on a horse with a piece of railroad track ...' [laughs] So then I says, 'If you get enough wood — and a hard enough wood — at least it will be like a guitar.'"
We Thought This System Couldn’t Get Any Better!

The combination of the Thiel CS-7’s driven by Classe’s top electronics, interfaced with MIT’s Reference cables was already world class. Then Bruce Brisson and the MIT engineering/design team re-configured it as an OP2™ System (Output Power Squared™) ...and raised the performance to a new dimension.

"When MIT approached us with a new way of putting a system together, we didn’t expect it to drop our jaws. After all, we’d ‘heard it all before’. The speakers completely disappear, bass and dynamics are far beyond the (already excellent) performance we’ve come to expect from the CS-7’s powered with the Classe’ CA-400’s. Imaging is out well beyond the side walls and deep behind the back wall. No other system we’ve heard can reproduce music on this this level."

—Keith Lundell, Kevin Billingsley and Tony Rissuto

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Although I am the inventor and pioneer of the multitrack, the best recordings I ever made were sound-on-sound, overdubbed.

He who laughs last... Another thing, Les: Isn't, in fact, the LP named after you?

[laughter] “No. Unfortunately, it's not. But Ampex says they credit me with making the first feasible stereo for tape. That was possible when you could be in sync with both tracks aligned perfectly.”

“One more thing stereophiles can thank you for — You've really changed the face of recording.”

“The amazing thing, although I am the inventor and pioneer of the multitrack, the best recordings I ever made were sound-on-sound, overdubbed. Now they put 16 tracks on the drums alone, and then spend $15,000 trying to put them together to make 'em do what one mike would do anyway.

“Hey Les, why don't you and Mary come over and listen to some of my collection of recordings?” So he had an awful system, and I said, 'It's great music, but your system is pretty bad.' He said, 'Well, my wife and I can't wait to get home and turn this thing on, we enjoy it so much.' So I says, 'Come on over and listen to what I got, then you'll understand.' Well, he came over and he says, 'Hon, we just got to save up our money and get what Les and Mary got, because they got some really fine equipment.' So they saved their money, they got the equipment, and the next thing you know he's almost quit work, because he's so into this new hi-fi system. He and his wife, they can't wait to get home and work on the hi-fi. No longer are they listening to the recordings. One night, I come over and he's got a record with nothing on it. He says, 'Listen to this.' We're down on our knees, and we are listening to nothing. You can't hear any rumble, you can't hear any hiss, no hum or nothing. He hasn't listened to music for six months — he's busy adjusting it, and getting it so he couldn't hear anything!

“We were raving about it, and Mary walks in and says, 'What happened?' I said, 'Get down here and listen to what

While listening to something, I'll put it on a real bozo record player or recording device, just ignore the fact that this is going to be an ultra-hi-fi recording, and all of a sudden you're listening to what the guy is telling you, whether he is speaking or whether he is playing. Now I'm listening to what Benny Goodman is saying. And you hear entirely different. This is the way a layman listens. They are not there picking out, 'Well, that bass is dB too loud, or this is wrong, or that is wrong. They don't hear that.

“Can you enjoy listening technically?”

“No. Not the same. There are two different enjoys, you know?

“A long time ago, there was a friend of mine, and he says, he's got. This guy will scare you. So she got down there and listened for a second, and she says, 'What's this? You haven't got it plugged in.' [laughter] So we plugged the damn thing in and we were back to square one again, with hum and rumble.... [laughter]. But anyway, it just shows how you can get wrapped up in so many technical things that you can forget about the message.”

“Absolutely. When was this?”

“This was 30 years ago. We're talking about professional equipment that we built up. Built one for Crosby, for Kay Kaiser, for Meredith Willson, André Previn... I built them for a lot of people. And they are very, very fine equipment. The turntable had no rumble. They were planetary action drives, and belt-drive. Not like today, the direct-drive. They...”
Hear It at Its Best

Graham Engineering 1.5t/c tonearm

Stereophile's ANALOG SOURCE of 1995

"The Graham tonearm was voted best by a two-to-one margin... superbly thought out and implemented... the last word in adjustability... among the simplest to successfully set up and calibrate... to see it is to covet it."

Stereophile, December 1995, Vol. 18 No. 12

Benz Glider Phono Cartridge

"This is a killer cartridge... the combination of detail, precision imaging, and yet a warm, full-bodied, non-fatiguing sound was most captivating... the Glider is 'way' recommended."

Lonnie Brownell, Stereophile August 1996, Vol. 19 No. 8

Aesthetix Benz Cartridge Demagnetizer

"Everyone who's into analog is sure to want one of the cute battery-powered cartridge demagnetizers from Aesthetix."

Las Vegas '96 WCES report by Richard J. Rosen and Lonnie Brownell
Stereophile, April 1996, Vol. 19 No. 4

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Barry Willis, Stereophile, April 1996, Vol. 19 No. 4

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would not get any rumble or ring, all of the above ... and flat response, and tracking error was at a minimum, and the speakers were all Jim Lansing 604s, the finest speakers you could get at that time.

"You have so much incredible equipment, what do you listen to now?"

"I'll show you my control room, where my professional equipment is. But you should see what my doctor has. The best money can buy, and he doesn't know what he's listening to."

"But he enjoys it, right?"

"Sure, but he doesn't know. I hope I know. [laughs] And I have a choice of two ways. I'm either going to enjoy it or I'm going to be critical,"

"Probably for you, Les, it's more difficult to listen as a layman. A layman might enjoy a great system more, because he's never thinking about all that other crap. From my approach, I just want to try to recreate as much of the experience of music ... I know what I enjoy. I know — "

"Let me interview you now, Rick. Okay? [laughs] And we'll get that one straight. We'll have some fun with it. Okay?"

"All right."

"If you're going to listen to something at home, tell me what song on what system and in what room. Go ahead."

"Right now? Let's say I'm going to listen to a Beatles record on a — "

"Okay. A Beatles record. Sergeant Pepper?"

"Yeah. Maybe something earlier."

"Okay. Now, how did they sound when they made that thing? Where did they make it? What speakers were they using?"

"Well ...

"You have no idea. You don't know where they recorded it, how they recorded it. What if I knew what speakers they mixed it on, monitored it on? You know whose speakers those are? That one and that one? The Beatles. They gave them to me. George Martin says, 'Come down and get them. Les.' [laughs] Okay?"

"Okay."

ANOTHER LES PAUL STORY...

Everyone used to want to know how I could get such great sound for broadcast. What I did is I had my own transmitter.

We'd break from recording, and I'd leave my engineer here. He'd be playing all the things that we were contemplating to release. We'd get in the car, turn on the radio, and listen to another station. It was WNEW in those days. Now, we'd listen to the station, okay? Then we would dial over right next to it, and on came our music.

Now, you've just listened to Sinatra, and you listened to Ella Fitzgerald, and Count Basie ... now you're listening to Les Paul and Mary Ford! And you're hearing it come over a broadcast station, where you could listen in the restaurant, in the kitchen, in another guy's radio, in his car, in my car ... Any radio, you pick it up.

People ask me, 'Les, of all the records you made, which one are you proudest of from a technical standpoint? A sound standpoint?' And it didn't take me two seconds. 'Meet Mr. Callahan' as an instrumental, 'Vaya con Dios' as a vocal. Those two records fit the jukebox, fit the kitchen radio ... fit everywhere. It's the best compromise of any records that I ever recorded. And then you say, 'Why? How can you cover such a broad spectrum?' It's the frequency response. The wider it becomes, the less chance you have of fitting all these categories, right?

So, I played everything on one guitar. And that range is so limited, that on a little radio I sound as good on a big radio. But do that with a drum and you're dead. Do that with a violin ... dead. Do it with a bass fiddle ... you can't even hear a bass on half the recording.

You know, you can judge just so much, but you can't fit everybody. The world is a compromise. If you're going to make it fit the jukebox, fit WNEW, fit the car, fit the kitchen, fit a hi-fi system, at that time the last guy in the world would be hi-fi. He's the least I'm going to worry about. You sell five million records and probably ten of them go to a hi-fi guy.

— Les Paul

“Martin and I discussed this thing thoroughly. What microphones they used, how close the mikes were, what EQ they put on them, what board they worked on. Was it tube or solid-state? How many-track recording was it? What curve did they use? Now, you say, what difference does that make to you? So you got a Beatles record, and you take it home. Now what room are you going to play it in?"

“Okay, now what have you got on the floors in the living room?"

“'I've got a big rug."

 "A heavy rug?"

 "Yeah."

 "Is it a dead room?"

 "No. It's..."

 "A live room?"

 "Not really. It's not perfect, but I'm working on it."

 "All right. How far are the speakers from you?"

 "Six to eight feet."

 "How do you know when the bass is telling you the truth as you move away from the speaker?"

 "You see, for me the idea is what feels good."

 "Okay, Rick, what speakers are you using?"

 "I use ProAc. They're mid-sized two-way jobs from England."
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"Are they good?"
"Very good."
"How are you going to get 30Hz out of them?"
"I don't."
"You don't?"
"No... but it doesn't bother me."
"Well, that... you see, that's all right... but if it's there, we have to get it off of there."

"Well, it's a different problem for you."

Les Paul believes loudspeakers are by far the weakest link in the audio chain, having been unimproved in 50 years. He proceeded to demonstrate the difficulty of finding not only an accurate monitor for reference, but the near impossibility of finding a correct and consistent relationship between the ears and the speakers. We listened to a variety of test material on an array of speakers.

"Okay. That's about 50 cycles. Now you're right in line with the woofer. The tweeter is up over your head. So we're going to go back. Now come on right up here. Now back up. What's happening?"
"It really drops."
"Drops like a bitch, doesn't it?"
"It sure does."
"So I'm asking you, where are you sitting in your room? Okay?"

I
F GOD CAME DOWN AND GAVE YOU THE PERFECT SPEAKER, YOU'D PROBABLY REJECT IT.

"You've got to use your gut. You use your..."
"Well, this is... when you use your gut..."
"You see, Les, I don't have to worry about it. When you're listening in this room you have to please a million people."
"Exactly."
"I have to please only myself when I listen to my system."
"Exactly. But this is the crap I have to contend with. It's so flawed. That's why I say, if God came down and gave you the perfect speaker, you'd probably reject it. On a high-fidelity system it's very difficult for me to listen as a layman without being super, super critical."
"I understand that. Even for me, it's hard to do."
"Is it?"
"Sure. I may start listening to other things about the recording, audiophile-things, details, things not necessarily directly related to the emotion."

And does that get to you when the cynibal is very artificial? It's not part of the drum at all. All of a sudden he's over here going ting ting ting, and it doesn't fit the sound of the whole orchestra. It's contrived."
"For example, I... well, Les, I'm probably the only one at the magazine, but... um... I'm actually kind of a monophile in a lot of ways.
"Really?"

song, he's over on the right. What the hell is this guy doing? Running around with portable pianos and portable drums? Your readers will probably come down on me, and I welcome it. With our seven years of Listerine shows, we were pioneers in this thing. A fellow said to me, 'Les, what you've got to do is colonize all those pictures.' Now, I saw them do that to The Honeymooners, and to Laurel and Hardy. I resented it. I want to see it as it was."

"Right, and when you're talking about things like movies or remastering records, not only is it not normal, but it's not true to the artist's vision. Who is this person in the chain 20 years later to second-guess what the artist saw or heard?

"Well, you're not going to get much of an article, Rick. You're going to have what you and I agree on! [laughs]"
"I'm sure I'll find something...
"Les, you've seen, or created, so many advancements in sound. What do you listen to for pleasure?"

"Well, the tube stuff, to me, is so many times superior to solid-state, and yet, I'm practically all solid-state. I wonder, though, if they will hear a direct-to-disc. It absolutely scares us to this day, and the digital just can't touch it."

Les played me an open-reel tape

The Wally Jones tube mixer used in Le's garage to record almost all of his and Mary Ford's hits.
PopeMusic's driving force, producer and recording engineer Gene Pope III, talks to Jonathan Scull about reality and digital recording

At 10pm on a wet and chilly spring evening, Kathleen and I waited outside our building for a van that would take us to a church in Bronxville, north of New York City. The occasion was a recording session for PopeMusic, the relatively new record label that has released a series of idiosyncratically titled CDs—Entangled Devotions (PM1004-2), for example, which combines performances of Beethoven's "Emperor" piano concerto and the "Moonlight" piano sonata by Russian pianist Naum Stakman. Stakman was in Bronxville to record works by Frederic Chopin for a fall '96 release [see Richard Schneider's sidebar — Ed.]. This would give us yet another chance to see the mighty Nagra-D digital recorder in action! When we arrived, Gene Pope was arranging his recording equipment on a table. In addition to the Nagra, there were two Cello Encore preamps. I asked Gene if he found digital recording "better" than analog.

Gene Pope: In my experience, digital recording is as problematic as the analog recording we did 20 years ago. In one way or another, the equipment in the recording chain takes you away from the feeling of actually being there. There's advantages and disadvantages with both.

From a philosophical standpoint, I don't have any problem admitting that digital — normal digital — sounds un-analog. That's the best way to put it.

Jonathan Scull: I see this is going to be tricky!

Pope: [smiling] However, I will also be the first one to tell you that when I started out as an engineer 20 years ago, there was nothing I liked, other than a live mike feed through my console. As soon as I put it through the first generation of analog tape, it wasn't the same. Everything was a compromise. The reason that PopeMusic went digital was that I felt digital had the potential to get me closer to the original sound. I literally had to relearn everything about recording. What we wanted was a recording that made you feel that you were experiencing what the artist was trying to say.

One thing I'm not going to say is that I strive to reproduce exactly what you hear out there in the recording venue. No way. It's scientifically impossible to do with two microphones — or, frankly, with any number of microphones. That's my own biased opinion, of course. An engineer trying to create a recording is like a painter or an artist, who is trying to represent what his subject's expression was, and what was on his mind. And he's selectively choosing the colors, the palette, the paints, and the materials that are going to give the emotional essence of that experience. That's how I use my recording equipment. I'm not saying my way is better, or my way is the only way. I'm merely saying that when you're listening to PopeMusic's releases, you're listening to my set of colors and brushes.

I don't subscribe to the opinion of some people, who insist that there is only one true way. I use digital because I feel that it allows me to get where I want to get on a 16-bit CD. It gets me closer than analog can, right now. Not without difficulty — in fact, with extreme difficulty. And with a lot of R&D.

Scull: So digital gets you as close as you feel you can get to the mike feed?

Pope: Yes.

Scull: And analog, which may be more pleasant-sounding, is less close?

Pope: Yes, absolutely. But then again, if you're talk...
ing about the entire recording chain, you have to consider how I position my microphones as a major factor as well. For instance, does one particular position roll-off the high end or does it emphasize it? One of the things that I do believe in is going for the changes that make this kind of difference.

**Scull:** Note for the record that the witness is holding his hands about six inches apart!

**Pope:** Right. When we start talking about things that make a difference to my ear that are about the width of my finger or less, I’m really not as interested, unless I can do 10 of them at once. But if I can’t do 10 of them now, then I’ll do them later.

The big secret to PopeMusic’s sound is really no big secret. It’s really all about being fanatic with the details.

**Scull:** Let’s specify the recording chain.

**Pope:** Good idea. There are three ways to get a signal from the stage to the recorder. The old way was with a microphone-level signal running through to your preamplification. Deutsche Grammophon has gone to the other extreme.

They go all the way to digital immediately after the microphones, then send AES/EBU in a bundle this thick—I’ve seen it in Moscow—like 30 pairs of AES balanced digital squirming through this 100 meters of cable. A lot of the DG sound depends on the microphones they use, and how they are wired. They use a pair way, way up high, with like 20 microphones for the Tone engineer—to mix at the same time. So you get a sound that is really...it’s just odd. You see, the choice of microphones and where they’re located affects the sound more than the fact that they’re trying to run megahertz digital squarewaves at 5V down 100m of cable. And those squarewaves have to be precisely reproduced, or you’re in trouble!

As I see it, I have a choice. I can run -60dB for mike-level analog and contend with the signal/noise loss. Or I can run 1V analog down this same length. I feel pretty damn good about that, because I’m dealing with analog waveforms. To me, really there’s no contest. I proved it to myself: I think it’s obvious that doing the preamplification out there right by

## Dynamic Fidelity

**Named for its founder and guiding presence, Gene Pope III, PopeMusic strives to expand fidelity in recording and establish a truly infallible regime of audio production from microphone to consumer product. Since there are at least a dozen or so small independent record companies taking various approaches to this same goal, we must ask what makes a Pope CD different from all other CDs?**

In order to gain an appreciation of Pope’s progress, I journeyed one day to PopeMusic studios in Saddle River, New Jersey, a bucolic upscale community located a pleasant 20-minute drive from Manhattan. Pope’s mastering and listening facility has been carved out of a basement space below the Pope residence and is acoustically isolated from the rest of the house. Every aspect of this room’s design and construction has been maximized for critical monitoring: inert walls, variable LEDE acoustic treatment, and isolation of noisy equipment. Listening is done through a pair of Cello Stradivari Grand Master speakers driven by a bridged set of Cello Performance II amplifiers—in other words, the kind of setup most Stereophile readers have had in their own homes for some time.

The agenda for the day included editing a demo for a fellow exhibitor at HI-FI ’96, which would feature selections from a Chopin Etude recording by Russian artist Naum Starkman—see Jonathan Scull’s interview—as well as the closing passage from a recently completed recording of Richard Strauss’s Ein Heldenleben and excerpts from Shostakovich’s Symphony 5, both performed by the Russian Symphony Orchestra under Mark Gorenstein.

It’s impossible to spend much time with Gene Pope without hearing him decry—more than once, and with evangelical fervor—the pitfalls of audio production, which are giving everyone the jitters, and explain why his spin on the situation, “dynamic fidelity,” is the single path to purification. He argues that the concept of a purely DDD CD is highly suspect; that transformations from digital to analog and back are unavoidable and introduce problems unheard of in pure analog audio. Pope agrees with many digiphobes that the limitations of analog rarely interfered with the purely inspirational aspect of a performance, whereas it is precisely that aspect from which digital, at its worst, tends to distract. Moreover, digital consumer product, far from being inherently foolproof and perfect, is as subject to quality problems as analog ever was.

Pope is an absolute purist in engineering his recordings, using a single pair of customized B&K omnis. His Russian venue is the Great Hall of the Moscow Conservatory, site of the Horowitz in Moscow CD and video from DG. His customized Cello mike preamps are onstage, and the line-level feeds the Apogee Electronics A/D 1000 for 20-bit resolution to the Nagra-D open-recel digital recorder. Back home, editing is done by Robert Wolff on customized Sonic Solutions software at 24-bit resolution, and Pope performs his own EQ on the Cello Audio Palette. The results are mastered.

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**THE BIG SECRET TO POPEMUSIC’S SOUND IS ALL ABOUT BEING FANATICAL WITH THE DETAILS.**

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**218 Stereophile, October 1996**
the microphones is best. In simplistic terms, I take the analog signal from the preamp—a Cello Encore Mk.II—just behind the capsules in the recording venue and run it directly into my A/D.

**Scull:** I set you a spaced pair of omnis. What type, Gene?

**Pope:** They're B&K 4165s. They're a bitch to record with. They suffer from bass build-up, so you have to be very careful of that, and they're extraordinarily difficult to position correctly to avoid that hole-in-the-middle effect.

**Scull:** The tap on spaced omnis is that they sound warm, but don't have good localization.

**Pope:** Correct. I think that's why a lot of people use multi-miking, especially when recording classical music. You have to over-emphasize the localization of instruments in digital, because the process removes a lot of the soundstage information. It tends to smear it. It took months of testing to figure out to the half-millimeter what the spacing between the omnis should be for best imaging. If they're more than a millimeter farther apart than is correct, you get that hole in the middle. If they're more than 1 mm too close, same thing. There is only one correct setting, and one setting alone.

In any case, these B&Ks give me more of the essential emotional experience I'm trying to capture. They're also powered at 140V. Compare that to 48V on any other mike power supply and you'll understand why they pick up the microdynamics of the music so well. For me, it's not enough to say that a microphone can reproduce high sound-pressure levels. It has to be able to reproduce the subtle, small stuff. That also happens to be one of the biggest problems with digital, being able to faithfully translate the small details that make a performance sound warm, emotional, and involving.

A recording engineer really likes to know what his variables are. The fewer the variables, the better the chance you have of being able to control the situation. You end up with a recording that really sounds like something, as opposed to letting the recording lead you. You need to lead the recording!

**Scull:** A real control freak. Gene. Perfect for a recording engineer.

**Pope:** Yes, my wife will be glad to tell you. [laughs]

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onto a Sony PCM-1630 through the Apogee AD1000 using UV22 bit-reduction processing. Glass masters are cut at DMI in Anaheim, California. Gold and silver CDs are produced by Sanyo.

As I listened to the subtle nuances of Starkman's interpretation, I heard a sound that I took to be the fabric of his jacket rubbing against his shirt. Gene explained that this was actually the sound of the felt mallets as they struck and rebounded from the strings. The meaning of Pope's "tag" for his working style—dynamic fidelity—manifested itself dramatically as struck notes decayed with that gradualness we associate with live music, and with analog recording. There was no hint of the dynamic fragmentation or reduction of image size that annoy the critics of digital. The sonorous Boesendorfer was supported with warm, acoustic generosity by the stone and wooden arches of Christ Church, in Bronxville, New York, where the 69-year-old Starkman performed, having made his first trip to America solely for this recording session.

Impressive as Starkman's Chopin was, it was in the final passages of Ein Heldenleben that one could truly appreciate Pope's approach to recording. This major tone poem has not been play with the special hushed expression and consolation required of this work's final moments. Some may even prefer the closing brass chorale to that of the legendary giants who played in the '54 CSO.

All of this was just an appetizer to the Gorenstein/RSO Shostakovich Fifth, heard in breathtaking excerpts in Saddle River, and in its entirety from hard disk at Pope's HI-FI '96 demonstration suite just after closing time on the second Trade and Press day. I cannot recall another recording of this work that features such realistic string tone, and creates such vivid awareness of bowing taking place. At the other extreme, the work's concluding fortissimo packs an emotional wallop difficult to divorce from the technology that provides it. This recording may change the way many listeners familiar with the piece relate to the Shostakovich Fifth. Gorenstein is as audacious as he is capable, and his relationship with both the RSO and PopeMusic has already resulted in some extraordinary recordings. There are more where this came from.

— Richard Schneider

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**GENE ENGINEERS**

**HIS RECORDINGS**

**AS AN ABSOLUTE PURIST: WITH A SINGLE PAIR OF CUSTOMIZED B&K OMNIS.**

attempted with this degree of simplicity since RCA's 1954 Reiner/Chicago SO recording. The excerpt included the sustained passages between solo violin and French horn, both of which were stretching their own envelopes of "dynamic fidelity," taking risks to

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*Stereophile, October 1996*
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Scul: I see you use an Apogee A/D converter.
Pope: Yes, an AD1000. I had the Cello version of the Apogee AD500, and it sounded really good, but when I heard the AD1000, it blew everything else away.
Scul: That's how many bits?
Pope: The AD1000 is 20-bit. I've listened to 22-bit converters, but unfortunately that's another area in digital where hype usually leads reality. Bottom line, we have to have something that's as neutral as possible. I don't want anything that's adding a flavor, or an edge, or a glare. I want it to be as simple as possible, because then the real thing that's going to change the recording is what I do with my mikes. That's why we're here in this church in Bronxville. This is what the art of recording is all about. The equipment is secondary. I just happen to be a two-sided guy. I'm really anal that way, and that's my treat. I love the creative side of this, but I am absolutely in love with the technical side, too.
Scul: Moving right along...

Pope: Right. From the AD1000 we go immediately into the Nagra-D. Then into the Cello version of the Apogee D/A, which has a better analog output stage and makes the upper end a lot sweeter than the basic Apogee unit. Then we basically go right into the Cello Encore line preamp.

We monitor through Aerial 10Ts. The Aerial 10T is an excellent location speaker. It's got great bass for its size and weight. The imaging is very, very good, which is the most important thing I look for. When we record in Moscow, I use Cello Premiers, which are fantastic location speakers. They're a dog to move in and out of the conservatory, but since they're stored in the basement all the time there — nobody else uses them — we can get away with it.

I use my Stax Lambda Signatures and SRM-T1S tubed headphone amp as my reference for frequency response, and for knowing in some general way where my recording is going. The 10Ts help me see if the sound envelops me, and if I have good imaging between the speakers. When I start recording, I turn the speakers down, and I go right onto the headphones. Of course, you can't stay on headphones all the time. It can be... misleading. They get me a little closer to the music, but they can deceive in terms of the distances you create in the recording.
Scul: Gene, how do you tweak your system for best effect? I know you're particularly allergic to jitter.
Pope: One of the most important things I've discovered about controlling the negative aspects of digital recording is dealing with jitter. There are three basic problems with jitter that I've found. One is the horrible edge and glare that people ascribe to it. Second is lack of focus, where the soundstage gets diffused, flattened, or destroyed altogether. You lose what the microphones picked up, in terms of sum and difference, to make you feel that you're actually there. What I strive for is letting you hear every note that's heard through the microphones. Jitter takes that away in a dramatic fashion.

Okay, how do you control it? Every digital component...
Scul: Thank you...
Pope: Look, this is the easy part! Then you have to ask me the tough questions! [laughs] In digital, the biggest problem is control in each and every stage of production, which is something that most record companies can't do. They've got one engineer doing the mastering. There's another one at the record plant doing the glass master. What I've done is say I'm not accepting their level of quality. We've created a single system for going from one digital component to the next, so by the time we get to the last piece, we've minimized jitter in every step, and so we've minimized its overall accumulation as well.

The problem is, you may get away with having, let's say, 10% of a jitter problem. But when you go to editing, you can never recover that 10%, even if you use all the tricks in the book to get rid of it. It's that lack of control of accumulated jitter by the time you get a pressing that hurts so many CDs. This isn't magic, you know. It's just one engineer, me, con-

PopeMusic's two B&K omnis are mounted quite close together on a stereo bar in front of the piano.

It took months of testing to figure out to the half-millimeter what the spacing between the omnis should be for best imaging.

Stereophile, October 1996
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trolling everything from beginning to end. So, how do we control it?

Here looking inward is my magic black box. This is a dCS word-clock generator from the UK. Let’s talk about the best way to send a digital signal down a line. There are three formats that we need to talk about. One is S/PDIF, where basically everything is being shot down one line: a left digital signal, a right digital signal, and the clock. You have to crunch it all together into a modulated analog signal of extremely high frequency, then squirt it down a single unbalanced wire.

AES/EBU sounds better than straight S/PDIF because it’s balanced. You get the benefits of common-mode rejection, and it helps clear up the digital signal. You get less jitter. However, you can go out and spend $1000 on an AES/EBU cable, and it still won’t sound as good as SDIF.

Scull: SDIF?
Pope: Ali-ha... SDIF is three separate video-bandwidth coaxial cables carrying the three components of the digital signal. Remember I mentioned how jitter affects the soundstage? The reason you lose the soundstage is that you can only correct the signal once between each left and right signal, which means that you can have some float there, in between the left and right. With SDIF you’ve got a clock squarewave that marks the beginning of every left and right word, synchronously, in parallel. The difference in sound is startling, a real paradigm change.

But you’ll notice that I do not have an SDIF connector on the Nagra-D. That’s because Nagra will not &%$ do it. I’ve been trying to talk them into modifying this recorder for years.

Scull: What’s the beef? Or should I say the viande de grisen, for board, it still sounds better than the latest version of their hardware. I thought, “Maybe I should record onto Sonic like other people do.” I did a back-to-back test in Moscow, and it really doesn’t sound as good as the Nagra-D. Plus, I trust tape as a better archival material. It’s very robust.

Scull: Let’s have a look at the back of that dCS word-clock generator.

Pope: Moving around the table! Here, behind the converter and the clock, you’ll see that all the cables are very carefully separated, so that AC, DC, analog, and digital are kept apart. You can see that the word-clock generator has both AES/EBU and SDIF outputs. This has been modified in a couple of proprietary ways that I can’t put on the record. But you can easily hear the difference. All of the transparency comes back, and the high end smooths out immediately. It’s like lifting a veil off the sound and cleaning it up at the same time. The dCS serves as the master clock for every digital component I use. In this case, I’m only using two devices. But when I’m mastering, I have seven different digital pieces that have to be synchronized.

Another problem that I found was that AES/EBU creates an enormous amount of digital noise. It’s approximately five times the frequency of a simple word clock. And that high-frequency noise can create jitter. If you have a three-volt signal, a third of a volt could be noise. If you put a high-quality scope on digital output
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signals, you'd be amazed at the crap slithering all up and down the waveforms.

Scull: That doesn't sound very appraising.
Pope: True. Now you can see how this methodology is really not much different from what we used to do in analog. Then, we had other things that would pollute the signal, like hum and RF interference. Too-low capacitance in a cable could degrade an analog signal. High capacitance in a cable can degrade a digital signal too, only it's worse. Here, between the external clock, the Nagra, and the A/D, I use a special cable, and this is the only "special" wire that I have no problem with. It is ultra-low capacitance...

Scull: That'll be from RadioShack?
Pope: [laughs] No, actually, it's Belden video cable. It cleans up the Nagra like you wouldn't believe. Everyone is getting into this external word clocking, but unfortunately they're doing it thinking that just that alone is down because they felt you could have more jitter and get away with it, which we now know to be false.

Alan Leftwich: [PopeMusic Vice President for Distribution and Sales] The fathe has a 150-lb platter!
Pope: Right. The circuitry that drives it was designed for and can tolerate re-clocking. So everything is re-clocked. Sanyo did the hard work. They were willing to take their fathe off-line. And that's asking a lot. They did the tests with me over and over again. That's one reason I'm very faithful to them. They were the only ones that gave a damn about trying to cut a better disc.

Leftwich: Actually, we should explain that DMI does the metal mastering, and then that master is sent to Sanyo for pressing. We get the best of both worlds that way: mastering at DMI, and pressing at Sanyo.

Scull: And what did you hear once you used DMI and Sanyo?
Pope: All of a sudden, the sibilance, which is one of the rea-

It's all in the technique.

the answer. Of course, it's not. For instance, this is a very expensive clock, one of the best on the market, but it still had to be improved.

You know, when we master, this same clock unit also goes to the cutting lab. It took me 18 months to convince a glass-mastering studio to let me into their clean room and experiment with their multi-million-dollar cutting equipment. I finally convinced a couple of people to do it. I went in there, we examined the chain, put the signals on a scope, and realized that we could do better. Most cutting labs, for instance, don't use a single clock signal. They all self-generate, and they wind up chasing each other around the room.

What I found was that, as soon as you have one digital piece chasing another, the sound becomes less transparent and you get much more jitter than if everything is in lockstep. Again, the parallel is a video studio. There they use one sync generator to feed all the equipment. You have to understand that digital audio is very much the same. It responds much better if you don't have to correct for small cumulative errors between components. If you get all the equipment synced up, you take away 90% of the problem of digital degradation in the sound.

Scull: Who does your glass mastering?
Pope: DMI in California. You know, I can make a really outstanding-sounding 16-bit recording on 3/4 tape. But when I shipped it to the lab, the sound of the glass master just fell off a cliff. I'd get a master and a sample cut back, and it sounded like shit. It had the same sonic problems I was trying to eliminate. So, I knew I had to get into the lab. Sanyo/Verbatim was the first and only company that would actually agree to let me come in and try and solve this problem. I have to give them credit.

Scull: What's the relationship between Sanyo and DMI?
Pope: I ended up doing my glass mastering at DMI because we encountered a small technical problem at Sanyo. So I ended up going back to one of the original glass-master cutters in America. Our discs are cut on a laserdisc cutter. The advantage is that, believe it or not, jitter is much more of a problem for laserdisc video than for CD. CD cutters were scaled sons people think that digital sucks, was clean as a whistle. The best we ever heard. Clean, absolutely clean. No breakup, no crackle, no nothing. The sound of a real voice.

Now [smiling and looking innocent], I'm going to give you a real good piece of business here. Everybody is yelling about HDCD, about 96kHz, about 24 bits, and all that crap. Let's say you take the output of the A/D and plug it directly into the D/A and listen to it on the Stat's phones. Now, if I take this 20-bit signal—albeit we've cleaned the hell out of it—and I plug it in to the Nagra, even with all my bells and whistles, you still hear a degradation. The Nagra is absolutely the most transparent and jitter-free recorder on the face of the planet for digital. However, until a day comes when I can do this kind of comparison and there's no difference, why the hell would I want to advance to 96kHz and double my inn-

Scull: We're opening up a can of worms with this stuff. I've said this from the beginning—don't throw out 16-bit. Theoretically, 16-bit digital can produce very musical sound, and our latest CIDs prove it.

Scull: Well, that is fairly rad. I mean, everybody is yelling "24/96!"
Pope: I know that. But to me that's like saying, "Okay, instead of using this tape formulation in analog, let's use this other one." Remember, 20 years ago, there was a big movement away from so-called normal to high-output analog tape...? You may be too young.

Scull: Gene, you really know how to flatter a guy...
Pope: Well, first the backing started shedding. Then they found that the new tape had tremendous print-through. Then they discovered a low-frequency irregularity in the tape. So we shouldn't be in such a hurry to abandon 44k and 16 bits, which is what Joe Q. Public has to listen to, you know. Bottom line is, I have put my music on a CID that is 44kHz and 16 bits. I'm not saying I can make 16 bits sound like 20. More bits do help—if they're clean. I've heard 22-bit and even 24-bit material that sounded like shit, that didn't sound as good as the 18 bits I used with the Cello/Apogee AD500. It's all in the technique.

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A common question we get from Stereophile readers is why we don’t review products from Wadia Digital. The five-year absence from these pages of reviews of products by a major manufacturer invites all kinds of speculation.¹ The explanation is simple: Wadia decided it was not in their best interests to have reviews in the US press, and declined our requests for review samples.

As we were contemplating buying Wadia products on the open market for review, the company had a change of heart, not coincidentally connected with a change of management. They provided review samples of their $8450 Wadia 27 Digital Decoding Computer and $12,500 Wadia 7 transport.

**WADIA 27 DIGITAL DECODING COMPUTER**

The 27 Digital Decoding Computer represents Wadia’s latest thinking in digital processor design. Although the 27 costs less than the flagship $13,500 Wadia 9, the newer 27 has some circuit refinements not found in the top-of-the-line processor.

The 27 is housed in a beautifully made chassis with no bolts visible from the top or sides. The chassis is built of separate panels of thick aluminum joined at the corners by four rounded structures; these accept short spikes on the bottom for resonance control. If you don’t like the idea of spikes poking into your rack, the 27 comes with metal “coasters” that fit between the spike points and the rack shelf surface.

The 27’s front panel has no knobs, switches, buttons, or controls. Instead, an alphanumeric display shows the unit’s operating status, which is controlled exclusively by the remote control. The blue display indicates the output level (volume) in numbers between 0 (mute) and 100 (full-scale). Input selection, phase inversion, and left/right balance adjustment are all made by the remote control and displayed on the 27’s front panel.

The supplied remote control also runs Wadia’s transports. At the time of this writing Wadia was replacing the plastic remote with a cast aluminum remote more befitting the construction quality and appearance of their processors and transports. It’s a good thing, too: the plastic remote is an ergonomic nightmare, with lots of tiny, identically shaped, and poorly laid-out buttons. If your 27 was purchased with the plastic remote, Wadia will replace it with the aluminum one at no charge. I didn’t have the new controller in time for this review, but saw a prototype at Wadia’s factory. It looks like a big improvement.

The 27’s rear panel provides six digital inputs: two ST-type glass-fiber optical, two S/PDIF coaxial on BNC jacks, AES/EBU, and TosLink optical. Outputs: balanced on XLR jacks, single-ended on RCA jacks (both outputs can be used simultaneously).


**WADIA 7 CD TRANSPORT**


Common to both: Approximate number of dealers: 30. Manufacturer: Wadia Digital, 624 Troy Street, River Falls, WI 54022. Tel: (715) 426-5900. Fax: (715) 426-5665.


**Robert Harley**
lets you drive a power amplifier directly from the 27 without the need for a preamplifier. Wadia is a big proponent of this technique, which removes from your signal path a pair of interconnects, input and output jacks, a volume control, wires, switches, circuit-board traces, resistors, and the active gain stages of a preamplifier. No matter how good your preamplifier is, it can't be better than no preamplifier.

Removing your preamplifier from the signal path has undeniable sonic advantages, but some drawbacks as well. First, the digital-domain volume control in the 27 reduces resolution at the rate of 1 bit for every 6dB of attenuation. The greater the attenuation (the lower the number on the 27's front-panel display), the greater the degradation.

Second, removing the preamplifier poses the problem of source switching: how do you play your tuner or turntable? Wadia's solution is to digitize your other sources with their Wadia 17 A/D converter, whose digital output drives another input on your 27 processor. Or you could reconfigure your system each time you switched sources. Finally, some listeners may use only a CD source and not need input switching.

To minimize the amount of lost resolution resulting from digital-domain attenuation, the 27 has an analog-domain output level adjustment. A pair of tiny switches inside the chassis set the 27's maximum output level from 0.41V to 9.02V, with 14 positions in between. If you have a power amplifier with a high input sensitivity (the input voltage required to drive the amplifier to clipping) and high-sensitivity loudspeakers, you'd set the 27's switches for a low output level. This way, for the best sound, you'd run the 27 with very little digital-domain attenuation. Remember, the higher the number on the 27's front-panel display during normal listening, the better.

My system worked best with the 27 set for a maximum output level of 2.63V. The next lower setting, 2.03V, didn't have quite enough output to produce satisfying levels with CDs recorded at low levels, or those with a high peak-to-average ratio. I calculated the resolution loss between these settings at about a third of a bit — probably not audible. Most of my listening was with the display showing between 80 and 100. With some discs I ran the 27's volume control wide open, with no attenuation and thus no degradation.

Some users may not take full advantage of the 27's variable analog output level feature. Wadia doesn't provide instructions on setting the switches; you must rely on your dealer for this information. If you find yourself listening most of the time with the display showing below 70, you're needlessly throwing away resolution. It's well worth the trouble to open the chassis and set the switches to the best possible performance from the 27. Wadia recommends having your dealer set the output level, but you need to adjust it while it is in your system to find the right level. If your dealer won't come to your home to correctly set the analog gain switches, get the information on the switch settings and do it yourself. Taking the time to play with this adjustment to get it just right is well worth the effort.

While we're on the subject of digital-domain volume controls, I should mention the exemplary technique used in the Enlightened Audio Designs DSP-9000. That unit automatically switches in analog-domain attenuation so that the digital volume control never attenuates the signal by more than 6dB. For example, as you reduce the volume from full-scale output the DSP-9000 attenuates the signal in the digital domain until 5.9dB of attenuation is reached, then switches-in 6dB of analog attenuation and puts the digital volume control back to no attenuation. Consequently, if you had 10dB of attenuation, 6dB of it would be in the analog domain, 4dB in the digital.

Inside the Wadia 27: During a visit to Wadia's factory I spent some time with the 27's principal designer, Jim Kinne. The unit uses some innovative design techniques, the first involving the power supply. Two large toroidal transformers are housed in a sub-enclosure within the 27's chassis. The transformers are sandwiched between layers of Neoprene damping material on the sub-enclosure bottom and the machined aluminum plate that covers the transformer sub-enclosure. This technique isolates the transformers mechanically, acoustically, and electrically from the rest of the chassis.

The transformers' outputs are rectified, filtered, and regulated on a separate PCB. Unusually, the regulation stages for the 1/V converter and analog output stages are current regulators, not the typical voltage regulators. These constant-current supplies are then regulated with voltage regulators on the audio board next to the audio circuits.

In a current regulator the output current is held constant. When followed by a shunt voltage regulator, any current not used by the supplied circuit is dumped to ground. Wadia believes that this power-supply topology produces superior sound quality, primarily because a current source is less affected by inductance and capacitance of the power-supply traces.

In all, the 27 uses a whopping 36 regulators, most of which form cascaded regulation stages (the output of a preregulator feeds the input of the final regulator) for a cleaner and more stable power supply. The eight current pre-regulators are in TO-220 packages with 2"-tall heatsinks. Many of the cascaded voltage regulators next to the audio circuits are surface-mount devices.

Aiding these 36 regulators are loads of filter capacitors, some of them distributed near the audio circuits. The 27 has more than 30,000µF of filter capacitance — as much as some small power amplifiers. This huge power supply makes the 27 run very hot.
The pre-regulated power-supply rails aren't connected to the second regulators on the audio board through conventional circuit-board traces. Instead, the power supply is routed to the audio board by a separate dedicated board underneath the audio board; the supply voltages are "popped up" to the audio board where they're needed. This separate power-supply board can have huge traces and direct routing, in contrast with the smaller traces and indirect routing of conventional power-supply distribution on a single board shared with the audio circuits. The 27's power-supply design and execution are impressive, to say the least.

The input section is based on a Crystal CS8412 receiver chip implemented on the DSP board. Signals present at unselected inputs (if you have ST-type optical and AES/EBU connected simultaneously, for example) are disconnected from the circuit to prevent contamination. Although the CS8412's jitter rejection is only mediocre by today's standards, the clock that drives the DACs isn't generated directly by the 8412. Instead, the 8412 is used to demodulate the incoming S/PDIF signal, and the 8412's recovered clock synchronously drives a Xilinx programmable gate array. The gate array generates a clock at its output that is de-jittered by a Voltage Controlled Crystal Oscillator (VCXO), which is de-jittered again by another VCXO located near the DACs. In all, three stages of VCXO-based relocking reduce clock jitter. This scheme is a more sophisticated implementation of Wadia's "Rock-Lok" de-jittering circuit, first used in the Wadia 2000 Digital Decoding Computer. By the way, a single Xilinx gate array—a square chip about half the size of the bar code on the front of this magazine—replaces literally dozens of separate ICs used in earlier Wadia products.

All the clock lines are differential (two traces carry the clock and its inverted version) to minimize the effect of noise on the crucial timing signals. Moreover, the clock lines are not just traces on the PCB, but are miniature transmission lines, with a precise output impedance from the driver and termination resistors on the receiver to create a matched input impedance. A carefully executed transmission line prevents reflections in the conductor that would add noise to the clock signal, making the edges less precisely timed and introducing jitter.

Wadia was at the forefront of using a custom digital filtering algorithm, a tradition continued in the 27. Two Motorola 56004 DSP chips, under the control of Wadia's software contained in Read-Only Memory (ROM) chips, form the digital filter. The filter runs at 16x-oversampling, meaning it interpolates 15 new samples for every incoming sample read from the CD. The DSPs execute Wadia's patented "Digimaster" filtering algorithm, an update of the algorithm used in Wadia's original 2000 Decoding Computer. The two Motorola DSPs replace the four AT&T DSPs used in the 2000 while nearly doubling the amount of computing horsepower.

The Digimaster "spine" filter algorithm is based on mathematics first developed in the 18th century for shipbuilding. Shipbuilders needed to fit curved horizontal planks of wood to the fixed points represented by the vertical hull members. Similarly, digital interpolation filters attempt to "fit the curve" by creating new points along an arc (a musical waveform) between existing points (the original sample values).2

Wadia's Digimaster filter is optimized for time-domain performance. Consequently, the 27's filter will reproduce an impulse with no pre- or post-echo, and its squarewave response has none of the ripple of conventional digital filters that follow a sin(x)/x function. However, there is a penalty in the frequency domain for this improved time-domain performance: a rolloff of nearly 3dB at 20kHz.3

Volume control and muting are also performed by the DSP chips. To attenuate a digital signal, each sample is multiplied by a number less than 1. For example, if you set the digital volume control for 6dB of attenuation (half the voltage), the DSP multiplies each sample by 0.5. Similarly, pressing the remote control's mute button simply ramps down the volume to zero by software control.

The 16x-oversampled data are put through a Xilinx gate array that retines the oversampled data for output to the DACs. Specifically, the gate array creates four datastreams and delays three of them by slightly different amounts. To create a balanced signal, the gate array also inverts the second and fourth data-streams. Each datastream is converted to analog with its own DAC. The result is an increase in the effective oversampling rate from 16x to 64x (16x in the digital filter, multiplied by four by the time-staggered DAC technique). To look at it another way, 16x-oversampling is performed by the DSPs under control by the Digimaster software, and 4x-oversampling is performed by hardware (the DACs).

The DACs are Burr-Brown PCM 1702s in a fully balanced configuration, with the positive and negative phases of the balanced signal handled by two DACs each. The 1702's intrinsically good linearity and lack of an MSB trimmer must have made life easier for the 27's designers; setting the trimmers on previous DACs so they all perform identically must have been a challenge.

The DAC outputs of each phase are summed with their own current-to-voltage (I/V) converters, the super-fast (400MHz) Burr-Brown OPA-642 op-amp chip. This is followed by another Burr-Brown device, the INA-103 instrumentation amplifier. The variable analog output level described earlier is implemented by varying this stage's gain. The INA-103 processes each phase of the balanced signal separately, and also acts as a differential amplifier to convert the balanced signal to single-ended to drive the RCA jacks.

The output buffer is a Burr-Brown BUF-634 op-amp, which can reportedly swing more than 9V RMS and source a quarter of an ampere of current. Each phase of the balanced signal, along with the single-ended signal, is buffered by its own BUF-634. The output stage, with its high output level and specified output impedance of less than one ohm, is designed to drive a power amplifier directly through any length of cable. Although Wadia calls this output stage the "Sledgehammer," it is completely unlike the Sledgehammer stage used in earlier Wadia products.

Note that the signal remains balanced from before the DACs to the XLR jacks (parallel signal paths for each phase of the balanced signal). In addition, the single-ended signal is created by combining the balanced signal with a differential amplifier, then buffering it independently. This technique provides single-ended users with the benefit of the 27's balanced topology. The alternative is to simply connect the positive phase of the balanced output to the RCA jack.
This inferior method effectively throws away half the DACs and output stage when using the single-ended outputs.

The four-layer analog output board that contains the DACs, I/V converter, and analog output stages sits above the power-supply board. The four-layer digital board with the Xilinx gate array and DSP chips sits behind the audio board. The left and right channels on the audio board have been designed as mirror images of each other so that their electromagnetic fields cancel.

Most of the 27's components are surface-mounted devices. The DSP chips, Xilinx gate array, DACs, I/V converter, and output buffer are all surface-mount devices. Surface Mount Technology (SMT) eliminates the long leads of "through-hole" construction, instead mounting the electronic component on the printed circuit board's surface. Wadia touts the many advantages of SMT, including the removal of parasitic resistance and inductance of component leads, along with the ability to put components closer together on the circuit board. SMT resistors and capacitors are so tiny you almost don't see them on a circuit board.

Previous Wadia products have, in my view, put the emphasis on the digital side of the design at the expense of the analog stages. For example, the original Wadia 2000 broke new ground with its sophisticated digital filtering and time-staggered DAC technique, but subjected the analog audio signal to decidedly unaudiophile push-on connectors. (The 2000 was designed by telecommunications engineers, not tweaky audiophiles.) Fortunately, Wadia's thinking seems to have shifted in the last eight years: the 27's analog section appears to be as carefully realized as the digital sections.

Some might be perturbed by the 27's use of an op-amp output stage rather than a discrete circuit. The conventional wisdom is that any contender for crown of State of the Art in digital playback — to which the 27 appears to aspire — must use a discrete output stage. Although few would argue that an op-amp can outperform the best discrete stages, it should be noted that virtually all digital processors use an op-amp in the current-to-voltage converter. Every UltraAnalog DAC module, for example, has an integral op-amp current-to-voltage converter (except for the Spectral SDR-2000 Pro, which performs current-to-voltage conversion with a discrete circuit outside the DAC). Consequently, many superb-sounding processors — including the Mark Levinson No.30.5 — have an op-amp in the signal path (the No.30.5 has a discrete output stage, however).

But what ultimately matters is how the product sounds. Any preconceptions engendered by the product's design vanish in the listening room.

I found the 27 gorgeous in cosmetics and build quality — it has a substantial solidity and beautiful metalwork. My only complaint about its operation is the narrow window over which the remote control works. I had to point the remote almost straight-on to get it to accept commands — a real nuisance when listening. Moreover, if you push and hold the volume control while trying to find that window, the 27 doesn't accept the command until you release the button, then activate it again while it is pointed directly at the front panel. This drawback won't be a factor if you have a direct line of sight between the listening position and the 27, but I found it frustrating in my listening setup.

**Wadia 7 CD Transport**

At $12,500, the Wadia 7 is the most expensive CD transport I'm aware of — its look and feel, and its beautiful construction and finish quality certainly reflect its astronomical price.

The 7 comes in two chassis: the transport itself, and a power supply. The chassis construction is the same as that of other Wadia products, with machined aluminum panels connected at the corners with rounded structures into which spikes can be threaded. The drawer is a thin slit in the center of the main unit's front panel, just above the display.

The front-panel display shows all the usual information (track number, playing time, etc.), and has a total of two controls: Play and drawer Open/Close. Track skip, stop, pause, search, and other functions are provided only on the remote control. The remote itself is a massive metal unit that requires two hands to operate. Rows of buttons of identical color, size, and shape nearly cover the remote's front, though many of these are for controlling other Wadia products and don't apply to the 7. I didn't have this remote control for the review; Wadia advised me to use the 27's remote, which also controls the 7. Nonetheless, the 7's remote looked intimidating.

The rear panel holds one each of the four main output categories: AES/EBU, ST-type glass-fiber optical, TosLink, and coaxial on a BNC connector. Three small screwdriver adjustments adjust the front-panel display's brightness and drawer open and close speeds, respectively.

The 7's high cost is due largely to the expensive Esoteric P-2S transport mechanism. The P-2S is the top-of-the-line mechanism made by Esoteric (a division of TEAC). (The P-2 transport I reviewed in Vol.13 No.12 used the transport one model down from the P-2S.) This transport is probably the best engineered and most solid yet devised. It is also the most costly — by a wide margin. It was reported to me that the raw P-2S mechanism alone costs $2500 — and that's the wholesale OEM quantity price.

The device uses the Vibration-Free Rigid Disc Clamping System (VRDS) first seen in the P-2 transport sold in North America under the Esoteric name. The VRDS clamping system, just larger than the CD itself, holds the entire disc in a viselike grip. Compare this method with the usual technique of holding the CD in the center by a small spindle. Although all the Esoteric VRDS mechanisms use this clamping technique, the various models are built very differently. The P-2S used in the 7 features a machined aluminum and bronze turntable and clamp, the clamp mounted on a massive structure spanning the mechanism. Lower models in the Esoteric VRDS line are less massive, use stamped rather than cast parts, and plastic elements where the P-2S uses metal ones. Wadia sent me a raw mechanism so I could get a better look at its construction. This is one serious piece of mechanical engineering — it makes the ubiquitous Philips transport mechanisms look like toys.

Wadia modifies the standard P-2S mechanism by replacing the oscillator,
changing the digital output board, and adapting the unit for their external custom power supply. They also mount the VRDS assembly on an integral suspension system to isolate it from vibration. Wadia has established a tighter jitter tolerance for their mechanisms than the standard I-25 transports.

Note that damper discs, rings, and other mechanical CD tweaks interfere with the VRDS mechanism. The VRDS clamping system would seem to obviate the need for such tweaks anyway.

**System**

I listened to the Wadia 27 and 7 in a variety of configurations. Before the 7 arrived, the 27 saw lots of action driven by the Mark Levinson No.31 transport. Conversely, the 7 fed the Mark Levinson No.30.5 processor and a Classic DAC-1 so it could be compared with the Levinson No.31 transport. Of course, the 27 and 7 were also used as a pair, connected through the Wadia-recommended glass-fiber optical (ST-type) cable. Other digital links included the Illuminati coaxial and AES/EBU cables—my references in digital interconnects.

Loudspeakers were Genesis II.5 dynamic/ribbon hybrids. Most of my time listening to the 27 was with the processor driving the Audio Research VT150 tube monoblock power amplifiers directly from the 27’s balanced outputs. The Genesis woofer amplifier was fed from the 27’s single-ended outputs.

To judge whether the sound quality I was getting was due to the 27’s intrinsic quality or to the removal of the Sonic Frontiers SFL-2 preamplifier, I experimented with the SFL-2 in and out of the signal path. For the matched-level comparisons between the 27 and Mark Levinson No.30.5 processor, both units fed the SFL-2.

The long balanced interconnect between the 27 and VT150s was WireWorld Gold Eclipse, with Magna Type V feeding the Genesis woofer amplifier’s unbalanced inputs. Other interconnects called into play when using the SFL-2 included shorter runs of Gold Eclipse or AudioQuest Diamond X3. The loudspeaker cables were also Gold Eclipse.

The products under review sat on a Billy Bags 5500 series rack or a Merrill Stable Table. My Well Tempered Turntable was temporarily ousted from its place atop the Stable Table because I’d eliminated the SFL-2 from the system and because I needed the rack space to house all these digital products. I removed the Genesis Digital Lens from the system so I could evaluate the Wadia products on their own merits. Power to the system was conditioned by the entire MIT Z-System, including the Z-Stabilizer II, Z-ISO-Duo, Z-Center, and Z-Cord II power cords.

**Listening**

My first experience with the 27 was with it driving the VT150s without the SFL-2 preamplifier in the signal path. The transport was the Mark Levinson No.31 feeding the 27 via glass-fiber (ST-type) optical output. After a day of warmup, I put on Mighty Sam McClain’s _Give It Up to Love_ (AudioQuest AQ-CD1015). Seconds into the first selection, I knew the 27 was something special. There was a magic to the presentation that made the music come alive. The more I listened, and the wider the variety of music I played, the more my appreciation for the 27 grew.

Specifically, the 27 presented a palpability and immediacy I hadn’t heard in my system before. The 27 wasn’t forward and up-front in a way that gave the false impression of presence but quickly became fatiguing. The sense of palpable presence was instead created by the 27’s extraordinary transparency, resolution, and natural reproduction of timbre. I also heard an openness that was the antithesis of veiled, thick, or congealed. Instrumental images were right there in the room, vivid and alive.

Although these qualities were apparent on all music, the 27 excelled at reproducing acoustic guitar. Two reference-quality acoustic guitar recordings that are also great musically are Ralph Towner’s instrument on Oregon’s _Beyond Words_ (Chesky JD130), and “Lonesome Road” from the previously mentioned Mighty Sam McClain CD. If the system has any veiling, thickness, or slowness, the guitar loses its edge and life. If the component under evaluation is hard, bright, and etched, the guitar becomes metallic and an affront to the ears. The 27 struck a perfect balance between resolving the bright transient attack of the guitar and sounding brittle. This combination of vividness without etch is a rare quality. In short, the 27 produced a greater sense of the guitar existing between the loudspeakers than I’ve heard from my system. (Credit for resolving what the 27 could do in this regard goes to the Genesis II.5s, which are extremely quick and clean through the midband and treble.)

In a related aspect of its musical performance, the 27 had a wonderful ability to present lots of detail without sounding analytical. Indeed, it is this quality that distinguishes the very best converters from the merely excellent ones. The 27 presented a huge amount of musical information in a completely natural and unforced way. When a processor or CD player gets this aspect of the musical presentation right, you don’t immediately notice it. Rather than call attention to its resolution with a lipped or etched sound, the 27 gently and subtly revealed musical nuances in a way that drew me into the music. I found myself time and again riveted to the musical performance with a total immersion in the musical expression. Products of lower powers of resolution just don’t produce the same sense of surprise at the end of a piece when you return to the real world and realize where you’ve just been.

Although highly resolving, the 27 had a wonderful sense of case and grace. The treble had a finely filigreed quality that resolved the inner detail of instrumental timbre without becoming analytical. The 27’s upper midrange and treble were extremely smooth and free from glare or metallic harshness. The synthetic treble sound we often hear from digital playback was completely missing from the 27’s rendering. Digital processors often impart a harshness to the treble not unlike that of cheap done tweeters. Such a presentation calls attention to the treble as a separate component of the music rather than rendering it as an integrated organic whole. The 27 was superb in this regard, which is one reason I enjoyed it so much. I could listen at high levels without fatigue, and never felt a sense of relief after turning down the volume.

Compared with my memory of the Spectral SDR-2000 Pro, however, the 27 had just a trace of grain in the midrange and treble. The Spectral processor also had a more open and extended top octave, with a greater feeling of unlimited air and extension. The 27’s treble was more like that of the No.30.5: smooth and detailed, but less opensounding than that of the SDR-2000 Pro. The 27’s treble was livelier than the No.30.5’s, but the contrast wasn’t enough to make one sound wrong in relation to the other. I enjoyed both presentations.

The overall perspective was more laid-back than those of the Classé DAC-1 and Spectral SDR-2000 Pro, but not quite as relaxed as the Mark Levinson No.30.5’s. The 27 put the first row of musicians at a point just forward of where the No.30.5 positions them.
Spectacular is the best word to describe the 27's soundstaging. The Wadia processor threw a wide and deep presentation with exceptional definition, and recreated a wider soundstage than I've ever heard from the Genesis II.5s. The entire presentation spread out laterally, giving instrumental images and the air between them more room. My listening notes describe the 27's soundstage as "W — I — D — E."

Soundstage depth was also well portrayed; the 27 not only produced a tremendous sense of distance, but presented instrumental images along a continuum from front to rear. The soundstage was infused with a huge sense of size and transparent air around image outlines. Even when the music got loud and complex, the 27 maintained its exceptional soundstage clarity and definition. I heard none of the common tendency for digital processors to conceal images and shrink the soundstage during dense, high-level passages. Moreover, the 27 presented its soundstage against a dead-quiet and black background. The 27 produced a wide contrast between the music and the deep black silence.

In comparison with the No.30.5, however, the 27's soundstage didn't have the last degree of depth revealed by the Levinson processor. The Wadia's stage was wider but slightly less deep; the Levinson produced a greater sense of distance to the very rear of the soundstage. The No.30.5 was perhaps helped in this regard by its more laid-back spatial perspective, which set the entire soundstage farther back than the 27's slightly more immediate rendering.

When I first listened to the Wadia 2000 back in 1989, I was struck by the processor's tremendous bass solidity, impact, and effortlessness. That quality has been extended in the 27; the new processor had stunning power and dynamic impact. Kickdrum had a "center-of-the-earth" solidity that offered a firm rhythmic foundation for music. Bass guitar had a sense of power, weight, and drive that worked with the kickdrum to produce a thrilling, visceral experience. Commendably, the 27 had tremendous bass weight without being thick or overblown. The palpability noted earlier was also evident in the bass; listen, for example, to Stanley Clarke's solo on "Nevermind," from Stereophile's Test CD 3. Stanley was in the room. The bass had wonderful weight, articulation, and dynamic expression. I also enjoyed Patrick O'Hearn's virtuoso acoustic bass playing on the amazing instrumental

"The Ocean is the Ultimate Solution," from Frank Zappa's Sleep Dirt (RYKODISC RCD 10527). "Weight without bloat" sums up the 27's bass presentation.

The remarkable bass dynamics extended into the rest of the spectrum. The 27 not only had a good dynamic agility, but presented a more coherent portrayal of transients. The edges seemed to line up in a way that gave the presentation a more lifelike quality. This character was partly responsible for the realism noted earlier on acoustic guitar. When the sharp transient edge was reproduced correctly, the sound gave my brain fewer clues that I wasn't hearing a live instrument. The result was a greater sense of realism.

One aspect of the 27's performance that's hard to describe is the sense of music-making I experienced when listening through it. There was a naturalness and vitality to the music that made me forget about the sound and focus on the music.

An Unfair Advantage? I found myself enjoying music so much through the system that I didn't want to change anything. I had to discover, however, how much of the fabulous sound was due to the 27 and how much was from removing the SFL-2 preamplifier from the signal path.

As good a preamplifier as the SFL-2 is, putting it in the signal path degraded the sound. The soundstage became slightly narrower, less deep and spacious, and the bloom around instrumental outlines diminished. The soundstage narrowing was apparent on "Les Douzzelles," from Oregon's Beyond Words. The oboe, which hung in transparent space at far right, moved a little closer to the center with the SFL-2 in the signal path. It also came slightly forward, lost some of the air that had surrounded it, and was less vivid in timbre. On the same track, the acoustic guitar sounded "slower" and thicker, with a somewhat blunted transient attack. The top octave was also less airy, open, and extended with the SFL-2. The system still sounded superlative, but the magic was gone.

It could be argued that the 27 didn't really sound so good as I'd experienced it driving the VT150s directly; it had the advantage of no preamp in the signal path — a condition not enjoyed by other processors under audition. (The comparisons with the No.30.5 were made with both units driving the SFL-2 at matched levels.) Conversely, one could assert that because the 27 has the ability to drive a power amplifier directly, that advantage is intrinsic to the 27's performance. Why should it be burdened with a preamplifier when it doesn't need one?

I'll accept the second argument, but also reiterate the functional limitations of having no preamplifier. If you want to play analog sources you must either digitize them and accept the degradation that that imposes, or reconnect your preamplifier every time you want to listen to a record or the tuner or make a tape. There's no free lunch.

But once you experience the removal of that last veil between you and the music, it's hard to live without it. Running the 27 straight into the power amplifiers took me a significant step closer to the magic — the last step between great sound and goosebump-raising magic.

My reservations about digital-domain volume controls have been greatly alleviated by my experience with the 27. Whatever degradation the digital volume control imposed, it was far less than that introduced by even such an excellent preamplifier as the SFL-2. Moreover, I heard no degradation when the volume control was used toward the upper end of its range (numbers above 75 on the 27's front-panel display).

Enter the Wadia 7 CD transport: These impressions were made with the Mark Levinson No.31 driving the 27. Would the sound get even better with the $12,500 Wadia 7 transport? Considering the 7's apparent cost-no-object design approach and the fabulous Esoteric P-25 mechanism, I had high hopes.

Although the 7 was superb in many ways, I preferred the No.31. The Levinson transport sounded smoother, more liquid, and produced a greater sense of ease. The 7 was more forward overall, with a livelier midband and a brighter treble. Piano sounded a little more mechanical through the 7 than through the No.31, with a trace of hardness not heard through the Levinson transport. The No.31 was, overall, more refined and polite.

To its credit, the 7 had deeper bass extension and better bass definition than the No.31. The Wadia transport's bottom end was fuller and tighter, with greater rhythmic drive. The 7 had a powerful and dynamic presentation, particularly in the bass.

I also heard precise image focus and exceptional transparency from the 7. Images were well-defined, razor-sharp, and presented against a jet-black back-
ground. Although the 7 had good soundstage width and transparency, the No.31 was more spacious and presented a richer bloom around image outlines. The 7 sounded drier, with less space between images.

Detail resolution was superb; the 7 had a highly detailed rendering that presented me with lots of musical information. The detail was, however, more analytical than the No.31's more subtle (but no less resolving) perspective. This, along with the smoother treble, gave the No.31 its greater sense of ease and musicality. That's why the No.31/Wadia 27 match was so musically satisfying.

Although the No.31 suited my tastes more than the 7, the Wadia transport had the best dynamics, bass definition, and rhythmic coherence of any transport I've auditioned. The Wadia 7/27 combination had tremendous dynamic impact and drive that I greatly enjoyed. But I was willing to give up some of the 7's visceral, physically involving pace for the No.31's greater musicality.

MEASUREMENTS

My measurements of previous Wadia digital processors have revealed unusual behavior. In addition to the nearly 3dB rolloff at 20kHz (a tradeoff in the filter to achieve perfect time-domain performance), I've measured poor low-level linearity, high levels of noise above the audioband, and a noisefloor that shifts in level and spectral balance as a function of input level. Interestingly, the linearity errors measured in the original Wadia 2000 could be corrected with software; Wadia sent me different EPROMs that resulted in better low-level linearity but made the unit sound less good.

I thus approached the 27's measurements with particular interest: Why should poorer bench performance result in better sound? That question, however, remains rhetorical (or limited to single-ended triodes — Ed.); the 27 exhibited superb technical performance in every parameter.

In the gain position 1 selected for matching the 27's analog output level to the rest of my system, the 27 produced 2.45V from the balanced outputs and 2.48V from the single-ended jacks with a 1kHz, 0dBFS sinewave. The similar output level between the unbalanced and balanced jacks makes sense because the two outputs can be used simultaneously when driving a system (such as mine) that uses a separate woofer amplifier. The 27's output stage uses separate buffers for the balanced and unbalanced outputs.

This output voltage was sourced from an impedance of 7 ohms (unbalanced) and 14 ohms (balanced) at any audio frequency. Although this is a very low output impedance, it isn't the 1 ohm claimed by Wadia. DC levels were minimal, and the 27 doesn't invert absolute polarity. The unit locked to and properly decoded 32kHz and 48kHz sampling frequencies.

As expected from the Digimaster filter algorithm, the 27's frequency response (fig.1) shows a rolloff of nearly 3dB at 20kHz. The actual -3dB point is 22.05kHz, half the sampling rate. Although this rolloff is confined to the top octave, you'd expect it to be audible as a slight loss of air. I didn't notice any "closed-in" character during the auditioning, but the 27 did lack the sense of top-end extension I hear from the Spectral SDR-2000 Pro. Fig.1 also shows the 27's de-emphasis error, which is surprisingly large considering that the de-emphasis is performed in the digital filter. There's a rise of 0.15dB over about two octaves right in the region where the ear is most sensitive to amplitude changes, followed by a treble rolloff. This combination of de-emphasis response errors will make pre-emphasis-sized discs sound a little more forward and bright, and reduce their treble extension. Because so few CDs have been recorded with pre-emphasis, this won't be significant.

The 27 had superb separation between its left and right channels, as seen in the crosstalk plot of fig.2. Note that the scale had to be expanded to -140dB (from our usual -130dB) to show the 27's low crosstalk. The unit had nearly 110dB of channel separation at 20kHz, and 123dB separation at 1kHz — impressive performance.

A spectral analysis of the 27's output when decoding a 1kHz, -90dB dithered sinewave (fig.3) shows the 27 has an extremely low noisefloor, good linearity, and a complete absence of power-supply noise in the audio signal. We often see peaks in the trace at 60Hz or 120Hz that indicate the power supply is polluting the audio signal path. There's not even a hint of this phenomenon in the 27. The peak at 2kHz is second-harmonic distortion in the DAC, which we see in all processors using the Burr-Brown PCM63 or PCM1702 DAC.

Repeating the spectral analysis with an input signal of all zeros and a wider bandwidth (fig.4) reveals that the 27 is well-behaved above the audioband. The newer Wadia products use more aggressive ultrasonic filtering than previous designs, which should reduce system-to-system sound-quality variability. Power amplifiers respond differently to ultrasonic garbage, making products with ultrasonic spurious less sonically predictable in different systems.

The 27's linearity (fig.5) was also excellent, with near-perfect behavior to -110dB. The PCM1702 DACs are...
Fig.6 shows the 27's reproduction of a 1kHz, -90dB undithered sinewave with 16-bit precision. The DACs perform well at this low level, with no differential nonlinearity. The 27's low noise is also apparent in this waveform. Fig.7 is the same waveform, but with 20-bit precision; the 27 gets close to correctly reproducing the 20-bit waveform.

The 27's noise-modulation performance was outstanding. In fig.8 we can see a virtually perfect overlapping of the traces, indicating that the 27's noisefloor remains constant regardless of input level. This is one of the best-looking noise-modulation plots I've seen, and a far cry from the original 2000's poor noise-modulation performance. There is, however, an indirect relationship between good low-level linearity and good performance on the noise-modulation test. The better linearity inherent in the PCM1702 DACs confers an advantage not enjoyed by the mid-1988-era DACs in the original 2000.

Fig.9 is the 27's intermodulation distortion spectrum, made by driving the 27 with a full-scale mix of 19kHz and 20kHz — a real torture test. The IMD products are virtually nonexistent, even the usually strong 1kHz component (20kHz minus 19kHz). Again, this is an exemplary performance.

We stopped publishing the squarewave responses of digital processors in Stereophile because they all tended to look alike. The Wadia 27, with its time-domain-optimized filter, is a different story. I therefore captured the 27's reproduction of a 1kHz full-scale squarewave (fig.10) and the squarewave as reproduced by a processor that uses the common NPC 5803 filter (fig.11). Note the complete lack of ripple in the Wadia filter. By contrast, the NPC filter shows both continuous "Gibbs Phenomenon" ripple (due to the filter not having infinite bandwidth), and that the ripple is clipped. One of the tricks used in the Pacific Microsonics PMD100 HICD® filter/decoder is to attenuate all signals by 1dB to prevent the ripple from clipping.

I also looked at the 27's impulse response, which confirmed Wadia's claim of no pre- or post-echo. An impulse is a signal of all zeros with one sample at full-scale. Putting this signal through a device under test produces the device's impulse response, from which frequency-domain information can be obtained using the Discrete Fourier Transform. Processors with conventional filters produce squiggles in the signal before and after the impulse, the so-called pre- and post-echo. It's odd to think of an artifact appearing before the signal that created that artifact, but the delay through a digital filter makes this seemingly impossible phenomenon a reality.

The musical significance of the 27's unique time-domain performance is open to debate. I did hear, however, one quality in the 27 that I haven't heard before in a digital processor: a greater sense of palatable presence — "more there there," as Sam Tellig would say. Whether or not that quality is related to the 27's radically different filter and its time-domain-optimized performance is an interesting question.

Because the 27 has no RCA coaxial inputs, to measure jitter I connected the RCA output of a PS Audio Lambda transport to the 27 through an RCA-to-BNC adaptor. For consistency, we use the same transport and digital cable for all of our jitter measurements. But introducing an adaptor can significantly worsen the processor-under-test's jitter performance, something I discovered in my review of the Resolution Audio Quantum processor and Cesium transport (Vol.18 No.10). Is it fair to measure the 27's jitter with the same cable that other processors are measured with and have it suffer from the RCA-to-BNC adaptor, or to drive the 27 with the Lambda's ST-Type optical glass-fiber output?

I measured the 27 both ways. However, I believe that the results made with the glass-fiber input are more repre-
sensitive of the 27’s intrinsic jitter performance. Most users will opt, as I did, to use the 27’s glass-fiber input. Don’t even consider using an RCA-to-BNC adaptor.

The following measurements were made on the 27’s 16x word clock (705.6kHz) rather than on the 8x (352.8kHz) clock found in most digital processors. The 27’s custom filter recovers at 16x, not the 8x of conventional filters. Fig.12 is the 27’s jitter spectrum made with the coaxial cable and RCA-to-BNC adaptor. The input signal was a 1kHz, –90dB sine wave. Note the correlated jitter at the test-tone frequency of 1kHz and its harmonics. The RMS jitter level, measured over a 400Hz–20kHz bandwidth, was 65 picoseconds. This is a respectable RMS figure, but the spectrum has strong periodic jitter components correlated with the input signal. In other words, the data representing the 1kHz sine wave caused the 27’s clock to be jittered at that frequency—not a good thing.

Now look at the spectrum under identical conditions, but with the 27 fed from the Lambda’s ST-type glass-fiber output (fig.13). The spectrum is virtually free of correlated jitter, save the tiny jitter component at 1kHz. Although we have much to learn about relating clock-jitter spectra to sound quality, I suspect that the difference between figs.12 and 13 is audible, and responsible for much better sound quality I heard through the glass-fiber interface. The RMS jitter dropped only slightly, to 50ps. The difference between 65ps and 50ps may not be significant, but the difference in jitter spectra certainly is.

With a 1kHz full-scale sinewave and the ST connection, the 27’s clock-jitter spectrum was completely free from correlated jitter (fig.14). The RMS jitter level was 45ps (150ps with the coax adaptor). Driving the 27 with a signal of all zeros (which introduces no signal-correlated jitter, but shows the processor’s intrinsic jitter) produced the plot of fig.15. Again, the spectrum is clean. The RMS jitter level dropped even further, to just 26ps (also 26ps with the coax adaptor).

This is outstanding jitter performance, with clean spectra, low RMS levels, and excellent isolation of the clock from data-pattern–induced jitter. In fact, the 27’s measured performance was textbook in all respects. The unit had a very low noise floor, wide channel separation, freedom from power-supply noise in the audio circuits, excellent linearity, superb time-domain performance as seen in the impulse response and squarewave reproduction, and low jitter. In short, the Wadia 27 is an extremely well-executed piece of engineering.

The Wadia 7’s tracking performance, checked with the Pierre Verany Test Disc (PV.78031&2), was okay but not outstanding, the sound breaking up on track 34, which has a gap in the data 2mm long. Other high-end transports, the Meridian 500 and the Mark Levinson No.31, for example, have performed much better on this test. While there is no immediate correlation between a transport’s tracking ability and sound quality, it does mean the Wadia 7 might not be as tolerant of discs with damaged surfaces as other high-end transports. It was also surprising, given the construction and design of the Esoteric P-2S mechanism used by the Wadia transport. (Perhaps the transport was out of alignment.)

CONCLUSION

Wadia’s 27 Digital Decoding Computer has joined a select group of digital processors I hold in the highest regard. In my experience, the three best-sounding converters are the Spectral SDR-2000 Pro, Mark Levinson No.30.5 (with the HCDI upgrade and its 6dB of attenuation turned off), and the Wadia 27. These three form an upper echelon a step above the other Class-A–rated processors in Stereophile’s “Recommended Components.”

I won’t restate its specific qualities here, but must reiterate how much I enjoyed listening to music through the Wadia 27. Driving the power amplifiers directly, the 27 was immensely communicative and involving. Throughout the auditioning I had the sense of sitting in on music-making, with a riveting realism and spontaneity.

The 27’s design, execution, and build quality were all world-class. The impressive engineering techniques that fill the 27 are reflected in its outstanding technical performance.

I was less enthusiastic about the Wadia 7 CD transport. Although the 7 had great bass, dynamics, and detail resolution, it fell short of the standard set by the Mark Levinson No.31 transport in smoothness, ease, soundstage depth, and bloom. There’s also the matter of the 7’s $12,500 price tag. For that amount of money, the product should be without peer.

The Wadia 27 has earned a strong recommendation, even if you must use it with a preamplifier. But those listeners who can drive a power amplifier directly from the 27 are in for a special treat.

Stereophile, October 1996
Mark Levinson No.31.5 Reference CD Transport

John Atkinson

If there is a component category that causes the "objectivists" in the audio community to splutter uncontrollably over their cups of herbal tea, it is the high-end CD transport. For in their "bits are bits" world, all a transport is required to do is recover the digital data from a disc—much like a grown-up cousin of your computer's $25 floppy-disk drive. The thought of paying up to $10,000 for something so humble—and, in their eyes, unnecessary—typifies what these blinkered folks regard as the insanity of the High End.

"If you hear a difference, it's because your D/A processor is broken or badly designed," they scorn. Yet when I first auditioned the original Mark Levinson No.31 transport in my system in early 1993, prior to its review by Robert Harley in Stereophile,1 the improvements it wrought—in the stunningly transparent presentation of detail, the delineation of the recorded soundstage, and in the sheer effortlessness of the musical message—were so noticeable, so large in a field where sonic differences can sometimes require much straining to identify, that I immediately reached for my checkbook. As far as digital sources were concerned, I lived happily ever after (at least for two years—see later), particularly after I'd purchased the magazine's original 1991 review sample of the Levinson No.30 processor and updated it to full No.30.5 status. (This gave Wes Phillips many opportunities to point out that my CD player cost more than most people's entire system.)

To take the digital medium's theoretical perfection on trust strikes me as poor engineering practice. It appears that the real world of digital technology is far removed from the perfect world of mathematical theory. Single-box players tend to sound poor because of the impossibility of isolating the ultra-sensitive D/A circuitry from noise; while separating the transport and processor sections solves that problem, it raises a new one in the introduction of datastream jitter in the transport output, the data cable, and the DAC's word-clock recovery circuit.

But even as the "obs" still debate the existence of jitters and put down "subs" like you and me, engineering-led companies like Madrigal (and others) have been making great strides to eliminate it. Three years is thus a long time in digital, and at the 1996 Winter CES last January, Madrigal announced the No.31's successor, the No.31.5. Selling for $1000 more than the '31, the No.31.5 superficially looks identical. And, in fact, like all Mark Levinson "Reference" components, original No.31s can be upgraded to the latest status. A "performance only" upgrade, which replaces the transport mechanism, circuit board, one of the power supplies, EPROM, and remote, costs $2995. Replacing the lid assembly adds another $950, while a new face plate, identical to the original but engraved with "No.31.5," adds another $750.

What's new?
The No.31.5's transport mechanism is mounted on the same sprung 12-lb lead-brick assembly as in the '31. However, whereas the No.31 used the Philips CDM 4 CD player mechanism, with its familiar swing-arm laser pickup, the '31.5 features Philips' new CDM 12 2x-speed industrial CD-ROM mechanism with a linear-tracking pickup and a digital servo. Because this is a CD-ROM drive, it won't by itself access the audio disc's subcode and index information. Madrigal therefore developed their own control software.

More important from a sound-quality point of view, they remove the Philips-supplied 1000ppm-accuracy oscillator from the servo board and replace it with a TCXO (Temperature-Controlled Crystal Oscillator). Spec'd at 5ppm and run at a 256fs rate, this is mounted on its own sprung printed circuit board next to the output. And even more important with respect to sound quality, the transport has changed conceptually. That master oscillator controls not the transport mechanism but the output stage, a flip-flop chip that could

1 Ralf's review appeared in June '93 (Vol.16 No.6), with follow-Ups in Vol.16 No.9 & 11 and Vol.17 No.3. Refer to his original review for a full physical description of the Levinson transport.
be considered a 1-bit FIFO. The output data thus have the maximum timing precision, which is where it is needed. The mechanical drive is slaved to the output stage and therefore needs to be able to respond to its demands, which is why a 2x drive mechanism, with its inherently fast response, comes in useful. (This topology, referred to by Madrigal as Closed-Loop jitter Reduction, or CLJR, was developed for the less expensive No.37 and Proceed CDD transports.)

The Madrigal-developed control software for the mechanism runs on a combination of an Analog Devices DSP chip and a Xilinx field-programmable device (FPGA). The DSP chip is also used to process the audio data—as, once the timecode, track and index information has been read, its presence in the output data potentially increases jitter. Not only are this data stripped out from the output, but the subcode bits in each data frame are replaced by random bits generated by the DSP. Madrigal had first tried calculating the appropriate bits for each frame to make it DC-neutral (as originally suggested by Dunn and Hawsford in their 1992 AES paper, reprinted in the March ’96 Stereophile), which will inherently minimize jitter. Surprisingly, this was found not to sound as good as adding random data, perhaps because the calculated extra bits, while giving the lowest jitter, are still correlated with the signal data. The random data will give slightly higher residual jitter in the AES/EBU interface, but this will be completely decorrelated. (Note that the audio data recovered from the C1, bits 1 through 16, are left untouched by this process.)

How is the world treating you?

The first thing you notice when you audition the No.31.5 is the sound, not of the C1, but of the lid. Gone is the idiosyncratic whirring noise. Instead, the new lid lifts noiselessly, driven by a high-speed, low-torque motor via a 64x reduction gear. Its speed is also under software control: it gracefully slows down near the two ends of its travel. It also opens and closes if gently pushed.

The second thing you notice is the remote, which is the same size and shape as the ‘31’s, but adds volume and source-selection buttons. For a transport? The new remote and programming allow the No.31.5 to control the volume level and source of a No.38 or ‘38s preamplifier in the system as well as selecting between the digital sources connected to a No.30.5. The volume and source settings are briefly shown on the transport’s alphanumeric display. The preamp can thus be set out of sight, if so desired. This simple ergonomic improvement proved mightily valuable in the listening room.

But sound quality is what matters most to this magazine’s readers, and therein lies a tale. As impressive as I have found the original No.31, after about two years of living with it I found myself experimenting with outboard jitter-reduction units. In chronological order, I tried the Digital Domain VSP; the Sonic Frontiers Ultrajitterbug, the Audio Alchemy DT1-Pro and DT1-Pro 32, the Meridian 518, and the Genesis Digital Lens. The sonic changes wrought by these devices were mainly positive, though the effect of the original DT1-Pro’s enhancement algorithm was very dependent on the CD being played, and sometimes made the sound worse.

In general, the palpability of the No.31’s sound was made greater by these outboard devices: the midrange sounded even more natural, and the highs were better differentiated. Symbols, for example, sounded less noisy and were more detailed in the manner of the real thing. The two best-sounding units were the most recent, the Meridian and the Genesis, when both were set to reder to a 20-bit data word length. While the Digital Lens gave the greatest improvement in sound quality, this came at a price: the Genesis made the No.31’s always-authoritative bass sound more bloated, less tight. As Martin Collom would phrase it, the Genesis reduced the ‘31’s sense of pace. Ivo Papasov and His Bulgarian Wedding Band’s Orpheus Ascending (Hannibal HNCD 1346), for example, has been spending a lot of time spinning in the ‘31 in recent weeks. The bass guitar that drives the crazy combination of clarinet and rhythm guitar — or “structural” guitar, as the Dead’s Bob Weir calls it — through the music’s angular and irregular time signatures lost some of its essential forward momentum even while the midrange-dominated instruments, the snare drum in particular, gained palpability.

As much as I enjoyed the sound of the No.31, I guess I knew that there was more to be gotten from digital, as I was to find out when my vinyl reminded me. I set the No.31.5 up with anticipation: Would it offer the improvements to the realism of the midrange and treble that I had become used to from the Digital Lens while preserving the No.31’s sense of pace and bass authority?

In a word, yes. The No.31.5 gave me the best of both worlds. It only took me about five seconds of Orpheus Ascending to realize that with the ‘31.5 recovering the bits, and without the Genesis, I was hearing the best I have yet to hear from the 16-bit CD standard. Yes, Michael Frasca, it’s still not vinyl, but it’s damned close. And when there is great music only available on CD — Charlie Watts’s new jazz standards collection, Long Ago & Far Away (Virgin 8 41695 2), for example — the Levinson No.31.5 driving the ’30.5 relieves the pain of vinyl withdrawal and eliminates the strain.

Lovely as ever, I MUST ADMIT

With a high-quality audio version of DVD looking to be years away, I see no reason not to invest in a high-performance CD transport (especially as I don’t see it as too difficult a task to upgrade the ‘31.5 to take a DVD mechanism). And the No.31.5, a “reference” component if ever I heard one, defines “high performance.” However, it is fair to point out to owners of the No.31 that even the cheapest upgrade to ‘31.5 status, replacing as it does everything other than the chassis and half the power supply, is quite expensive at a hair under $3000. By comparison, the $1800 price tag of the Genesis Digital Lens or the Meridian 518 looks tempting.

But you’ve guessed it: I’ve ordered the upgrade kit for my No.31. The combination of improved sound and greater functionality/versatility in a Levinson-based system proved impossible to resist. I can fully recommend the No.31.5 as a supreme example of a state-of-the-art, potentially future-proof CD transport. And let the obs be damned!

STAIRWAY TO THE STARS

Digital processor used for the comparisons was the Mark Levinson No.30.5, connected to the No.31 and No.31.5 via 1.5m lengths of Madrigal AES/EBU cable or the excellent Illuminati Orchid AES/EBU link between the Genesis and Meridian units and the ‘30.5. I also used a Sonic Frontiers SF-CD1 as a reference. Amplification consisted of a Levinson No.385/No.333 combination, joined by 10’ lengths of balanced AudioTruth Lapis interconnect. Speakers were B&W Silver Signatures, connected to the amplifier with their own solid-core silver cables.

—John Atkinson

STEREOPHILE, OCTOBER 1996
A bout a decade ago, I read in StereoFile about the SRC, an add-on remote-control unit manufactured by Acoustic Research. I bought one the next day ('what happens when you work across the street from a hi-fi shop). Suddenly I was able to make incremental changes in volume and balance from my listening position—and let me tell you, that’s the way to do it. What a phenomenal difference in realistic dynamics and soundstaging.

But there was a fly in the ointment. My system wasn’t state-of-the-art by any stretch, but it was reasonably transparent. With the AR remote in the circuit, it was noticeably less so. As much as I hated to see it go, go it had to—and did.

It must also confess to having had a strong strain of Audio Calvinism at the time—deep down, it didn’t feel right to have convenience in a high-end system.)

But it did make me wonder. Since remote control offered such obvious benefits, why didn’t the real high-end manufacturers explore ways to accomplish it without sonic tradeoffs? Why couldn’t we have it all?

What a difference a decade makes. Today you’d be hard pressed to find a major high-end manufacturer who doesn’t offer a full-function remote-controlled preamp. But let me tell you, it still comes as a shock when it’s done as well as the Krell KRC-HR.

You can tell it’s a Krell ‘cause it’s swell
Did I say full-function? The Krell is first—and foremost—an extremely sophisticated preamplifier. Its signal stages run in high-bias class-A and it features digital switching as much as possible divorced from the signal path. Volume control is achieved through an electronic, two-channel gain network that features over 300 discrete attenuation steps. No capacitors are used in the audio circuit paths, and the circuits themselves are laid out on high-quality four-layer glass/epoxy boards which, Krell claims, offer superior grounding as well as increased power stability.

The preamp has two balanced inputs (pin 2 hot, noninverting), which utilize complimentary circuits for increased linearity, as well as four single-ended inputs. One of these, S1, can accommodate Krell’s Standard or Reference Phono Modules (which also mate with the KSL and KSL-2 line stages), while S4 can be switched for unity gain throughput. Single-ended and balanced outputs are provided; both are active at all times, meaning the KRC-HR can be used to control power amplifiers in two separate systems—assuming equivalent gain is desired in both at all times.

The preamp’s heavy-duty power supply has its own chassis, whose unbiubical is secured by nine-pin computer-cable-style connectors at both ends. Krell cautions strongly that the power supply be connected solidly to the preamp before being plugged in—allways a good precaution when using an external PS.

The front panel is a tribute to uncluttered functionality. Its single knob—the gain control at the far right—even has an LED indicator set into it, allowing you to judge the level setting from across the room. All other switching is accomplished through oval-shaped soft-touch activators, each accompanied by a status-indicating LED. On the far left, above the mute switch, the six input selectors are arrayed in two rows in a pattern resembling an I Ching hexagram. Slightly to the right of these, in a vertical line, are the tape switch, the gain selector (6 and 12dB settings), and the polarity-inversion switch. In the middle of the front panel is a heavy band of black-anodized metal—matching the preamp’s encasement—which contains a wide I/R receptor window set above the trademark six-screw Krell nameplate. To the right of this is a twin row of five balance switches (incrementally indicating 1dB of adjustment for each channel) and the level-adjustment knob. All controls are replicated on the remote.

The fit ‘n’ finish on the KRC-HR is first-rate. All metalwork, including XLR and RCA connectors, is superb. The unit is solid, built like a tank. Open it up
LEAVING KRELL ENOUGH ALONE

A lot of what I like about the KRC-HR is what it doesn't do. It doesn't hum, add noises, or call attention to itself in any way at all. Like most inhabitants of our modern age, I've become inured to the low levels of obtrusive noise that perva our environment: fans, motors, transformers, fluorescent lighting ballasts—heck, even buzzing light-bulb filaments. Let's face it, we live in a mirage of unwanted sounds. But the Krell doesn't contribute to it at all; not only is it—and its power supply—dead quiet in operation, but its addition to the signal is virtually nil—far below my ability to perceive it.

This lack of noise makes its resolution about the highest I've ever experienced. I've heard stuff in favorite recordings that I've never heard in 20 years of listening. "Oh no!" I hear you hissing. "Not another lecture on music rustling, chair squeaking, and the newfound audibility of overdubbing"? No, that's all old news. All of that goes on—and must, as long as people actually make the music we listen to—but who cares? I'm talking about choices that the artists made about how to make the music—choices that can further inform my relationship to the music, now that I hear them.

Are the changes revelatory? For the most part, no. It has become an audio truism that we can have profound experiences with poorly reproduced performances precisely because we don't require ultimate resolution in order to emotionally connect. But all things being equal, the closer you get to actually being there, the less you have to work at experiencing the musical gestalt. Listening to the Krell gets you mighty close indeed.

Speaking of getting close, couldn't I get even closer if I eliminated all of the KRC-HR's circuitry and went direct from a high-quality variable output source like the KPS 20i/? I had performed this experiment with some other, highly regarded preamps and found the sound straight out of the CD player more transparent and immediate.

To my surprise, this was not the case with the KRC-HR. With the preamp, music sounded just as fast and uncolored, but vastly more coherent and full-bodied. Listening to Emmylou Harris singing "Hard Times" (on At the Ryman, Reprise 26664, CD) through the KPS-20i/I direct, I was conscious of the small size of the theater and its rapid decay—factors that don't add a lot of body to an essentially a cappella number such as this one. In comparison, the sound when the Krell was in the circuit was fuller, even better detailed, and more imbued with body. It could be argued, I suppose, that I'm reacting to a euphonic coloration, but I've never heard a euphonic coloration that made things sound more like themselves—which Emmylou and the Ryman did, through the KRC-HR.

Furthermore, the integration of the bass to the rest of the frequencies was more holistic. The song begins with an augmented chord harmonized by the Nash Ramblers as Emmylou sings the verse. With the KRC, the tonal spacing was tighter; the bass tone sounded more of a piece with the intervals above it. Ditto the acoustic bass, which came through the 20i/I hot-r'd (as it does with most systems) as an undifferentiated thump. With the KRC in the path, that thump was still pretty non-pitch-specific, but it had gained in detail: I could hear how Roy Huskey, Jr.'s string bass was coupled to the stage floor, its tone separate from the vocals above it. I could even hear the stage creak as the four singers leaned in closer to Emmylou for the chorus's tight harmonies. It goes against so much that I've learned over the years, but I'll be sheep-dipped if I weren't hearing more with the preamp in the circuit.

MY HEART KRELLS

I haven't heard many electronic devices as tonally transparent as the KRC-HR. When a component disappears totally, what's not to like?

As I write this, JA and I have just finished recording the 1996 Santa Fe Chamber Music Festival for an upcoming Stereophile CD. JA made some CDR dubs for me, primarily of a superb piano performance that will, sad to say, probably not get released. John hasn't done any mixdown yet—using the Sonic Solutions hard-disk editing system, he will align the four tracks in time, then mix the two pairs together, as he did for our Sonata and Festival CDs—so the CDR contains two versions of the same night's performance: one through the crossed pair of B&K cardiods hanging in the center of the hall above the first row of the audience, the other taken from B&K omnis hanging a little farther back (less than a foot, really) on either side of the auditorium. Same musicians, same hall, same performance—the only differences are the microphones and their placement. It's a subtle test—after all, not much is different—yet sonically the takes are as different as day and night. The omnis have a fat, juicy, totally engaging sound—albeit with a hole in the middle you could drive a truck through—while the coincident pair have a hyper-detailed, up-close-and-very-personal sound that maps out the soundstage to the millimeter. BUT—and this is a big but—everything else about this performance should sound exactly the same, because the two takes did, after all, record the same event. Duh.

But the nature of distortion is to be

**ASSOCIATED EQUIPMENT**

**Digital Front-End:** KPS-20i/I, Theta Data Basic II/Theta DS Pro Basic IIIa.

**Analog Front-End:** Linn Sondek LP12 w/Naim Armageddon power supply/Naim ARO tonearm/Naim Prefix/HiCap phono section; Well Tempered Reference Turntable/van den Hul Grasshopper cartridge.

**Power Amplifiers:** Ayre V3, Conrad-Johnson Premier Eleven A, Conrad-Johnson Premier Twelve, Krell KSA-300S; Krell Audio Standard.

**Speakers:** Aerial Acoustics 10T, Martin-Logan SL-3, Wilson WATT/ Puppy 5.1.

**Cables:** Kimber KCAG interconnect, XLO Type 3.1 Signature balanced interconnect, MIT balanced 350 interconnect, Kimber Black Pearl speaker cable, MIT 850 speaker cable, Straight Wire Maestro speaker cable.

**Accessories:** Versa Labs Wood Blocks, Ground Blocks, Red Rollers, and Flat Rollers; MIT Z-cables; The Shelf by Black Diamond Racing.

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Wes Phillips

*Stereophile, October 1996*
inconsistent, I've heard a lot of systems through which the differences between the two takes would be exaggerated by nonlinearities in reproduction—exaggerated to the point where all you could hear would be those differences. The KRC-HR made the two takes sound identical, other than the most obvious, indeed essential, differences. Dynamically, rhythmically, interpretively—they matched.

If you've never done a comparison of this nature, you might be tempted to sell it short. Most people never get to hear different perspectives on the same performance. They might listen to different interpretations of the same piece, some of them even incorporating the same artists or halls, but the same event? No. So we become used to hearing—used to listening for—the differences between events. We become experts on such differences. But listening to similar, very closely related versions of the same event requires a different sort of listening, and, I'm beginning to discover, a rare, fine analytic tool. The KRC-HR

THE KRELL AUDIO STANDARD POWER AMPLIFIER

The scene: Larry Archibald's last New Year's Eve party. Larry was mixing records and CDs into a set orchestrated to take his guests from smoldering tension to full-blown dancing frenzy just as the year changed. His living room is huge, and his speakers are the power-hungry Thiel CS-5s, powered on this occasion by the Krell Audio Standards. By 11:30, Marvin Gaye's "Sexual Healing" had packed the dance floor. JA and I stood atop the three stairs that lead down to the living room, watching while Larry tweaked the volume just a little louder, causing the dance floor to churn. John leaned over and mumbled, "Sometimes seven watts per channel just won't cut it."

Indeed.

Another evening, six months later: JA had come to my place for a working dinner. While listening to the Aerial 10Ts driven by a Krell KSA-300S, John spotted the KASes and suggested we install them. I'm not sure what he was expecting, but I figured we'd tighten up the bass a bit and maybe get the sound to cohere a smidge better.

We sure weren't prepared for what we heard. Mouths agape, JA and I looked at one another. The bass was tighter and better integrated into the sound as a whole, but there was no aspect of reproduction that wasn't improved by several quanta. The sound inhabited the room naturally and absolutely. "If that," he said, pointing at the '300S, "is worth ten grand, then these amps really are worth $35,000! Someone has got to write about them."

Agreed. In fact, we should have acknowledged these remarkable products a long time ago.

The Audio Standard is a double-decker amplifier: its regulated power supply occupies a chassis separate from, and equal in size to, that holding the audio circuitry. The power supply has an LED readout (which can be turned off) that displays the voltage coming out of the wall. The audio portion of the amp—the top deck—features a large oval meter offering a variety of illumination and readout configurations. This gives the KAS a slightly retro, somewhat cyclopean, look.

Regulated supplies ensure a constant-voltage delivery to the signal stages, but they typically have one major disadvantage: they can't produce the instantaneous and short-duration power that dynamic peaks demand and get from amplifiers with sloppier supplies. Krell gets around this shortcoming by using its "Anticipator" circuit, which prompts the supply to increase voltage output for seven seconds, allowing the amp to build its way through the peak. Krell claims that this circuit is triggered well in advance of the actual demand.

The Anticipator circuit also plays a role in the audio portion of the amplifier by controlling Krell's Sustained Plateau Bias system, which is designed to maintain class-A output bias while simultaneously keeping power consumption and heat dissipation to a minimum. It accomplishes this by utilizing five discrete bias levels, each equivalent to a class-A amplifier of proportionately increasing power. By monitoring the input signal, the SPB system determines the bias level required to maintain pure class-A operation of the output stages no matter what the load. The amp maintains the higher output level for 90 seconds before changing back to a lower level.

Does it work? I was never aware of the switching process, not even when putting Mahlerian demands on the output. I'm usually sensitive to the lag involved in all but the very best servo systems, but I just don't hear the Anticipator circuit at all. I haven't seen the utility bill yet, so I can't say whether or not Krell has succeeded in keeping power consumption down. But I've been using the KASes in a record-breaking hot New Mexican summer, and they gave off surprisingly little heat for such gargantuan class-A amplifiers.

One last point: the KASes only accept balanced input.

Let me state it as baldly as I can: Nothing in my experience of the
revealed itself to be a tool capable of such refined differentiation.

**Creatures from the 1D?**

However, as neutral and revealing as I think the Krell was, there was one thing it just didn't do: It didn't really present a well-differentiated stereo spread into a three-dimensional soundstage that included substantial depth information. This surprised me, for the KRC-HR had as much low-level resolution as I've ever heard. Even sounds way down in the mix were clearly audible and placed within an acoustic space. The preamp had no trouble illustrating the difference between a jazz club and a small theater, for instance. No, I was quite aware of the space within which the music had taken place.

But when it came to arranging the players in ranks, in orchestral recordings such as Corigliano's First Symphony (Erato 61132-2), or Bernstein/NYPP's Mahler Third (DG 445 835-2), the KRC just put 'em up there in a relatively nonspecific clump. Well, maybe that's a bit hard on it—the musicians had quite detailed lateral spread, just not much depth. They weren't spread out in a single file, but they lacked that sense of existing in specific locations from front to back. This remained constant whether I played LPs or CDs, dynamic speakers or electrostats, tubed amps or solid-state.

How major a flaw is this? Well, I really value that sense of depth, but the KRC-HR ranks among the very finest audio products I've ever used— and, much to my surprise, I didn't really feel that I was all that deprived. Mostly, I just reveled in the music. There are audiofis who claim that the whole soundstage depth thing is an overrated obsession— a point I have a lot more sympathy for now that I've lived with the Krell. This preamp could be the answer to their prayers. There is, however, something awfully seductive about having it all, and as much as I like the KRC-HR, I suspect I'd end up deeply yearning for an extra bit of real estate: the rear of the soundstage.

**Measurements from TjN**

Unless otherwise noted, the measurements presented are for balanced operation. Unless otherwise stated, the line-level gain switch was set at normal.

Line-stage voltage gain measured a sensible 11dB balanced, and 4.9dB unbalanced (16.9dB and 10.8dB, respectively, with the high gain switch engaged). The output impedance of the Krell KRC-HR measured an extremely low 3.2 ohms balanced, 1.7 ohms unbalanced in the left channel (3.5 ohms and 2.0 ohms, respectively, in the right). The input impedance measured 101.6k ohms left and 97.4k ohms right, balanced (478k ohms and 48k ohms, unbalanced). Both input and output impedances were little affected by the level control setting. The output impedance at the tape output was just under 45 ohms regardless of source impedance, indicating full active buffering of the tape outputs. The KRC-HR's polarity is pin 2 positive in the balanced mode, noninverting in the unbalanced mode.

The DC offset at the Krell's balanced outputs was suitably low at a maximum of 0.7mV across either leg of the balanced pair. Unbalanced DC offset measured 1.6mV in either channel. SNR measured 84.9dB (unweighted) over a bandwidth of 22Hz–22kHz, 75.9dB (unweighted) from 10Hz to 500kHz, and 87.4dB A-weighted (all ref. 1V output) for the line stage. (The corresponding unbalanced readings were somewhat better at 91dB, 80.8dB, and 93.7dB.)

The frequency response of the Krell is shown in fig.1. There was no difference between the balanced result (shown) and the unbalanced (not shown). The low level of crosstalk (better than –90dB below 2kHz, not shown) is unlikely to affect the audible performance of the preamp in any way.

Regarding the very low levels of THD+noise (fig.2), it is interesting that the distortion through the unbalanced line input is lower than the balanced, though the difference is trivial and may be caused by residual levels of noise. This conjecture was confirmed by fig.3.
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Fig. 3: Krell KRC-HR, distortion (%) vs output voltage into 100k ohms (unbalanced bottom at 1V).

Fig. 4: Krell KRC-HR, spectrum of 50Hz sinewave, DC-1kHz, at an output level of 10V (linear frequency scale). Note that the third harmonic at 150Hz is the highest in level, at −60dB (about 0.1%).

which shows the THD+noise plotted against output voltage at 1kHz. (As with our other preamp tests, the minimum points in the curves, just before the distortion increases rapidly, were the values chosen to run the crosstalk and distortion vs frequency measurements.) The output spectrum of the Krell reproducing a 50Hz input at a very high output level of 10V is shown in fig.4. The highest-level artifact — the third harmonic at 150Hz — lies at about −60dB (0.1%). Reducing the output level to 5V dropped the level of this harmonic to −74dB (0.02%).

The test-bench performance of the Krell KRC-HR was very good to excellent in most respects.

— Thomas J. Norton

Whither thou Krelllest

The Krell KRC-HR must certainly qualify as one of the truly great preamplifiers out there. It’s well-built, well-thought-out, and a joy to use: it’s convenient and reliable. In terms of tonal accuracy and low-level retrieval, it stands among the exalted few. I have some misgivings about its ability to portray the soundstage in the manner I desire, but this is a personal call — and a preference that not everyone shares. If you’re looking for a preamp that can lay claim to being state-of-the-art, the KRC-HR demands a serious and extended audition.

— Wes Phillips
**A PACK OF CONNIE-JAYS**

Martin Colloms listens to Conrad-Johnson’s MF2300-A stereo power amplifier, PF-R remote line preamplifier, and EF-1 moving-coil phono preamplifier

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**Stereophile** has been criticized by some of its readers in recent months for what they see as the magazine’s undue emphasis on exotic, high-priced equipment. It’s hard for reviewers not to get carried away, to resist the temptation to help themselves from the wondrous cornucopia of modern equipment by borrowing, even if only for a month or two, some dazzling item that they could never afford to buy. Indeed, a basic requirement for reviewers is that they *should* be equipment freaks. They need to be truly enthusiastic about sound quality in its own right. They need to strive for improvement, to exhaustively scour every press release, every show report, every review by other writers, in *Stereophile* and elsewhere, in hope of gaining a greater understanding of the audio chain, and in search of the next component that will lift the level of performance.

The “pretend” ownership of an expensive loan item is a valuable part of a review, as it helps form the writer’s final assessment and recommendation. A good reviewer remains keen to unpack and assess every piece of new equipment that passes through his or her hands; sometimes it feels like Christmas every week! But a good reviewer also takes his or her responsibilities seriously and wants to advance the art—to experience the limits of performance, to understand each particular audio designer’s creative art, and, where possible, to own the best references they can afford.

However, coverage of the exotic luxury items has to be balanced by reviews of more realistic designs: equipment that is more practical, more versatile — and, above all, more affordable. The challenge here is to separate pure metal from dross, to find products and combinations that can deliver musical satisfaction to a much larger but still critical and discriminating public. Modestly priced gear generates its own brand of excitement; a combination of engineering skills, value, and frequently good performance.

**CONRAD-JOHNSON MF2300-A STEREO POWER AMPLIFIER**

Conrad-Johnson is a surprising company; they’ve built a reputation for their high-end, high-priced products, yet for a number of years now they’ve also broadened their lines to encompass audio products that are far cheaper but still of seriously good sound quality. The company operates in the transistor, FET, and tube domains, in ascending order of price. For instance, C-J’s top-grade, all-tube Premier Eight monoblock power amplifier, rated Class A in *Stereophile’s* “Recommended Components,” costs a whopping $15,990/pair. But at a fraction of this price ($2995) and carrying a similar power rating is the MF2300-A stereo power amplifier, with a FET output stage.

Despite the towering presence of the Premier Eight, the MF2300-A would be regarded as a top-of-the-line product

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*Stereophile, October 1996*
in many other manufacturers’ ranges. Nor does it stand alone — there’s a close equivalent in the $1995 MF2200, C-J differentiating between the two by describing the MF2300-A as a “2200 on steroids.” There’s certainly a power difference: a rated 240 Wpc into 8 ohms for the ‘2300-A, with a capability to drive far more difficult speaker loads, while the ‘2200 offers 200 Wpc and basic 8-ohm capability. The 100 Wpc MF2100 ($1495) is the junior member of the group.

All use similar circuitry with differential J-FET input stages and complementary power FET outputs, but the MF2300-A is also distinguished by the use of selected audiophile-grade parts, including some Vishay foil resistors and 100% use of certain C-J polystyrene capacitors in the signal path. Conrad-Johnson has tried hard to lift the overall performance of the MF2300-A with such enhancements.

The MF2300-A’s easy-to-drive input impedance makes it equally suitable for tube, FET, or transistor preamplification. For full power, the MF2300-A requires 2.3 V RMS into an easy 100 k ohm load. It doesn’t have a balanced input facility — indeed, no C-J product does. Bill Conrad and Lew Johnson weave their particular magic without having to invoke balanced working.

Tech Story: The Conrad-Johnson MF2300-A’s interior appears workmanlike — not too easily serviced, in my opinion, but thankfully the protection fuses are accessible from outside. In any case, industry practice shows big FET amplifiers such as this to be reliable. Bolted to the amplifier’s inside rear panel is one massive EI-lamination power transformer. This feeds a single central dual-rail DC power supply fitted with generous 59,000 µF Sprague reservoir capacitors — these are high-current, computer-grade devices.

There is a single IC in evidence, this used to monitor audio power and activate the LED panel indicators on the front panel. The “peak” LED illuminates at powers above 150 W RMS into 8 ohms, allowing a couple of dB reserve for program peaks.

All discrete, the audio circuitry uses a FET differential input stage, a mix of FETs and bipolar transistors leading to the complementary power-FET output stage; the latter is an array of eight devices per channel, arranged in complementary quads as low-impedance source followers. Typically you can draw some 10A peak per FET pair, so the array should be good for over 40A peak output current (see “Measurements”).

There are no output relays or electronic protection devices; FETs are, to a large degree, self-protecting. Quick blow 6A rail fuses in each channel — these conveniently replaceable from the outside back panel — deal with serious abuse or short circuits.

Sound: Conrad-Johnson itself has two similarly priced tubed power-amp competitors to the MF2300-A — the Premier Eleven A and its close relative, the MV-55 — though both of these are much lower in rated power. However, both offer audiophile sound quality and are tough acts to follow.¹

Though some solid-state amplifiers have characters all their own and can deliver pleasing, even exciting effects, they lack an innate naturalness. Without giving away too much too soon, I felt that the MF2300-A’s natural tonal quality made it sound less solid-state than usual (see Sidebar for the system used for the auditioning).

Run at modest cruising levels, the MF2300-A sounded as I’d hoped it would: highly relaxed, even-tempered, and utterly load-tolerant. This is one of the few FET-technology power amplifiers in its class that doesn’t take fright when presented with a Wilson WATT/Puppy 5. It had both the necessary voltage and current to kick hard, even if this Wilson design certainly enjoys the ride it gets from more costly amplification such as Krell’s new FPB-300.

So — the MF2300-A proved to be a genuine budget blockbuster, But did it sound suitably subtle? In many areas it did. Take the midis: Here it had a creamy quality, slightly diffuse but well-balanced, and providing natural perspectives. The usual solid-state colorations — presence emphasis, glare, and hardness — were all absent. Transparency was pretty good; though the ‘2300-A didn’t possess the beguiling liquid clarity of the Premier Eleven A, it avoided grain or coarseness. While the MF2300-A didn’t excel anywhere, it returned a thoroughly believable performance.

The bass was solid, well-extended, and became neither softened nor fold-over when stressed hard. It was quite tuneful and crisp, even if it lacked the speed of a Sumo Andromeda or the visceral crack and thunder of the Mark Levinson No.333 or Krell FPB-300. Nevertheless, its bass was good for its price.

Stereo image depth merged on the “very good”; with fine ancillary equipment the MF2300-A was capable of producing big, spacious images with natural, focused placement. Both detail and timing were significantly above average, and its open, unforced character allowed for extended listening without fatigue. The sound was quite sweet through the treble range — not quite as creamy as a Muse, but lively enough to stay in balance with the rest of the frequency range. Again, the Premier Eleven A has the measure of the MF2300-A in terms of pure clarity through the treble register.

¹ Sam Tellig writes about the $1995 MV-55 elsewhere in this issue, while Wes Phillips enthused about the $3495 Premier Eleven A in August 1995, Vol.18 No.9, with further commentary in Vol.18 No.9 and Vol.19 Nos.3 and 8.

JA

REFERENCE SYSTEM

Reference power amplification included the Krell KAS-2 and FPB-300, and Conrad-Johnson’s MV-55. Also used in general comparisons were the Mark Levinson No.333, the Meridian 605 monoblocks (now discontinued), Naim NAP250, Musical Fidelity A1000, and Audio Synthesis Desire. The Krell KPS-20/1 was the primary digital source, with the C-J PF-2, PV-12/1, and PF-R, the Audio Synthesis Passion passive controller, and the Mark Levinson No.385 and Audio Research LS7 preamplifiers also seeing use.

Analog disc sources included the Linn LP12/Lingo/Naim ARO/ Koetsu Rosewood, plus Wilson Benesch’s The Carbon tonearm and Ortofon’s Rohmann cartridge. Disc equalization was via C-J’s PV-12 and their EF-1 one-box unit (see review). Speakers were mostly by Wilson Audio: the System Five and WITT, partnered by Quad ESL-63s and Mordaunt-Short 880s (the latter were reviewed in the August ‘96 Stereophile, Vol.19 No.8). Cables were van den Hul’s The Revelation, The First, and The Second, plus Siltech’s 4-5s and FT-12.

Martin Colloms
The smallest Premier was also more involving dynamically, leaving the MF2300-A sounding a tad slower and downbeat, even "quiet." But that quietness was more a touch of excess calm than a denial of its ability to get loud — this amp was a powerhouse, playing almost as loud as you could conceivably wish.

Such was its relaxed, essentially neutral and natural nature, that I found the MF2300-A unusually tolerant of system matching, be it speaker loading, cables, control units, or sources.

**Measurements:** Rated at 240W into 8 ohms (24dBW), when tested on the UK's 50Hz, 242V line supply, the MF2300-A raised 24.55dBW at low and mid frequencies, with only a tiny diminution of -0.14dB by 20kHz. The MF2300-A proved its credentials by peaking at 320Wpc with an on-load power of almost 285W/8 ohms while playing a program-related duty cycle; the equivalents of 570W for 4 ohms and 800W into 2 ohms validated C-J's claim for good load tolerance. Tested for peak current, the 2300A measured 43A positive and 46A negative, proving that it hadn't reached its current clipping point even at full level output into a 2 ohm load.

The MF2300-A showed very good power bandwidth; even with both channels driven, 20Hz–20kHz, 4 ohm loading, it delivered 400Wpc at clipping. Its sound quality should be independent of speaker-load variation thanks to its low output impedance of typically under 0.1 ohm, rising to an innocuous 0.21 ohm by 20kHz.

Tested to the protection limit, pulse testing on 1 ohm loading blew the 6A rail fuses. Severe stress will ultimately actuate thermal cutouts. Given the heatsink size, the amplifier ran moderately warm on normal speech and music duty; the power FETs were sufficiently biased to give 5W or so of class A operation before the A/B transition. Conversely, I don't think the MF2300-A would stay within its reset temperature setting if subjected to FTC preconditioning; in any event, this is felt by many reviewers to be an unrepresentatively extreme demand in a domestic context.

Tested on squarewaves (fig.1), the MF2300-A's frequency response was clearly wide and flat, but with significant 25% overshoot into 8 ohms, suggesting that it was underdamped at ultrasonic frequencies. Investigating its reactive load stability, adding a 2µF capacitor to the 8 ohm load was okay, the usual overshoot and ringing settling down well. However, I did find that with shorter, nonindustry test cables, a plain 0.1µF of capacitance gave a whiff of mild oscillation. This amplifier couldn't, therefore, be given an "unconditionally stable" rating. However, it will be fine on normal, twin, or similar speaker cables, though it may react unpredictably to coaxial, braided (Kimber), or other higher-capacitance/minimal-inductance designs. Plotting the frequency response above 20kHz (not shown) revealed the ultrasonic region's complex nature, this related to the 0.1µF behavior.

The -0.5dB response points were 1.75Hz and 54kHz—not quite DC-coupled — while for half power, -3dB, I measured a bandwidth of 0.6Hz to greater than 200kHz. In view of the stability margin, this was unnecessarily wide; perhaps the upper range could be curtailed a little.

Channel separation was satisfactory at 66dB at low and mid frequencies, with a mild reduction to 57dB by 20kHz — fairly typical of stereo designs. Channel balance was very accurate at 0.02dB. A 136mV input delivers 1W into 8 ohms, while 2.23V gets you full power. I also noted a 100kHz plus 140pF input impedance — an easy load for the matching preamplifier.

The signal/noise ratio was fine at 84dB (unweighted) and 89dB (A-weighted), both ref. 1W/8 ohms. The figures referenced to full output were 107dB and 112dB, respectively. DC offset was negligible at the output at 10mV peak, 14mV right.

At rated power, the total harmonic distortion was essentially constant with frequency at -53dB (0.24%) and was essentially second-harmonic, this aural benign, and typical of a wideband, low-feedback design. As the test power was reduced to 0dBW (1W/8 ohms), the distortion decreased smoothly — to -74dB (0.02%), for example — and was predominantly low-order; it, free of crossover effects.

The high-frequency intermodulation results were very similar to those for total harmonic distortion: -55dB for full power, 8 ohms (fig.2). Note that even the 19.5kHz, 20.5kHz modulating tones created a nice progression of second and third harmonics in the wideband 100kHz spectrum analysis. This favorable linearity trend was maintained at the 1W level (fig.3), where the 1kHz difference tone was now improved to -76dB (0.015%).

Stressed with a low-frequency tone at two-thirds the amplifier's rated level into a 4 ohm load, spectrum analysis of the output signal reveals the degree of contamination by power-supply harmonics. The harmonic series visible in fig.4 was wholly due to the 375Hz fundamental, with the second-harmonic dominant. The vertical dotted markers in this graph are aligned for the UK's 50Hz supply.
frequency; supply contamination was conspicuously absent, a fine result.

Conclusion: The moderately priced Conrad-Johnson MF2300-A power amplifier packs a massive punch. Finely finished in a convenient, relatively compact stereo chassis, the amplifier proved it was no wimp by handling a wide range of loads with ease. In most applications it breezed along while enjoying large reserves of power and output current.

While its music replay wasn’t quite as clear or as delicately drawn as that of C-J’s tubed power amplifiers, the MF2300-A possessed a natural tonality very much in the C-J corporate tradition. The treble was fine; the bass was clean, extended, and powerful; and it could play loud. In musical terms, the amplifier was free of the more familiar solid-state errors.

A solid contender for Class B in Stereophile’s “Recommended Components,” the Conrad-Johnson MF2300-A should be on your short list for load tolerance, neutrality, power, and honest engineering value.

Conrad-Johnson PF-R Line Preamplifier

In Conrad-Johnson’s new PF-R we have a short-path, remotely controlled, line-level control unit. The $2395 PF-R comes in full C-J livery, with the traditional champagne-anodized alloy fascia. Seven inputs are available: Aux/Phono, Tuner, CD, Video, Aux 2, EPL 1, and EPL 2. All inputs and outputs are normal, single-ended, gold-plated, and custom-made for Conrad-Johnson.

Many of the usual preamp’s rotary controls have been replaced by satin-alloy buttons — in fact, there’s only one conventional rotary knob: the volume control, which is motor-driven when remotely actuated. All functions are available via manual front-panel controls. Balance is controlled by two buttons, with setting indication given by a horizontal LED bar display. Mute is available on the front panel and the remote handset. The latter is more like a wand, easy to use and well-laid-out. The remote-control system worked fine and was much appreciated.

If required, vinyl sources are catered for by a companion standalone unit called the EF-1 (see later).

There’s no power switch other than the electronic Standby/Mute. For full power off, you must pull the power cord out of the wall outlet, but, just in case, make sure the power amp is turned off first.

Tech Story: A complementary FET gain cell using zero loop negative feedback lies at the core of PF-R. First seen in the Conrad-Johnson’s original Motif line and improved in the PF-1 and its derivatives, this gain cell has been further refined for the PF-R.

At the input, two capacitor-coupled FETs act as a high-impedance complementary pair, class-A–biased with strong local feedback via their source resistors. Nonlinearity is canceled by their complementary symmetry rather better than by loop-feedback error correction — C-J calls this Auto-Linear™ operation. The output of this FET pair directly feeds a complementary FET source-follower, this featuring a relatively low output impedance for driving cables and power amps. (It should prove suitable for loadings down to 20k ohms.)

Visible improvements over earlier C-J preamps include better power supplies, both in terms of noise and regulation, plus extensive use of Vishay foil resistors and C-J’s own polystyrene capacitors — this unit is positively packed with them! Perhaps if you have the benefit of an elegantly simple circuit, it’s possible to spend heavily on the passive components and support system.

The remote-control microprocessor is located out of the way on the front-panel printed circuit board, this also carrying the buttons and displays. Input selection is made via a solid-state integrated circuit block, the Toshiba TC9152P: an array of noiseless, contactless FET switches with intrinsically high channel separation. Extraordinary care has been taken over the operating supply for this unit, something that ordinarily is taken for granted.

A smaller Maxim FET switch is used to operate the resistor ladder for the remote control of channel balance. From there the signal is taken to the volume control, this a 100k ohm Blue ALPS potentiometer, motorized for remote control. The wiper of this control is connected to the Auto-Linear active stage, which in turn is AC-coupled to the output via a 4μF C-J polystyrene capacitor.

There are two board-mounted mains transformers, one for the audio and the other for the microprocessor and actuator electronics. No electrolytic caps are used in the audio power supplies, something that seems to be evolving as a C-J hallmark.

Build quality is fine. The case is all alloy, with good accessibility, although another bolt or two might be beneficial in clamping the large, double-sided PCB.

Sound: The PF-R was auditioned in the same system used for the Conrad-Johnson MF2300-A in this issue (see “Reference System” sidebar). The preamplifier sounded good straight out of the box. A few days in standby provided audible gains — standby equates to electronic muting for this low-powered design, which is powered up semipermanently — with sonic stability after a week’s use.

For a brand often associated with sobriety and a calm, even-tempered character — if you like an element of my description of the sound of the MF2300-A itself — the PF-R came as something of a shock. I’ve noted before in these pages (in Vol.13 No.12, December 1990) how an earlier generation of C-J preamplifier, the PF-1, possessed the rare and remarkable ability to transmit the
powerful qualities of rhythm and dynamics of good music-making. That ability wasn't lost with the later PF-2 (reviewed in November 1994, Vol.17 No.11), and I'm happy to say it's still there in full measure in the new PF-R.

Yes, okay, perhaps I should have expected it, as the core amplifier design is very similar in all three. But then, I've also known a change in printed-circuit layout, or even a component or power-supply revision or "improvement," to destroy the sonic performance of a given design. In the case of the PF-R, for example, past experience might suggest that the solid-state input switch could kill it off. But hearing is believing — C-J has definitely got it right!

I haven't heard all the top preamplifiers, but I'd lay bets that the PF-R is the top preamp performer on grounds of natural dynamics, microdynamics, and dynamic expression as well as rhythm and timing. It sounded vital and alive, involving and absorbing. So many high-end preamplifiers make performers sound as if they are on bromide. That's fine if you want to be sent to sleep, but for my part I like to be drawn into the music and appreciate the fabulous complexity of interwoven time and rhythmic patterns. Most music, not least classical material, is fundamentally based on dance — without those inner dance rhythms even the best written music becomes boring. Moreover, a lot of simple rock material is nothing without its dance quality.

Amazingly, the Conrad-Johnson PF-R rocks!

This alone would be enough for many listeners, but there's more good news: Quietly and without fanfare, C-J has enhanced their FET preamp design to the point where the PF-R delivers genuine Premier quality in all its other sonic dimensions.

Of course, I tried the PF-R with C-J's MF2300-A — after all, they're approximate partners in price — and I'm glad to report that the PF-R proved fully up to the task. Not only was electrical matching fine, as it should be, but there was also much in common in terms of sound quality. Trials with other power amps, however, showed that there was even more in reserve with the PF-R; it was fascinating to see how far I could push its limits.

I wouldn't hesitate to partner the PF-R with the Class A-graded Premier Eight A power amplifier — in fact, that would be my first choice. Perfectly matched in price and quality for the smaller system, or where the loudspeakers are of high sensitivity and offer a truthful 8 ohm load, there is the C-J Premier Eleven A. Unfortunately, the Audio Research VT150SE needs balanced drive, but not so the Krell FPB-300 — another great match.

Yes, the PF-R can do justice to all these references. Thinking back to the PF-1 and 2, the PF-R's sound is still more neutral and evenly balanced than that, closely approaching the legendary Premier Seven B. Superior passive components have delivered a cleaner, clearer sound, sweeter and more delicate highs, firmer, deeper lows, and still better dynamics — plus superior stereo focus and really good image depth.

Above all there was a natural, unforced quality, open and free from glare or related coloration, that provided a harmonious balance. Top-quality sources made excellent music through the PF-R — it doesn't impose the dead-hand effect that is present to some degree with so many preamplifiers. I also swear that it sounded better than tubed designs in that it exposed a kind of gentle, " tinkly" coloration — the innate sound of the grid wires, perhaps — in the treble of vacuum devices.

Truthful to the musical message from its sources, the PF-R was virtually grain-free in the treble. While it didn't sound as "clinical" in timbre as many solid-state designs, the PF-R certainly avoided any of the thickening "bloom" associated with tubes. This bloom, often described as a more natural "richness," is perhaps partly due to microphony. In this case I would argue that such a sound is working in compensation for another problem in the audio chain.

The quality and quantity of the PF-R's bass defied technical analysis, which showed it to be capacitor-coupled. No one could make such an identification by ear alone, judging by the crisp, well-timed, and articulate low-frequency range of this preamplifier.

High-quality rock and classical recordings were handled equally well. The PF-R proved evenhanded: no compensations or adjustments needed to be made in regard to system setup to optimize reproduction for one kind of music over another.

**Measurements:** The input stage's dynamic range was of immediate interest, as this aspect is often compromised in electronically switched designs. No problem here, however; the PF-R sustained a 25dB IHF overload (ref. 500mV), close on 10V RMS before limiting.

The frequency response (fig.5) was wide and flat, even when loaded by a low 10k ohms. The -0.5dB points were at 12Hz and 110kHz, -3dB at 3Hz and above 200kHz. Channel separation was fine, measuring 70dB at low and mid frequencies, and falling to a still-satisfactory 52dB by 20kHz. Channel balance was accurate at full gain, but some imbalance did develop at low volume settings: there was a tolerable 0.8dB difference between the channels at -20dB (see fig.5) and a marginal 3.1dB offset at -60dB of gain. Though this error is only likely to be significant with a high-gain amplifier and sensitive speakers that force the use of low-gain settings, C-J should check the tolerances of their Alps pot.

Maximum voltage gain was 14dB (6x), with a maximum output of 8V sourced from a moderate 230 ohm impedance. For a 500mV IHF output, the PF-R required 78mV input. The input loading was light, at 67k ohms shunted by a normal 230pF. The preamplifier inverts absolute polarity, requiring inversion of the left- and right-channel speaker-cable polarities at one end: amp or speaker, but not both. There were no DC offsets.

At the 500mV IHF output level, the total harmonic distortion lay at about -60dB (0.1%). The spectral character of the distortion was optimal (fig.6), progressively decaying with increasing order, and with the second harmonic

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**Stereophile, October 1996**

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**Fig.5** Conrad-Johnson PF-R, frequency response at 500mV into 100k ohms (right channel top, 1dB/vertical div.).

**Fig.6** Conrad-Johnson PF-R, spectrum of 200Hz sinewave, DC-1kHz (linear frequency scale). Note that the second harmonic at 400Hz is the highest in level.
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dominant. The distortion is both negligible and of a benign, musical nature—"single-ended," if you like—yet without the practical disadvantages. Comparable results were achieved for the high-frequency intermodulation test, the 1kHz difference tone lying at -63dB.

Noise levels were more than satisfactory at -81.5dB CCIR-weighted (1kHz), ref. 0.5V, with -86dB recorded at minimum volume. While these figures are not state-of-the-art, the audible noise levels proved to be negligible in a typical system.

All in all, there was nothing of concern in the measurements save the low-level channel imbalance on the review sample.

Conclusion: Somehow the ConradJohnson PF-R manages to distill the cost-effective virtues of C-J's Motif line, the dynamics of the PF-1 and 2, and the neutrality, subtlety, and transparency of the Premier designs. Not only great value, the PF-R is also a great line preamplifier in its own right, equally compatible and entertaining in rock, jazz, and classical domains. The PF-R's sound was well-focused, transparent, open, detailed, and triodified, yet lacking any false bloom or softness. More important, it's got rhythm — so much so that I am now looking for a big power amplifier in the same league!

The PF-R is a Stereophile Class A component that I wouldn't hesitate to recommend to my closest friends. Who needs high-priced, remote-capable control units when you can buy the likes of the PF-R?

**Conrad-Johnson EF-1 Phono Preamplifier**

The $1795 EF-1 matches the PF-R, and is presented in a full-size alloy C-J case. Its gold-anodized front panel is pristine save for a discrete logo and a power LED. The power cord is integral, and audio inputs and outputs are via C-J's proprietary, heavy-duty, gold-plated phono sockets. This is one of those fit-and-forget products — plug it in and leave it alone. As well as not having a power switch, it also lacks a muting facility, so power down the main amplifier before messing about with the EF-1.

It will take a wide range of moving-coil cartridges (except the lowest-output types), providing flexibility in the form of user-selectable input loading and gain. Perversely, these facilities lie beneath the top cover. Remove a handful of screws and you also expose the hot end of the power supply! In fairness, C-J recommends that the unit be unplugged (in any case, there's no power switch) before any gain or loading options are changed. For the less committed or adventurous, a dealer should be able to optimize the settings for your system before or during installation.

The EF-1 has switchable gain, 40dB (100x), 46dB (200x), and 52dB (400x), plus a basic 47k ohms, 500pF moving-magnet-compatible input impedance. The following resistors may be added in parallel: 200, 511, 2k, and 12.1k ohms. For a moving-coil cartridge of healthy (but not high) output, an input of 500μV on the EF-1's middle gain setting of 46dB will produce about 100mV of output. Fed to a line preamp with around 20dB (or 10x) gain, the latter will in turn output 1V or so for the power amp, delivering close to full power to the speakers, give or take a peak-program dB or so.

As regards siting, the EF-1 needs to be near the turntable, according to available lengths of tonearm cable. In addition, due to the low input levels, it shouldn't be located on or near hum fields — for example, those due to a transformer in a power amp, or a matching unit in which the power section isn't in the right-hand rear position customary with C-J designs. Place it on a unit whose power transformer is above or below the EF-1 input section and you can say good-bye to high signal/noise ratios.

**Tech Story:** Like the PF-R, the EF-1 carries an inheritance from the Motif line: a quality C-J solid-state design using minimal feedback FET circuitry to capture some of the classic tube musicality. Key features in the circuit concern an absence of loop negative feedback, passive RIAA equalization, all-FET circuitry, all-class-A biasing, and mainly single-ended stages to boot. The power supplies include multiple, cascaded stabilization (essential for this type of circuit to work anyway!), plus zero-feedback circuitry. The EF-1 is simply chockablox with costly Vishay foil resistors and C-J's own polystyrene-dielectric capacitors, in both the signal path and power supply. There are no electrolytics in the power supply; here, selected large-volume polypolyethylene film types are used instead.

The path begins with the input resistor selection; the signal is then direct-coupled to a pair of single-ended FET drain-followers, paralleled to halve their noise contribution and to provide both gain and a reduced drive impedance to the top-quality passive RIAA equalizer. If done well, this type of equalizer has both a low level of coloration and the best noise performance at high frequencies. A FET source-follower buffers this relatively high-impedance network, helping to maintain its accuracy. It leads, via the custom polysynthes, to C-J's proprietary Auto-Linear FET gain block, with the familiar distortion-canceling technique using the complementary characteristics of the FETs. Switched variable gain is achieved here, while the output section of this very-short-path amplifier includes a complementary source-follower for output drive.

Separate supply stabilizers serve the input and the output amplifiers. The EF-1 is absolute phase-correct, the input-stage inversion being reversed by the output-stage inversion.

**Build quality:** Fine from an electronic viewpoint, but I believe the large printed circuit board would benefit from a few more fixings to eliminate any chance of microphony.

**System:** The main components used are listed in the "Reference Systems" sidebar. Control units included C-J's matching PF-R, PV-12/AL, and Premier Fourteen, and an Audio Research LS22. Power amplification ranged from the Krell FPB-300 to the C-J Premiere Twelve A, aided by a Krell KAV-300i, a single-ended Golden Tube SE-40, and a Naim NAP250. Remarkably, this last amplifier helped reveal certain aspects of the EF-1's sound quality; nor was the reference-grade FPB-300 set down by the EF-1. The Mark Levinson No.385/No.333 combination was also on hand. Cabling from the EF-1 to the control preamp was mainly van den Hul The Second, backed by Siltech 4-56s.

From the outset it was obvious that trying to use moving-magnet or very-high-output MC cartridges was pointless. Though they worked after a fashion, they failed to exploit the EF-1's full capabilities.

I was happy to pair the EF-1 with the finest "mid-loudness" moving-coil phono cartridges available to me. I had the choice of the Ortofon Rohnmann, the Koetsu Rosewood II, the van den Hul Grasshopper IV GLA, and Wilson Benesch's The Carbon. The latter was installed in a 1996-series Benesch turntable with their Act Two carbon-fiber tonearm — a fine disc-playing combination. The other cartridges fared well in a Naim ARO tonearm installed in a Lingo'd Linn LP12 turntable.

While it worked well in a number of situations, the EF-1 deserves good cables.
to extract all that's possible. Likewise, sitting on a low-resonance audio component table provided a further benefit. This phono amp is a really serious piece of kit.

It prefers control-unit preamp loadings of 20k ohms or more, sounding at its most dynamic with greater than 50k ohm loadings. On the input side I used the nominal 47k for The Carbon cartridge, and a selection of lower impedances for the others. The 52dB gain setting matched the 0.2nV Rohmann; the 46dB position was fine for the other models in the 0.5nV output-level range.

Sound: After using the EF-1 for a few days and leaving it permanently on (as C-J recommends), I commenced my evaluations.

"No problem with this one" was my first thought, but could it keep up this standard in the longer term? I needn't have worried—the EF-1 is a natural. It does just what you want from a phono preamplifier. I could say simply that it was very truthful to the electronic messages coming from the cartridge, but that bald fact doesn't convey the quality of musical impact and pleasure that resulted from its use.

Though the EF-1 was not as neutral-balanced and did not offer the same level of audiophile subtlety as Naim Audio's willfully exciting and highly involving Prefix (see WP's and SS's reviews in July, Vol.19 No.7), note that the Prefix is a "build into your turntable" unit that intimately interfaces with Naim's own preamplification, power supplies, and unique cable systems.

The EF-1 gave established phono preamps, both standalone and integral, a really hard time, regardless of cost. Unanimously, it had a habit of making the competition sound closed-in, revealed their shortcomings in the bass and a loss of focus and clarity in the mids, and a lack of speed and sparkle in the treble.

It then completed the demolition of the competition by arguing a far stronger case for rhythm and timing, for overall excitement, and not least for musical expression. The EF-1 helped recreate a sense of musical performance, the instrumentalists not just going through the motions but playing together with verve, force, and commitment. There are strong parallels here with the PF-R line controller (with its similar build and circuitry) and its predecessors, the PF-1 and PF-2.

In soft, slow, downbeat audio systems you won't hear what the EF-1 can really do. Its involving rhythm, crisp transients, and natural, expressive dynamics may be obscured, leaving you with a neutral, well-balanced, and largely tube-sounding (in the nicest possible way) preamp.

In my opinion, the EF-1 even made some of the reference-level tube electronics sound colored and lazy. I swear that the EF-1 did reveal in such comparisons a small degree of the cloudy mush and artificial treble "liveliness" inherent in tubes and their pseudo-"acoustic" electronic structures. Excited by the passing "electron wind" (yes, I know: we should speak of space charges and percentage of charge displacement) and susceptible to the all-pervasive vibrations arising in a working audio system, tubes have their own problems.

The EF-1 has an innate zero-feedback triode sound, but apparently without the disadvantages. Like a single-ended triode design, it had a liquid, harmonically pure midrange, along with glorious detail and marvelous ambience and atmosphere. Incredibly, the EF-1 carried this message on to the extremes of low and high frequency.

I found the bass to be agile, tuneful, rich, and well-extended. Pattern drumming was convincing, acoustic bass very natural, and rock bass lines powerfully charged. The treble was lively, but not artificially so, and to my ears was better than triodes—it was more precise, more even, with superior vocal sibilances free from any slurring or "spit."

Stereo focus was first-rate: positive, nicely "present," and yet unforced, free from glare or false projection. Fine perspective layering was evident, while stage width was very good. With the right material, the image had a sense of grand scale and power.

Measurements: The EF-1's input impedance was basically 47k ohms, paralleled by 470pF—a moving-magnet rating. As specified, the measured gain settings were 40, 46, and 52dB. While I do not agree with C-J that the EF-1 is suitable for all cartridges, from low-output moving-coils to high-output moving-magnets, it does cover the middle ground well. High-output moving-magnet designs will produce more distortion even on the lower 40dB gain setting. My preference would be for MC or MM cartridges in the 200uV-1mV output range (for 5cm/s disc modulation). Note...
that with the touch on capacitance taken into account, the capacitance loading is on the high side for normal MM cartridges. Low-impedance Grado models and similar types won't be affected.

The EF-1 produced a splendidly flat center range: the RIAA equalization was accurate to within ±0.06dB, 50Hz-15kHz (fig.7). Even with such an unduly severe test condition as a 10k ohm output loading, the response held to −0.2dB at 20Hz and 30kHz extremes, with an equalization bandwidth maintained to 90kHz and beyond.

I noted some difference in channel separation, with crosstalk between channels varying according to which one was driven and which was measured; eg, for L/R, 69/58dB at 20Hz, 79/60dB at 1kHz, and 56/53dB at 20kHz. Though these results did not impair the sound quality, better matching is to be preferred. Channel balance was sufficiently accurate, at 0.24dB. Output impedance was under 300 ohms, with good line-driving ability.

Absolute overload levels were fine for 1% clipping, recorded at +38dB at low and mid-frequencies, and +23dB at 20kHz. At the highest gain setting, the peak-level intermodulation test (fig.8) resulted in rather noticeable distortion of the low-order type, at −21.6dB for the 1kHz difference tone. This was for a 35dB level above the nominal 1kHz input level. At a more normal +20dB level the distortion had improved greatly to a harmless −51.6dB, 0.3% (fig.9). I can’t say that I heard any of this in the listening sessions. Relative to the standard MC 500μV input level at 1kHz, the noise level was fine at −70dB and suitable for most moving-coils, other than the lowest-output types unless you’re not fussy about mild background hiss.

**Conclusion:** Conrad-Johnson is on a roll. While we know full well that these guys could create truly great megabuck designs, like the Premier Eight A power amp and Seven B preamp, it’s been a surprise to discover over the last few years that they can get front-rank performance from quite modest devices. There have been the PF-1 preamp, its successor the PF-2, the all-triode PV-10 bargain, plus the MV-55 power amplifier — and, in its moderate power context, the remarkable Premier Eleven A stereo chassis. The new PF-R is also excellent, as shown elsewhere in this review. In line with each of these products, the EF-1 phono preamplifier doesn’t disappoint at all.

The EF-1 is high quality, all-FET and sounding it, with no loop feedback and zero-feedback equalization — again sounding it — with superb choices for the passive components inside. The EF-1 is electrically quiet, transparent, neutral, accurate, and well-matched. This is high-quality audio engineering: distortion was negligible in musical contexts — no excuses or exceptions need be mentioned here.

Conrad-Johnson could have charged so much more for the EF-1; they even could have slapped on their Premier appellation and no one would have been the wiser. Instead, they’ve been straight with their customers. Their common-sense practicality has given us a keenly priced, highly musical, and involving audio component that translates a frail moving-coil cartridge signal into a robust line-level output, free from fuss or complications. Compatible with some of the world’s greatest moving-coil cartridges, the EF-1 joins the PF-R as a contender for a Class A rating in “Recommended Components.” Highly recommended to all vinyl fans.
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Be sure to look for CLASSIC RECORDS on the Internet at http://www.classicrecs.com
Most reviewers look for a "hook" or angle of some kind when it comes time to write a review. After all, how many ways are there to get excited about audio equipment? Kathleen and I like to focus on the human side of the High End. So it was with some amusement that I watched the obstacles swirl around what I thought would be a fairly straightforward review of the Vacuum Tube Logic Wotan MB-1250 monoblock power amplifier. My thought was to return from single-ended to push-pull with a bang! I'll say...

It all began at the January '96 WCES, where I found my shorts positively welded to the listening chair during a memorable musical blast at VTL. Luke Manley and his extreme audiophile wife Bea had a good thing going and they knew it. People were talking. "Did you hear those monster two-storey VTls on the Alon Vs?"

As I recall from my Vegas show report, "Wow!" was the operative word. I was sure the giant Wotans would sound superb on the Avalon Ascents. In due course, Luke showed up at our loft and talked the delivery truck down to a safe landing. (He used an age-old technique: pepper the shipping company with so many phone calls they couldn't wait to deliver and be rid of him! He could almost be a New Yorker.)

Svelte is in the eye of the beholder

Each monoblock mounts 24 power tubes on the top chassis, and a power supply with three massive transformers and four industrial-grade capacitors on a separate "ground-level" chassis. Imposing in their all-black livery, they make a 19" by 19" footprint and stand almost 2' high. And at 240 lbs each, they are a huge physical presence to deal with, despite VTL's new peekaboo cosmetics. (While heavy, and despite liberal use of damping material, the two-storey chassis' torsional stiffness and resonant signature left something to be desired. When I pointed this out to Luke, he told me he'd already specified future construction techniques to remedy this.)

Power tubes are latest-spec Russian 6550Cs, purported to be the best of the Svetlana litter. Inputs and drivers per side consist of a pair of 6350s flanking a single 12AT7. I'd never run across the 6350 before. "Think of it as a double-power 12AT7," Luke told me.

The lower chassis has a standard IEC power connector and a slew of fuses sharing the rear apron. A thick umbilical ties it to the upper deck. The top chassis is a wonder to behold, especially at night when lit up like a Christmas tree. The tightly packed power tubes sur-
round the output transformer, located dead center on top. A pair of caps stand sentinel before it, the input and driver tubes set up before them. There are 24 separate bias pots countersunk into the top chassis, their separate reading points just behind the faceplate.

And yes, you must be something of a fanatic to run amplifiers that require 48 separate biasing operations. But Statement Products are what the Wotans are, and indeed, the fanatics who buy them are out there. In fact, you'll read about one of them shortly.

Exploring the rear of the upper chassis, one finds a single pair of Manley/VTL binding posts (fairly easy to work with), and an RCA single-ended input (balanced inputs are available). There's also a switch for taping the amps back and forth between triode and tetrode modes. Just think of it... 600W in triode, 1250Wp in tetrode!

Up front, lower right is a large rotary switch, marked 0, 1, and 2, with which to trigger the electrics. You grasp the switch, cover your eyes (just kidding), and briskly snap it one stop to the right. The half-voltage startup instantly charges the caps. After a moment or two, snap the switch once more for full power.

The cacophony of clicking glass was notable during warmup, and positively hilarious when shutting down. So Luke — why 1250W? "The reason power is important is to provide as much TMC — Total Mass Control — as possible. Imagine you're swinging a massive weight back and forth. The more powerful you are, the more you can control that weight to move at any speed and frequency you want without distorting your intended movements. Similarly, the more power an amp has, the better it can control the speaker and air mass to move with the audio signal at any frequency and amplitude without distortion. This is an essential ingredient in what provides a clean and realistic sound."

Seeing he had my ear, he continued. "I feel you get substantially the same sound from our other amps that run 750, 450, 250, 175, and 125Wpc, and even from our two stereo designs with 150W and 85W each. I can tell you that each of them offers more TMC than any other tube amp in their class." Okay, Luke, sales promo over.

**THE BEST-LAIRED PLANS OF MICE AND MEN GO OFF AWRY**

Content the amps were working properly, Luke and Bea took their leave. Kathleen and I burned-in the Wotans at low to moderate volume without paying much attention to their sound. Finally, one cool evening a week or so after setup (they run hot!), I sat in the Ribbon Chair and cranked up the volume. Uh-oh... something wasn't right. At lower volume levels, all was sweetness and light. But when I blipped the throttle — Kathleen's favorite thing — I noted gross distortion in both the bass and the highs. I thought it was surely the Grasshopper IV—it sounded so much like cartridge mistracking. I swapped in the Symphonic Line RG-8,

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**JS TALKS WITH LM OF VTL**

**Jonathan Scull:** How long has VTL been in business, Luke?

**Luke Manley:** My dad, David Manley, and I co-founded VTL in June of 1986. We started small on the East Coast, and soon after we moved to California.

**Scull:** Is it because you're really a West Coast kinda guy?

**Manley:** [laughs] You bet! There's a lot of supporting industries out there; a big base of electronics manufacturers, for example.

**Scull:** What in the San Francisco area?

**Manley:** No, I'm speaking about Los Angeles. Even though I live near San Francisco, I keep the factory down there. You know, those support industries I mentioned — metalworkers, transformer vendors, distributors, and so on. Also, this way I keep the same core crew that I've had since we moved to California in '87.

**Scull:** I suppose it's inevitable that I ask you if you'd clarify the relationship between you and papa David at Manley Labs.

**Manley:** We've been totally separate companies since April 1993, and neither one of us has any financial interest in the other's concern. My dad designed the basic circuit topology — a parallel input stage, a longtail splitter, and a push-pull output stage with certain specifications, like stiff power supplies, a certain amount of capacitance in the power supply, solid-state diodes, and a particular type of transformer wind.

**Scull:** Let's talk about the transformers for a moment. Do you not source them from Manley Labs?

**Manley:** That's right.

**Scull:** Would you care to elaborate?

**Manley:** Sure. Our premium output transformer is called the Signature. We took the Magic Transformer design and improved it substantially. I'm speaking about the transformer that was made for us before Dad started winding his own in-house. The way it was made by the previous vendor was not the quality we needed, so we found another whose work is far superior.

**Scull:** ...and who shall remain nameless?

**Manley:** Well, I can say that the new vendor has a much cleaner operation. I spent about a year with them getting this new transformer organized with them.

**Scull:** Your transformers are really enormous...

**Manley:** In this amplifier, yeah.

**Scull:** Besides their immense girth, what are some of their special features?

**Manley:** The Signature transformer's major strength is that it can deliver the current in the bass while maintaining the speed in the high frequencies, dramatically improving the squarewave response. That means a much cleaner sound. The biggest challenge with designing a big output transformer is that it needs to be as big as possible to handle the bass current, but it gets harder and harder to keep up the speed in the top end as the size of the transformer increases. If the coupling is not done carefully, the capacitance and leakage inductance will roll-off the highs. We manage this by substantially increasing the number of sections over the previous output transformers, improving the coupling between the primary and secondary windings, and even between the individual wires. This increases efficiency by lowering insertion loss. The multiple sections and better winding-to-winding coupling
and presto—change—no improvement. Digital was also a wash. Could it be the preamp? Doubtfull, I thought, as I swapped out the dual-mono Jads JP-200 and found the fuzz still much in evidence.

Hmmm…I tried two or three wire changes, but it was obvious the a/bage was not at fault. Not wanting to imagine it, I finally wired up Forsell’s hiating The Statement and our own Jads JA-200s. Both evince not a whiff of fuzz at either frequency extreme. Alas, all roads seemed to lead to Wotan. Frustrated with all the schlepping and hooking, I called Luke. “Oh yeah…that might be a problem with the value of the cap in the return leg of the feedback loop.” Now he tells me!

So back he came. I’d go to work in the morning he’d be there. I’d come back home in the evening, he’d still be there, surrounded by electronic effluvia. Nope, it wasn’t the cap in the feedback loop. (Luke personally installs each set of Wotans and dialed them in for the client’s speaker, so don’t start yelling “special reviewer treatment” just yet.)

After three days he gave up. He was eying the Avalon Ascents suspiciously, but their relatively benign impedance curve had never proven a challenge before. (They do like power, however.) Luke postulated that his ultra—widebandwidth amps might be ringing the metal-dome tweeter at its “oil-can” breakup frequency, but this didn’t explain the fuzzy—dice bass. Weird… the caps had shown no sign of breakup on the big Juns at CES, or on an Ascent—based system he’d dragged yet another pair of Wotans to after returning home.

We agreed to set the monsters aside, and he’d pick them up just before HI—FI ’96 at the Waldorf. (New Yorkers say “Waldorf” instead of the whole “—Astoria” schmear…) The plan was to leave us another of three pairs of Wotans he’d be using at the Show. That sounded reasonable, although “setting aside” his amps was hardly a trivial matter. “One, two, three—udooddy.”

Finally the great day arrived, and we were once again With Wotan. What would happen? What else could happen? In fact, they sounded just fine, even as I assaulted them with murderously high levels of signal. The windows rattled, the front door bulged and flew open, but there was no fuzz and not a trace of breakup.

Bye-bye, Luke…we’ll be in touch.

**NOT SO FAST…**

But nothing’s that easy. We were accumulating hours on this second pair when another minor disaster occurred. The two—stage turn—on switch from the first pair were absent from this replacement set. And so, almost inevitably, after months of working well enough, one of the switches fused itself but good on turn—on, and wouldn’t turn off.

I pulled the plug and telephoned VTL once again, concerned about reviewer—frying arcs from the Wotan if I was so imprudent as to jam the connector back into the amp. This call resulted in a quick visit from one Ernest Pirog, VTL owner, booster, and all-around troubleshooter, who calmed the nurses and explained—

**Scull:** What happens when a tube goes down?

**Manley:** They’re set up so that if a tube blows, it takes out the fuse and nothing else. You replace the tube and the high—tension fuse, and you’re on your way again. All you have to do is re—bias it. Let me tell you, that’s a lot easier than replacing a transistor. Don’t forget, if one should fail, the new transistor has to be matched with the rest—no easy pull’n’plug.

**Scull:** What possessed you to create this kind of a statement product for VTL?

**Manley:** I want to communicate to people that VTL makes high—power tube amplifiers. You know, 24 tubes per side ought to get the message across! As for the high power, I believe you really need lots to control a speaker. 1250W will really grab hold and control most speakers you can name. To my ear, that’s where the performance comes from.

**Scull:** And you prefer triode mode yourself?

**Manley:** No doubt. The Avalons are 86—87 dB sensitivity, right? 600W should be enough power.

**Scull:** Mm—hm. A nice piece of understatement, Luke. Thanks for the background.

**Manley:** Thank you, Jonathan!
audio fanatic. (His amps and Alon Phalanx speakers are all hard-wired, for example.) Basically, Ernest saved the day by making available a quickly-cobbled-up version of the "Prog Power Switch," as employed in his own VTL-Manley-amp'd system.

"Some power switch," I thought grumpily as I laid out the constituent parts on the carpet: two Variacs and a pair of industrial-strength GE Double Throw Safety Switch boxes. This setup allows the amps to be left cooking at around 80V on the Variacs when not in use, and to be engaged by "throwing" the spring-loaded lever home (BAM!!!) to the bottom of the two "on" positions. I had to remember to drop the Variacs back about 30V when the amps were "on the wall" so that, when reengaged, they wouldn't blow their fuses. I shut the Variacs off and disconnected them during so-called "critical" listening sessions.

When I did listen, I levered the arm at the side of each box up to the central "off" position for a moment, then dropped them back down the other way to engage the second switch in the box, powered from the wall. (Each box was wired with a common ground between the two supplies.) I used audiophile power cords from the amps to the switches; either Essential Sound Products' The Essence or Synergistic Research AC Master Couplers.

My Official Position: Yes, during the review period Kathleen and I wound up jumping through hoops to get it done. There will certainly be those of you who will become engorged with mirth, imagining that no one in their right mind would go through so much just to listen to a pair of amps. It is rather a lot to ask.

But if you imagine that no one but a reviewer (and not everyone at that) would go through all this before chucking the amps off a pier into the East River, recall that Ernest built these elaborate switchboxes for himself. In fact, when I balked initially at the idea of using the Variacs, he insisted (you know how audiophiles can insist) that the sound of his rig was much improved by reduced-voltage simmering when not playing music. I have to admit, he was absolutely right. Startlingly so.

In fact, I may ask Ernest to make us up a set of switchboxes and Variacs with audiophile-approved internal wiring. When considering this entire matter, and after regaining control of yourself, remember that the production-spec two-position turn-on switch addresses this problem.

Anyway, that's how we used 'em. Imagine.

THE REST OF THE BREW
In an altogether funny audiophile moment, Luke apologized for not allowing enough room between the chassis to place Shakti Stones on the power transformers. (As have other manufacturers, Luke tells me he has found them to be effective.) I did try a pair on the output transformers up top, and even there — given less of a magnetic field to interact with — I noticed that the bass tightened up a notch. More subtle improvements became evident over time.

Tweak-wise, I cossedet the small tubes with a combination of Bluenote Midas Tube Dampers and Ensemble Tube Sox. The amps sat atop Michael Green Tuning Amp Stands on a trio of Shun Mook Ultra Diamond Resonators.

Preamp in use during the review period was the Jadis four-chassis JP-200MC. The JP-200MC is a superb preamplifier, and while its line-stage is notable in every way, the phono section is its true raison d'être. It's simply the most sophisticated and totally refined analog engine it's ever been my pleasure to audition.

I wrapped Bluenote Midas Tube Dampers around the two phono-input 6DJ8s and suspended the four chassis on Michael Green Designs AudioPoints. (Even I didn't have the nerve to squeeze a $25k preamp in a Clamp-Rack.) As in the rest of the system, power cords were either The Essence or AC Master Couplers.

Digital front-end was the Forsell Air Reference Mk.II CD transport connected to a Clamped and topless Forsell D/A converter, tied together with a length of BNC'd IllumiNat D-60. As before, the transport sat atop a four-shelf Michael Green ClampRack, while a Signature 'Rack lightly squeezed the DAC. The transport is set upon two Harmonix RF-66 Large Tuning Feet at the rear (dots up, per Mr. Kiuchi) and a single AudioPoint centered up front.

Analog was handled by the Forsell Air Force One, a fresh mint green dental-floss drive-belt wrapped around its platter, and a van den Hul Grasshopper IV at the end of the arm. As the hours continue to accumulate on the IV, I keep gaining new respect for it. The beefier suspension — optimized for undamped linear-tracking arms — required a break-in time on the order of 200+ hours! Finally loosened up, its sound was much more open.

I keep a Shakti Stone over the Flywheel's electronics, and a trio of Shun Mook Mpingo discs on the plinth of the "table. There are six Harmonix Tuning Bands at various locations on the bearing and support structure. The whole concoction sits on two customized Michael Green four-shelf ClampRacks. Record weights in play included the transparent and fast Harmonix TU-812 Tuning Record Clamp, and the ineffably musical Shun Mook piece.

Cabling was all TARA Labs Decade. I had excellent results with Synergistic Research Resolution Reference and XLO Signature latches, but overall, for its superb balance and light, elegant presentation, I preferred the Decade as the best all-around performer with this setup.

OMMMMMMM...

The second pair of Wotans, obviously up to snuff, sounded much more like a wide-bandwidth design of contemporary specification than had the first. As we ran them in, I flipped back and forth between tetrode and triode, and settled on the latter with no misgivings whatsoever.

Yes, the bass was better, deeper, tighter in tetrode — 1250W per side, after all. It was also marginally more transparent and focused, but it was in the highs that the sound took a dive — a bit too much grain for my tastes. (Although far less objectionable than some other tetrode or ultralinear designs I've heard.) Triode is where it's at, and with 600W on tap, headroom wouldn't be a problem.

There's something special that all really great amps do — they set up a big soundstage and disappear the speakers, even ones so imposing as the tweaked-out, tri-wired Avalon Ascents. On the big VTLs the Avalons well and truly evaporated. The sound was extremely transparent: huge, deeply layered, and detailed — "encompassing" springs to mind — all in the best tube sense. And, like the best tubes, the harmonics were lovely and engaging.

In fact, the Wotans developed harmonic information to the point where I found that the music regularly drew me in with that pleasantly human quality that we audiophiles seem so attracted to. Seeking out this harmonic G-spot may

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1 This review was the preamp's swan song in our system; except for our JA-200 monoblocks, all things Jadis have since left our hands. This turn of events truly saddens me, but our search for a new reference will be exciting.
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Perhaps we're all searching for that almost Quixotic-like resonance of life—the heart chakra—that may be as naturally attractive to audiophiles as riding in a moving car is to kids and dogs. Is this the mechanism by which we find ourselves more easily falling into the music—its rhythms and 'timing'—divining more deeply the artists' intentions? Might this be the quality referred to when we speak about experiencing a system through which music is somehow more involving?

**BACK ON EARTH...**

When Luke set up the first pair of Wotans, we listened to the Gounod *Faust* ballet music on Classic Records vinyl, backed by Bize's exuberant *Carmen Suite* (LSC-2449). It's a wonderful record that really highlights the Wotans' ability to handle the Wide Open Spaces of a large concert venue, here the Royal Opera House at Covent Garden with conductor Alexander Gibson.

In spite of punishing crescendos, the Wotans never lost their ability to hang a perfectly transparent curtain of sound about the speakers and the listener. They never faltered for a nanosecond in keeping musical lines separated from each other, even during crashing dynamics and complicated scoring. There was never a moment of confusion or murk, limitless power reserves seemingly at our beck and call.

The Wotans developed a real sense of scale and impact without sounding ponderous. Listening to the Gounod at crushingly realistic sound levels, they presented the music in a clean, illuminated, and beautifully set-up fashion. Power weight, extension, air, and lovely, sweet highs predominated, drawing me ever closer to the music.

The structure of the bass as rendered by the Forsell/GH IV on this LP laid the foundation perfectly. It was a highly acoustic sound, a 'real' sound of timpani in a half, with a fine blend of transient energy and power building to delicious, musical bloom.

While macro in the extreme, the Wotans resolved microdynamics quite naturally, acoustic decay dropping deep into the noisefloor. This was not a characteristic reserved just for a few well-recorded discs, by the way. Listening notes: "I'm trying hard to remember when I enjoyed string tone as much as this before, and I can't. Bite and bloom in all the right places. The bells are remarkable, their perfect shimmer lending credence to the original acoustic event. There's a quickness to the way the amp starts and stop that belies their huge demeanor."

For a closer and more intimate view of the bass and upper bass, I turned to Dean Peer's *Unsos* (Jazz Planet/Classic Records JP 5002-1) on HG-180 premium vinyl via RTI. Just terrific—the speed, dynamics, and fullness of tone throughout the bass range illuminated Dean's peerless bass playing. Usually, one finds components that get the fundamental right, but perhaps not the initial transient or the bloom. Sometimes it's the other way round. The Wotans blended these elements so well that my laptop was often as not left idling its processor while I listened and enjoyed the music.

What happens when the Wotans get up-close and intimate? I spun my favorite cut, "Moon Maiden," from The Intimate Ellington (Pablo 2310-787). Listening to this record on single-ended had always left me stunned. On the opposite-universe Wotans, I still found the inner light of tubes much in evidence, despite their push-pull nature. It was magic—the shimmering celeste accompanying The Voice, charming and full of tenderness.

Looking for more evidence of the Wotans' light touch, I played the CD of Arturo DeImnun's Sonatas of Brahms and Beach (John Marks Records JMR 2), with Yuri Funahashi on the piano. To me, the imaging was vague. (I understand from John Marks that recording engineer David Hancock used a pair of Cambridge C35 ribbon mikes in a spaced figure-8 pattern, slightly angled in toward the performers, at either end of a 6' crossbar about 8' off the ground —rather than the *obviated* figure-8 pattern used in strict Blumlein.) The recording was made on an analog Studer A80 running at 30ips. Since the imaging isn't the point, then what's the tonal balance like?

To die—just...to die. As sweet and evocative a violin sound as I've ever heard from a CD source. If the music encoded on this disc doesn't carry you along, you're brain-dead. Turn yourself in. The recording is a walking advertisement for what can be done with 16 bits at 44.1kHz. The accompanying piano is beautiful and ambient-sounding.

To investigate the balance between speed, harmonics, and imaging, I turned to a finely rendered CD of the harpsichord, The Bastianato Project, Vol. II (PGM 105, engineered by Gabe Wiener). My notes: "The recording nails the initial transients of the instrument and blends it with a balanced and appropriately tight-wound bloom. Super-precise location in a deep and airy acoustic. Clarity, speed, and transparency without sterility or any straining away of harmonics."

Pick up *Spiritus*, the new Dead Can Dance CD (4AD 46230-2). Track 2 starts out...actually, I can't imagine how to tell you. It sounds like John Cage on acid playing a didjeridu. Suddenly you find yourself in a sonic landscape of tremendous color and rich forest ambience, supported by vocals so well-delineated in space that—well, next to single-ended triodes, they got me as close to that be-there feeling as I've ever felt.

The frequency balance and linearity in the upper midrange and above, where female vocals lie, is key to the overall sound of many systems I've heard. Single-ended triodes do this so well it's frightening. And the best of push-pull approaches this same level of artistry.

In this way the Wotans were superb. For instance, Patti Smith fans will find much to enjoy in her new Gone Again (Arista 07822-18747-2), the September Sterophile's Recording of the Month. She's so cool. Her voice sounded somewhat grainy and digitized, but I'll note that the Wotans didn't glaze over it, washing away mortal digital sin. The Wotans do give you what's there, point to make.

Turning to a sweeter example, I pulled Cassandra Wilson's *New Moon Daughter* (Blue Note CDP 8 32861 2) and tracked up "Last Train to Clarks ville"! The Monkees — my generation — for better and, occasionally, much for the worse. That Ms. Wilson so effectively remark this ditty into such a personal and unique musical statement is nothing short of astounding.

I can truly say, as I sat in the Ribbon Chair and listened to this disc, that the Wotans were treating female vocals to their finest (push-pull) hour. Cassandra's voice was so well developed, so palpable and present, that even for this jaded reviewer the experience was captivating.

**CAVEATS?**

But of course. First, spoiled reviewer that I am, I've heard simply stupendous
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Best sounding medium powered amplifier: PASS Aleph 2
Best sounding amplifier for the money: PASS Aleph 3
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Audio Alchemy ACDPRO
Stable Platter Transport with HDCD!

Best DAC in the world:
The Audio Logic Model 34 - no DAC is even close, and with its open bus architecture, it is DVD ready! Everything else is a boat anchor

Best Cinema Pro-Logic/THX Processor:
The superb Chiro C-800 by Kinergetics
Great on music & movies includes tuner & multi zone!

Best DAC for the money:
Audio Alchemy’s new DDEv1.2
HDCD - 4 inputs - I2Sbus - only $499

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bass to make your ears fall off. My conclusion? Some of the solid-state guys get a better grip on the lowest registers (the Wotans as well, in tetrode), but the transistor boys just get it tighter than any tubes ever can. I can live with it, given the awesome bass the Wotans do make.

And they're a shade less subtle and refined than our reference Jadis JA-200s. (It's often said that huge, powerful amplifiers are less able to communicate the nuance that smaller amps manage.) In direct comparison, the '200s are more elegant and even lighter on their feet, although the Wotans are anything but clay-footed. The French amps manage to touch the music in a uniquely ineffable way.

In the final analysis, the more forward and colorful Wotans have a shade *mi petit peu* more grain in their presentation than do the Jadis. Suppose it all comes down to those transformers. The Jadises cost almost as much as the Wotans for about 130W of quasi-linear power. Of course, when you flip the '200s over and open them up, you'll see the most gorgeous point-to-point work you're ever likely to come across. It unquestionably impacts the sound. And you can't see (but oh, you can hear) all the work put into the hand-wound power and output transformers of the '200s.

The Wotans make up for it when run in the sweeter and more musical triode mode, with vast amounts of headroom available due to the extraordinary number of power tubes.

**Wind it up for us, will you, J-10?**

As some kind of bellwether of purity in recording, try Lori Lieberman on her 24k gold *Home of Whispers CD* (Pope-Music P'M1005-2). (It sounds *warmer* than the aluminum substrate version, what can I tell you?) Cello mike preamps, an externally clocked Nagra-D, SDIF, and a 20-bit Apogee AD1000 do not a turkey recording make. Still, mike positioning is everything, and you can hear that in the chorus on "Roots and Wings"—a miracle of fine recording technique.

And all this refinement and clarity is the Wotans' pleasure to bring you. Yes, the source components used in this review were all very highborn. In fact, I'm sure the Wotans can be made to sound bad, given enough effort. They navigate so well between solid-state's power and control and tubes' verity to the acoustic, that if they weren't so blessed ugly and enormous... well, let's just say I'm really sorry to see them go. (I'd be much sorrier if I didn't have the JA-200s to go back to!)

Thinking back on it, every single listening session I enjoyed with the Wotans was filled with pleasure. They always gave every inch of their considerable hot-running selves to enliven the musical experience. My hat's off to Luke Manley. He has fashioned a true statement of the tube-amp maker's art. Here are incorporated the finest qualities of tubes—and lots of them—with few of their oft-quoted failings. Believe me, you'll search far and wide before you find another tube amp capable of grabbing a speaker and controlling it as do the Wotans.

For those who don't mind fiddling a bit, for those with a passion for music and tubes (and a budget to suit), the Wotans may prove nirvana.

**Measurements from TJN**

For logistical reasons, VTL provided us with a separate pair of MB-1250s from the ones reviewed by JS. The measurements below thus reflect the pair delivered to Santa Fe.

My initial intent, after eyeballing the 24 separate tube bias settings in each of these huge VTL monoblocks (VTL recommends checking the biases monthly!), was to check the biases before the test. After all, our test amplifiers had come directly from the factory. Presumably the biases had been set correctly—something a buyer has a reasonable right to expect. But to be certain, I ran a few preliminary measurements to judge their reasonableness. Upon finding that the power output was a little below spec, I elected to check the biases. According to the manual, the DC voltage across each bias resistor should have been 275–300mV. My readings were all under 130mV.

Hmmm. This was so far out of whack, but so consistent on all the tubes, that I checked with Luke Manley of VTL before making the huge increase needed to raise the bias to the level recommended in my manual. It's a good thing I did. With the test amplifiers set up at the factory for an optimum 5 ohm load, the correct bias setting was supposed to be 150mV. Both my owner's manual and the amp as received were wrong. Buyers should treat this as a caution. If the value in your manual differs markedly from the bias setting of the delivered amplifier, check with the factory before cranking the bias up. You could damage the amp or severely impact tube life at double the required bias, as I might have done had I followed the recommendation in my owner's manual. Severely shortening the life of 48 tubes (for the stereo pair) could be a very expensive mistake.

Because of the very high power output of the VTL MB-1250 and the thermal limitations of our test-bench load, I did not run a standard 60-minute preconditioning test. This test, however, is not truly relevant to tube amplifiers anyway—it's intended to thermally stress solid-state amplifiers with class-B output stages. I did allow the VTL to warm up for approximately 30 minutes before proceeding—about the amount of time it took me to rebias the tubes in the single monoblock I measured.

The amplifier ran quite warm in operation—but no warmer than you would expect from the forest of tubes. Its input impedance measured from 170k ohms to 270k ohms, depending on operating condition (triode or tetrode, balanced or unbalanced). An input impedance this high is very difficult to measure accurately: the readings show very small variation with changes in the Audio Precision System Ones' source impedance, and as with most tube amplifiers, they also fluctuate slightly. But the tests confirm a very high input impedance, which is generally desirable. Suffice it to say that I know of no preamplifier that will experience an impedance mismatch when connected to the MB-1250.

The amplifier's voltage gains into 8 ohms in balanced mode were 28.2dB (triode) and 30.3dB (tetrode), and virtually the same for unbalanced inputs. The VTL is noninverting, a positive-going input resulting in a positive-going output, and in the balanced mode pin 2 is positive. DC offset at the output measured 1.2mV. The S/N ratio for various operating conditions is shown in Table 1, rounded off to the nearest dB.

The noise levels in the balanced mode were good, but relatively poor when the amplifier was driven unbalanced. The balanced readings were

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Triode dB</th>
<th>Tetrode dB</th>
</tr>
</thead>
<tbody>
<tr>
<td>2kHz-22kHz</td>
<td>85</td>
<td>80</td>
</tr>
<tr>
<td>1kHz-5kHz</td>
<td>79</td>
<td>77</td>
</tr>
<tr>
<td>A-weighted</td>
<td>92</td>
<td>90</td>
</tr>
<tr>
<td>1kHz-5kHz</td>
<td>56</td>
<td>54</td>
</tr>
<tr>
<td>2kHz-22kHz</td>
<td>56</td>
<td>54</td>
</tr>
</tbody>
</table>

Table 1 VTL MB-1250 S/N Ratio (ref. 1 W/8 ohms)
PROUDLY INTRODUCES THE
MELOS SHA GOLD

Big brother to the famous SHA-1 Amplification Component of the Year for 1992 in Stereophile Magazine and highly praised in the pages of The Absolute Sound. The SHA Gold sets even higher standards for versatility and performance.

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GOLDEN TUBE Announcing the SE-40, an amp that achieves the impossible. 40 W/ch of pure class-A single-ended tube power for $980! A miracle!

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JM LAB Audiophile performance from small decor conscious enclosures! Absolutely! Only JM Lab delivers the full sound of much larger designs.

VON SCHWEIKERT Fabulous time and space aligned loudspeakers utilizing GAIN (Global Axis Integration Network). The breathtaking VR-4 has been joined by two new products, the new VR-4.5 with all silver wiring and the more compact, but equally impressive, VR-3.

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EAD • Eminent Technology • Epos • Fantare • Fried • Forte • Golden Tube • Grado Headphones • Jamo • Jeff Rowland Design
JM Lab • Jolida • Kimber Kable • Magniﬁum • Magniﬁum-DynaLab • McCormack • Melos • Monarchy • NAD • Nakamichi • Nitty Gritty
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taken with the balanced input shorted out, the unbalanced with both the unbalanced and balanced inputs shorted out (not shorting the balanced input made little difference in the balanced mode measurement).

The output impedance of the MB-1250 in the triode mode measured around 0.92 ohms at 20Hz and 1kHz, increasing to a maximum of 1 ohm at 20kHz. The corresponding figures for the tetrode mode were 1.17 ohms and 1.26 ohms. While far lower than what we have measured with some tube amplifiers, these are still relatively high values on an absolute basis and will affect the frequency response into most real-world loads (see below).

For both the triode and tetrode operation, most of the measurements were taken in balanced operation, though unbalanced measurements for frequency response and THD+noise frequency are also presented.

**Triode Operation:** Fig.1 shows the frequency response of the MB-1250. The HF rolloff is just slightly faster in the balanced mode, and the effect of the fairly high output impedance on the response is evident. While it is within ±1dB up to 20kHz, it should be audible (and will vary slightly with different loudspeakers). The output waveform of a 10kHz squarewave is shown in fig.2.

There is a slight overshoot at the leading edge but no ringing. The overshoot is also just visible in the 1kHz squarewave (not shown).

The THD+noise curves in figs.3 and 4 show a rising level of distortion at higher frequencies, but an overall reasonable performance, particularly up to 10kHz. The distortion for unbalanced inputs (fig.4) is affected by the higher noise levels in this mode. The THD+noise waveform at 2W into 4 ohms in triode mode is shown in fig.5. It is heavily second-harmonic plus noise.

Because of the high power output capabilities of the MB-1250, I restricted the power in the following output spectrum tests to 200W, rather than the 2.8 ohms power usually used. (These tests take longer than the clipping measurements and I did not want to risk our test load; for the same reason, the 50Hz spectrum into our simulated real load was not run here.)

The output spectrum resulting from a 50Hz input at 200W into 4 ohms is shown in fig.6. The artifacts are relatively high in level (~43dB or about 0.7% at 100Hz, and ~46dB or about 0.5% at 150Hz). Fig.7 is a similar spectral plot showing the intermodulation products present in the output resulting from a 19+20kHz input signal at 100W into 4 ohms (the highest output possible with this signal prior to visible clipping). The 1kHz IM product is very high in level: just -25dB or 6%. At 18kHz and 21kHz, the IM lies at about -33dB or 2%. (Keep in mind, however, that 100W is a very high power output at these frequencies — far above the power-handling capability of a real-world tweeter.) The spectral response at 59W into 8 ohms was very similar (not shown), though the artifact levels were slightly lower (approximately 4% at 1kHz and 1.8% at 18kHz and 21kHz, respectively).

The manner in which the THD+noise level changes with output power (at 1kHz) for the MB-1250 in triode mode is shown in fig.8. The gradual rise in distortion without a well-defined break point or "knee" is typical of tube amplifiers. Here the distortion rises gradually above about 1W. The output is nearly the same into either 2 or 4 ohms, less than 8 ohms. The discrete
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clipping levels are given in Table 2. Note that these are given for 3% THD+noise at 1kHz, instead of our standard 1%. Even here, the MB-1250 falls about 90W short of its rated power output.

Tetrode Operation: The frequency response in tetrode mode is shown in fig.9. It is similar to the triode result with two exceptions: the unbalanced result is slightly flatter above 10kHz and the deviations into the simulated real load are slightly greater (reflecting the marginally higher tetrode output impedance). The tetrode squarewave response was virtually identical to the triode except for a just slightly less-well-damped overshoot (the difference is barely visible on our plots—not shown here—though slightly easier to see directly off an oscilloscope).

The distortion curves in figs.10 and 11 show the same pattern as the triode results, with small but not dramatic differences in magnitude. The distortion waveform remains second-harmonic with some higher-order components plus noise apparent (fig.12).

As with the triode mode, I restricted the power in the spectral response tests to 200W. A plot showing the output spectrum resulting from the amplifier driving 50Hz at 200W into 4 ohms is shown in fig.13. Though still relatively high in level (~49dB or 0.35% at 100Hz, and ~50dB or 0.3% at 150Hz), the artifacts here are somewhat lower than in the triode mode. The 1kHz IM distortion product resulting from a 19+20kHz input signal at 200W into 8 ohms (fig.14) remains high, though, at ~39dB or about 1% lower than in the triode mode (the result here is at a higher output). The 18kHz and 21kHz IM products are at about ~42dB or 0.7%.

The tetrode variation of THD+noise with output power is shown in fig.15. The general trend is the same as in the triode mode, though the output levels are higher. Again, as in the triode mode, the output falls short of the specified levels. The 3% THD+noise levels at 1kHz (clipping) are shown in Table 2.

The measurements of the VTL MB-1250 are respectable (with the exception of the rather high S/N in the unbalanced mode), though not remarkable in any way save the very high power output (for a tube amplifier).

—Thomas J. Norton

### Table 2 VTL MB-1250 Discrete Clipping Levels

<table>
<thead>
<tr>
<th>Impedance (ohms)</th>
<th>Triode (W/dBm)</th>
<th>Tetrode (W/dBm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 (line voltage)</td>
<td>408.5 (26.1)</td>
<td>644 (28.1)</td>
</tr>
<tr>
<td>4 (line voltage)</td>
<td>510.1 (24.1)</td>
<td>952 (26.8)</td>
</tr>
<tr>
<td>2 (line voltage)</td>
<td>508 (21.1)</td>
<td>1111 (24.5)</td>
</tr>
</tbody>
</table>

![Fig.8 VTL Wotan, triode mode, balanced, distortion (%) vs output power into (from bottom to top at 1W and 100W): 8 ohms, 4 ohms, and 2 ohms.](image)

![Fig.9 VTL Wotan, tetrode mode, frequency response at (from top to bottom at 1kHz): 1W into 8 ohms, unbalanced; 2W into 4 ohms, unbalanced; 1W into 8 ohms, balanced; 2W into 4 ohms, balanced; and at 2.83V into simulated speaker load, balanced (0.5dB/vertical div.).](image)

![Fig.10 VTL Wotan, tetrode mode, balanced, THD+noise vs frequency at (from top to bottom at 1kHz): 4V into 2 ohms, 2W into 4 ohms, 1W into 8 ohms, and 2.83V into simulated speaker load.](image)

![Fig.11 VTL Wotan, tetrode mode, unbalanced, THD+noise vs frequency at (from top to bottom at 1kHz): 4W into 2 ohms, 2W into 4 ohms, and 1W into 8 ohms (THD level below 1kHz dominated by noise).](image)

![Fig.12 VTL Wotan, tetrode mode, 1kHz waveform at 2W into 4 ohms (top); distortion and noise waveform with fundamental notched out (bottom, not to scale).](image)

![Fig.13 VTL Wotan, tetrode mode, balanced, spectrum of 50Hz sinewave, DC-1kHz, at 200W into 4 ohms (linear frequency scale).](image)

![Fig.14 VTL Wotan, tetrode mode, balanced, HF intermodulation spectrum, DC-22kHz, 19+20kHz at 200W into 8 ohms (linear frequency scale).](image)

![Fig.15 VTL Wotan, tetrode mode, balanced, distortion (%) vs output power into (from bottom to top at 10W): 8 ohms, 4 ohms, and 2 ohms.](image)
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Larry Greenhill listens to the Bryston BP-25MC preamplifier and the Bryston 3B-ST and 7B-ST power amplifiers

Bryston BP-25MC: full-function, transformer-input, moving-coil preamplifier with remote control for volume, mute, and balance. Inputs: four pairs of RCA unbalanced inputs plus one (optional) phono input, two pairs of balanced female XLR inputs. Outputs: two pairs single-ended on RCA jacks, one pair balanced on XLR jacks, tape output on RCA jacks. Phono section specifications: frequency response: 5Hz-30kHz ±0.5dB; THD <0.005%, 20Hz-20kHz, at full output. S/N ratio: approximately equivalent to 1k ohm metal-film resistor (thermal noise >85dB below 600uV input, unweighted). Voltage gain at 1kHz: 34dB (additional gain from moving-coil transformer 16.5dB or 22.5dB. Line Section: maximum output 15V unbalanced, 30V balanced. Distortion: <0.0025% at 3V output, IM or THD. Sensitivity: 500mV/S/N ratio: 100dB ref. 500mV unbalanced input, 20Hz-20kHz; 103dB ref. 11V balanced input, 20Hz-20kHz. Dimensions: 17" (432mm) W by 1.75" (44.4mm) H by 11" (280mm) D. Weight: 17 lbs (7.5kg). Serial number of unit reviewed: 250663. Price: $2995 (including external BP-BS power supply and internal BP-1 phono module).

Bryston 3B-ST: solid-state stereo power amplifier. Output power: 120W continuous into 8 ohms (20dBmW), 200W continuous into 4 ohms (20dBmW); 400W continuous into 8 ohms in bridged mode (26dBmW). Distortion: <0.007% at 120W, 20Hz-20kHz, IM (60Hz-7kHz); 4.1, SMPTE method) or THD S/N ratio: 106dB ref. rated output, 90dB IFH. Slew rate: >60V/µs. Damping factor: >500 at 20Hz ref. 8 ohms, equivalent to an output impedance of 0.016 ohms. Input sensitivity: 1V for 120Wpc into 8 ohms; 2V for full output, balanced. Input impedance: 50k ohms unbalanced, 20k ohms balanced. Polarity: noninverting. Dimensions: 19" (482.5mm) W by 5.25" (133mm) H by 9" (228mm). D. Weight: 22 lbs (10kg). Serial number of unit reviewed: 332826. Price: $1565.

Bryston 7B-ST solid-state monoblock amplifier. Output power: 500W continuous into 8 ohms (27dBmW), 800W into 4 ohms (26dBmW). Distortion: <0.007%, 20Hz-20kHz at 500W, IM (60Hz-7kHz, 4.1, SMPTE method) or THD S/N ratio: 106dB ref. rated output, 90dB IFH. Slew rate: >60V/µs parallel mode, >120V/µs series mode. Damping factor: >300 at 20Hz at 8 ohms, equivalent to an output impedance of 0.03 ohms. Input sensitivity: 1.4V for full output, unbalanced; 2V for full output, bridged. Input impedance: 50k ohms unbalanced, 20k ohms balanced. Polarity: noninverting. Dimensions: 19" (482.5mm) W by 5.25" (133mm) H by 15.5" (394mm) D. Weight: 44 lbs (18kg). Serial numbers of samples reviewed: 770933, 770934. Price: $4975/pair.

Common to all three: Approximate number of dealers: 90. Manufacturer: Bryston Ltd., PO Box 2170, 677 Neaval Drive, Peterborough, Ontario, Canada K9J 7Y4. Tel: (705) 742-5325. Fax: (705) 742-0882.

Canadian electronics manufacturer Bryston Limited has been producing consumer and professional amplifiers since 1974 [see Robert Deutsch’s interview elsewhere in this issue — Ed]. Bryston amps are engineered to be physically and electrically rugged, to meet the stringent demands of professionals, many of whom leave their studio amplifiers turned on for years. While lightness in the chassis was valued over the audiophile massiveness found in some high-end consumer amplifiers, studio engineers and concert pros continued to favor Bryston amps, which easily passed the “steel toe” test. The 4B, for example, became a standard amplifier for recording engineers and touring musicians.

This ruggedness and reliability allowed the company to institute a unique warranty program that covered each of their products for a full 20 years. This warranty includes all audio products ever manufactured and sold under the Bryston name. Besides covering all parts and labor costs, the company pays shipping costs one way. This is all the more significant for products like the 4B, which, in one form or another, has been in production for the last 20 years. This warranty, plus the very competitive US prices of Bryston products, make them good values.

Bryston amplifier reviews in this magazine have been quite favorable, always yielding Class B or borderline Class A ratings. The NRb products, for example, had been the result of circuit innovations that lowered the amplifiers’ power-supply impedance while boosting energy storage as much as 28%.

The 4B-NRB (Vol.15 No.5, Vol.16 No.1) was praised for its bass “slam and snap” while the 7B-NRB (Vol.16 No.10) received accolades from T&J for its high power and “full, warm low end … allied to a very neutral midrange and sweet, clear highs.”

In 1994, Bryston released an evolutionary new line of solid-state product: 2S replacements for the NRb line. Bryston’s new “ST” amplifiers — the 3S-ST, 4S-ST, and 7S-ST — reflect the design contributions and initials of a new engineer at Bryston, Stuart Taylor. In this report I evaluate three of Taylor’s new designs: the remote-controlled BP-25MC preamplifier, the moderate-power 3S-ST stereo amplifier, and the high-power 7S-ST monoblocks.

BRYSTON BP-25MC
The Bryston BP-25MC preamplifier is a full-function control center with two balanced and four single-ended inputs, including one input for a moving-coil cartridge. The BP-25 is shielded in a black steel cabinet said to reduce electromagnetic interference effects. The power transformer is housed in a small external chassis, the BP-PS. The BP-25’s remote control allows volume up/down, along with buttons for mute and absolute polarity. Signal switching and audio connections, including balanced and unbalanced input and output connectors, are heavily gold-plated to provide good long-term connections. A 12V AC/DC screw terminal connector on the rear of the power supply provides convenient use when used in conjunction with the remote start feature optionally available on Bryston power amplifiers.

From left to right, front-panel controls include a Tape/Source toggle switch, the infrared sensor for the remote, and an MM Phono/MC Phono toggle switch. Next is a rotary control to select input sources, which includes settings for Bal 1, Bal 2, Phono, CD, Tuner, Video (for laserdisc), and Disc. At panel center is a rotary balance control. To the right of this is the motor-driven volume control, followed by toggle switches for Polarity/Invert and Mute/Normal. (These switches change settings each time they’re switched up or down, rather than muting, for example, only...
when Mute is pushed down.) The tri-color LED glows green when the preamplifier is not muted or inverting, yellow when unmuting and inverting, and red when muted.

The BP-25MC's build quality and circuit layout are superb. Almost all components are directly mounted on the main system circuit board extending the full width and depth of the chassis. Signals from the unbalanced jacks travel from an input board to this main board via two large ribbon cables. The main board features solder mask and extensive component designators. A written table at pcb center bears the signatures of those installing the capacitors and semiconductors, and the date the system board was completed. Many individual components are used, including very-high-quality film capacitors in a number of places. Looking at the system board from above, I saw no point-to-point wiring.

The BP-25MC's internal power supply—situated at the right when viewing the chassis from the front—seems to be rugged and well-designed. It employs a discrete bridge rectifier (four 1N4004 diodes) feeding two 4700µF electrolytics. Three 3-pin IC regulators are mounted on individual heat sinks, two of them (a 7824 and a 7924) supplying ±12V to the electrolytics, while the third (a 7808) supplies voltage for the logic to control muting on turn-on. Final filtration is accomplished on the low-voltage regulated side by 2200µF electrolytics. A separate source for the power-on muting system shorts all inputs until the preamplifier has settled. Additional 2200µF electrolytic capacitors provide further filtration at key points in the preamplifier, including the phono stage.

The BP-25MC's built-in phono section occupies the left side of the chassis: two matching circuit areas, one per channel, run the depth of the chassis side by side. Two metal-shielded cans, transformers for the moving-coil inputs, sit just behind the front panel. (These transformers are identical to the company's TF-1 outboard transformer.) The BP-25MC can be ordered with two different gain configurations: the higher configuration of 22.5dB gain, with the transformer wired in series; or 16.5dB gain, with the transformers wired in parallel for a higher source impedance. Behind the transformers sit two identical circuit boards for the moving-magnet cartridges, these including the RIAA equalization circuitry. Total gain for moving-coil cartridges at mid-frequency through the entire phono section of the BP-25MC is 56.5dB.

The line amplification for the BP-25MC is provided by discrete amplifier modules, three per channel. Two of these op-amps are to buffer the signal to the tape output and level control, the remaining four for the two balanced outputs. These proprietary circuits are specified as delivering high output with low noise. The high 24V rails supplying the op-amps mean that the preamp is relatively resistant to overload.

Listening to the BP-25MC: My interest in the Bryston BP-25 MC preamplifier first centered on its remote control—it allowed me to adjust volume during casual listening sessions. This proved to be addictive, as my listening position was 12' from the preamplifier. I soon discovered that the infrared sensor has a narrow angle of reception at that distance, and will not respond if signaled from more than 45° off-axis. To make certain the preamp responded, I turned it so that one corner overhung the edge of the shelf. I also found that when the preamplifier was left on for long periods of time without use, it sometimes went into mute; the remote's Mute and Phase pushbuttons then had to be cycled repeatedly to wake the BP-25MC from Mute.

Even with these minor frustrations, the Bryston BP-25 MC proved to be a superb preamplifier for reviewing. The volume-control settings provided stable and reliable output, essential for product comparisons. When reviewing the three D/A processors mentioned in the sidebar, I made a light pencil-mark on the front panel next to the rotary volume control to record the approximate setting needed to produce the same voltage out (read by a multimeter) at the speaker terminals when playing a tone from a test CD. These settings produced the same voltage, within 100mV, each time the appropriate D/A processor was put into the system.

Initial impressions of the BP-25 MC, obtained by listening through its phono section, was that it leaned toward a warm, somewhat distant presentation with an open-sounding top end. As time went on, this sonic signature became clearer and more distinct, particularly in comparison with other preamplifiers at my disposal. With the Quad ESL-63s and Totem Model 1s, which emphasize midrange character, the BP-25 had a warm, smooth midrange. The Snell Type A Reference system revealed the preamp's open, unrestrained top end.

The line section had good bass extension, with a powerful, focused bottom end. Synthesizer-generated deep bass chords in "The Hit," from James Horner's *Patriot Games* soundtrack (RCA 66051-2) sounded clear and solid. The pace and energy of the choir's foot-stomping on *Lyle Lovett's "Church"* (from *Joshua Judges Ruth, MCA MCAD-10475*) were easily experienced. The Bryston BP-25MC rendered the full weight and power of the bass drum in "La Fiesta Mexicana," from *Fiesta* (Reference Recordings RR-38CD). Bass slam came from the bass guitar and drum kit on "Behind the Veil," from *Jeff Beck's Guitar Shop* (Epic EE 44313). Gain-matched comparisons between my Levinson ML-7A and the BP-25MC showed equal abilities to render the impact and clarity of deep bass from synthesizer and bass drum heard on the "Main Title" track of Horner's *Clear and Present Danger* soundtrack (Milan 35679-2).

The BP-25MC's phono section was equally competent in the bass, reproducing 32Hz pipe-organ notes as well as the rhythmic drive and pace of the double-bass sections of orchestral music. This was evident in its accurate portrayal of the wide dynamic range and powerful orchestral rhythms found in Shostakovich's Symphony 6 (Stokowski/CSO, RCA LSC-3133). Similarly, the BP-25MC equaled the ML-7A in...
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reproducing the rhythmic drive of Bartók's *Concerto for Orchestra*, as heard on Classic Records' remastered LP of the original RCA recording (Fritz Reiner/CSO, LSC-1924). This firm, solid bass was also heard on "After Anthem," from the LP of James Horner's *Glow* soundtrack (Virgin ST-VR-897678, 1-91329). The full orchestra and the Boys Choir of Harlem presents a dense, colorful sonic fabric; the BP-25MC conveyed a lovely, warm string tone and the full strength of the soprano voices without strain or distortion. The BP-25MC's midrange reproduction convincingly captured instrumental and vocal timbres. On "I Don't Get Around Much Anymore," from the *When Harry Met Sally...* soundtrack (Columbia CK 45319), Larry Connick, Jr.'s voice had just the right timbre without sounding tubby or nasal. On "Grandmother Song" (from The Raven, Chesky 3115), I heard Rebecca Pidgton's delicate soprano center-stage in a palpably three-dimensional sonic image. The piano placement on that recording —slightly behind and to the right of the singer—is certifiably precise, and was depicted with equal precision by the BP-25MC and the ML-7A, as were the dynamics of Pidgton's voice. However, the ML-7A was slightly more transparent and more immediate, and did a better job of rendering the sweetness of that voice.

The Bryston BP-25MC captured the timbre of string instruments while playing two of my favorite excerpts from the chamber music literature. One is from the third movement of Haydn's Quartet in d ("The Quintet"), recorded live by the Lindsay String Quartet (CD, ASV CD DCA 622). This movement features a canon with two violins playing together in octaves, followed three beats later by a viola and cello. The other is the Adagio of *Missa Solemnis* (Schwäbisch Gmünd 25), in which the violins, viola, and cello are playing together in octaves, followed by the timpani.

B ecause first impressions can be misleading, I believe that audio equipment should be auditioned over a long period of time: the Bryston BP-25MC preamplifier was used in my listening system for nine months before I began writing this review. Though the power amplifiers came later, they still did service for a good six months, driving a variety of loudspeakers. The amplifiers were run both single-ended and balanced, and, when used in a bi-amplified system, as both main and subwoofer amplifiers.

Comparison solid-state electronics were chosen for the listening sessions to match the Bryston gear in control options (preamplifiers) and power ratings (amplifiers). The BP-25MC was compared with the discontinued Mark Levinson ML-7A and its moving-magnet L2 phono option (set for 44dB gain and 50k ohms input impedance), with a Duntech/Audio Standards MX-10 head amp for my system's low-output Spectral moving-coil cartridge. Analog interconnects included AudioQuest LiveWire Topaz interconnects and Krell Cogelco balanced leads.

Comparison amplifiers for the 3B-ST and 7B-ST included two Mark Levinson 100Wpc dual-mono units: the discontinued No.27 and a new No.331. I also compared the Bryston 7B-ST with the now-discontinued 250Wpc Krell KSA-250. This classic amplifier, rated Class A in Stereophile's "Recommended Components" when still available, served as the comparison amplifier for *Stereophile's* previous reviews of Bryston amplifiers.

Listening tests were carried out in two rooms. The first, my main listening area, is the most spacious, having an estimated volume of 5500ft³ and an effective room length of 51'. The main listening area is 26' long by 13' wide by 12' high, with an 8' by 4' doorway at the back of the room opening into a 25' by 15' kitchen. With only a single area rug, this space is a "live" listening environment. (This large room's exact dimensions, construction, contents, listening positions, rugs, windows, and bass modes were described in Vol.15 No.3, p.181.)

The Bryston, Krell, and Levinson amplifiers drove, at different times, two different loudspeaker systems in this room: the main loudspeakers (Snell Reference Towers or Quad ESL-63s) with parallel bi-wired runs of Sumikko's OCOS speaker cable, or the systems' subwoofers (Snell SUB-1800s or Bag End S-18s) via Monster speaker cables. For each installation, the main drivers (Quads or Snells) were set up 6-8' from the back wall, with the subwoofers placed in the corners.

For the preamplifier listening sessions, a single amplifier/loudspeaker setup was selected consisting of Snell Reference Type As with a pair of Bryston 7B-STs driving the Towers, and a now-discontinued Krell KSA-250 driving the SUB-1800 subwoofers. The two preamplifiers were linked to the Snell EC-200 Electronic Crossover via a pair of AudioQuest Topaz single-ended interconnects. Single-ended Randall Research interconnects were used from the crossover to the 7B-ST and Krell KSA-250 power amplifiers.

Other associated equipment used in the main listening room included a Day-sequerra FM Reference tuner, a Rotel RHT-10 FM tuner, and a Linn Sondek LP12 turntable with Lingo Mod, Itoh arm, and Spectral moving-coil cartridge. CDs were played on a Krell Md-1 turntable driving an Audio Alchemy DT'T jej attenuator using a 75 ohm Silver Starlight digital coaxial cable. This unit fed either an Adcom GDA-700 D/A processor or an Audio Alchemy DDE v3.0 HDDC® over its I²S bus. This converter was fitted with an RW-1 Remote Wand One.

A smaller, 12' by 12' second room was used for additional Bryston 3B-ST amplifier comparisons. This room is carpeted wall-to-wall, making it a less "live" listening environment than the larger room. Two modified Dahlquist DQ-10 loudspeakers1 were set up at one end of the room on Dahlquist stands, driven from the amplifier under test (the Bryston 3B-ST or the Levinson No.27) by QED Qudos Profile B speaker cables. This system was controlled by the now-discontinued Krell KBL solid-state preamplifier. Sources included a Pioneer Elite F-93 FM tuner connected to a Magnavox Dynalab ST-2 "whip" antenna and a Magnavox CD-6560 CD player.

—Larry Greenhill

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1 The Dahlquist DQ-10 was introduced about the same time (ca 1978) as the original Bryston 48L. Like many Brystons, my DQ-10s have survived the intervening decades, but not without modification: a Randall Research modification kit replaced the piezoelectric tweeter with a ribbon driver; all capacitors in the crossovers were replaced with polypropylene film types, with much guidance from Walt Jung and, after the Bryston 31-ST turned them into dust, Miller Sound re-cored both woofers. The good news is that these changes have increased the speakers' power-handling capacity, and made them less fatiguing and more dynamic. The bad news is a loss of the soundstage depth found in the stock factory design.
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All Centers have “Get To Know Us” kits available to loan. These kits include all the AudioTruth interconnect cables with single-ended (RCA) terminations, and some prepared with XLR plugs for use with balanced equipment. You can really find out which is best with your equipment.

The AudioTruth kit also includes speaker cables, along with cables for video and digital (“coax”, AES/EBU, fiber optic), there are even RF Stoppers and a little AQM music. You may enjoy experimenting with all these toys without any obligation.

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later by viola and cello; its driving tempo has earned it the nickname of “The Witches’ Minuet.” The music was greatly enhanced by the timbre of the instruments, the warmth of the viola and cello resonances, the tonalities of wood and bow, the sweetness of the violin strings. The recording contains the usual ambient noise found in a live recording, including coughs and chair movements, which added to the hall ambience. The BP-25 MC gave a wider soundstage than the ML-7A, with the cello far to the left. The ML-7A, however, was more neutral, with clear delineation of instruments and space. The ’7A also captured more timbre from the cello and viola, more sense of wood and bow. Violin string tone was equally sweet through either preamplifier.

The second piece — the Asai agitato of Schumann’s Quartet in A, Op.43 No.3 (Joachim Koeckert Quartet, Calig-Verlag CAL 50849) — showed that the Bryston BP-25MC was the ML-7A's equal in capturing the rhythmic pace inherent in brilliant chamber music. The BP-25MC captured the dark, swirling torrent of the Lisette tempo section, and its preservation of natural string resonance was quite involving. Dynamics and good transient response were also evident with the BP-25 MC, as heard during the opening movement of Prokofiev’s Romeo and Juliet on the original direct-to-disc vinyl (Leinsdorf/FOX, Sheffield Lab 8). Both the ML-7 and the BP-25 MC were able to capture the dynamics of “Romeo Resolves to Avenge Mercutio’s Death,” totally involving me. While the BP-25MC did a better job of creating the orchestra’s rhythmic drive, the ML-7A was somewhat better at conveying the width and depth of the orchestral sonic image, as well as its timbre.

The BP-25MC’s treble register was extended and neutral. Space was well depicted, almost equal to the ML-7A's transparency and ability to reveal the sense of air around instruments. Generous soundstage depth and width were heard playing Holst’s Chaconne (Howard Dunn/Dallas Wind Symphony, Reference Recordings RR-39CD). Driven by Bryston 7B-STs or the ML-7A, the Snell Type A Reference System created a seamless choral fabric behind José Carreras, spread across the soundstage in the opening Kyrie of Missa Criolla (Philips 420 955-2, DDD). The spoken “Well done!” was perceived correctly over both preamplifiers at the extreme left stage, where it appears at the end of Anna Maria Stanczyk’s performance of Chopin’s Scherzo in b-flat, Op.31 (on Stereophile's first Test CD).

Overall, the BP-25MC proved to be fast and powerful, and excellent in bass response and soundstage presentation. In direct comparisons to the (discontinued) ML-7A, the $2995 BP-25MC lagged behind only in terms of transparenciness. However, it does have a remote control for the volume and an internal phono module that accepts low-output moving-coil cartridges, which the Levinson does not. — Larry Greenhill

Measurements from TJN: Unless otherwise noted, the measurements presented are for unbalanced operation. The output impedance of the BP-25 at its line output measured 50 ohms (99 ohms, balanced), with insignificant variations with changes in the level control. The line-level input impedance measured 48k ohms (16.6k ohms, balanced), left, and 49.5k ohms, right, again virtually independent of the level control. Phono input impedance measured 50k ohms (MM) and 220 ohms (MC). The output impedance at the tape output was just 99 ohms regardless of source impedance, indicating full buffering of the tape outputs.

DC offset at the BP-25’s outputs was unmeasurable. The preamp is non-inverting from its line inputs to its main outputs or its phono inputs to its tape outputs (we take all phono measurements at the tape outputs) in the unbalanced mode; in the balanced mode pin 2 is positive. Line-stage voltage gain (1Ω input to line output) measured 10.6dB, unbalanced and 16.5dB, balanced. Phono gain measured 35.4dB (MM) and 571dB (MC). S/N measured 99dB (unweighted) over a bandwidth of 22Hz–22kHz, 82dB (unweighted, 10Hz–500kHz) and 102dB, A-weighted (all ref. 1V) for the line stage. The same readings for the phono stages were, respectively, 76dB, 71dB, and 82dB (MM) and 69dB, 66dB, and 78dB (MC). The balanced line readings were 95dB, 81dB, and 97dB — slightly less than the unbalanced readings.

The frequency responses of the BP-25 are shown in fig.1. Though not readily apparent from this graph, I found the level control tracking to be good; no more than 0.3dB variation from a 9.00 setting to maximum. The only item worthy of note in fig.1 is the high-frequency rolloff in the moving-coil response, just over –3dB at 20kHz — we don’t think it is a measurement artifact; perhaps it is some sort of compensation for the often-rising high-end response of the moving-coil cartridge (a useful idea, but it should be defeatable, in my judgment). [The manufacturer says this measurement must be made at a source impedance of 5 ohms or less.]

The crosstalk of the BP-25 is shown in fig.2. All increase with frequency in the expected manner, due to capacitive coupling. While there are significant differences between the channels, particularly in the phono stages, the absolute separation is so great in the worst case that I consider this to be of academic interest only. The input voltages used here, were quite high — the only way to keep the low noise level of the BP-25 from swamping its even lower crosstalk. The line input voltage used was 2.4V, the MM input 152mV, and the MC input 16.8mV — all far higher than you would ever see in practice.

Using the same high input levels, the THD+noise vs frequency for the BP-25 is shown in fig.3 (the balanced result is
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also shown here, using a 1.2V input, which results in the same output voltage as 2.4V input in the unbalanced mode). Again, the distortion levels are vanishingly small. The rise in the high-frequency distortion in the phono stages is simply due to the high input levels used in the test to minimize the effects of noise, and should have no audible consequences.

Fig.4 shows the THD+noise plotted against output voltage at 1kHz. The minimum points in the curves, just before the distortion increases rapidly, were the values chosen to run the measurements plotted in figs.2 and 3. The rise in apparent distortion with decreasing output voltage is simply due to the fact that the actual distortion content is below the noise at these levels.

The BP-25's output spectrum reproducing 50Hz at a very high output level of 10V is shown in fig.5. While some artifacts pop out from the background, they are at an extremely low level (close to -100dB or 0.001%).

Finally, the phone overload margin of the BP-25 was also very good; for the moving magnet setting, 1% THD+ noise was reached at an input of 261mV at 1kHz, 2.26V at 20kHz, and 28mV at 20Hz. The input signal used for the latter measurements was unequilized and the variation with overload margin with frequency is due to the characteristics of the RIAA curve.

There is little to comment on in the test-bench performance of the BP-25. Apart from the HF response of the moving coil input—which may have been deliberate and therefore defensible—the results are superior right down the line.

—Thomas J. Norton

Summing up: The moving-coil features and its purist, low-profile chassis and outboard power source make the Bryston BP-25MC preamplifier perfect for the audiophile market. It is optimized for quiet operation to handle low-output moving-coil phono cartridges. I grew totally addicted to the remote-control options, so I warn you right now: If you take this preamp home as a loaner from your local audio dealer, you'll buy it.

If you do, you won't be disappointed—the BP-25MC has world-class bass response and a midrange that can capture much of the natural instrumental timbres of chamber and orchestral music. Bryston has done well with the BP-25MC; I recommend it as a solid Class B product for any system.

—Larry Greenhill

**Bryston 3B-ST**

The 3B-ST is a solid-state stereo power amplifier with an output stage running in class-AB2. Its 22-lb weight, diminuitive chassis, and slim faceplate profile belie its 120Wpc power rating. While the entire chassis is used as a heatsink, the 3B-ST maintains Bryston's black, finned, rack-mount style. In fact, one could stack the 3B-ST, the 4B-ST, and the 7B-ST, and they would appear very similar from a distance. Similar interior design approaches are also used for the 3B-ST and 7B-ST; the following description of the mechanicals and circuit layout of the 3B-ST will apply, in many respects, to the 7B-ST as well.

The 3B-ST's front panel is a 1/4" sculpted, rack-sized piece of aluminum inscribed with two narrow horizontal grooves (the two front handles are similarly grooved). This single piece of extruded metal is buff-finished with a fine abrasive like jeweler's rouge; the resulting surface is so smooth that a finger rubbing the surface leaves no mark. The only lettering besides the company name is the “ST” logo. Otherwise, there are two tricolor LED power indicators, one per channel. These remain green while the unit is powered, turning yellow at the clipping threshold, red for clipping or internal fault. The clip-sensing circuit uses a comparator to detect the source of signal distortion, including clipping, short circuits in cabling, and excessive DC or supersonic signals. The brief instructional notes indicate that it's normal for the individual right and left LEDs to decay at different rates. The square Power pushbutton is the only front-panel control.

The back panel has a complete set of inputs and switches. Each connector or switch is surrounded by clearly labeled instructions in white lacquer, in English and French. This makes it possible to set up the amplifier without having to locate the written instruction sheet. From left to right along the back panel are the following features: first, a detachable AC connector with a removable fuse holder containing two 250V, 4A fuses, one for each channel. A “Ground Lift” toggle switch is connected between the chassis ground (including the power cord's third prong) and the signal ground. Occasionally a grounding situation with another component, such as a preamplifier or another amplifier also equipped with a three-pronged grounded line cord, will cause a 60Hz hum from a ground loop set up between signal and chassis ground. Switching the Ground Lift into the up, or open, position reduces 60Hz hum

---

**Fig.4** Bryston BP-25-MC, distortion (%) vs output voltage into 100k ohms (from bottom to top at 1V): line, MM, MC, inputs.

**Fig.5** Bryston BP-25-MC, spectrum of 50Hz sinewave, DC–1kHz, at 1V into 100kHz (linear frequency scale). Note that the third harmonic is the highest in level at -97dB (about 0.0015%).

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The 3B-ST's output connectors consist of two pairs of gold-plated, 5-way binding-posts. For bridged operation, the two amplifier sections are operated with one channel inverted to form a single push-pull amplifier with double the output voltage. Only the left unbalanced or balanced input is used in the bridged mode. The slide switch for switching between stereo and bridged operation can be found just to the right of the output terminals. All Bryston amplifiers are equipped with three pairs of input connectors: a pair of unbalanced RCA jacks, a pair of balanced XLRs (pin 2 positive), and a pair of ¼" phone jacks (tip positive).

Opening a Bryston product requires a Roscoe 5-1 square-recess screwdriver to turn the machine screws that fasten the top panel. These screws are snugly fitted into the chassis's threaded steel inserts by means of a locking thread-saver, which lowers vibration and increases structural stability. The 3B-ST uses gold-plated board-edge connectors on driver and input boards. Soldered and other gas-tight mechanical connections are used for signal circuits. Circuit boards are very-high-quality double-sided epoxy-glass, with component-designer screening.

All Bryston amplifiers get a rugged 100-hour factory burn-in consisting of a squarewave input signal driving the amplifier into a capacitive load, slightly under clipping. Unlike a resistive load, which dissipates all the energy as heat, a capacitive load feeds back the entire signal into the amplifier, which puts maximal thermal stress on the output stages. After burn-in, each 3B is again tested; the results are shipped with the amplifier.

Except for the single power cord and the back-panel bridging-circuit board, the 3B-ST is a true dual-monaural design. Two 225 VA toroidal transformers are located just behind the front panel. It has separate ±55V power supplies with

**The Bryston STs**

Stuart Taylor was working in a sound studio in Toronto in 1972 when he purchased one of the very first Bryston amplifiers. Over the years he kept up a close relationship with the Russell brothers, who ran Bryston, and in 1988 came to work for them. Among Taylor's early assignments was the redesign of Bryston's four-channel Home Theater amplifier, the 8B. Though the job began as a routine fine-tuning of a product before it was to be reintroduced to the market, it quickly led to major redesigns of all Bryston amplifiers.

Chris Russell, Vice President of Engineering, asked Taylor to design an improved layout for the 8B that would allow its four transformers to operate within a single chassis within Bryston's performance limits of noise and distortion. Taylor first reorganized the 8B's layout, placing the transformers vertically against the inner front panel. Then he methodically tracked down all sources of noise by reworking all the grounds, finding tiny millivolt ground loops and eliminating them. Using new distortion-measuring devices, Taylor looked at the signature of the noise and gradually "massaged it out" by eliminating point-to-point wiring, rearranging component placement, and changing the gain structure of the overall amplifier.

Taylor also found that he could cut high-frequency distortion in half by running shielded wires rather than pcb traces. By changing or eliminating most internal wiring, he was able to reduce crosstalk, hum, and noise. Later, he reduced chassis depth in the redesigned 4B-ST and 7B-ST to shorten the path lengths between input/output connectors and main amplifier circuit boards.

A key change involved reworking the input circuitry to derive some of the amplifier's gain from Bryston's proprietary input buffer. It was evident to Taylor that the NRB series' balanced inputs sounded better than the unbalanced...and the balanced input was the only input using Bryston's proprietary buffer. Applying it to all inputs on the ST Series, Taylor was able to reduce noise by lowering the source impedance of the signal inside the amplifier. This also reduced distortion!

Stuart Taylor and Chris Russell explained why this design approach improves their amplifiers' performance: Imagine a hypothetical amplifier with an open-loop gain of 1000, open-loop distortion of 1%, and a required closed-loop gain of 25. Because the ratio of closed-loop to open-loop gain (and distortion) is 140, the expected closed-loop distortion will be 0.025%. If one then cascades two of these amplifiers, the closed-loop gain need now be only 5; the total gain is 5 x 5 = 25, same as before. The overall distortion, however, is now 0.005% in each amp, adding geometrically to about 0.007%, or several times lower than before.

Although these calculations are hypothetical, and actual results are influenced by considerations of stability, bandwidth, and gain, the ST Series shows a noiselvel reduction of greater than 20x, compared with the NRB series, and a decrease in distortion by a factor of three. In contrast to designs that use brute-force feedback, the ST designs are said to show no tendency to increased distortion at higher frequencies.

Taylor notes that the balanced input buffer in the NRB-series amplifiers required 100% feedback to achieve unity gain. The ST Series, which provides a gain of 2x in the input buffer, requires less feedback in the buffer and less feedback in the amplifier modules that follow. This addresses concerns from both Robert Deutsch (see his interview with the Bryston staff elsewhere in this issue) and myself that the new ST Series' less gain structure might complicate the signal path over previous designs. Taylor's answer was simple and persuasive: The ST Series adds no additional feedback or complications. It just reduces noise and distortion.

The success of Taylor's ST redesign was rewarded when the ST Series logo was applied to the faceplates and rear panels of the new 1994 Bryston products. In addition, each ST Series internal circuit board has the letters "S" and "T" highlighted on the Bryston name label, just as an artist might sign a painting.

—Larry Greenhill

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The 3B-ST’s power supply is "stiff" in that it is relatively unaffected by a big current draw: whether the amp is idling or at full-power current draw, the rail voltage will not sag by much. Holes have been drilled into the heatsink recesses in the chassis sides to allow unimpeded airflow, even if the amplifier is placed on a carpet. The slow-start circuitry introduced in the NRB line, added to avoid line surges when the amp is turned on, has been continued in the ST Series 7B and 4B.

Listening to the 3B-ST: After reviewing a steady stream of massive audiophile power amplifiers, the relatively tiny, lightweight Bryston 3B-ST spelled relief. During the review I placed it atop a Mark Levinson No.331. Rated at the same power as the Bryston, the 331 is four times as expensive, almost six times as heavy, twice as deep, and almost twice as tall! For someone used to doing the audiophile amplifier lift drill — deep breath, bend at the knees, lift straight up to protect the back — moving the 3B-ST’s mere 20 lbs around was pure joy.

Yet the tiny 3B-ST packs plenty of power for a bantamweight. The Dahlquist DQ-10s gave visual evidence of this punch and kick when I played a Bob Marley medley at a healthy volume in my smaller listening room. Although the music was cooking with no obvious distortion, the surrounds on both speakers’ 20-year-old woofers disintegrated on one drumkit crescendo, spraying the dust from dried and hardened rubber rim supports into the room. Peter Madnick of Audio Alchemy put me in touch with Miller Audio, who re-coned the woofers. Upon their return, the Bryston 3B-ST and DQ-10s played the Marley tune louder; this time the woofers remained intact.

The notes for my first listen to the Bryston 3B-ST on the Snell Reference Towers reported on this speed and power. Like the 4B-NRB I reviewed several years ago, the 3B-ST’s strengths are in the power regions of the audio spectrum: midbass and bass. The 3B-ST delivers fast, powerful, well-defined bass with depth, extension, and solidity. It combines “snap” and “slam,” allowing the listener to perceive both the low-frequency energy and the tightness and definition to the leading edge of the bass pulse. These qualities make it the equal of the No.331 in dynamics and speed.

However, the very revealing Snell Reference A system also revealed mild sonic differences between the Bryston 3B-ST and Levinson amplifiers. While the 3B-ST seemed more forward in the midrange, the Levinson sounded smoother and sweeter, with a more open top end. Choral pieces had more dimensionality on the No.331, with a wider and deeper soundstage.

However, the 3B-ST’s dynamics and punch made it a very good match for smaller dynamic loudspeakers such as the Totem Model 1s when playing vocal, clarinet, and piano selections. Over the Totems both the 3B-ST and No.331 did admirable jobs of delineating voices and instruments and accurately depicting their spatial positions. The lead singer’s voice on the first Blue Nile LP (A Walk Across the Rooftops, Linn LKH1) has a full, three-dimensional quality and warmth quite separate from the music and special effects. Suzanne Vega’s startling a cappella “Tom’s Diner” (on her Solitude Standing CD, A&M 5136) was lifelike and three-dimensional through both amplifiers.

As an upper-range amp, the Bryston 3B-ST was clean, fast, and very dynamic, but not as transparent as the No.331. The Levinson pulled ahead in reproducing the silvery sheen on cymbals in Jeff Beck’s “Behind the Veil.” On Richard Thompson’s “I Misunderstood” (from Runner and Sigh, Capitol CDP 7 95713-2), the 3B-ST revealed such midrange nuances as Thompson’s plosive accent on the last consonant of every line. The Bryston 3B-ST also allowed me to hear the layering of textures in the mix on this CD. The No.331’s slight brightness, on the other hand, woke the somewhat reticent Quadrs to give more depth to the sonic portrait.

My listening notes and sessions, then, reveal the Bryston 3B-ST to be not only a surprisingly powerful amplifier with strong dynamics, but also the equal of more expensive solid-state amplifiers in its ability to deliver powerful bass, wide dynamic contrasts, and involving vocal reproduction. Only in the areas of imaging and soundstaging did amplifiers costing more than four times as much begin to pull ahead of the 3B-ST.

— Larry Greenhill

Measurements from TJN: I made a full set of measurements of the Bryston 3B-ST using its unbalanced inputs, with selected measurements repeated in the balanced mode, as noted below.

Following its 'A' power, one-hour preconditioning test, the 3B-ST’s heatsinks were very hot, though not outside the normal range of temperatures usually encountered in this test. The 3B-ST is noninverting when driven from its positive, unbalanced input; at the balanced, XLR input terminal, pin 2 is positive as specified. DC offset measured 5.3mV in the left channel, 4.1mV in the right.

The Bryston 3B-ST’s input impedance measured 49.7k ohms (16.2k ohms, balanced). The output impedance measured under 0.03 ohms at 20Hz and 1kHz, increasing to a maximum of 0.09 ohms at 20kHz. Voltage gain measured 29.2dB (23.1dB, balanced). The unweighted signal/noise (ref. 1W into 8 ohms) measured 92dB over a 22Hz-22kHz bandwidth, 83dB over a 10Hz-50kHz bandwidth. The A-weighted figure was 95dB. The corresponding figures for balanced drive were all just under 1dB worse (higher) in all cases.

Fig.6 shows the small-signal frequency response of the 3B-ST (the unbalanced result is shown, the balanced was a virtual overlay). There is little worthy of comment here. The same is true of the 10kHz squarewave response (fig.7), which is virtually textbook, with good risetime, and no overshoot or ringing (the 1kHz squarewave looked like it came directly from a squarewave generator, and is not shown).

---

Fig.6 Bryston 3B-ST, frequency response at (from top to bottom at 20kHz): 2W into 4 ohms, 1W into 8 ohms, and 2.83V into simulated speaker load (right channel driven, 0.5dB vertical div).

Fig.7 Bryston 3B-ST, small-signal 10kHz squarewave into 8 ohms.
Fig. 8 shows the 3B-ST's crosstalk. The difference between the two channels should be of no audible consequence at such high absolute separation levels.

The manner in which the Bryston's THD+noise varies with frequency is shown in fig.9. The THD of the Bryston is so low that I used 10 times our normal output power for this measurement to get results that were not obscured by noise. Note that for the simulated real load, I measured at an output of 8.9V—a small change from our recent practice. (Since the impedance of that load varies with frequency, stating a wattage for this reading is not particularly relevant, as the wattage will vary with frequency for a constant voltage. 8.9V was chosen here because that would be the output voltage for an output of 20W if the load were a pure 4 ohms). Fig.10 compares the THD+noise in unbalanced and balanced modes; note that the unbalanced is lower—though both are very low.

The waveform of the distortion at 25W into 2 ohms is shown in fig.11. It is heavily third harmonic, with some noise. The waveforms (not shown) into 4 and 8 ohms were similar, though with higher powers required to get a significant reading above the low levels of noise.

The 3B-ST's output spectrum reproducing 50Hz at 154W into 4 ohms is shown in fig.12. The distortion products are all extremely low in level—below −90dB or 0.003%. At an output of 312V into our simulated real load,2 I obtained

2 Why 312V? As is noted above, the impedance of the simulated load varies across the frequency range, making interpretation of the result difficult if we relate the output to power. I therefore measured the voltage at which the amplifier clipped at 1kHz into the simulat- ed real load (1% THD+noise). 312V in this case, and took the measurement at 82% of this. Why 82%? Because we normally take the reading at 67% of rated power, and power is proportional to the square of the voltage—0.85 squared is 0.62. This procedure will be used for this measurement in future reviews.

the result shown in fig.13. Only the third harmonic (at −68dB or 0.004%) is in any way relevant, though other artifacts at less than −80dB are visible.

Figs.14 & 15 shows the output spectrum resulting from the amplifier driving a combined 19+20kHz signal at 70.5W into 8 ohms and 117W into 4 ohms, respectively (visible clipping is present above this output with this input signal). While clearly more IM products were produced into the 4 ohm load, in all cases the artifacts are very low in level—below −80dB (0.01%).

The way in which the 3B-ST's THD+noise varies with output power (at 1kHz) is shown in fig.16. The discrete clipping levels for the 3B-ST are shown in Table 1. Into 8 ohms, bridged, the 3B-ST reached clipping (1% THD+noise at 1kHz) at 453W (line voltage 114V). Note that the 3B-ST's power supply is starting to give up into a 2 ohm load. It will drive the load, but at considerably reduced power.
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The Bryston 3B-ST produced a solid set of measurements, especially notable for its low distortion, noise, and crosstalk. I would not choose this amplifier to drive a loudspeaker which hovered around 2 ohms for most of the audible range, but fortunately such loudspeakers are rare.

— Thomas J. Norton

Conclusion: The Bryston 3B-ST stereo power amplifier is a compact, rugged, reliable amplifier whose 20-year warranty and modest price make it a real value. It is a perfect entry-level audio-philic amplifier, its clean power and low price making it a perfect choice for those who want to start with an audio system and later buy another 3B-ST for a home-theater system.

Sonically, it resembles the NRB Brystons, specifically in the areas of bass and midrange dynamics, punch, and solidity, where it equals top amplifiers like the Classe 15 and the Mark Levinson No.331. (These much-more-expensive amplifiers, however, better the 3B-ST in transparency, high-end openness, and soundstage depth.) The Bryston 3B-ST is recommended as a solid Class B contender.

— Larry Greenhill

BRYSTON 7B-ST MONOBLOCK

The original 7B was intended to be Bryston’s most powerful amplifier. The first designs were reverse-engineered from the company’s 250Wpc 4B power amplifier by dropping that model’s power-supply voltages to enable it to provide more current, then bridging the two channels (series operation) or paralleling them. The result was the Bryston 6B, a subsequent redesign resulting in the 7B. TJN reviewed the NRB-THX version of the 7B in October 1993 (Vol.16 No.10, pp.193-202), praising it for its “sweet... subtly refined... warm... full-quality sound” which was somewhat less “lively [and] immediate” than the comparison amplifier, the now-discontinued Krell KA-250.

As TJN’s review of the 7B-NRB-THX suggests, Bryston designed the two operating modes into the 7B to enable its bridged design to handle a wide variety of loudspeaker loads. It’s relatively easy if your loudspeaker has nominal impedance at either extreme — use the series configuration for a 16 ohm load (like Sound-Lab Ultimate), and use the parallel configuration if you own Infinity Kappas or Apogee Scintillas, whose impedances dip below 2 ohms. And that gray area between 3 and 8 ohms? Series configuration should be employed for loudspeakers nominally rated above 3 ohms; the parallel mode can be used for loudspeakers whose impedance is rated below 3 ohms by the manufacturer.

The 7B-ST is similar to a bridged 3B-ST in voltage swing, but has double the number of output devices. However, the 7B achieves parts savings and simpler circuitry by having only two drivers, to allow for the series mode to configure half the devices out-of-phase. When the amplifier is run in parallel mode, all output devices are tied together with 0.05 ohm resistors. These changes give the 7B-ST much greater current-delivery capacity. The 7B-ST can be configured by back-panel slide switches in “series mode” to provide high-voltage output for speaker loads of 3 to 8 ohms, or into the high-current “parallel mode” configuration to drive loudspeakers of low (1-3 ohm) impedance. Like other bridged designs, the 7B has high power ratings, including a 500W rating for 8 ohm loads and a 800W rating for 4 ohm loads.

Like that of the 3B-ST, the 7B-ST’s front panel displays the “ST Series” logo and has a rectangular power switch located at panel center. However, being a monoblock, it has only one tricolor, power-on LED. In addition, the 7B-ST is deeper and heavier than the 3B-ST, with double the heatsinking (6400cm³ of chassis vs 3200cm³) to handle the greater current draw. The 7B-ST’s center chassis is 2” shallower than that of its NRB predecessor. This represents another Stuart Taylor design innovation — previously unused chassis space between the rear of the main system board and the back panel has been eliminated to give shorter wire runs between back-panel connectors and the main circuit board and to allow the amp to be pushed back to the full shelf depth without crushing the connecting cables.

There are three toggle switches, two pairs of loudspeaker terminals, and balanced and unbalanced inputs on the back panel in addition to the detachable power cord. As on other Bryston amplifiers, white lacquer diagrams and instructions are printed on the back panel; an instruction manual is not needed. This is very important for the Bryston 7B-ST, which features unique optional bridging configurations for the speaker terminal hookups. The switch-es select between balanced or unbalanced inputs, series or parallel operation, and, as in the 3B-ST, a Ground Lift switch to float the chassis ground from the signal ground.

The 7B-ST’s input circuitry features the “ST” input buffer circuit, now standardized for the single-ended and balanced inputs of all ST Series amplifiers. Input circuitry is completely symmetrical. Multiple pairs of bipolar transistors are used in the output stage, each pair controlled by a single driver transistor. Output devices are hand-selected to precisely match transistor betas. Each input driver-output pair is treated as a composite output device that Bryston labels as its “Quad-Complementary” configuration. The company claims that this configuration has been fine-tuned to deliver high linearity and low-distortion products. Open-loop distortion is claimed to be low, approximately 0.05%, and negative feedback is primarily local.

The amplifier’s dual ±60V power supply uses two 500VA toroidal transformers, one for each amplifier module, again located just behind the front panel. Short pcb spacing brings the eight 10,000µF electrolytic filter caps to within 1” of the output circuitry. Internal protection circuitry is designed to handle most fault conditions, including shorts and DC-offset. A “soft-start” turn-on feature prevents a sudden huge draw on the power line when the amplifier is switched on. As TJN noted, this feature prevents you from blowing circuit breakers if your home-theater system includes multiple pairs of 7B-STs.

Listening to the 7B-ST: The Bryston 7B-ST monoblock, the most substantial piece of electronic gear in this review, required the most care in setup. I first used a pair of 7B-STs to drive the large Snell SUB-1800 sub set up in series mode. The monoblocks were stacked, with the Ground Lift on, and driven via the unbalanced inputs. Later, I attempted to connect these amplifiers in parallel to drive the Snell Reference Towers. This was done for two reasons. First, most of TJN’s subjective impressions of the earlier 7B-NRB-THX were gathered when his amplifiers were configured in parallel mode. Second, I carried on an e-mail correspondence with
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Robert Deutsch, who had used the 7B-NRBs in parallel to drive various dynamic loudspeakers he'd been reviewing. There seemed to be an impression that the amplifier might sound best in the high-current parallel mode.

Switching the 7B-ST into parallel mode required bi-wired speaker cables: four leads, two per speaker terminal. My OCOS cable is bi-wired, but, unfortunately, at one end the two cables for each terminal are soldered together for convenience; this meant that I needed to run an additional set of cables. I added a pair of Levinson HFC-10s to make a total of three pairs of cables per speaker—what might be considered a "tri-wired" setup. Although this produced decent sound, I went on to disconnect (after the unit was powered down) one of the Levinson cables to make certain that it was wired to the same speaker as its companion OCOS cable. When I turned the amplifier back on, I heard a tiny pop—one of the two 7A fuses had blown. I replaced the fuse, turned the amp back on, and breathed a sigh of relief when its LED lit up green.

Impressed with 7B-ST's ruggedness, I decided to conduct the remainder of the listening sessions with the 7B-STs run in series. This was the appropriate setting for all the loudspeaker loads I used for this review.

The 7B-ST made a terrific impression on first hearing: open, exciting, transparent, dynamic, effortless—and it appeared to be the optimal amplifier for the Snell Reference Towers. All the qualities I liked about the 3B-ST were there: speed, drive, slam, and superb control of the mid- and upper bass. Yet the 7B-ST had other sonic qualities not so evident in its little brother, such as its very airy, open top end, sweet midrange, and ability to render the best imaging and soundstaging I'd heard in a long time. It seemed to capture many of the best qualities of my comparison amplifiers, including the Levinson No.331's delicate detailing and transparency, and the (now discontinued) Krell KSA-250's ability to delineate the full width and depth of the soundstage. What was missing, at least in my setup, was the midrange warmth that TJN had noted in the 7B-NRB-THX.

The 7B-ST proved to be an outstanding bass amplifier — be it from 80Hz down—when driving the huge Snell SUB-1800 subwoofers. In this configuration, the 7B-ST easily sustained the solid pedal chords of the Lay Family Concert Organ playing "The Lord is My Light and My Salvation" on the Turtle Creek Chorale's HDCD-encoded CD of the music of John Rutter (Reference Recordings RR-57CD). It equaled the Krell KSA-250 in capturing the sudden, dramatic plucked-bass and synthesizer notes during the opening of "Something's Wrong," from Randy Edelman's My Cousin Vinny soundtrack (Varése Sarabande VSD-5). The Bryston monoblocks were lightning-fast in controlling the Snell SUB-1800's 18" subwoofer cones. I heard this best during the dramatic opening of the Eagles' "Hotel California" (from Hell Freezes Over, Geffen GEFD-24725). The band's conga section erupted with shocking power at the first hint of the melody, and played on clearly through the crowd's wild applause and foot-stomping.

The first chords of Terry Dorsey's "Ascent" on Time Warp (Telarc CD-80106) shook the room, giving ample evidence of the 7B-ST's bass "slam." This was also starkly obvious as these monoblocks delivered the burning pace generated by the tomtom strokes and subterranean synthesizer chords on David Bowie's "Putting Out Fire," from the Cat People soundtrack (MCA 1498, LP). The 7B-ST made it as easy to discern pitch changes in the deep-bass synthesizer notes on Jeff Beck's "Behind the Veil" as did the Krell KSA-250.

The 7B-ST's bass power was particularly impressive listening to "Gnomus," from Jean Guillot's organ transcription of Mussorgsky's Pictures at an Exhibition (Dorian DOR-90117). I was most impressed with the apparent image size and sense of space around the Great Kleuker-Steinhmeyer organ. There was a sense of great depth and expansiveness. The bass notes in this relatively quiet passage shuddered the air, vibrated objects in the room, and had a solidity I had not heard before. Other solid-state amplifiers on hand could not control the SUB-1800's bass response as well. The Bryston 7B-ST's speed, snap, focus, and dynamics made it my preferred amplifier for driving the Snell Reference Towers.

Switched to the Type A References' midrange-tweeter towers, the 7B-STs produced music with dynamics, power, depth of image, and airiness. All the dynamic speakers—including the Totem Model 1s, the Dahlquist DQ-10s, and the Snell Reference Towers—blossomed when driven by the Bryston 7B-STs. Snap, focus, width of soundstage, and depth of image—all were enhanced. My vinyl collection sprang to life with exciting, driving dynamics, particularly the jazz recordings. The Bryston 7B-ST depicted the placement and depth of piano and drums on Dave Grusin's rendition of "Keep Your Eye on the Sparrow," from the direct-to-disc Discarded Again LP (Sheffield Lab 5). Ron Carter's string bass and Harvey Mason's kickdrum were clearly delineated in space just behind Grusin's keyboard. The amplifier's "snap" speeded up the bass response of both dynamic systems. And the 7B-ST was able to yield enough information to discern that the bass beat was, in fact, a "floor stomp" in the opening Kyrie of Missa Choralis over the Snell Reference Towers.

Imaging from the pair of 7B-STs was first-rate, equaled only by the huge dual-mono Krell KSA-250. During the instrumental finish of Richard Thompson's "Why Must I Plead" (from Rumor and Sigh), the acoustic guitar's sonic image fell outside the right Snell Reference Tower. Soundstage depth and width were exemplary on the Holst Chaconne.

Over the past few years the Bryston
7B-ST has received accolades in the pages of Stereophile from TJN, RD, and Dick Olsher. I confirm the high quality of this monoblock amplifier; my listening revealed to me how much better the ST Series has become. The new 7B-ST has much less of the midrange and upper-bass warmth that were reported of the earlier NRH-series amplifiers, and its high power and flexible bridging arrangements are designed to handle divergent speaker loads. For example, it would be a good choice for driving high-impedance speaker loads such as the Sound-Lab Ultimate.

— Larry Greenhill

Measurements from TJN: Following its one-hour, 1/3-power preconditioning, the Bryston 7B was hot, though not unusually so considering its rated power output. I ran a complete set of measurements on each of the 7B-ST in its series mode (recommended for 3–8 ohm loads), with selected measurements in the parallel configuration (including the 2 ohm tests). Most of the measurements were made in the balanced mode this time around, though a number of significant measurements were repeated in the unbalanced mode.

The input impedance of the Bryston measured 16.7k ohms, balanced and 48.9k ohms, unbalanced (essentially the same in the parallel configuration). The gain was 23.3 dB balanced, 29.3 dB unbalanced. The output impedance was low — a maximum of 0.05 ohms at 20Hz and 1kHz and 0.14–0.16 ohms at 20kHz, depending on test conditions. This suggests a very consistent performance with a wide range of loudspeakers, at least with respect to overall amplifier/loudspeaker frequency response. The Bryston’s DC offset was a negligible 1.7mV. Signal/noise (unweighted ref. 1W into 8 ohms) measured 92dB over a bandwidth of 22Hz–22kHz, 84dB from 10Hz–500kHz, and 94dB, A-weighted (the unbalanced measurements were essentially the same). The 7B was noninverting, a positive impulse at the input remaining positive at the output. In its balanced mode, XLR pin 2 was positive.

Fig.17 shows the frequency response of the 7B. In the parallel mode — not shown, the response was a little flatter on the top end, down 0.1dB at 50kHz into 8 ohms and less than 0.25dB at 50kHz into 4 ohms. The 1kHz squarewave response is shown in fig.18. The Bryston 7B-ST has an excellent risetime, with only a slight overshoot apparent on the bottom half of the wave (this is hard to spot on the trace shown and was barely visible on an oscilloscope). The 1kHz squarewave (not shown) was virtually perfect. (The squarewave responses in the parallel configuration, not shown, were virtually the same).

As with the 3B-ST, the low-power THD+noise vs frequency results in fig.19 were taken at ten times higher than normal output. This was the only way to minimize the effects of low-level noise on the reading. Only the result into the simulated load shows any peculiarity. And the maximum distortion is still below 0.3%.

The plot of the distortion waveform, at 1kHz, shown in fig.20 was taken at 4 ohms into 200W. At lower power levels the distortion was buried in the noise. The distortion is primarily third-harmonic (and remains third-harmonic in the parallel mode driving 2 ohms, not shown).

Because of the extremely high power capability of the 7B-ST, I limited the high-power output spectrum measurements below, to 200W maximum instead of the 3W power normally attempted. Since this measurement takes a little longer than the clipping measure-
Summing up: The Bryston 7B-ST monoblock power amplifier is an exceptional product. It's very powerful, and joins my reference Krell KSA-250 as an amplifier that can handle any loudspeaker load, play wide dynamic-range music effortlessly, and excel in imaging and soundstaging. It can “wake up” reticent dynamic loudspeakers over their entire sonic range; in particular, it brought dry, reticent top ends to life. It equalled the Class A recommended amplifiers at my disposal—the Mark Levinson No.331 and the discontinued Krell KSA-250—in dynamics, transparency, and ability to transmit music’s rhythmic pace.

This solid-state monoblock should be auditioned by anyone who needs a new amplifier for driving high-impedance electrostatic loudspeakers, or dynamic loudspeakers that seem somewhat bassy. The Bryston 7B-ST rates a solid Class A recommendation.

—Larry Greenhill

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**StereoHilfe, October 1996**
PASS ALEPH P
REMOTE PREAMPLIFIER

In my review last February of the Pass Aleph P preamplifier,1 I mentioned that it would soon be available in a remote-controlled version. It's here, though it looks slightly different from its older manual brother. No longer are the words "Input," "Left," "Right," and "Level" deeply incised in the faceplate — see the cover of the February '96 Stereophile — but merely printed on. The light in the center of the front panel has been replaced by a small circular sensor. Blue lights replace the four etched input dots and ring the level knob. Only one of the wagon-train of lights around the level knob is on at any one time, supplying an immediate visual reference of current volume level.

Yes, the new Pass Aleph layout is a bit flashier than the original arrangement, but it's still quite sedate compared to anything but a VPI Brick.

The Pass remote control is similarly austere. This 6" long by 2½" wide by ¾" deep black-anodized box has exactly four buttons, arranged in a diamond pattern. The top button raises the volume, the bottom one lowers it; the right and left buttons change the input source. That's it. Balance adjustments can be made only from the front panel. While there's no mute button, choosing an inactive input will accomplish the same thing.

During day-to-day operations I had no complaints about the Pass Aleph P's ergonomics. Volume changes are accompanied by very slight ticks that alert you to its progress. It's not the swiftest volume changer in the world, but hey, where are you going? You are, after all, already sitting down.

Sonically, the remote-control version of the Pass Aleph P is identical to the manual version — still the best-performing active solid-state preamp I've heard. If you buy a current-production manual model, it can be upgraded to a remote version at any time; all you need is the remote control. All you chair-carbohydrates can now go from a whisper to a scream while barely moving an appendage. Jack LaLanne won't be pleased. The Aleph P remote preamplifier costs $4000; the manual model now costs $3400. — Steven Stone

SONY TCD-D8
PORTABLE DAT RECORDER

The Sony TCD-D7 DAT recorder that I raved about in January '95 (Vol.18 No.1, p.175) is no more. It has been replaced by the TCD-D8 — not a completely different machine, but what seems to be a T'D7 with a few small improvements. Most companies would have called the D8 the T'D7 Mk.II.

The 'D8 has the same body casing, transport system, and control arrangement as the T'D7. Yes, the 'D8's body is black rather than shiny gunmetal gray, but in a dark room they look identical. On closer inspection, the players share all the very same screws, rollers, caps, and drive systems. New are the addition of the 44.1kHz sampling rate (the TCD-D7 had only 32 and 48kHz), gold-plated input and output contacts, and the inclusion of an AC adapter and a DAT cleaning cassette as standard rather than optional accessories. Fortunately for 'D7 owners, the 'D8 uses all the same outboard accessories as the T'D7. Unfortunately, it still has a low-frequency rolloff on the mike inputs.

After more than three months of using the 'D8, I can say that the 'D7 and 'D8 were indistinguishable in listening tests. The 'D8 is as well-made as the T'D7, and has identical mechanical properties. Some pro users I've talked with who've owned the T'D7 were disappointed with its inability to hold up to day-in and day-out use, finding the cost of replacing worn-out heads prohibitive. For a heavy-duty user, the 'D7 is simply a disposable machine. I've found my unit to be quite reliable, but I've only put 400 or so hours on it, not the average pro's 2000+ hours per year.

Both units accept the SBM-1 outboard Super-Bit-Mapping A/D module — see June 1995, Vol.18 No.6, p.161 — via Sony's proprietary I/O connector. This unique connector is only convenient if you have all the necessary cables, and acquiring all of them is no simple matter, I'm told. If you're in the field and don't have the right cable, or forgot to bring it along, you're dead. Oddly enough, while Sony provides a cable with TosLink digital input and output, and one with RCA coaxial input, there's no cable with RCA coaxial input and output. When Sony comes out with the 'D9, I hope they'll include standard TosLink or RCA coaxial connections; it would make life much easier.

Like the 'D7, the 'D8 has built-in SCMS, which makes it somewhat less than user-friendly for tape-copying chores. (The enterprising pirate will have little problem defeating this inconvenience — it appears that some of the popular "jitterbugs" reduce jitter by stripping out the subcode information in the datastream.) Also like the T'D7, battery life is not exactly fantastic — two and a half hours. At least the TCD-D8 uses standard AA batteries. Luckily, a little company called Eco-Charge (P.O. Box 956, Boulder, CO 80306) still makes an external lead-acid battery pack for $119.95 that gives you 12 hours of uninterrupted field recording time.

Like its predecessor, Sony's TCD-D8 warrants inclusion in Stereophile's "Recommended Components" as a Class B recording device. Recommended.

— Steven Stone

WILSON WATT/PUPPY 5.1

Wilson Audio's WATT/Puppy 5.1 is the latest version of that long-time audiophile reference loudspeaker. What's involved in the change? The Puppy Tail — the wire connecting the high-pass outputs of the Puppy subwoofer to the WATT's inputs — has been replaced with a new cable, designed by Wilson to act as "a more perfect electrical interface." The system's list price has risen from $14,990 to $16,290; owners of the WATT/Puppy 5 can upgrade for $695.

When I reviewed the WATT/Puppy 5 in November '95 (Vol.18 No.11), I really fell for its dynamic impact and precise projection, but ultimately felt it to be a tad uninviting. Remarkably, the new Puppy Tails address that very issue, while to a great extent ameliorating the mid bass "blump" that tended to blur details around the 70Hz crossover point.

All this from a wire? Wilson Audio emphasizes that the new Puppy Tail has been carefully designed to match the electrical characteristics of the two units, and that it is internally quite complex. However, they won't say much more than that — other than to claim that one of their design goals was to increase the speakers' musicality.

The differences wrought by the new Puppy Tail are remarkable. They might not seem that extreme in the context of
an average speaker system, but the WATT/Puppy 5 is an average speaker system—it’s rated Class A in “Recommended Components,” and has become an industry standard for resolution. In that context, any change is significant.

The WATT/Puppy 5.1 sounds much more full-bodied than its predecessor. Where the 5 had a slightly lean, somewhat aggressive sound, the 5.1 sounds robust and more powerful. The 5.1 sounds as if it has deeper bass, too, but I suspect that this is merely a reflection of its more uniform sound below 150Hz. Listening to “Ophelia,” from The Band’s Across The Great Divide boxed CD set (Capitol 89565 2), I was struck by how punchy Rick Danko’s bass guitar sounded, and how powerfully it integrated with Levon Helm’s lute drumming to drive this song along. Yet the bass and drums didn’t overwhelm the track, instead matching the immediacy of the other instruments and Helm’s singing—which had previously overwhelmed them.

The top end of the WATT/Puppy—which some listeners have found a bit zippy—benefits from this newfound low-end body. It is no longer a lean-sounding speaker. Like a Great Dane puppy growing to match its huge paws, the system 5.1 has at last grown into its sound—the WATT/Puppy is much more musically involving now.

Paradoxically, the improvements have made me aware of Puppy-related problems that have always existed but were previously obscured. The first is that, good as it is, the Puppy is nowhere near as inert as the WATT—it adds a somewhat chesty coloration. This characteristic, subtle but now audible in the 5.1, seems to be exacerbated by the Puppy’s port—as I discovered when I accidentally covered the port while checking connections. I was able to change the sound drastically by partially obscuring the port’s output. I’m no speaker builder, but I’d be surprised if some sort of stiffening—such as the straws that ProAc used to load their Tablette’s port or a tuning plug of some kind—wouldn’t offer substantial benefits. The port is modular and easily replaceable, so who knows? We might even see another inexpensive modification to these speakers.

Boy, you just can’t please some people! The fact is that the WATT/Puppy 5.1 improves a speaker that was awfully good in the first place—a speaker good enough to be in our highest category of recommendation. It seems a shame we can’t recommend it any higher than that.

— Wes Phillips
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Talk about having one’s ducks in a row. Acoustic Sounds’ Chad Kassem has David Wilson’s Audio Research tube driven... Numaxx SX 7: “Fitted” cutters set up at RTI’s...plating and pressing plant. So new veteran mastering engineer Stan Ricker can cut a lacquer, take it down the ball for plating, and have a test pressing in band with Polaron like speed and convenience... There’s something for every taste in the Analogue Productions catalogue... and (it) offers vinyl fan a chance to explore some great sounding out of the way stuff, wouldn’t that ordinarily... I recently received some test pressings of the first group of “Revival Series” releases... You’ll be in for a musical and sonic treat.


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Rachmaninoff/Symphonic Dances; Vocalise; Aluminum CD=CAPJ 001 $16
Johanns performances of these works... they’re certainly the best-sounding...
...producer Thomas Mooney produced a sound that was both powerful and ultra-clean.
—James Miller, FANFARIS, Page 212

LP=AAPC 004 $25
Aluminum CD=CAPJ 004 $16
This disc is a happy marriage of musical and audiophile interests...
—James O. Stanch, FANFARIS, Page 142
When the first Copland cymbal crash exploded from the speakers, the usually unfappable Virgin was so jolted as to slam himself back against the couch and spill the entire glass of wine into bit unmentionable; it also splashed all over my long hair.
THE ABSOLUTE SOUND ISSUE 18; PAGE 45

SONNY ROLLINS OUT WEST: 180g vinyl pressing LP=AAPJ 009 $30
Gold limited edition CD=CAPJ 009 $30
Let me say again that these are some of the finest of all orchestral recordings...

The sense of reality as Pepper solos on Imagination was almost spooky. My own imagination was conjuring this jazz legend up in front of me...

Ben Webster with the Rhythm Section.
180 gram vinyl pressing LP=AAPJ 010 $30
Gold limited edition CD=CAPJ 010 $30
The Ben Webster is so imparted as to constitute almost a new product. The sound is remarkable—this one of the few recordings where one can almost suspend disbelief and feel that one is there, so immersed can one become in the music...

Bill Evans Trio/Waltz for Debby.
180 gram vinyl pressing LP=AAPJ 012 $30
Gold limited edition CD=CAPJ 012 $30
...for anyone who has sat close to the tiny Village Vanguard stage, this recording is faultless to reality. I have compared my original Riverside’s Waltz for Debby with a Japanese issue, the JFC, and this Acoustic Sounds version, and I find the latter superior to the others...

Art Pepper Quintet/Smack Up.
180 gram vinyl pressing LP=AAPJ 013 $30
Gold limited edition CD=CAPJ 013 $30
Smack Up is one of his most distinguished recordings of the period. The Analogue Productions LP opens up more space in the recording than did my Contemporary LP...

Alex Kofsky.
180 gram vinyl pressing LP=AAPJ 014 $30
Gold limited edition CD=CAPJ 014 $30
...a relaxed, small-crowd album for the impeccable big band arranger and alto saxophonist (he also plays trumpet here). With Ben Webster on tenor filling the center with his big tone, how can you go wrong...

Lightnin’ Hopkins/Goin’ Away.
180 gram vinyl pressing LP=AAPJ 015 $30
Gold limited edition CD=CAPJ 015 $30
I don’t know of a recording that better reproduces the aura of a Lightnin’ Hopkins set. We can bear him improvise lyrics, stumbling now and then over a rhyme or a line. If you know or care about blues, you’re probably already ordering this record...
—The Odyssey Sound, Vol 10, Issue 96, Page 177-180 —Roy

Ben Webster with the Rhythm Section.
180 gram vinyl pressing LP=AAPJ 016 $30
Gold limited edition CD=CAPJ 016 $30
...this record manages a superbly big musical image and the excitement of a live performance.
—Andrew Cornwell, HiFi News & Record Review, January 1994

Art Pepper Plus Eleven.
180 gram vinyl pressing LP=AAPJ 017 $30
Gold Limited edition CD=CAPJ 017 $30
Chet Baker/Chet.
180 gram vinyl pressing LP=AAPJ 018 $30
Gold Limited edition CD=CAPJ 018 $30
Baker’s recording is a model of how to record the trumpet as to neutralize the in-your-face character that arises all too often—not to be missed.
—TUT, Volume 13, Issue 100
...designed to feature Baker’s ballad playing. The all-star group sustains the quiet mood of “Alone Together” with light-stepping ease. Baker sounds engaged here... intent rather than merely nonchalant. His solo is matched by those of Brubeck, Kenny Burrell...

Art Pepper Plus Eleven.
180 gram vinyl pressing LP=AAPJ 017 $30
Gold Limited edition CD=CAPJ 017 $30
...this record manages a superbly big musical image and the excitement of a live performance.
—Andrew Cornwell, HiFi News & Record Review, January 1994

Art Pepper Plus Eleven.
180 gram vinyl pressing LP=AAPJ 017 $30
Gold Limited edition CD=CAPJ 017 $30
Buy this for the reproduction of Ray Brown’s bass, which always sounds marvelous live and has rarely been captured so well.
—Michael Frorer, STEREOPHILE, September 1994, Page 169-173
...they demonstrate just how much beauty and complexity a duo can generate, 40 minutes of big, warm sound.
—Hi-Fi Year Book Round Reviews, September 1991, P72

Brown’s bass sound is so clean and wide-sounding that it’s a pleasure to listen to...
—John Stanis, ROUND UP ROUND 90, Page 1591
This recording is a great music showcase of his mastery (Don Ewell) of stride. This recording has the best ambiance that I have ever heard on a LP.

--- Don Ewell
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No opera in the repertory has as many sides as Mozart's *Die Zauberflöte* (*The Magic Flute*), which was his first and only opera for a popular rather than a court theater. Its success was immediate — 197 performances in two years — and today it is one of the few works that can enchant children and adults alike. Had Mozart not died 10 weeks after *Flute's* premiere, what might he have given us as an encore?

*The Magic Flute* is lots of things: a fairy-tale opera filled with mysticism, much like the German romanticism to come; a political opera espousing Masonry, which was beleaguered in 1791; and finally, a kind of burlesque containing formal arias interspersed with bad jokes and a naive, cowardly birdcatcher. It is also an opera that may one day awaken the Police of Political Correctness for transgressions both sexual and racial. Men are seen as superior to women at several junctures (although Pamina is elevated at the end), while the Moor Monostatos is a caricature that could make even Amos'n'Andy fans blush. Consider, too, how cruel the supposedly wise Sarastro can be toward practically everyone in the cast. And this in an opera that Wilhelm Furtwängler thought might be considered "a sacred drama... a temporal realization of all that is elevated and noble."

*The Magic Flute* is, properly speaking, a Singspiel, which is simply a German opera with spoken dialog separating the musical numbers. The text, written by Emanuel Schikaneder with Mozart's collaboration, puzzled audiences in the 1790s and continues to do so today. It takes some sleight of mind to grasp how Sarastro emerges as the good man and the Queen of the Night as the evil woman. The second act in particular is difficult to sort out and remember. Probably the three strands of plot (Tamino-Pamina, Papageno-Papagena, and Sarastro-
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Queen) are one too many for bringing Act II to a good conclusion. Perhaps the plot rests too much on Papageno, a role originally taken by Schikaneder himself. This role, though, is a delightful one, both musically and dramatically: he's the character most people remember as they leave the opera house. One thing, though, is clear: we never would listen to this text had it been set by Salieri.

Unlike Mozart's Italian operas, the music for The Magic Flute is a mishmash of styles, ranging from the pyrotechnics of the Queen of the Night to the folksong style of Papageno's arias. The overture shows fugal elements, while the scene with the men in armor is baroque in style. The lengthy accompanied recitative with Tamino and the Sprecher points ahead to Beethoven's Fidelio and the 19th century.

Apart from the Queen of the Night, none of the roles is technically very difficult. And yet it is seldom cast well from a dramatic point of view. The Queen, who starts out looking good but turns bad, needs to project some terror, but her music suggests a light, agile coloratura. Little wonder the Queen often sounds younger than her daughter Pamina. Sarastro should have the strength of a real bass, but at the same time he should sound wise and grandfatherly, not virile and authoritative. Pamina is an ingénue in Act I who must become deeply mature by "Ach, ich fühls"; not many sopranos can service both sides. Tamino must be naïve enough to fall in love with a picture before becoming heroic and enlightened in the Act I finale.

Even when the casting doesn't make dramatic sense, though, a particular performance can have a lot to offer because we appreciate it on so many different levels: as stern Masonic philosophy; as a fantasy piece with little serious intent; or as a musical comedy with beautiful tunes. Perhaps for this reason, almost none of the two dozen recordings can be dismissed as wholly unworthy. The general level is very high.

**Preliminaries**

I listened to the operas chronologically by recording date, and no, I am not at all tired of the piece. Honest. The audio chain began with a Rotel RC1-955AX transport, then through an Audio Alchemeny JTI 2.0 and DDE 3.0 to a Rotel RC-990BX preamplifier and RB-980BX power amplifier, ending up with either Mirage M-73i speakers or Grado SR125 headphones.

The complete dialog probably takes about 25 minutes, so early studio recordings omit it, as do some later conductors up through the '60s. It's easy to understand why record companies didn't want to use extra 78 sides for mere text, but in the LP era it's harder to condone conductors like Herbert von Karajan (1950), Karl Böhm (1955, deleted), and Otto Klemperer (1964) cutting it altogether. I learned the piece with Böhm, and for years had almost no idea what it was about — so I believe you should have the text on at least one of your versions (you can expect it to be condensed on most studio versions). Among early versions you can have dialog in the live performances (Arturo Toscanini, 1937; Furtwängler, 1949 and 1951), and in one later case (Colin Davis) you can buy it either way: with dialog on 3 CDs, or without on 2 budget CDs. Remember, too, that you can't trust the timings in the accompanying table to sort out the quickly from the slowly paced: The amount of dialog varies, as does the speed of delivery.

**Historic recordings (mono)**

Sir Thomas Beecham's prewar Magic Flute is one of the landmarks of sound recording, and with good reason. The impetus came from producer Walter Legge, who wanted to record Mozart's greatest German opera in Germany with the best cast available. One singer (Ludwig Weber) declined, and two (Richard Tauber and Alexander Kipnis) were Jewish and could not risk the exposure. Nonetheless, the final cast was excellent for its period, though today our tastes have changed. Now we expect less portamento and find Helge Roswaenge's Tamino too heavy. Compared to present-day Papagenos who exploit the humor, Gerhard Hüsch's rich Papageno seems too serious (though in balance I don't think anyone has sung Papageno better). Hüsch's portrayal is one you will appreciate more if you know the role well, while Tiana Lemnitz's Pamina is lovely but too mature in "Ach, ich fühls"; she sounds older than her mother the Queen, sung by a wonderful but not intimidating Erna Berger. Rounding out the principals is a firm, strong Sarastro from Wilhelm Strienz. In the end you must put aside modern conceptions of how the opera should be cast and hear it in a new (ie, old) way.

No allowances, though, need be made for Beecham, who, in the work's first complete recording, elicits the spirit of Mozart as well or better than anyone since. Everything is gorgeously shaped and expertly weighted, and nothing sounds rushed. Seldom have the dual purposes of lighthearted magic and Masonic sternness been so convincingly combined. It is reported that Josef Krips, himself a wonderful Mozartean, listened to this recording about six times a year to remind himself of the standards he was aiming for. The sound is closer to AM radio than hi-fi and the singers are too forward, but you quickly get used to it and concentrate on the music. Since this performance is out of copyright, anyone can issue it, and Schwann Opus lists four versions, of which two (Pearl and Nimbus Prima Voce) were submitted for review. Nimbus has made the transfers with a digital Ambisonic system, which effectively minimizes surface noise. With Pearl you get undoc- tored 78 sound, including a steady stream of noise, but with more exciting highs. (Also, the two are played at slightly different speeds, so the total times are different.) I prefer Pearl's sound, but the Nimbus has a terrific 252-page booklet.

From the same period comes Toscanini's Salzburg Festival version (July 30, 1937). For a conductor who often missed the mark in Mozart, this Flute is surprisingly good — spirited yet supple. The cast is excellent for the period (despite a flawed Julie Osawah in "O zit-
Mark Levinson made sure you’ll never forget this number.
The new No. 39 integrated CD player redefines digital audio. It’s embodied with a host of innovative design features that set it apart. The No. 39 even allows you to connect it directly to your amplifier. We’d be happy to demonstrate the magic of the No. 39 along with the full line of Mark Levinson components in our new state-of-the-art studios.
Also from Salzburg come the 1949 and 1951 performances conducted by Furtwängler. The two differ mainly by replacing Walter Ludwig and Karl Schnitt-Walter (as Papageno and Tamino) with Anton Dermota and Erich Kunz. We have four versions in the catalog, Music & Arts' 1949 set contains bonus tracks of the Dermota and Kunz excerpts from 1951, while Arkadia's is the other way around: 1951 with the 1949 excerpts added. The EMI and Foyer editions are straight 1951. Of the four, Arkadia has eliminated the

### Mozart's Magic Flute on CD

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<td>Sigmundsson (S), Streit (T), Bonney (P), Jo (Q), Cachemaille (Po)</td>
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<td>Christie</td>
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<td>1995</td>
<td>Erato 0630-12705 (2)</td>
<td>DDD</td>
<td>2:30:23</td>
<td>Hagen (S), Blochwitz (T), Mannon (P), Dessay (Q), Schaninger (Po)</td>
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1 Parentheses following singers indicate the characters portrayed in The Magic Flute: Sarastro (S), Tamino (T), Pamina (P), Queen of Night (Q), Papagervo (Po).
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most noise to achieve a remarkably fine sound. The 1951 performance has a splendid cast, with Furtwängler showing wonderful humanity and maturity. We know from his writings that he thought *Flute* a profound work containing the whole of nature. Silliness and slapstick, which can be a legitimate part of the opera, are replaced in Furtwängler’s view by a maturity and joy that never sound stodgy or contrived. The dramatic sections (at the beginning of the Act I finale) have lots of impact, and the sublime parts (“Bei Männern,” “Ach, ich fühl’s,” “Tamino mein!” etc.) are wonderfully expressive.

Furtwängler’s Salzburg casts pretty much owned the opera around 1950, at least in Austria. Karajan’s studio version (1950) uses the same five leads (except Ludwig Weber as a grandfatherly Sarastro) as Furtwängler in 1951. The performance is tidier, lighter, but less dramatic and involved than Furtwängler’s. Perhaps the biggest difference is Karajan’s omission of dialog. This is a fine document in decent sound, but, choosing one, I’d take Furtwängler.

The 1953 Karajan performance for Rome radio (with audience in attendance) is distinguished by Nicolai Gedda and Elisabeth Schwarzkopf as Tamino and Pamina. Schwarzkopf’s presence is particularly welcome because in mid-career she limited her Mozart roles to Fiordiligi (in *Così*), Donna Elvira (*Don Giovanni*), and the Countess (*Figaro*). But here’s the kicker: this *Flute* was presented as a Christmas concert for children, so it is sung in Italian with local actors taking the dialog. The libretto (Italian only) helps, but even so, some spots — like the 11-minute section of dialog midway through Act II — are rough going. On the whole, though, the opera is well sung, including a fine Papageno from Giuseppe Taddei and an accurate, chirpy Queen from Rita Streich.

Fricas’s 1954 account suggests a concert rather than a stage performance. The dialog is delivered by actors rather than the singers, who are recorded close and with more subtlety than you can achieve in the theater. For some the cast will be wanting: it’s a lot like an oratorio with a terrorless Queen (Streich again) and a sophisticated Papageno (Fischer-Dieskau), but I enjoyed it throughout. Fricas’s conducting is crisp, and the musical values come through beautifully. Sonics are excellent for the period.

George Szell directs yet another Salzburg production, this one from 1959. It gets off to a frenetic start as Léopold Simoneau, normally a most elegant tenor, comes on yelling “Zu Hilfe!” instead of singing the notes. That said, the main reason to get this recording is probably Simoneau (since the 1955 Böhm is now deleted and Walter Berry’s Papageno can be heard with Klenesper). The other highlight is Lisa Della Casa’s Pamina, which culminates in a quietly intense “Ach, ich fühl’s.”

![THE EARLY STEREO PERIOD HAS LONG BEEN DOMINATED BY KLEMPERER’S RECORDING, WHICH HAS ATTAINED LEGENDARY STATUS.](image)

Szell pushes several tempos, usually to poor effect. Sonics are noisy and sometimes harsh and distorted, clearly below the best of the period. It’s too bad Szell never made a commercial recording of any Mozart opera. Unfortunately, this does little to fill the gap.

THE STEREO ERA

The early stereo period has long been dominated by Klemperer’s recording, which has, with good reason, attained legendary status. There is no dialog, but the cast is strong, including perhaps the finest Three Ladies ever assembled: Schwarzkopf, Christa Ludwig, and Marga Höfgen. Klemperer brings out a level of detail and loving concern for the music that others do not match. Tempos are not fast, but they do not sound slow because the orchestra articulates so nicely. The absence of the dialog cuts most of the silly comedy, so what’s left in Klemperer’s unhurried tempos is the nobility and sheer beauty of Mozart’s score. Nicolai Gedda lacks the sweetness of the best Taminos, and Gundula Janowitz may be too sophisticated a Pamina for some, but this one is a keeper. Walter Berry is a heavy, jolly Papageno, while Lucia Popp is a fine Queen and Gottlob Frick sings one of the finest Sarastros ever. The sonics seem a little overloaded in loud spots, but I wouldn’t be deterred by the sound.

I have not usually liked George Solti’s conducting, particularly in 18th-century music, where his intensity seems out of place. His *Flute*, though, is an exception. The playing is very alert (and perhaps over-pointed), but it is seldom driven or lacking in warmth. Hermann Prey has just the right voice to make Papageno a likeable oat, and the other principals are fine. Only Christina Deutekom’s rather harsh Queen will invite controversy, though at least here she won’t be easily confused with a nice lady. Martti Talvela would be an ideal Sarastro if he sang with more compassion and sounded less like a school principal.

Omar Sutner’s version is well conducted and paced, with Peter Schreier’s Tamino the main vocal attraction. Theo Adam’s Sarastro is wobbly, Günther Leib’s Papageno is thin-voiced, Helen Donath vocalizes beautifully but doesn’t convince in a slow “Ach, ich fühl’s,” and Sylvia Geszty’s Queen is unexceptional.

Herbert von Karajan’s live Salzburg performance (July 26, 1974) is one of the few *Flutes* I can safely tell you to disregard. None of the principals is outstanding (Prey is better with Solti). The highlight for me was Edith Mathis’s “Ach, ich fühl’s.” Sonics are boxy and often harsh.

Karajan’s 1980 *Flute* was both his first digital recording and DG’s first digital opera. It also comes in Karajan’s “naturale” style, when he smoothed everything out, minimizing rhythmic point in favor of sensuous beauty. Karajan was not a great Mozart conductor in that period, as anyone who remembers his symphonies will testify. Fortunately, this *Flute* does not suffer from over-smoothness, but the slow tempos for all the main arias let the drama slip away. As was common for Karajan in this period, the cast is lightweight (particularly José van Dam’s Sarastro). One exception is Francisco Araiza’s Tamino, which has projection and grit; his scene with the Sprecher is particularly fine. The rest of the cast is good (Mathis repeating her Pamina), but...
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unexceptional. On the whole, too much oratorio, too little opera.

The special distinction of James Levine's recording is also its curse. Here the dialog is recorded complete, so we have background and character motivation more detailed than elsewhere (and a performance close to three hours). If you want the full import of the sexism and racism in The Magic Flute, choose this recording! I was quite drawn into the performance, but I doubt I will want to do it again soon because this is an opera we love much more for Mozart's music than for the story. Levine's cast is very good. Eric Tappy is a Tamino of the right heroic cast, and Ileana Cotrubas has just the right timbre for Pamina (though her aria is not special). Talvela is less impressive than she was for Solti, and José van Dam proves his proper role is the Sprecher, not Sarastro. Sonics are on the reverberant side, but good.

In his first recording of a complete opera, Bernard Haitink sought musical rather than dramatic values and gave no cheap thrills. His is one of the few readings I would call "beautiful," but at the same time it is a bit drab and stern. Wolfgang Brendel is a big-voiced Papageno, while Siegfried Jerusalem's Tamino is a touch too heroic. Editia Gruberova (who also sang for the 1989 Karajan) is a hefty Queen, who (at least) doesn't sound like Pamina's sister or daughter, and Roland Bracht is a deep but tremulous Sarastro. Haitink includes two sentimental returns: Lucia Popp, the Queen in the legendary Kemperer set, is now a fine Pamina, and Erich Kunz, who owned Papageno in Vienna for a quarter century, takes the small role of Second Priest.

Like Haitink, Colin Davis conducts Flute for its sensual beauty. Everything is tasteful and stylish, which means moderately slow tempos, smooth articulations, and an almost maddening sense of poise. With Davis the music never leans forward with urgency or, dare I say, excitement—it's all a bit prissy. The cast is headed by Peter Schreier's Tamino, which is ideal casting, particularly in Act One, where the hero is impetuous and bewildered. Luciana Serra, though, sounds too young and vulnerable to be a credible, evil Queen, while Margaret Price's technique (she sings "Bei Männern" virtually without vibrato) doesn't allow much enjoyment. Her dramatic sections in Act II, though, are better. Kurt Moll's firm and wise-sounding Sarastro is one of the very best, and Mikael Melbye's Papageno is nicely sung and characterized. As a dramatic performance the Davis is odd: the spoken parts are taken by actors who in some cases sound very different from the singers. The problem can be avoided, though, because this recording is also available without dialog on a budget 2-CD set (Philips 442 568-2).

The special distinction of Levine's recording IS ALSO ITS CURSE. IF YOU WANT THE FULL IMPORT OF THE SEXISM AND RACISM IN THE MAGIC FLUTE, CHOOSE THIS!

The recordings from the early '80s (Karajan, Levine, Haitink, Davis) all place emphasis on the serious sides of the piece at the expense of the fun. Neville Marriner's recording rights some of the balance by taking the lighter sections crisply while leaving the serious parts ("Dies Bildnis," "Bei Männern," "Ach, ich fühls," etc.) for slow, even romantic treatment. The overall effect, though, is fast-paced, and a few spots sound frantic. Araiza returns (from Karajan) for a Tamino with just the right timbre and heroism. Kiri Te Kanawa's Pamina is gorgeous, and Olaf Bär's fine Papageno is characterized with enthusiasm. Samuel Ramey is a noble, authoritative Sarastro, but not quite in the class of Frick or Moll. Cheryl Studer is exciting and accurate in the Queen's arias, though to me she doesn't sound wholly comfortable with the role. The voices are recorded very close, and Philips includes more stage noises (thunder, etc.) than normal.

Sir Charles Mackerras's Flute has quick tempos throughout, but to his credit the music doesn't sound rushed or fast for its own sake. In terms of vocal timbre the performance is as fine as any. Jerry Hadley is an ardent but not overbearing Tamino; Barbara Hendrick's Pamina is sweet and appropriately vulnerable; June Anderson as the Queen is both exciting and menacing; Robert Lloyd's Sarastro is deep and gritty; and Thomas Allen has charm and humor as Papageno. The only casualty is Pamina's "Ach, ich fühls," which is too fast to register much grief. Mackerras also adds a small number of ornaments and appoggiaturas, which he defends in the notes but which annoyed me. Another small drawback is the preponderance of English-speaking singers in a German opera. All five principals are English or American and the three boys are Scottish, so the diction occasionally sounds non-native. One small bonus is a Tamino/Papageno duet that librettist Schikaneder inserted in an 1802 production. He claimed it was authentic Mozart, but it's a minor piece no matter who wrote it. Telarc's sonics are excellent, not so bassy as I often find them, with lots of realistic thunder, lions, and the like.

Period-instrument performances

To date four recordings on period instruments have appeared, with the earliest (1982, conducted by Ton Koopman) now deleted. Another version, conducted by Nikolaus Harnoncourt (1988, also deleted), uses gut strings in an otherwise modern orchestra.

Roger Norrington's Flute, like so much of his work, aims to remove the veneer of generations of performance and return to something more authentic. This means breathlessly fast tempos and aggressively articulated music that has too little contrast between the serious and comic sections, and very little personality. The things I love about the piece—the charm, the whimsy, the sensual beauty of "Bei Männern" or "Tamino mein"—are ploughed under by Norrington's slash-and-burn approach. Positive mention should be made, though, of Anthony Rolfe Johnson's nicely shaped Tamino and Dawn Upshaw's spunky Pamina (though "Ach, ich fühls" is, again, too fast). Andreas Schmidt plays Papageno straight, which must have seemed strange to Olaf Bär, himself a fine Papageno (for Marriner), but here consigned to be a woolly

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Sprecher sans authority. Beverly Hoch does the Queen's arias with excitement, but her voice is so light she sounds like Pamina's sister. Cornelius Hauptmann is an undercharacterized, insubstantial Sarastro, due in large part to Norrington's rump through his music (particularly a chipper "In diesen heifgen Hallen"). Excellent sound, with lots of realistic thunder.

Like Norrington, Arnold Östman conducts a brisk Flute, but nowhere do the tempos seem artificially fast or doctrinaire. What distinguishes performances like this is less the period instruments than the casting. Every role here is sung by a lighter, more supple voice than we would have expected 20 years ago. Supporters assert that these voices (and the smaller halls they can fill) are closer to what Mozart knew. The inevitable result is that the drama and emotional level are less intense, and the slower tempos of older singers are neither necessary nor desired. (This is, I should add, not a recent phenomenon; remember 20 years ago, when Karajan was casting Wagner with smaller voices?) But Östman's cast, however "lite," is a fine one: Kurt Streit (Tamino) and Barbara Bonney (Pamina) are at least the equals of Rolfe Johnson and Upshaw for Norrington. Kristinn Sigmundsson's Sarastro won't remind you of Gottlob Frick, but in this context he's fine. The same could be said for Suni Jo's Queen, whose stunning portrayal is too light to show menace. In sum, this is a convincing performance beautifully recorded, if on a chamber-opera scale.

William Christie's recent recording is similarly small-scaled. He brings a few new ideas—reinstating the cadenza for the Three Ladies' trio, rhythmic changes in the first quintet, etc.—and in general makes a convincing drama. Hans Peter Blochwitz as Tamino makes the best impression among the principals; the others are good, but basically nondescript. Given the light voices, the tempos are well chosen and occasionally sound a little slow ("Der Vogelfänger bin ich ja," "Der Hölle Rache"). And, of course, Pamina's aria is too fast for me (though the cueding is nice), as is the Act II quintet. Christie's Flute is a musical, soft-edged affair, less spirited than Östman's.

CONCLUSIONS

If you don't already own a Magic Flute, or if you're fairly new to Mozart, I suggest Marriner as a first choice and Mackerras as a backup. Both have strong casts, a good sense of the drama, and vivid sonics. If you have a lackluster recording but already know the work, you should get both Klemperer and Beecham. Again, the casts are excellent and the conducting is superb, though neither has dialog. For period instruments I find Christie a bit more interesting than Östman and a whole lot more satisfying than Norrington. And for Honorable Mention let me include the Arkadia Furtwängler (the most gorgeous "Tamino mein" of all!), Fricsay (for its crisp musicality), and Davis (for individual performances by Moll and Schreier).
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The brainchild of producer David Chesky, Portraits of Cuba celebrates saxophonist Paquito D'Rivera's life in Cuban music through richly scored big-band arrangements by Carlos Franzetti, an Argentinian composer of film scores and other works. Chesky and Franzetti have worked together before: Franzetti was also the arranger of Orquesta Nova (Chesky JD54), a strikingly beautiful collection of Latin popular and light classic pieces arranged for classical musicians. When it came to writing for Paquito D'Rivera, Chesky gave Franzetti his freedom. So did D'Rivera: "When [Carlos] came to me with this idea, I said, 'I don't know what you're going to do, but I don't care, really. I trust you to do this.'"

Franzetti has created contemporary versions of Cuban pieces, most of which are connected with D'Rivera's performing career in one way or another. The model was the Gil Evans/Miles Davis collaboration Sketches of Spain; Portraits of Cuba shares with the Evans work a deep, fluid, often brassy sound, and a seemingly ideal balance of written segments and solo spots. Franzetti's writing is finally a lot hotter than Evans's: he is, after all, celebrating Cuban music, with its powerful dance rhythms, rather than the more stately sounds of Spain, and he has in D'Rivera an extraverted, virtuoso instrumentalist.

Still, not everything here sounds particularly jazzy, or was meant to. The familiar habanera "Tu"—you'll recognize it if you hear it—was an inevitable choice. Composed by Eduardo Sanchez de Fuentes, "Tu" was the first tune D'Rivera performed live. A child playing in his father's band, he was soon billed as "The Smallest Saxophone Player in the World." "Tu" begins with some Evans-like mystery—an introduction that opens with a sudden long chord by muted low brass, bass clarinet, and flutes. Soon the flutes swirl independently away, and muted trumpets enter with their own figure as the bass clarinet and piano add colorful side comments. A steady repeated line begins, and D'Rivera states the initial theme on soprano sax. Few arrangements are so full of exotic colors, yet soon "Tu" is swinging over a strong Cuban rhythm section. But many listeners will be most struck by the sound of the band in the more static moments.

Franzetti was freely imaginative with D'Rivera's own pieces: almost usefully, it seems, D'Rivera notes the way Franzetti stuck a theme from "Aires Tropicales" on the ending of D'Rivera's "Portraits of Cuba." No matter. Franzetti's arrangements are powerful as well as colorful, and he keeps the band swinging through a grand variety of music, beginning with the wistful hundred-year-old "La Bella Cubana" with which the disc opens and ending perhaps with some irony, with the "Theme from I Love Lucy." He's no snob, and he isn't afraid of the obvious: Franzetti includes "The Peanut Vendor," made popular by Stan Kenton. He notes that percussion is at the heart of Cuban music, but concentrates instead on the colors he can elicit from a big band of fine New York professionals.

It helps that Chesky has recorded this band with the company's usual care. The soundstage is natural, the soloists stand out as they should, and the whole is beautifully balanced, from the lustrous bass upward. D'Rivera plays with his customary panache, but, as he says, this is really Franzetti's session. —Michael Ullman
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If I place Grainger's music for his 18-minute imaginary ballet, The Warriors, ahead of Holst's often-recorded Planets, it's partly out of fascination for this unusual work, which may be one of that composer's most neglected masterpieces. Scored for a massive orchestra consisting in part of six horns, three pianos, a vast percussion array, and even an off-stage brass band, the work was described by Grainger as representing "ghosts of male and female warrior types of all times and places...spirited together for an orgy of war-like dances, processions, and merry-making brok en, or accompanied, by amorous interludes." Dedicated to Delius and first premiered in the US at the Norfolk Festival in 1917, it is all typically boisterous, Ivesian Grainger, and well worth hearing.

Its exuberant, athletic spirit seems ideally suited to John Eliot Gardiner's high-energy conducting, although, despite wide dynamics, DG's reproduction lacks clarity and pinpoint detail. The offstage brasses (about 13 minutes in) and the pianos, for example, are not nearly as apparent as in Geoffrey Simon's 1989 recording with the Melbourne Symphony, which I also find preferable as a performance (Koch International 3-7003-2).

As to the Holst, the lack of atmosphere and suspense is disappointing. Venus, for instance, sounds pale; Jupiter lacks jauntiness. Nor are recording details, such as the organ glissando at the end of Uranus, as well served here as with, for example, Dutoit. This is not to condemn the sound, but only to comment that the disc doesn't merit recommendation as an audiophile spectacular.

In contrast, Chandos's attractive Grainger collection, without the heavy orchestral artillery of the above, is exceptionally clear and realistic in reproduction, an almost ideal chamber-sound setting. The 16-member Academy of St. Martin-in-the-Fields is in fine fettle for a delightful group of mostly well-known Grainger. Added to these in the middle of the program is Kenneth Leighton's 1982 Fantasy Octet based, but not at all obviously, on Molly on the Shore, Shepherd's Hey, and Sussex Minstrels' Carol. It is a skillfully conceived, somewhat nebulous piece without the immediate appeal of the effervescent Grainger originals. The sound throughout is marvelously transparent.

- Igor Kipnis

HANDEL: Messiah

Handel's Messiah in the 1902 Ebenizer Prout edition, sung by the Mormon Tabernacle Choir and conducted by David Willcocks? Gulp! Taken alone, none of these may shock you. Lots of conductors—Beecham, Sargent, Henry Wood, etc.—used Prout (more or less) for years; his orchestration followed Handel's Foundling Hospital performance (with oboes, bassoons, trumpets, horns, and timpani) and added flutes, clarinets, and trombones. Likewise, I find nothing wrong with a chorus of 325 singing the piece—we have a long tradition of "big" Messiahs. (Besides, my first recording was with the Mormon Tabernacle Choir/Ormandy/Philadelphia.)

Finally, Willcocks is a distinguished choral conductor whose work includes a fine men-and-boys Messiah with King's College Choir (formerly on Arabesque LP and, to my knowledge, not reissued). So the constituent parts make sense, but the combination seems a little odd. I wondered who this was aimed at and expected the worst.

After listening—and as someone who's come close to burning out on Messiah—I can make two observations. First, the Prout orchestration, often augmented by prominent organ, is interesting and fun to listen to, even if it's not Handel. Second, the presence of a big chorus does not guarantee a dull, sluggish performance. In fact, the piece gains stature when not sung primarily to demonstrate choral virtuosity.

How good is this Messiah? The Choir is terrific in the homophonic sections, which are full and rich, never shouted or uncontrolled. Where contrapuntal clarity is needed, their ensemble is not equal to the minichoruses we hear these days, and occasionally one side of the chorus is slightly out of sync with the other. But on the whole they're quite fine, and the tradeoff is worth it. Choruses like "Hallelujah" and "Wor thy," which ought to be failure-proof but often disappointing, are great here. The tempos are a little slow, but the sound is magisterial and glorious. All of the soloists are good. Lorna Anderson's soprano is firmly supported, with excellent agility and a fine trill (in "Rejoice"); her lyric arias are equally convincing. Though countertenor Paul Eswood is no match for the "refiner's fire," which sounds effete, his "He was despised" is as beautifully sung as any countertenor version I can remember (and Willocks wisely keeps the orchestra quiet in the B section). Neil Mackie's light tenor easily negotiates "Ev'ry Valley," though "Thou shalt break them" shows some struggle. Bass-baritone Stephen Roberts makes a solid if not strongly memorable contribution; his standout is "The trumpet shall sound," with wonderful trumpeter Anthony DiLorizio.

The orchestra, apparently a pickup group from the Salt Lake area, plays well, though some pieces like "The people that walked in darkness" and "Thou art gone up on high" have spots of scrappy string playing. Willcocks ornaments the score mildly and generally uses harpsichord for the arias, organ for the choruses. He brings a direct, unfussy approach to the piece; no tempo anywhere sounds unnatural or imposed on the music, though in several arias he stays doggedly in tempo where the soloists might have appreciated a touch of flexibility.

The recording [engineered by British engineer John Mosely, who has a long pedigree in recording the Messiah — Ed] captures a good sense of the Mormon Tabernacle,
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StereoTimes, October 1996
with chorus, orchestra, and soloists in good balance. (There is, however, one bad splice near the end of "He was despised," where the soundstage collapses.) Willocks uses the "standard" version: 4/4 "Rejoice," the duet version of "He shall feed his flock," etc. The extra disc, a rehearsal CD, is actually lots of fun; it's pretty obvious what errors Willocks is trying to correct.

This odd combination is the only version to combine the Prout orchestration with modern notions of ornamentation, double-dotting, and good sound. It would be a good choice for anyone wanting a "big" version, but here the Andrew Davis (EMI, with "name" soloists and more flair) is preferable. — Paul L. Althouse

MAHLER: Symphony 6 ("Tragic")
Pierre Boulez, Vienna Philharmonic

MAHLER: Symphony 6 ("Tragic")
Pierre Boulez, BBC Symphony
Enterprise Documents LV 995 (mono CD) only. AD: TT: 75:38

MAHLER: Symphony 6 ("Tragic")
Benjamin Zander, Boston Philharmonic
IMP Classics DMCD 93 (2 CDs only). Dominic Reeves, prod.; Ken Dean, eng. (1993). TT: 84:13


Pierre Boulez, erstwhile bad boy of the avant-garde, may seem an unexpected choice for Mahler, but in fact he programmed many of the symphonies regularly during his tenures as music director in London and New York; one surmises that the innovative, revolutionary nature of the scores attracts him. As those familiar with his Das klagende Lied (Sony SK 45841) are aware, he brings unusual intensity to this music, in part a result of his emphasis on painstaking linear clarity, so that more than the customary amount of detail registers.

In the symphonies, we have had to make do over the years with unauthorized concert airchecks, so it's a pleasure to welcome Boulez to the studio to record this music under controlled conditions. This magnificently recorded Sixth automatically becomes the choice for anyone wanting an up-to-date recording of this music as played by a first-class orchestra. In the first movement, Boulez produces grim deliberation by steadiness rather than by slowness of tempo, not only in the opening theme but also in the piu mosso codetta; the dotted rhythms have a nice surge and stride; in the "Alma" music and elsewhere, simultaneous woodwind and string components can be heard in perfect balance. The slow movement begins with beautiful atmosphere, with a light, distanced sound to the opening theme (on muted strings, later on horn), becoming unexpectedly agitated and turbulent as it proceeds; the horn fanfares at the move into E-major have a Wagnerian cast (unsurprising from a Bayreuth veteran). The Finale is more cohesive than usual, with a steady pulse underpinning the entire movement; the chorales, kept in tempo, convey the sense of a persevering, hopeful struggle, while elsewhere countless details of attack and dynamic shading are impeccably done, and the instrumental joints are seamless. Even the trombone fugato of the coda is kept moving, not milked, making the final desolate pizzicato stroke all the more effective. Throughout the symphony, the conductor handles tempo transitions, marked and otherwise, with ease (try the gehaltener at 14 in the first movement, or the transitions into the Scherzo's grazioso Trio), and he really feels the color and harmonic changes. The VPO sounds gorgeous — warm-toned, with crystalline clarity even at their loudest.

Testament's reissue of a 1973 aircheck is badly timed. The mono sound isn't bad, with the brass having plenty of presence, but the tape is missing a beat and a half at the beginning (the recording starts in the middle of the symphony's second note). Boulez handles a few details better than he does on the new recording: the woodwind chorale that serves as a bridge between the first movement's two themes is exceptionally delicate (the Vienna winds are piano but prosaic), and the end of the piece even better conveys the sense of defeat snatched from the jaws of victory. But the skittish BBC SO tends subtly to jump its fences: the first-movement exposition ends considerably faster than it begins (both times around!), and the slow movement practically winds up in an alla breve (conveying an interesting neurotic compulsiveness, but I don’t think this was really the idea). There are also assorted glitches and miscoordinations such as occur in coarser, a superfluous release.

Benjamin Zander provides a different sort of revelation. The Boston Philharmonic's community-orchestra status shows in some passing rasps and dryness from the strings and in the trumpets' cornettish vibratto, but here is a performance where not a single note is taken for granted. Every note has apparently been considered for its melodic, harmonic, and textural functions; every detail of phrasing and balance is contoured to precise effect, but without fussiness — the music always flows. The opening, lightweight accentuations suggest a quickstep, but the first movement's sturdy march rhythms have a nice, springy thrust; that woodwind chorale is breathtakingly fragile, the "Alma" music is passionate but unsentimental (true of Zander's handling of all the melodic episodes), and the lyrical portions of the development are gentle and soulful. The firm Scherzo is balanced with deft stacato reeds in the Trios; the slow movement, its accompaniment figures impeccably balanced, comes across as a single broad, lyric statement, building to easy climaxes; the color changes between sections are deft and affecting (particularly the entry of the high violin chords at 9:28), and the cowbells are clearer (without spotlighting) than I've ever heard them. The Finale is simply stunning, the main themes propulsive yet springy, the little woodwind marches balancing them with a note of cautious optimism; and this is the only recording where the hammerblows register as distinct from ordinary percussion (the notes claim this was accomplished by striking a timpani crate with a plumber's pipe), with the restored third blow bringing home the finality of defeat. The closing pizzicato makes as cataclysmic an effect as it must have in the house — the audience applause doesn't begin for a good 10 seconds.

Ordinarily, I prefer this repertoire played by a full-sized orchestra, but the Boston Philharmonic's reduced string section never sounds strained or inadequate, and undoubtedly helps contribute to the exceptional clarity; despite the concert conditions, the orchestra shows less fatigue than Hartmut Haenchen's presumably professional Netherlands Philharmonic on LaserLight 14.
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Stereophile, October 1996
140. The sound is clear, although the trumpets sound a bit tinny and blatty, as if the fundamentals are missing.

— Stephen Francis Vasta

**MOZART: Violin & Piano Sonatas, K.379, 454, 526**

György Pauk, violin; Peter Frankl, piano

BBC Music MM 118 (CD only). D.D.O. TT: 71:57


If you think of this repertory as peri-wigged salon music, these performances will change your mind. Here is Mozart deperfumed and depertified——elegant where necessary, but with clarification of the vibrant, tough intensity that lies beneath the music's polished surfaces.

These are three of the composer's finest violin sonatas, each with a slightly different ethos, but all having a remarkably wide-ranging expressivity. Particularly interesting is the Sturm und Drang ardor of the second movement of K.379, an atypical work in which that movement is framed by an extended opening Adagio and a concluding set of variations. Throughout, Pauk and Frankl convey the piece's richness and its frequent anticipations of Beethoven.

The other sonatas are performed with equal conviction and stylishness. Tempos are bracing but never rushed, rhythm is supple without any breaking of line or structure, and the balance between violin and piano is ideally maintained, with Pauk, unlike some high-powered fiddlers, tastefully receding into the background when the piano has a leading line. Occasionally, the violinist's tone acquires a slight edge, but it suits the aggressive style of the playing and the character of the music, with the technical demands of K.526 met with seeming ease. Frankl, with his clean, crisp articulation, proves an ideal partner in all three works.

Complementing the whole production is superb in-concert sound, the performers just far enough from the microphone to suggest an airy ambience without compromising presence. All exposition repeats are observed.

— Mortimer H. Frank

**PROKOFIEV: The Fiery Angel**

Sergei Leiferkus, Ruprecht, Galina Gorchakova, Renata; Konstantin Pinchukov, Mefistofele; Vladimir Ognovenko, Inquisition; others; Kirov Orchestra & Chorus, St. Petersurg; Valery Gergiev


The Plot: Renata is an insane woman who has lived with sexual obsession and relentless torment since she fell under the spell of a "fiery angel" — a demon — when eight years old. Ruprecht, a knight returning home after a long period of travel, takes a room at the inn. Next door is Renata, wailing, moaning, and, to Ruprecht, innately appealing. The opera is their story — her lunacy, his attempts to help her, and her eventual death by fire at the hands of an Inquisition.

This difficult, riveting work packs quite a punch despite the demands it makes on the listener. The music is uncompromising in its flamboyant expressionism, and the whole rises and falls on the character of Renata. It’s one thing, as most early 19th-century composers knew, to incorporate a mad scene for soprano — it’s a good culmination, evoking compassion in the audience. It’s another to introduce the heroine in a state of madness and never allow her to stop raving: It’s almost as much a trial for the audience as for the soprano. Luckily, Gorchakova is up to the role — she actually makes us care for Renata, and wish her the peace she can’t seem to find. And she sings beautifully.

As Ruprecht, Leiferkus is just as spectacular, using his bright baritone with its distinctive timbre to great effect. He’s practically as obsessed as she is, it seems. The others in the large cast serve the work well, but credit for the performance’s success must lie with Gergiev, who serves the opera up brilliantly and gets better-than-first-class playing from his Kirov forces. The opera is too episodic to hold together very well, but Gergiev makes sense of it. And as for madness in music — try the scene in the final act in which all the nuns in the convent to which Renata has fled become afflicted with her delusions. It’s enough to drive you nuts, too.

I was first intrigued by this reading through the video Philips released (a live performance captured wonderfully by the engineers) — it’s a work that demands to be seen as well as heard. I recommend the same approach to you. But if the video isn’t available, this set is pretty remarkable itself. Not for the weak.

— Robert Levine

**SAINT-SAENS: Piano Concerto 2**

**TCHAIKOVSKY: Piano Concerto 1**

André Watts, piano; Yoel Levi, Atlanta Symphony Orchestra


These performances of two of the most popular repertoire concertos are thoroughly recommendable, not only for the authority of the highly virtuosic interpretations but for the well-balanced, airy, and detailed sound of the orchestra, the piano emerging more richly and with more color than the vast majority of recent piano/orchestral discs. The Tchaikovsky is done very much in the Horowitzian vein: vital and exciting. I particularly enjoyed the lightness and dance-like elegance of the slow movement’s middle section, and Levi’s tender way with that movement’s opening is quite exquisitely done. The Saint-Saëns, in contrast, is more leisurely, with a beginning that is broader and more grave than usual; rubato and tempo deviations are occasionally startling, but there is much overall to grab one’s attention and please the ear. Watts’s technical prowess is awesome; listen to the evenness of the trill section of the Saint-Saëns third movement. Outstanding!

— Igor Kipnis

**STRAVINSKY: Petrouchka, Jeu De Cartes**

Sir Georg Solti, Chicago Symphony


**STRAVINSKY: Pulcinella, Renard, Suites, Rags**

Jennifer Larmore, mezzo; John Alte, Frank Kelly, tenors; Jan Opalach, John Check, bass; Saint Paul Chamber Orchestra, Hugh Wolff


Just like the rest of us, great conductors win some and lose some. The deciding factor seems to be the presence (or absence) of interpretive sympathy. It all comes down to how successfully the conductor is able to connect with the material via artistic insight/affinity, stylistic consistency, and technical acumen.

Sir Georg Solti unquestionably knows how to play Wagner, just as Bernstein seemed to intuitively know what was right for Mahler. One could...
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also cite Boulez's artistic symbiosis with Webern, Toscanini's flair and depth of understanding for Verdi, Reiner's mastery of Bartók, Furtwängler's grasp of Beethoven, and so on. But it may be time for Solti to give up on Stravinsky. His earlier attempt at Le Sacre du Printemps with the CSO (London 417 704-2) is a textbook example of wrong-headed, unintuitive interpretation.

Unhappily, the same is true for this new Petrouchka. For the entire first three tableaux, Solti marks time as if in a daze. The music waddles along like a lame pachyderm—no drama, no edge, no rhythmic cohesion. In their place is soft-edged phrasing and lazy momentum. Things pick up a bit by the fourth tableau, the music actually beginning to resemble the masterpiece it is, but by then it's too late.

Sound is somewhat anemic, too, with thin, disjointed strings further worsened by Solti's flaccid line and an overall lack of orchestral cohesion. It's hard to imagine a more listless, plodding, and downright wrong reading. Avoid this recording.

Happily, Hugh Wolf proves to be a far more successful Stravinskian. His Pulcinella is suavely assured, as befits this neo-classical work, but his rhythms are taut and well-marked. Likewise, his English-language Renard is energetic, with plenty of urgency and spirit when they're needed. While not perhaps the last word in interpretative brilliance (try Craft's recent MusicMasters recordings for more exciting, rhythmically driving performances), Wolf's admirably clear-cased readings are legitimate discographical alternatives. Lively versions of the small suites and the delightful Ragtime add further interest to this well-recorded release.

— Carl Baugher

Show Music

BYE BYE BIRDIE: 1995 TV Soundtrack

Music by Charles Strouse; lyrics by Lee Adams; Elliot Lawrence, cond.

Made-for-TV productions of musicals are a pretty scarce commodity, so show music fans might be ill advised to bite the network hand that occasionally feeds us. But, having watched it on TV, the best I can say for this version of Bye Bye Birdie is that it's a disappointment.

The main responsibility for the failure of the enterprise must rest with director Gene Saks. Highly regarded for his work on Broadway, it's apparent from this Birdie and from the disastrous movie version of Mame that Saks should not be allowed within 500 feet of a TV or movie camera. There are awkward camera angles, ill-judged cuts, and the pacing often seems wrong. One particularly bad moment is at the end of "Put On a Happy Face," when, the song having concluded, there are several close-ups of the crowd applauding, then a lengthy shot of Jason Alexander acknowledging the applause with a forced aw-shucks expression on his face, and looking as if he's having a hard time not saying "Turn off the damn camera!"

There's also miscasting of some major roles. In the 1963 movie version of Bye Bye Birdie, it's widely acknowledged that Ann-Margret, although approximately the right age, was way too grown-up and sexy-looking to play the ingenue, Kim. For this TV version, Kim is played by Chynna Phillips, who must be at least 10 years too old for the role. The role of the father, Harry MacAfee, was one of Paul Lynde's incomparable comic creations; George Wendt is just a crabby, un-funny presence. The rest of the cast is generally fine. Jason Alexander as Albert will please his Seinfeld fans—of whom I'm one—although at times I wished he didn't work so hard. Marc Kudisch is a strong-voiced Birdie, and Tyne Daly is a hoot as Albert's mother. Best of all is Vanessa Williams as Rose. She looks sensational, sings extremely well, and is always believable. It's really not her fault that Gene Saks has chosen to photograph "Spanish Rose" in such a way as to make her look like a sleazy stripper.

If I've managed to get this TV Guide portion of the review past Stereophile's esteemed editors, then let me say that as a record, there's much to enjoy in this Birdie. Collectors will be interested in the fact that there are three "new" numbers not found on any other recording of the score. ("A Giant Step" is quite catchy.) Vocally, the cast is hard to fault (except for George Wendt, and he doesn't have much to do), and the music is conducted by Elliot Lawrence, who had the same job when Bye Bye Birdie was on Broadway. Although the orchestral tracks were recorded in one place and vocals in another, sound quality is more than acceptable. Worth getting, if only for Jason Alexander and Vanessa Williams.

—Robert Deutsch

Jazz & Blues

THE CARNEGIE HALL JAZZ BAND

The first Blue Note album engineered by Mark Levinson, Jacky Terrasson's Reach, was recorded in Levinson's living room with two custom-modified microphones and high-pedigree electronics by Cello, Apogee, and Nagra. As I wrote in July (p.213), the result is a quirky sonic portrait of a piano trio, with a perspective so disengaged that the bass is often inaudible, the cymbals merely implicit.

For his second Blue Note project, Levinson again employed two mikes and the same recording electronics and cables. But this time he set up in Sony's Studio B in New York and went after a 19-piece band. The results are only slightly less problematic. In his liner notes, Levinson says that recordings usually fail to capture the full dynamic range of big jazz bands. He avoids this pitfall so successfully on The Carnegie Hall Jazz Band that you simply can't listen to this album at your preamp's normal gain setting. If you try, the horns are thin, the drums are tame, the whole orchestra is outside your grasp. When you figure it out and turn it up, every crescendo becomes a lease-breaking roar. Dynamic range is one of the parameters of music reproduction that imparts the illusion of reality—but only one.

Within this recording's huge swings from soft to loud, there are sonic disap-

Stereophile, October 1996

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pointments. The minimalist making dolls the transient attacks and turns the ensemble pale and amorphous. Soloists are recessed—partially (Frank Wess on “In the Mood”) or severely (Lew Tabackin on “Giant Steps”). What’s missing is the impact, the differentiation among instruments, the textural edges, the aural gestalt of the big-band experience.

The music is first-rate. The Carnegie Hall Jazz Band is a repertory orchestra dedicated to “building on the legacy of the great big bands of the 1930s and 1940s and . . . showcasing classic tunes in refreshingly novel forms.” The arrangements are strikingly successful in achieving this goal. On “In the Mood,” Jim McNeely references the famous opening only long enough to establish the historical context. Then he harmonically twists it and rhythmically retimes it into something relevant for our fin de siècle moment. Garnett Brown is wise enough not to mess too much with Richard Rodgers’s great lyric poem, “It Never Entered My Mind.” He just glides it and whispers it among sections and soloists. For “Sing, Sing, Sing,” Lewis Nash does Gene Krupa, Dick Oatts’s soprano sax does Benny Goodman, and Jim McNeely’s arrangement retains enough of those devilish ostinatos to remind us why the piece caused riots in 1936.

CHJB tours infrequently, but you wouldn’t know it from the immaculate section work. On “Giant Steps,” all 15 horns smoke a complex passage of John Coltrane’s original solo, transcribed for full ensemble by Frank Foster. And all the elegant arrangements set up a whole series of compelling statements by soloists like Jon Faddis (who can still hit the trumpet stratosphere), Tabackin (brought in just for his hell-bent hurdle race through “Giant Steps,” and worth the trip), and Jerry Dodgion (whose alto sax is perfect for the delicate protestations of “It Never Entered My Mind”).

CHJB is one of the most important organizations now working to keep the art form of big-band jazz alive, and its first album is very much worth having—even if it doesn’t live up to its claims for exceptional sonic quality.

—Thomas Conrad

CHICO FREEMAN: The Emissary

CHICO FREEMAN, tenor & soprano sax, bass clarinet, background vocals; Stan Franko, acoustic & electric guitar; Andrew Wilson, flute, vocals; Geoff Breman, bass; Norman Hedman, congas, percussion; Josh Jones, drums, percussion; Babou Sagna, African drums, percussion; Scheherazade Stone, vocals.


Chico Freeman can play as hard as the next tenor saxophonist, but on The Emissary he shows his lyrical side, or sides. This new session, played with a pianoless ensemble from the San Francisco area, demonstrates Freeman’s easy-going eclecticism as he places a respectful version of Earth, Wind and Fire’s 1977 hit “I’ll Write a Song for You” check by jowl with Miriam Makeba’s “Jikele Maweni,” the Delfonics’ “La La Means I Love You,” and Miles Davis’s “Seven Steps to Heaven,” played here in an uncharacteristically careful way by Freeman over a bass line and heavy backbeat. His own compositions are equally far-ranging and evocative, as he pays tribute to drummer Idris Muhammad on the (drumless) “Spirit Catcher,” captures something of the bouncy jubilance of South African music on “Mandela,” writes his own version of flamenco on “Murcia,” and tries to imagine ancient journeys on “The Emissary.”

The Emissary is exquisitely recorded “in a large, open room with a high ceiling and with two omnidirectional microphones suspended in front of and above the band.” The result is as three-dimensional as one would wish, and yet the soloists seem present: there doesn’t seem to be any tradeoff between a realistic stage and the immediacy of the key players, even when Freeman is joined by a trio of drummers and vocalists, as on “Mandela.”

Each instrument is clearly placed, and the bass is warmly and cleanly reproduced. The disc opens with what seems to me a perfect rendering of the complex sound of a robustly played bass clarinet on “The Spirit Catcher.” Freeman enters after the bassist lays down a swinging line over near the left of the soundstage. The bass clarinet is at the extreme right and very close and the guitar—for most of this cut is a duet between guitar and bass clarinet over bass obligatto—appears dead center and a little back. Musically, the session is just as satisfying, with its joyous songs, drum features such as “Dun Dum Ba,” improvised duets such as “Come On With It,” and active ensembles as on “The Streets Got Me Weeping.” Freeman doesn’t weep for long: even here, he is soon rocking convincingly.

Songful and buoyant, The Emissary should be an instant audiophile classic.

—Michael Ullman

STAN KENTON: The Complete Capitol Studio Recordings, 1941–1947

Mono 30010-163 (10 LPS), 5010-168 (7 CDS), Michael Cuscuna, prod.; Malcolm Addey, Jay Haskell, transfer engs. TT: 7:30:02

When the first of these recordings was made, Stan Kenton’s big band had been in existence for two years. It couldn’t have seemed like an auspicious time to start a jazz band: the war was already taking away many of the young males—and some of the young females—who would be expected to dance to any swing band, and the war effort would create shortages of transportation, gas, and even shellac. If Kenton survived, it would be because he was personally inimitable, and because of the appeal of his music to the teenagers who kept the band alive.

Kenton knew exactly what he wanted: “The band was originally designed,” he told a magazine called Band Leaders, “through both orchestration and presentation, to thrill as much as possible. I strove for flash and wanted every arrangement, whether slow or fast tempo, to be a production in itself. Everything was written to swing to a driving beat. Spirit and enthusiasm had to predominate at all times.” If you touched a teenager in his audience at the end of the night, he said, he wanted the kid to throw off sparks.

Kenton’s idea of swing wasn’t exactly Basie’s, which was built on the steady, subtle thump of his rhythm section, over which great soloists such as Lester Young would build choruses after choruses. Kenton wanted, as he said, flash: he might have added crash. He must have had the loudest band in the business: his five-man trumpet section typically sounded as if they were blowing their brains out. His rhythm sections varied greatly—for half of these recordings, he had a fine bassist in Eddie Safranski and a great drummer in Shelly Manne, but the two were frequently weighed down by Kenton’s chunky piano. He liked to be progres-
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Christy “does not sound entirely at ease,” that she is “tentative,” uses “excessive vibrato,” and that her voice was neither deep nor plaintive enough for this ballad. She would sing the song better in the future, he concludes. Yet he calls the recording “a perfect artistic achievement,” the “definitive version” of this often-recorded song. A cooler head, or a more consistent critic, might be less confusing.

The sound varies from date to date; Kenton himself was interested in the way the band sounded on record, and made frequent suggestions. The commercial recordings are generally of a high quality for the ‘40s. Balance was always a problem with a band of this power, but it was generally handled well here: we hear Safranski’s bass as a near-equal partner to the trumpet section that seems to mock him. There is more variation in the sound of the transcriptions—the session of October 22, 1947 in Hollywood was particularly transparent, especially on the LPs, which I, as usual, prefer slightly to the sound of the CDs.

This collection comes to a natural ending: In 1948, exhausted by his efforts to keep the band alive and evidently in the throes of a personal breakdown, Kenton disbanded the group. Many of his best ‘50s recordings have already been collected by Mosaic as The Complete Capitol Recordings of the Holman and Russo Charts. —Michael Ullman

JIMMY WITHERSPOON/ROBBEN FORD: Ain’t Nothin’ New About the Blues
AIM 050 (CD) only. Mike Vernon, prod.; Chris Houston, eng. TT: 67:12

JIMMY WITHERSPOON: Live at the Mint

Imagine discovering a new volume of the Bible, or a differently edited print of Citizen Kane. Now you have some idea of the importance to guitarists of Australia’s AIM records finding and releasing these alternate takes and unreleased cuts from the 1975 live sessions of Spoon and Ford. Originally released on LA records, these first takes featured a twenty-something Robben Ford writing the book on modern blues guitar. Combining smooth tone, fluid playing, youthful fire, and perfect form, the solos on that LP became a textbook for a generation of guitarists (see “Records To Die For,” February ’94, p.85).

These alternate takes reveal that, while some of Ford’s licks were as pre-planned as Spoon’s between-song raps, he was perfectly capable of recombining them into a completely different solo as perfect in its own way as the one originally assembled. Some takes offer glimpses at sketches of solos that were more fully realized on the takes originally chosen. Even on the tunes with no solos, Ford’s rhythm is often more exciting than the noodling leads of other guitarists.

There are no recording credits on this release (those listed are from the Avenue disc), and understandably so. The mixing and pressing are far inferior to the original. Nevertheless, for Ford fans and guitar weenies everywhere (yours truly included), a godsend.

This year’s Live at the Mint offers a different set of revelations. Time and throat cancer have ravaged Spoon’s voice (never a truly great instrument), but have not diminished his presence, personality, or delivery. Compromising almost entirely slow blues, LATM nevertheless offers much of the excitement of its 20-year-old predecessor as Robben Ford once again writes the book. This time it’s an advanced course in time, dynamics, and solo construction.

Having returned to the blues from his fusion excursions, Ford comes back with tougher tone, more varied technique, and more licks. Enough licks, in fact, that he plays two practically identical tunes back to back (“Nobody’s Business If I Do” and “Trouble in Mind”) and still maintains interest and excitement.

The sound is excellent, warm and present with just enough room. The CD format allows a greater dynamic range that gives the radical volume shifts of the slow blues style full rein. Add to this Ford’s crack band, guest Russell Ferrante, the poignancy of an older Spoon doing “Goin’ Down Slow” and “Past Forty Blues,” and you have a record that is a must not only for guitarists but for blues lovers of all persuasions. —Michael Ross

POPULAR

JOAN BAEZ: Ring Them Bells
Guidian 7243 8 (CD), Mark Spencer, Mitch Makowansky, prod.; John Harris, eng. TT: 64:28

JUDY COLLINS: Shameless
Mesa 2-92584 (CD), Judy Collins, prod.; Alan Silverman, eng. (Gotta Be 1DDD) TT: 61:13

I’m not sure I’m the right guy to review these new CDs by two certified Folk Goddesses of the Sixties. Just hearing these voices sets up a warm glow of nostalgia (c’mon, give me another word for

Stan Kenton loved flash—and crash.
it) that renders critical judgment difficult. Nevertheless, I will try.

Judy Collins's new disc is an accompaniment to her novel of the same title, which is perhaps best described in German: es lässt sich nicht lesen (lit: it does not allow itself to be read). Fortunately, the CD is not so bad. Collins is in better voice than on some of her '80s releases, and her songwriting is no worse than that of many a successful pop artist. The sound she is given, however, is positively wretched—thin, brittle, and hideously over-processed. Still, there are a couple of nice tunes: “Wheel Rolling” is a decent New Age look at Joseph Campbell, and “Let’s Pretend” is a nice “make believe you love me one more time” song. “Song for Sarajevo,” although it shares a certain sameness of sound with other pieces on Shameless (and previous Collins ditties), is still a moving tribute to courage.

Joan Baez’s Ring Them Bells is another case; a genuine breakthrough. Lest I be accused of gushing, a sin unacceptable in jaded, cynical music reviewers, I will air my two gripes with the disc first. On Eric Bogle’s “And the Band Played Waltzing Matilda,” Baez sings “Soola Bay” when the real name is “Souvla,” and she alters the last verse, not for the better. (Otherwise, she does a great job on this oft-recorded protestor.) Also, all or most of the acoustic guitars on this disc — recorded live at the Bottom Line, itself a Dixie survivor — are miked with those awful pickups that go under the bridge or inside the body? Can’t anybody hear how horrible these things sound? Everything, including Joanie’s vintage 00-41 Martin, gets homogenized into Generic Guitar — and this on a CD with otherwise-excellent sound!

This said, Bells is a wonderful performance. Baez is joined by a number of the new generation, including Mary Chapin Carpenter, the Indigo Persons, Dar Williams, and Kate and Anna McGarrigle, along with fellow geezerettes Janis Ian and Baez’s sister, Mimi Farina. JB seems to draw tremendous energy from this collaboration — a real partnership, not some tired tribute-paying — and virtually everything she does turns to gold.

This disc contains everything from traditional songs first performed by Joanie in the early Sixties (“Flora the Lily of the West,” “Willie Moore”) to Dylan (“Don’t Think Twice” in a gorgeous version with the Indigos), and including Dar Williams’s tribute to Baez herself (“You’re Aging Well”) — and so by God she is. Baez even gets to exercise her penchant for Spanish song with cowboy angel Tish Hinojosa on “Pajarillo Barrangueso.” She duets marvelously with Chapin on “Diamonds and Rust” (buzz off, it’s a great tune), and with Mimi on Richard Farina’s “Swallow Song.” Just about everything works, and Baez herself sounds damn good for 54. As I said, except for those Barcus-Berry things, this is a very well-recorded folk disc. Baez’s band sounds great, and percussion is natural and nicely placed on the soundstage. Recommended, even for young nonfogeys.

— Les Berkley

THE BOO RADLEYS: Wake Up!

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Though they’re inexplicably named after a character from Harper Lee’s To Kill A Mockingbird, all the boys in this band are weddy, weddy British. Indeed, the Radleys are the latest (and, according to some, the currently greatest) additions to the Liverpoolan musical tradition. Best of all, this third domestic helping of Boo is tuneful and attractive, with not a single half-baked retreat among its tracks.

Like their more celebrated, mop-topped stylistic forebears, the BRs work the crisply crafted studio-pop side of the street, and do it with grace and elan. They can mix’m match with the best, pitting catchy, hummable melodies against contrasting B-sections, hooky choruses, and dreamy instrumental interludes that come tumbling out of nowhere. Patched-together angelic choirs sing soaring counterpoint over the whoosh of phoned vocals, while chief Radley Martin Carr’s guitar parts literally run backward into clever turnaround.

Self-produced with a fine ear for the telling psychedelic detail, Wake Up! is a headphone-listener’s feast, sure to give a stereophonic jolt even if it is monaural. You can even view the whole thing, if you’re so inclined, as a labyrinthine, album-length response to the alarm clock that opens the midsection of “A Day in the Life.” Our protagonist (who we take to be Carr, though Sice does the singing) comes in after an all-nighter and wakes up a lover of indeterminate gender (lots of androgynous and gender-bending here). After several soul-searching songs, however, we’re back in the sack as the snooze alarm goes off and the lyrics tell us to “Get out of bed, don’t forget what it was you said.” From here, we race alongside each gorgeously multifaceted surface, anxious to unravel the riddle—who’s rooing whom, and how well?—and arrive, finally, at the penultimate “Twinside,” which declares, “I can feel it, there’s two of me inside.”

So, is the whole thing a thoroughly modern and elaborate masturbatory joke sprung from Mary Wells’s Smokey Robinson-penned “Two Lovers”? Maybe, though with tunes this opulent and engaging, who really cares? Wank away, Martin Carr, cos we luv The Boo Radleys.

—David Prince

Dave Matthews Band: Crash
RCA 66904-2 (CD). Steve Lillywhite, prod.; mix: John Siket, eng; Tom Lord-Alge, mix. TT: 56:54

Sophomore jinx? Not the new one, Crash, from now-bona-fide rock stars the Dave Matthews Band, who have now been blessed with a bona fide Big Name producer, Steve Lillywhite, a Web site that accommodates sexy-fast Internet browsers and simple stupid ones alike (http://www.dmband.com), and a CD merchandising insert featuring 10-hand-emblazoned T-shirts, thermal Henleys, and a special offer on a computer mouse pad. Crash, of course, isn’t really DMB’s second album, it’s their second on RCA. The first, Under the Table and Dreaming was no mean feat, and their very first, the self-released Remember Two Things, is better still.

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Regardless, all three outings— basically the ruminations of a twenty-something white-guy Charlottesville, Virginia vocalist (Dave) about life and love and the fleeting nature of our time on earth, and everything coupled with the riffs of four of the funkiest elder statesmen on the southern jazz and R&B scene—comes across like a combination of Sting, or maybe Michael Stipe, backed by Hootie and the Blowfish. “I just set out to assemble my dream group of musicians [drummer Carter Beauford, bass/tac pianoman Stefan Lessard, violinist Boyd Tinsley, and saxophonist Leroi Moore],” says Matthews, humbly. “People I’d been listening to for years. Much to my surprise, they all agreed to join.”

Therein, perhaps, lies a clue to the band’s astonishing streak straight to the top of the college circuit. The very opposite thing from “alternative,” these guys somehow manage to infuse “typical guy issues” like one-night stands (“Drive In Drive Out”), hedonism (“Too Much”), and philosophy (“Tripping Billies”) with a crazed sort of earnest good will and wholesomeness, an aura of best-buddy, best-guy-friend (if you’re a girl), best-brother-in-the-world. Sure, they like girls to hike up their skirts (“Crash”), but they also seem genuine about saving the world (“Cry Freedom”). Fortunately, they’re a long way from pious (“Proudest Monkey”).

Sometimes it’s hard to nail why you like something, and the closest I can come here is that the genre-blending of the styles (folk, jazz, world-beat, rock, reggae), the very textual feeling of the music, studded with occasional words and phrases that make their way through to the top of the line like champagne bubbles, and the great good nature of these guys just plain appeals. There’s a thin line between smart and stupid, as Spinal Tap once observed, and the difference between product and the Real Thing is an evening well-spent with DMB. It’s not art or anything, it’s just music, but it gives you reason to live, or at least not throw your radio away right now. Tim Reynolds is guest guitarist.

— Beth Jacques

PASSENGERS: Original Soundtracks 1

Ostensibly a collection of music from soundtracks (some real, some not-so), this is essentially an Eno album with a few U2
songs mixed in. But there are two compelling reasons to buy this album: the poignant, moving "Miss Sarajevo" and the barbed, pointedly witty "Elvis Ate America." Both songs are superb collaborative efforts largely attributable to Bonio, Howie B, and, believe it or not, the greatly over-hyped but nonetheless genuinely great tenor, Luciano Pavarotti.

"Miss Sarajevo" is based on a real event. Amid the heaviest carnage of the Bosnian war, where innocents civilians were prime targets, the residents of Sarajevo conducted a beauty pageant. This attempt at normalization was both heartbreaking and surreal. Bonio’s sad, moody song drives home the tragic dichotomy with power and grace: "Is there a time to run for cover? A time for kiss and tell? Is there a time for different colors? Different names you find it hard to spell? Is there a time to run to Mecca? Is there a time to be a beauty queen?" At the end of the second verse, Pavarotti bursts in with a surging, soaring, powerful solo, sung in Italian in the style of the most passionate Puccini aria. The effect is mesmerizing, given additional weight by the nonfictional impact of the words. It’s an intensely moving interlude, and one of the genuinely exquisite moments in popular music of recent years. Alternately, a live, rearranged version can be heard on the insubstantial "concept" album Pavarotti & Friends: Together for the Children of Bosnia (London 452 100-2).

On a completely different level but no less effective, "Elvis Ate America" is a wickedly precise skewering of the American pop icon. Sparing Presley nothing, Bonio and Howie B. send up the late singer with relish: "Elvis, white trash, / Elvis, the Memphis flash, / Elvis, didn’t smoke hash, / Woulda been sissy without Johnny Cash." While there’s an element of humor in the song, there’s also a distinct sense of outrage over the often absurd dimensions of Presleyology, and particularly his questionable racial attitudes. It’s especially piercing when Bonio sings, "Elvis, stand necromance, / Elvis, fans sycophants, / Elvis, the Public Enemy, / Don’t mean shit to Chuck D. / Elvis, ain’t gonna rot, / Elvis, in a Memphis plot, / Elvis, didn’t hear the shot, / Dr. King died just across the lot.

The LP is less effective at conveying Eno’s keyboard-rich nix but provides a bit more authority on the vocals. Unfortunately, Island has crammed the whole thing onto one LP, forcing the record to be cut low and sacrificing dynamics. Opt for the CD's greater dynamic range and microscopic detail.

Eno and U2 fans don’t need to be told to get this album. Everyone else should pick it up for the aforementioned songs. They’re true gems that should be heard by all pop music listeners.

— Carl Baugher

PRINCE: Chaos and Disorder

As the Wizard of Oz said, "Pay no attention to the man behind the curtain." Likewise, ignore what Prince Rogers Nelson (TAFFAP, Symbol Man, whatever) says on the back of this CD booklet (ie, "Originally intended 4 private use only, this compilation serves as the last original material recorded by Prince 4 Warner Bros. Records."). Perhaps Prince is seeking to reduce expectations, or he’s just playing games with the label he loves to hate, and with the record-buying public.

In any case, there’s nothing casual about this album, nor does it have the feel of private demos or studio leftovers. Chaos and Disorder is a tightly programmed, carefully constructed conceptual album obviously intended to extend and expand the social commentary of Sign O’ The Times. Whether it’s Prince’s last album for his current record company is quite irrelevant — it’s the songs that matter. And this collection of strong, rock-oriented compositions is as good as (and in many ways better than) anything Prince has released since the aforementioned Sign.

The title track is a warning shot fired across American popular music’s often vacuous horizon. Prince’s observation in the song that chaos and disorder rule the day can hardly be disputed. To make the point emphatic, he wraps the message in the kind of rock/funk/hip-hop hybrid we’ve come to expect from the diminutive genius. On a similar thematic wavelength, "Right the Wrong" takes on a familiar nemesis: injustice.

One of the most compelling tunes, however, is the manifesto "I Rock, Therefore I Am." Staking his claim to both vocation and philosophical rationale, Prince has seldom been more literal, pointed, or on target: "I rock, therefore I am / I don’t need you to tell me I’m in the band / I rock, therefore I am / Right or wrong, I sing my song the best I can." Elsewhere he slams the wannabe’s with particular vehemence, especially those who dare to compare themselves to the Kid: "They can put you on the field / But you won’t get in the game / How many suckers knew that / When they came?"

In a collection of consistently strong songs, other standout include the beautifully arranged and tenderly performed ballad, "Into the Light," which furthers Prince’s spiritual philosophy, and the urgent funk groove of "Dig U Better Dead." The latter could be seen as a sly, modern commentary on a messiah (Christ or otherwise) whose sacrifice is not only repeatedly misunderstood but often made for the wrong reasons. In any case, the lyrics are thought-provoking, the groove relentless.

Sonics are very good — tight, subterranean bass and clean, revealing detail. It’s somewhat warmer than garden-variety digital, too. Some of the tracks were recorded in Florida as well as at Prince’s usual Paisley Park, Minnesota studio. While I haven’t run across any yet, I’m sure import vinyl will be available, if only for a limited time. And considering the brevity of the album’s total timing, it should fit nicely on a single LP.

Considering that Prince doesn’t seem to know how to make a truly poor album, it’s no surprise that this one is at least good. But Chaos and Disorder is way better than good — it easily ranks in the best half-dozen of PRN’s career. Given this guy’s track record, that’s saying something.

— Carl Baugher
More than twenty reviews (and ten mentions for best of show) have established the virtues of Celeste products. For over seventeen years Celeste has been a name synonymous with quality and value.

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Ken Zelin
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has earned his place in the loyal family of dedicated McIntosh Salespersons. It is to further recognize House of Music's continuous pursuit in promoting the magic of the McIntosh sound - "The sound of Music itself".
Audioprism

Editor:
Thanks, Stereophile, for providing this forum and the opportunity to comment on the AudioPrism Debut amplifier review. Regarding CD STOPLIGHT® and the new CD BLACKLIGHT™ sonic-enhancement products, please see our manufacturer's comments in Stereophile, July 1996, Vol.19 No.7, page 229.

Thanks Sam, for getting the word out about the virtues of vacuum-tube technology. Readers from all generations are listening. We know of at least one Debut owner attending high school!

Until now, vacuum-tube-based products have been the burden of those folks willing to maintain and bias their tubes in an effort to wring out a bit more from their audio systems. There should not be any mystery to vacuum-tube technology, and you should not have to get an electrical engineering degree to maintain your tube equipment.

The Debut has several design features to ensure peak performance and years of trouble-free service. Chief among these is good power-supply regulation. The reason the Debut's bias current is preset to 45mA and "didn't budge, whatever the AC line voltage" is no accident. All of the power supplies in the Debut, from the input to output stage, are fully regulated, and this maintains a level of performance previously unavailable in a vacuum-tube amplifier. Precision voltage regulation is not just a convenience—it's sonically important, too.

The Debut's ability to switch from triode to partial triode (ultralinear) affords flexibility. We know of Debut owners who have installed two amplifiers in monoblock fashion to vertically bi-amplify their speakers, with one channel of each amplifier in ultralinear to drive the woofer/midrange and the other in triode to drive the tweeter section (that's why we put the extra output on our Matissa pre-amp). Although not stated in the review, the Debut is conservatively rated at 35Wpc and is capable of delivering at least 45-50W at visible clipping. With this level of output power, we recommend that you use a speaker system with a sensitivity of 85dB or higher. Triode mode will operate best with speakers of 89dB sensitivity or greater. Regardless of which mode of operation you use, we recommend experimenting with the speaker impedance taps to maximize the performance of the amplifier.

We chose the Svetana EL-34 over other tube types because of their reliability, consistent quality, and well-balanced sonic attributes. We concur that the Genelex KT-77, Mollard, or Telefunken EL-34 are desirable (although they may be difficult to find) as excellent replacements for the Svetanas. (We do not encourage the use of non-EL tube types since the bias adjustments may not provide the correct voltage.)

We believe vacuum tubes (and a little modern technology!) bring the fun and magic back to reproduced music. Audioprism is proud to be part of this sonic renaissance.

VICTOR TISCARENO,
Director of Engineering
BYRON COLLERT, VP of Marketing
AudioPrism, Inc.

CONRAD-JOHNSON MV-55

Editor:
Our thanks to Sam Tellig for his write-up of the MV-55. One of Sam's great strengths as a writer is his ability to convey his genuine enthusiasm for this hobby, and for the products that spark that enthusiasm. In this article, he very nicely captures the essence of this little amplifier, providing a clear indication of both its strengths and limitations. While the experience he reports is with two specific speakers, I can report that his descriptions conform to our experience with a number of other speaker models as well.

I would like to comment on the engineering considerations that led to a couple of design decisions on this amplifier that Sam mentions. First, like all of the tube amplifiers in our current line, the MV-55 is delivered set to match a specific load impedance (4 ohms is the standard, though the amplifier can be ordered connected for 2, 4, 8, and 16 ohm loads), rather than the more common practice of offering a series of impedance connections on the back panel. The more common, and admittedly more convenient, approach entails the use of only half of the output transformer's secondary windings in the 4 ohm connection (in our opinion, the preferred connection for the majority of speaker systems) and implies a suboptimal feedback ratio on all but one connection. Instead, we chose to optimize the performance of the transformer, and to optimize the feedback ratio for each setting. Sam also notes that the amplifier cannot be simply switched from ultralinear to triode operation. We have elected to require that this change be hard-wired because we do not think it is a good idea to have a switch in the signal path that is operating at roughly 500V DC. It would not take many inadvertent operations of this switch with the amp turned on to seriously degrade the integrity of the switch contacts.

LEW JOHNSON
Conrad-Johnson Design, Inc.

DYNACO stereo 160

Editor:
On behalf of everyone at Dynaco, I would like to thank Sam Tellig for his review of our Stereo 160 amplifier. That he found so much to admire in the 160's sonics, build quality, features, and value is truly gratifying.

In designing the Stereo 160, we sought to produce an amp that combined the grainless beauty of tubes with the high power and frequency extension of transistors, and still be accessible to budget-conscious audiophiles. Given its wide, linear bandwidth, and impressive power delivery, the 6550 output tube was a natural choice for this application. Quite frankly, we are not surprised at Mr. Tellig's observations of the Stereo 160 vis-à-vis the Conrad-Johnson MV-55. Although this fact was not mentioned in the review, the small C-J uses EL-34 output tubes, which offer more midrange sweetness than 6550s, albeit with reduced power and lineararity. But is the Stereo 160 "sharpe or is the MV-55 "soft"? This is where our paths diverge. Had we known that Sam intended to conduct a comparative review, we would have sent our EL-34 based Stereo 80, which, at $1699 ($1799 in chrome) offers the same parts and construction quality as the Stereo 160, the

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same useful features — switchable triode/pentode operation, adjustable input sensitivity, front-panel tube biasing with individual meters — and the same basic circuit topology, but with the more traditional tube sound that the reviewer obviously prefers.

Constructive comments — whether from the press or the audiophile community — are a powerful engine of change. Our engineers are continually refining Dynaco products, and will explore both the causes and cures of Mr. Tellig’s criticism. If any substantive design modifications are made, Stereophile will be the forum through which these changes are made public. And of course, we hope we can persuade him to take another listen.

Charles I. Sassoon
President, Dynaco

WADIA 27 AND 7
Editor:
We at Wadia thank all of you at Stereophile for your efforts in reviewing our Wadia 27 and 7. We especially thank Bob Harley for his time and consideration. We look forward to offering you the opportunity to review upgraded versions of other Wadia products which will benefit from the technology developed for the Wadia 27.

Steve Jeffery
CEO, Wadia Digital

VTL WOTAN
Editor:
Back at the January ’96 WCES, Bea and I were in our rather modest room amidst Lou Reed’s Magic and Los and my nonstop explanation of the VTL story to anyone whose attention I could hold, and in walked Jonathan and Kathleen Scull. Perhaps I didn’t quite know what I was getting into when I suggested boldly “the luck with the limitations of single-ended amplifiers — let me demonstrate what we at VTL mean when we say ‘control a speaker in a vicelike grip.’ How about 2500 watts of pure tube power?” (This bravado came after hearing all year from the speaker designer about how many replacement drivers he was bringing to replace the ones that would be launched across the room with all that power, and then seeing his eyes bug out when he heard, probably for the first time, what his speakers were truly capable of.)

I watched Jonathan and Kathleen’s expressions as they listened to the “Magician’s” cut. When Jonathan suggested that he and Kathleen give the Wotans an extended listen in their own system I was elated, and at the same time I was really apprehensive! In many ways VTL under my direction is still a new kid on the block. How would we overcome anything that might go wrong? Could we survive a negative review from such a widely read writer in such an influential magazine? Would the Wotans be able to show what they had given me for two years when I worked with them in my own reference system, or would I be sent home on my shield?

That April I installed the Wotans at Chez-10, among all the rack and shelves holding the reference equipment, everything placed just so to extract the most out of the system components, clearly after hours and hours of experimentation. I, too, was awed at the reach-out-and-touch musical envelope that one experiences from the famous Ribbon Chair, and I was doubly pleased to know that my products were helping to work this magic.

During the time that I had the opportunity of working with Jonathan and Kathleen, side-by-side sometimes, and as a close observer at other times, the single most unforgettable impression that I gained was of their incredible attention to detail and total dedication to their work. I knew that whatever Jonathan wrote would be fair, and totally honest — the Scull Review team clearly leaves no stone unturned in their search for the ultimate musical experience.

When the review came in it was my turn to say “WOW!” All of Jonathan and Kathleen’s considerable reviewing and listening expertise and experiences have elicited resounding approval for our statement amplifier. Every aspect of the musicality of the Wotans that Jonathan and Kathleen examined resulted in glowing prose from them. High praise indeed.

Our Stereophile readers may have to travel to hear the Wotans, as we will select only 10 of the best dealers across the US to showcase them, but I guarantee that with our support those chosen dealers will be absolutely capable of delivering complete customer satisfaction. At VTL, we are committed to delivering products of the best value and the highest quality.

My acknowledgments and sincere thanks go to the Sculls for having the perception, sensitivity, and perseverance to give our statement product a thorough examination, and for presenting such a vivid picture of their listening experiences. You are masters who stay true to your trade, willingly opening up your humble home to the many others who come there seeking fame and fortune. Your hat may be off to me Jonathan, but this head is bowed to your total dedication to your craft.

Special mention must go to TJF for harnessing the beasts, JA for providing the forum for writers to show their best, and loyal VTL customer Erneit Pioro for having the conviction of his crazily brilliant ideas. Also, a nod to one of the elders of our tribal: Jean-Paul Caffi, for creating the preamps that clearly bested the other contenders to lead the team at Chez 10 and give of their best to the Wotans.

To the extent that it might be my place to do so, I dedicate this review to the other members of the VTL design and manufacturing teams who brought Wotan
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Stereophile, October 1996
The Final Word

The High End was a modern version of gnosticism. The Gnostics were an early Christian sect that believed that their interpretation of Christ’s life and teachings was so special it couldn’t be revealed to others. The religious analogy is appropriate. High-end reviewers in those days assumed almost priestly qualities, with readers — their faithful acolytes — doting on each word that fell from the mystic’s lip or pen. Sure, the business was tiny — but at least it was all ours.

Given the origins of High End, this was most ironic. Sure, there were companies like Weathers and SME, destined to remain small. But the companies that got enthusiast audio going — names like AR, Scott, Marantz, McIntosh, KLH, Advent, Klipsch — all wanted to reach a lot of people. However, as those brands increasingly aligned themselves with the mass market, or were sold to mass merchants, the true enthusiasts found themselves behind the scenes.

I’d love to take credit for having single-handedly changed that setup, but the real driving force was a new group of manufacturers who had come to the fore as the industry’s leaders. I’d name them for you here, but I’d be sure to leave some out unless I made the list boringly long. You can figure it out for yourself just by looking in “Recommended Components” for the companies mentioned over and over again.

These guys and gals weren’t happy just looking at each other at one CES after another — they were switching the religion from gnosticism to evangelism. They knew they had a great thing, and, much like their legendary predecessors (now mass merchants), were determined that as many people as possible would find out about it and revel in it.

Though Stereophile didn’t lead this revolution, I like to think we played an important part in reporting on its progress to an ever-increasing group of readers. Further, we kept expanding “Recommended Components” to recognize the dramatically increasing amount of great equipment.

But it’s still crucial to remember that “Recommended Components” is wrong. That’s right — WRONG. It way understates the number of excellent products out there. Each time another semi-annual RC issue rolls around, we have to eliminate numerous products because they’ve been updated, or because we haven’t heard them in over three years. Did those upgrades make the products worse? Almost certainly not, but we still have to re-audition before we recommend. Did those three-years-with-no-audition products somehow deteriorate due to our lack of attention? Absolutely not: They’re just as good as ever, but a bit too far away in our memories to relate to current standards.

And that’s not to mention the biggest omission of all in RC: all the products we’ve never reviewed. Yes, we do recommend 145 different loudspeakers, but that number isn’t nearly as big as the number that deserve your consideration. Those 100 models are the ones we’ve been able to audition, and they’re the ones we like, but the reality of the High End is that there’s a whole universe of great products to choose from. You may find products that meet your needs much better than anything we recommend, and it’s incumbent upon you to search for those products as hard as you can.

We really do like the products we recommend better than the ones we review that don’t make it into “Recommended Components.” The reality, though, is that most products we review get recommended. They deserve it, and so would many other products — if we could do even more reviewing.

Fortunately, the High End has gone from one tiny room with a few great systems in it and a few people able to enjoy well-reproduced music, to a much bigger room and a much larger group of people.

I love the change, but I have to admit that I yearn for the time — 10 years from now — when we’ll all look back at the mid-’90s and marvel at how small the high-end universe was. This is an industry whose true value to the world is at least an order of magnitude greater than what has yet been recognized. Let’s go tell that world!

— Larry Archibald
Now that "Performance Video" is a hot topic, more people know that every step from the source to the screen is important, and that many of those steps are wires. But, with many logical sounding stories of engineering competence, pretty graphs and even prettier cables and plugs...how can you know whose cables are worth using? The answer has always been to look for yourself...this time "look" really means look!

**Looking Backward or Forward?**

In 1976 Polk Audio© woke up the US audio world with a most unusual speaker cable. Since then, many cable suppliers have introduced innovative and often effective ways to reduce the various types of cable-induced distortion. There have been some bad ideas and some just plain "make it big and they will buy" products...but, there has also been real progress. Unfortunately, the video arena includes companies touting how their cables solve problems that had been solved by others decades ago. After all, a lot of very competent people have been supplying the world of high-frequency communication for a very long time!

These backward-looking companies claim that "characteristic impedance" is important. This is awfully safe ground...everyone has agreed about this since before most of us were born. CATV cable at the hardware store gets this part right, there's no reason to pay a premium for old news. However, there are many other significant, and often more important variables.

It is ironic that some of the same designers who properly argue that "while measurements are important, they don't tell the whole story," are now retrofitting to the test bench instead of working to provide new solutions.

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**VideoQuest Video Two Pushes the Envelope**

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- Special Silver Plated Long Grain Copper reduces distortion and improves signal flow...which in the world of audio would cause a bright and irritating sound. However, in the high frequency domain, SP-LGC provides a dramatic and cost-effective improvement over even the highest grades of pure copper.

**Etc., Etc., Etc.**

There are many more technical details and underlying theories as to how to reduce distortion in video cables. For more of this information, please ask for our Cable Design brochure...or better yet, go "see" the cables for yourself.

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