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I t's a beautiful drive, considering you're on a freeway. You take I-25 north out of Albuquerque, Sandia Peak to your right and the Jemez Caldera and Mount Taylor dimly visible in the distance to your left. As you broach La Bajada hill south of Santa Fe, the Sangre de Cristo range—the "Blood of Christ Mountains" described by Paul Simon in "Hearts & Bones"—appears before your windshield. You take the Old Pecos Trail exit to the City Different, but before you reach town you bear to the left, then take another left opposite St. Vincent Hospital. There, in a cul-de-sac, you peer up at the street sign: "STEREOPHILE WAY," it says. "Not just a street, but a philosophy," I kidded Larry Archibald when the city told him that he could name the road where the magazine's headquarters would one day be situated.

Of course, our new office is still to be built, and the vacant Stereophile Way is acquiring a local reputation as a rendezvous for lovesick teenagers. But, as do all publications, Stereophile does have a "way"—a corporate ethos, if you will— that permeates everything we do. We believe that a good magazine is written and edited to fulfill the needs of those who pay money every month to read our opinions; this magazine was founded in 1962 by J. Gordon Holt in the belief that its readers would be best served by being told how audio components actually sound. And that simple statement carries with it a responsibility for reporting the truth about that sound—not what someone thinks a component should sound like, or what a manufacturer would like us to say about how his or her component sounds.

Working with our team of writers to achieve this goal is a major part of Equipment Reports Editor Wes Phillips' role at the magazine. Wes demands from our writers that their reviews accurately reflect their auditioning so that readers, listening to the same components under the same conditions, will share the same experience. Hunter S. Thompson once wrote, "If you work in either journalism or politics...you will be flogged for being right and flogged for being wrong." A reviewer for this magazine is obliged to be right if he is not to be flogged. Sherlock Holmes creator Sir Arthur Conan Doyle wrote in 1925 that "The little things are infinitely the most important." And Wes ensures that Stereophile's reviewers make available to readers all the little things in their reviews—the details of equipment and recordings used in their evaluations—so that their prejudices, tastes, methodologies, and biases are laid out for inspection. Stereophile doesn't hand down almighty judgments to be taken as received truth. Instead, our reviews are intended to be used by readers in conjunction with their own tastes and auditioning of components to reach buying decisions. Our conclusions about components may be informed opinion—even very well-informed opinion—but they are still opinion: If you adopt a reviewer's value judgment as your own without ever questioning whether it truly fits your needs or matches what you think, it's unlikely that you'll get a sound from your system that will be satisfying in the long term.

This issue features the 58th "Recommended Components" since Stereophile was founded; it is also the 24th that I have been responsible for compiling. The listing—sometimes copied, never equaled—is intended to be the central depository of the collective wisdom of the magazine's team of equipment reviewers. It's the only place where the experiences of all of those reviewers are taken into account when determining the ultimate value of a component, whether it be the heights of Class A or the value-for-money Classes D and E. And with "Recommended Components," the rubber really hits the freeway. Despite our best intentions and cautions to the contrary, some readers drink by the label, substituting our thoughts and opinions for their own. They use the "Recommended Components" listing as a buying guide, selecting components purely on the basis of their Class rankings. And they deride the lower classes as being somehow unfit to be associated with true blueblooded audiophiles.

In previous editorials I've thundered that readers were not to behave like this, that they were obliged to listen for themselves. To no avail. In any case, who gave me the power to mandate behavior? So this time around, I'll let you in on a secret—the "Recommended Components" Class rankings in themselves are meaningless! In fact, there is little correlation between the Class in which a component is recommended and the actual musical worth of a system in which that component might be used. I've heard systems featuring Class A components that have driven me screaming from the room. I've heard inexpensive systems with Class C and D components that I could happily live with. (The combination of the Rega Planet CD player and a Creek integrated amplifier driving B&W DM302 speakers comes to mind — true high-end sound for less than $2000, including stands and cables!)

The Class rankings are about potential for sound quality. Think about it—what sound does a Class A-rated amplifier make on its own? Maybe a small hum. It needs to be fed a signal; it needs to drive loudspeakers. And in its interactions with the other components in the system—described in the original reviews—is where the musical magic is generated.

Take two of the speakers I've reviewed for Stereophile: the B&W John Bowers Silver Signature and the Thiel CS6. Both are in "Recommended Components," but while the B&W is in "Class A—Limited LF," the Thiel is in "Class B." Not because I don't like the full-range Thiel as much the B&W, but because my review noted a veiled quality in its midrange, whereas the B&W just doesn't have any low bass. A loss of absolute quantity doesn't keep the Silver Sigge from Class A; a slight loss in absolute quality does keep the CS6 out. But the reality is that this differentiation doesn't matter a whit: I could live with either speaker because, in the right system context, each can make the Sangre de Cristo mountains in Paul Simon's "Hearts & Bones" glow the shade of red you see only in New Mexico sunsets. And that's what high-end audio is all about. Not "Recommended Components."
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Stereophile's team of writers present the latest innovations from January's Consumer Electronics Show held each year in Las Vegas.

Regarding Henry
Limited only by the music inside his head, Henry Threadgill believes borders are meant to be broken. An interview by Dan Ouellette.

Recommended Components
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Splintering the Classics
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Stereophile, April 1998
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Dr. Gizmo on CES
Editor:
I am finishing up my CES report for Positive Feedback magazine and I always check my facts before I publish ... this is the except devoted to the Stereophile party in Las Vegas:

Best Improvement in Hors D’Oeuvres: The Stereophile Party ... The rumor that you heard is wrong. Men with sensitive ears who are connoisseurs of music can also be gourmets. The 1997 Stereophile party hors d’oeuvres reminded me of an Elks bowling party and disappointed all. Larry Archibald learned his lesson and this year excelled by hiring the famous French chef Paul Bocuse, who created a gourmet spread that impressed all. Ten-gallon buckets of real Beluga caviar were everywhere. Waiters pulled through the crowd ice-filled wagons of gigantic shrimp and lobster tails, which you could dip in many different sauces. Not only could you sample a wide variety of vintage pre-1950 French champagne, but a bevy of professional grape crushers from Bordeaux were dancing on grapes, allowing us all to taste the most authentic musical juice.

There were endless platters of garlic-roasted Red Breasted Brazilian hummingbirds’ breasts stuffed with dilled Wisconsin Woodpecker tongue; these, though just a tad salty, were my favorite. There was one large platter of chicken-fried Rocky Mountain Oysters that Westrex’s Charles Whitener and Ultimate Audio’s Myles Astor almost got into a fistfight over. This proves that our industry is growing up — last year there were platters of limp slices of sweating Velveeta.

But the high point of the party was when John Atkinson, who has music in his soul, put on a gold-sequined jumpsuit, got up on a piano, and started to sing while Stereophile’s Home Boy Band — rapper Jonathan Scull, Sam Tellig, Steven Stone, and Barry Willis — laid down a heavy vibe.

It was a great party and a great show. I hope next year Larry creates a High-End Audio Disco so that, instead of just standing around and talking, we can all get really down with our bad — and I mean really bad — funky selves. And remember: At Positive Feedback, we not only know how it sounds, but how it tastes.

Dr. Gizmo, aka Harvey Rosenberg, must have gone to a CES party in an alternate universe. You can find Stereophile’s report from CES elsewhere in this issue, while the urban doctor’s report can be located via www.positivefeedback.com. Now, where did I put that dry-cleaner’s ticket for my jumpsuit ... ? —JA

Honored!
Editor:
As a Stereophile subscriber and hard-working recording engineer, I was honored to have a record I worked on, Julius Hemphill’s Fat Man and the Hard Blues, recommended by Chip Stern as a “Record To Die For” in February (p.95). But when I looked for my name listed as engineer, I saw the people who worked on the Jol album listed below. I hope I have better luck next time.

Jon Rosenberg
Brooklyn, NY

Our apologies Mr. Rosenberg. The advent of desk-top publishing makes it easier for magazines to commit new and unusual errors.

—JA

An arrogant act?
Editor:
Every month when Stereophile arrives, I have to ask myself why I continue to subscribe to a magazine that must rank as among the most arrogant on the planet. But subscribe I do. And I continue to read, with monthly renewed shock, about phono cartridges that would put me out five months’ salary, power amplifiers that weigh more than my car, and “home” loudspeakers for which the New Orleans Superdome would prove to be too small a listening room. Additionally, your critics’ fondness for jazz is irksome. Jazz stinks.

Your rag is a monthly ticket to perfect frustration. I suppose I’ll be renewing when the time comes.

Justin F. Maximow
IANJustMax@aol.com

A class act!
Editor:
I am continually impressed with the quality of writing in Stereophile — it is the only magazine I’ve ever read from cover to cover. A class act indeed.

Greg Bendokus
bendokus@postoffice.ptd.net

Opinionated?
Editor:
The reason I love to read Stereophile is because you are opinionated, opinionated, and opinionated! Keep up the good work and don’t change, because the minute you do, I will have to start calling you Stereo Review.

William E. Davis
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A dog’s opinion
Editor:
My wife has long lamented that, around the middle of every month, life seems to stop until I have adequately studied the new issue of Stereophile. I don’t know if that accusation is true or not, but my dog vomited on my lap sometime during Wes Phillips’ review of the Sennheiser HD 600 in February — and I didn’t notice until the end of Robert Baird’s column, when my wife pointed it out.

Dan Dzuban
dzuban@aol.com

Classical music & alienation
Editor:
I would like to respond to the readers who feel alienated by classical music. Those in recent “Letters” columns who
Experience a higher expression of Power and Precision.

Perfection, some say, is merely the fleeting glimpse of a vague ideal. But to those who listen, it is the absolute expression of deep, accurate and dynamic sound. To them, perfection is the achievement of life like sonic reproduction.

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So, close your eyes and think for a moment about your favorite film or concert performance. Imagine yourself right in the action. Experience the Power and Precision of the sound around you. Then open your eyes to the High Output Series from Acoustic Research.
have questioned classical music's relevance to modern listeners fail to understand that, as the most abstract of art forms, instrumental music is not meant to be personally relevant. Rather, music expresses timeless concepts, ideas, and raw emotions that are shared by all human beings. But it doesn't have to. One can enjoy the form and structure of music that has no earthly relevance whatever. Such music has the power to momentarily make us forget ourselves, to transcend space and time. Many people enjoy classical music for just this reason—because it is not relevant! The point is, great art is never judged according to its relevance.

Some have also criticized classical music for the stuffy, formal way in which it is presented. Why should this matter? Concert halls don't have dress codes, so wear what you want! To feel intimidated by what others are wearing is to value their opinions of your appearance more than your own. We go to concerts to listen to music—noting else matters. This is also the reason why we listen in silence, without shouting or moving our bodies during the performance. Exercising self-restraint during a classical music concert allows everyone to concentrate and reflect on the music being played without outside interference. Classical music fans enjoy a camaraderie based on respect. People accustomed to the boisterous atmosphere found at rock concerts might find this strange, but it is an experience well worth having.

I think most people have difficulty accepting classical music because, unlike popular music, it is music without words. It requires you to listen actively, to think, and to imagine. Classical music, like abstract painting, challenges you to find meaning in a work or to enjoy it without looking for any specific meaning at all. Popular music, however, allows no interpretation other than that provided by the words to the song. It's more like poetry set to music, with music taking the secondary role. This makes it instantly accessible but, in the long run, unsatisfying because of the limited range of concepts and feelings such music typically explores. And limited because, in the profit-driven popular music industry, once a successful formula is identified, any variation from that formula entails financial risk. Only performers who appeal to the lowest common denominator receive recording contracts.

This results in a market full of bland, predigested product with little or no artistic value. All popular music, from AC/DC to Garth Brooks, suffers from the same basic limitations imposed by this system. These include an overemphasis of the most common and primal human urges and emotions: sexual love and anger; an incessant beat that induces people to respond to music in the most primitive way (through bodily movement); as counterparts to the pounding drums, loud and electronically distorted instruments; and, to satisfy those with short attention spans, songs that are generally under five minutes in length. There are, of course, exceptions to what I have just written. But in general, popular music contains none of the sublime complexity and beauty found in classical or European art music.

I don't mean to imply that all popular music is worthless. I was a devoted Metallica and Rush fan, and I still occasionally enjoy listening to rock music. But once I discovered the joy of listening to the pure, sweet sound of unamplified and undistorted musical instruments, whether at folk shows or at classical music concerts, there was no turning back.

Mark Zelnika
Middletown, CT

Classical music isn't dying
Editor:
Classical music isn't dying. What's dying is the view of it that was marketed during the 20th century. My God, classical tunes are heard in commercials broadcast during football games.

Deal with a real issue! How about the effect that digital production has on the style of music that is recorded?

Ronald Penndorf
Recollections, Berkeley, CA

High-end audio isn't dying
Editor:
I read Larry Archibald's "The Final Word" in the January issue with great interest. I agree with everything he said. Consumer electronics, and high-end audio in particular, are not dead. They are just in hibernation, waiting for the baby boomers to grow up a little bit. In fact, I predict that we are now on the verge of a major renaissance in high-end consumer electronics.

I am 43 and I have three children, ages 8-13. Before children (BC), I spent every last penny I had, and many pennies that I had yet to earn, on high-end equipment. Many evenings were spent blissfully listening to my virgin vinyl. That came to an abrupt end with the birth of my first child and the death of my expensive moving-coil cartridge. There was no time to work, but...
movement. (Ever been to a truly underground rave party?)

Have you old guys ever taken the time to sit down and actually listen—not just hear, but listen—to a good piece of electronic music? (Bands like Dead Can Dance, Loop Guru, and Orbital come to mind.) There are (sorry to get audiophile) some serious dynamics happening there. The transients can leave you breathless at times, and maybe you might get up off your acoustically acceptable chair (which are usually the most uncomfortable things in the freakin' world) and move your a$$ to the beat a little. Isn’t that what music was meant for, anyway? To move you?

Regarding the people out there who think that rock’n’roll is dead: Get off the bench and onto the playing field, for Christ’s sake. The music may have changed, but so have the times. The music isn’t worse, it’s just different. The lyrics today cover the same spectrum: from everyday minutiae to the trials and tribulations of love and man. Just because a few very uncatchy and altogether had songs get some airplay doesn’t mean that there is not good music out there. Go find it. I mean, how many music enthusiasts do you know who actually own tuners? Don’t take the masses too seriously. There are still some of us out here who are fully self-expressed and are working to be both artists and to change the world for the better. We just show it differently.

We’re creating our own music legacy. Believe it or not, today’s music will be remembered and appreciated for many years to come. Call us X, but get a grip—’cause we’re next.

Michael Mercer
Micer@aol.com

Am I an audiophile?

Editor:

I’m new to Stereophile, but from my first few months of cover-to-cover reading, I must say that I love it.

I’m not sure how Webster’s would define an audiophile. Furthermore, I’m not sure how the staff of Stereophile would contrive a definition. Which leads me to ask myself if I am one. Let me explain.

I’m a 22-year-old college student. I guess I would consider myself more of a record (read: vinyl) collector than an audiophile… whatever that is. My dilemma is that you cater to the very-upper-level, highest-in-the-sky end of audio, which is fine. I have absolutely no problem whatsoever with this. It is one of the factors that brings me back every month. The thing is, I can’t afford the majority of items reviewed or advertised in your magazine. Now, I have always tried to get the most out of my system with such things as speaker placement. My system has only improved since discovering Stereophile by learning about useful little tweaks.

One of the things that I have picked up on is the idea of having the proper gear for your musical tastes. Here is also where I differ from what I assume to be the majority of your readers: I don’t listen to most of the music you discuss. The only area we share (I think) is jazz. My main focus in music is underground or punk—or, to term it properly, hardcore. Now if you immediately thought of the Sex Pistols, you may need to be refreshed on the concept. There is a thriving, youth-based hardcore community that is happening around the world. If you have any desire to obtain these records, they usually need to be ordered directly from the bands. It’s small-time, and that is the way we like it.

The point is that, since it’s small-time, there is little or no money involved, which means no 72-channel mixing
boards in the studio where a given band’s 7” is recorded. Sonically, hardcore records aren’t always the best, though the music just drips with passion and honesty, and the kids always do the best with what they have. I find this whole concept refreshing in a world that has bought millions of Spice Girls CDs. Despite these records’ lack of detailed sonic quality, I as a listener still want to get as much as I can out of them. The thing is, you guys don’t write about this kind of stuff, therefore giving me no reference as to what equipment to think about purchasing when I graduate. I would like to suggest an article on recommended gear for the above-mentioned.

So, am I an audiophile? Thad Acts Lincoln, NE

Merriam-Webster’s Collegiate Dictionary, 10th Ed, defines “audiophile” as “a person who is enthusiastic about high-fidelity sound reproduction.” —Copy Editor

Blind testing redux

Editor:
Wait a minute! Here’s Martin Collorus deciding whether the Wadia 860 sounds better with the light off (February ’98, p.113). I thought you guys were opposed to blind testing. Gary L. Todd Columbus, OH

Tweaks redux

Editor: I just got back from a morning session with my acupuncturist. Today he performed the dreaded “Pattern 5,” one of the most extensive and painful of all acupuncture treatments, but one with the greatest potential to restore the body’s energy and balance. Each one of the 47 needles he stuck into me felt like an electric shock.

Afterwards I felt tired, sore, but euphoric. Once home, I decided to listen to music.

What a difference! The bass in my Rega/Naim/Spendor system seemed to reach lower than I’ve ever heard before, and the music overall seemed much more lifelike and transparent. I could revert into my reviewer mode, using all the familiar adjectives to describe what I heard, but suffice it to say that this morning’s listening session was one of the most rewarding I’ve ever had. I think I’ve just discovered the ultimate tweak!

All right, J-10. You’ve tried almost every tweak in the book, from Shun Mook to removing your eyeglasses. I, too, have tried CD Blacklights, Black Diamond Racing Cones, and a dozen different contact cleaners. Nothing compares to what I experienced today. I therefore challenge you to substantiate my findings. Please don’t wimp out and tell me you’re afraid of needles; I know you’re more open-minded than that. If not, I leave it to John Atkinson to needle (ahem!) you to do it in the name of science and our great hobby!

Marc Phillips Centreville, VA booniebug@aol.com

Put your glasses back on

Editor: Some time ago, Jonathan Scull recommended, as a “free” tweak, that those of us who wear eyeglasses remove them when listening to recorded music. I took his word for it and have followed his advice—until the other afternoon. Behold, Scull is wrong! I found that when I left my glasses on, the music sounded clearer, had greater depth, and was more in focus. The musicians were three-dimensional and well placed in the soundstage. And so was everything else.

The magic of Denon Surround Sound componentry is its unique ability to transform your viewing experience into one so compelling that you actually believe what you are watching is real. From the no-compromise Dolby Digital/THX 5.1, AVR-5600 to the remarkably affordable AVR-600. Dolby Pro Logic Surround Sound Receiver, Denon delivers new dimensions to home theater. Experience Denon Surround Sound and you will instantly discover that what you see is what you hear.
The horse, the automobile. The typewriter, the computer. The cassette tape, the Digital Recordable MiniDisc. Record music on your home deck and play it back anywhere. Just like tape. Digital sound and instant access to any song. Just like a CD. Record or mix up to 74 minutes from your CDs. All on one 2.5-inch MiniDisc. Then take it anywhere you go, and play it back on your car deck or portable player. Now that's progress.
My hypothesis is that the eye/brain must simply work harder when correction is needed but not in place, and this takes away from the computing power available to the ear/brain. A corollary worth testing is that, when listening to music, one should not chew gum (or anything else); the mouth/brain... 

Tom Larson
Tucson, AZ

Flourish that audiophile rage!

Editor:
Jonathan Scull’s article on Ebony Pyramids (February ‘98, p.169) is really the bottom ring of the descent into the basement of audiophile redundancy. Pointing ebony footers north, indeed! Who takes Jonathan Scull seriously? Nobody I know!!

Come on—J-10 does a disservice to Stereophile and its readers with this kind of grandiose adjectival mush and pseudoscientific mumbo jumbo. Both the writing and the product are embarrassing.

Randy Menah
rdm@sesuf.net

Randy, you clearly need a humor transplant. As John Atkinson has explained in the pages of Stereophile, we offer a forum for our “guests” to have their say when interviewed or quoted in the context of a review. If you’d only wipe that scrun of audiophile rage from your eyes, you’d see that I humorously reported that facing the Ebony Pyramids north was an absolutely ludicrous notion. But I find the personalities behind the High End to be what makes it so interesting, so I brought you the maker’s claim.

Be that as it may, the footers were reviewed in the same context as the others that I have auditioned, and the results were reported. As for the reasons behind their sound, I couldn’t say. I take most of this stuff with a grain of salt—shouldn’t you? However, at 45 bucks for three, you might even try them before you bellow “foul,” or even “foul?” Remember, some of what was considered quackery a decade ago is accepted dogma today; the Pyramids notwithstanding.

—J-10

Flourish that musicological rage!

Editor:
Mont Dieu! I’m looking through the always-interesting “Records To Die For” feature in the February Stereophile, and, 10 pages in, get to Jonathan Scull’s entries (p.93), one of which is a CD of Satie piano pieces. It delights me to bring to the attention of one of the world’s loudest Francophiles that Erik Satie was not a member of “Les Six Français.” The six composers in question were Darius Milhaud, Francis Poullenc, Louis Durey, Georges Auric, Arthur Honegger, and Germaine Tailleferre. Satie, who was a generation older, was their “sponsor”; Jean Cocteau was their literary spokesman. The younger artists wouldn’t have “caroused and composed in turn-of-the-century Paris” — they were born between 1888 and 1899, and the group had their day shortly after the First World War.

Hope Kathleen doesn’t find out about this... ah... faux pas.

Andrew Quint
Merion Station, PA
ARQuint@aol.com

Howling about music

Editor:
Never mind Jonathan Scull’s overwrought hardware blatherings — this howler is about music. In expressing his happiness with a Satie piano disc in February’s “Records To Die For,” Scull talks about his favorites among those “turn-of-the-century” madcaps, “Les Six Français”—Poullenc and Satie, in that order. At the turn of the century, Poullenc was in diapers. Les Six—not Les Six Français—comprised Auric, Durey, Honegger, Milhaud, Poullenc, and Tailleferre and they got their communal handle from a critic in 1920. As centuries go, that’s a pretty wide turn.

In the event, the six composers’ very different styles and concerns soon rendered the notion of group identity irrelevant. Would that Scull followed in this wake.

Mike Silverton
The Absolute Sound

From JVC’s Satie booklet: “Young musicians gathered around Satie, and in 1918 they formed the nouveaux jeuxains group. This later became the famous Les Six Français, notable for the inclusion of Milhaud, Poullenc, Auric, et al.” I mentioned Poullenc before Satie simply because I prefer Poullenc to Satie. I’m not aware of any stricture that demands musical preferences must be noted chronologically.

Yes, I used the phrase “turn-of-the-century” rather loosely within the context of the 100-word limit on R2D4 submissions (a stricture I note most of my colleagues ignored, as will I next time around). In the event, I urge all Stereophile readers to follow their hearts and enjoy the music that strikes the chord within them — whether you’re a musicologist or not. A scholarly patina is admirable, but ignorance of who changed the composer’s diapirs shouldn’t desiccate the emotional experience of enjoying music of whatever genre.

—J-10

Biased amplifiers

Editor:
Lest you think me a single-ended-and-horn diehard, let me first say that, while my system does use a low-powered triode amplifier and sensitive speakers, I respect any design that gets one closer to the music. Some periodicals, such as Sound Practices, specifically review triode amps and sensitive speakers. They are quite upfront about their biases — and that’s fine. But in the many years I’ve been reading Stereophile, I never recall reading that your bias is toward anything but “the High End.”

Why, then, do your reviews seem so biased toward high-power and low-sensitivity speakers? Was this my imagination? So I had a look at the equipment reviews in 1997 and the January ’98 issue. Here’s what I found:

1) Of the 23 amplifiers reviewed, the average watts per channel was 163.
2) 78% of the amps were push-pull designs.
3) Only one single-ended triode was reviewed (the Audio Note OTO integrated — okay for the money, but not exactly world-class). While the two Pass amps reviewed are of a single-ended design, they’re not directly heated triodes, and will work with a much larger range of loudspeakers.
4) Of the 30 speakers reviewed, the average sensitivity was 88dB/W/m.
5) The average nominal impedance was 6 ohms (5 ohms minimum).

Perhaps more enlightening is this fact: With the exception of the Audio Note Model 1, no loudspeaker reviewed could reasonably be used with 99% of single-ended triode amplifier designs.

Clearly, Stereophile has a bias toward “muscle” equipment. I’m not suggesting that what you’re reviewing is wrong, but that it lacks balance.

Obviously, I would like to see Stereophile take more of an interest in the wonderful magic a directly heated single-ended triode can produce when matched with sensitive/easy-load loudspeakers. There is nothing quite like it.

By the way, this bit of research was prompted when Michael Fremer referred to the Aerial Acoustics Model 8 loudspeaker (January ’98, p.145) as “amplifier-friendly,” but later warned to be “prepared to deliver a minimum of 200 clean watts.” Good God, Mikey, what the hell do you consider demanding?

Kurt Morgan
London, England
kmorgan@chubb.com

Amplifiers & feedback

Editor:
The following question surfaced after reading Martin Colloms’ thought-pro-
Feedback & sympathy

Editor:  
I read Martin Colloms' indictment of feedback (Vol.21 No.1) with great interest and more than a little sympathy.

Martin's article was not based on any scientific "research" into the use of feedback in audio amplifiers. Rather, it was a simplistic generalization based on MC's exposure to a limited number of commercially available products. I am familiar with the products MC has mentioned in Stereophile and HFN/RR and can understand his feelings.

I'm sure that MC is well aware of the weakness of such an ad hoc argument, and surely this is why he offers his experience with the variable-feedback Cary 805C amplifier in an attempt to buttress his argument with something a little more rigorous.

At first glance, comparing the same amplifier with various amounts of feedback applied appears to be reasonable. However, a quick look at the test reports of the Cary 805 in the January 1994 issue of Stereophile reveals that when feedback is applied, this amplifier exhibits gross ringing that would be considered unacceptable by any standard (Vol.17 No.1, p.108, fig.2). (There really is a place for such reports in high-end magazines.)

This is about as far as comparing the sound of a push-pull amp as supplied by the factory with the sound of the same amp with half the output tubes removed and claiming that this is a valid comparison between push-pull and single-ended! Or how about taking a low-feedback amp (like the CAT JL1) and simply removing the feedback to "prove" the reverse of MC's assertion? Indeed, the loss of directness, vibrancy, life, and harmonic purity when decreasing feedback is similar to MC's claimed losses in the Cary when increasing feedback!

Additionally, even if the feedback were properly compensated to produce a good-looking squarewave, it could still be a sub-par feedback representative. Every circuit has an optimum amount of feedback, and sometimes this amount is zero. Further, as one who has experimented extensively with feedback and nonfeedback circuits, I can tell you that there are numerous ways to go about phase-compensating a feedback amplifier to produce equally good measuring results, but each way sounds very different. Would you believe that a 10-pico-volt feedback capacitor can have profound sonic consequences across the entire audio band, including the bass? It doesn't make textbook sense and can't be measured by any standard technique, but it sure is easy to hear!

Martin Colloms' "A Future Without Feedback" is the kind of article that drives certain types of audiophiles, the type who thinks too much and listens too little, to make very poor purchasing decisions. Fifteen years ago this type was convinced that super-low THD was the answer. (Who believes that now?) Ten years ago they thought slew rate and TIM distortion was the answer. (Does any manufacturer even specify TIM distortion these days?) Five years ago we were told that fully balanced circuitry was the answer. (And now we have the backlash: fully single-ended circuitry!) Now MC would like to usher in a zero-feedback craze! The trouble is that we've had zero-feedback practitioners, both tube and solid-state, with us for many years, and they have made both very good and very bad products, just like their feedback-using colleagues.

Yes, Martin, I hope you are unsuccessful, but I know that the audio press has to latch on to some "new" idea even if it's recycled, so why not "no feedback"? Maybe it will be followed up by a "high-feedback" craze! The "think-rather-than-listen" audiophiles will lose either way.

Now I don't want Martin to get mad at me for accusing him of making "simplistic generalizations." Perhaps he'll feel better if I do the same thing. How about this one: "High-voltage tubes don't have any magic." To prove my point, first I should say that I've heard many amps that use high-voltage tubes, including some that cost more than a nice house, and none have had "magic."

But MC might want something a little more rigorous than my personal experiences, and so I encourage him to compare his beloved Cary 805 (which uses high-voltage tubes) to the cheaper, albeit lower-powered, Cary 3005E (which uses medium-voltage tubes). Both amps are made by the same manufacturer; presumably, both are made to the same quality level and designed by the same person, who, I'm sure, must be equally adept with both high- and medium-voltage tubes. If this doesn't prove my point, I don't know what will!

Semi-sincerely,  
Ken Stevens  
President, Convergent Audio Technology

Voigt, not Black

Editor:  
I was surprised to find Martin Colloms—and John Atkinson in his footnote—perpetuating the notion that Harold Black "invented" feedback (January '98, p.87). As I recently pointed out elsewhere (Hi-Fi World, April 1997), that honor belongs to the British engineer Paul Voigt, a pioneer of high fidelity, who had incorporated it in his Motional Feedback Patent 231,972, dated January 29, 1924. Over 70 years later, motional feedback as applied to loudspeakers has made little further progress, and Voigt's use therein of selective negative feedback, which he regarded as obvious and not worthy of special attention, is the first reliably documented use of which I am aware—many years before the Black disclosure. I enclose a copy of Voigt's circuit in the patent, and a description of its operation in his own words that shows that he fully understood its application. The latter is taken from papers in my possession, typed and annotated by him in August 1970, and reads as follows:

"As you will see from the circuit, it makes the loudspeaker one arm of an AC bridge. The arm that balances... inducance is a choke, with no parts supposed to move at any frequency. So long as the program frequencies were those on which the 'speaker behaved as a pure choke, the bridge remained in balance and nothing special happened. At those frequencies, however, at which the 'speaker drive portion or the diaphragm or horn resonated, the bridge became unbalanced. The floating' audio transformer then fed back into the grid circuit a signal due to the imbalance of the bridge.

"It was possible to make the connection in such a way that the fed-back signal provided negative feedback at the resonant frequencies, thus diminishing the effect of the resonant peak. By suitable juggling of the exact values of the bridge arms, it was possible to unbalance the bridge slightly at both high and
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Judging Big in and Early in April, but promises and classical Wes Productions, Starr received information with Mikey the promoters couldn’t attend. For example: “My Uncle Manny, who worked for RCA for 40 years, died and left me his collection of worthless classical records. Can I get a small table to sell them?”

Mike F. couldn’t attend the previous extravaganza, but VH’s Harry Weisfeld told him it was “amazing.” This show promises to be even bigger. For more information, call the promoter: Groovy Productions, (732) 257-3888 after 1pm weekdays.

**United States**

**Mike Fremer**

Big Record Sales: Over a million LPs (no CDs, no T-shirts, no bongs) are promised at a giant used-record sale to be held on Sunday, May 4, between 10am and 4pm at the New Jersey Convention and Exposition Center at Raritan Center in Edison, New Jersey. Admission is $4. Early entry (8am), which will get you in with the dealers, will also be offered at a higher fee (yet to be determined, but not to exceed $15). While there will be the usual bevy of high-ticket dealers, the promoters are selling half-tables for $30 to ensure strong amateur participation. (For example: “My Uncle Manny, who worked for RCA for 40 years, died and left me his collection of worthless classical records. Can I get a small table to sell them?”)

Mike F. couldn’t attend the previous extravaganza, but VH’s Harry Weisfeld told him it was “amazing.” This show promises to be even bigger. For more information, call the promoter: Groovy Productions, (732) 257-3888 after 1pm weekdays.

**United States**

**Wes Phillips**

Judging from the e-mail we have received since we announced Classic Records’ 24-bit/96kHz “1ADs,” 1DVD-Videos utilizing the two channels of 24/96 written into the video standard—see *Stereophile* February ’98, p.3 and March ’98 p.169 — audiophiles appear to be intensely curious about the new music format. Classic Records, in conjunction with various hardware manufacturers, is taking its new offerings to the people by scheduling demonstrations with audiophile societies and hi-fi stores “throughout the world” (their words).

If you would like to attend a demonstration, or are affiliated with an organization interested in hosting such an event, call (800) 457-2577 (US only), (213) 466-9694 (International), or fax them at (213) 466-1437.

**United States**

**John Atkinson, Jon Iverson**

Counterpoint’s Mike Elliott is trying to get word out that, despite his company’s “dire condition” (his words), customers will not be left in the lurch if their Counterpoint components need servicing.

As part of the reorganization process at Counterpoint, repair and updating of all Counterpoint products will be handled under designer Michael Elliott’s direct supervision at a new facility separate from the manufacturing plant. The new address and telephone numbers are: Tel: (760) 945-0356; Fax: (760) 945-0219; AOL: AVaudio; Internet: audio@elliottasc.com. Shipping address: Counterpoint Repair Center, 914 South Santa Fe, Suite E, Vista, CA 92084. Hours are 10:30am to 5:00pm PST, Monday through Friday.

Counterpoint owners are requested to please contact the Repair Center before shipping anything for repair.

In other high-end company news, Threshold Corporation, one of the original high-end audio equipment pioneers, is discussing plans to restructure the company. Threshold, based in Camarillo, CA, manufactures high-end audio amplifiers, preamplifiers, and digital products under the Threshold, Foré, and PS Audio product lines. (PS Audio, of which Threshold Corp. is the majority owner, is currently a separate corporation.)

Chris English, sales manager for and shareholder in Threshold, said in early February, “We are indeed going through some financial and managerial difficulties at this time, and are working hard to restructure in order to meet these new challenges. Following a Board of Directors meeting to be held later in February, we expect to deliver some very positive news about new financial strength and renewed commitment to the high-end value for which we are known. This is definitely not a case where we plan to move downmarket.”

Chris emphasized that, although times are tough at Threshold right now, the company is setting a plan in motion “that should put things in good order shortly.”

Chris stated that “the plant is currently in a suspended mode of operation until the arrangements have been finalized. We then plan to bring operations back up to normal as quickly as possible.”

**Calendar**

Dealers promoting manufacturer and designer seminars should fax (do not call) Debbie Starr 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 June 1998, you should get the information to Debbie no later than April 1. Mark the fax cover sheet “For the attention of Debbie Starr—Dealer Bulletin Board.” Promoters of hi-fi shows and audio societies promoting manufacturer visits should also fax Debbie the details as soon as possible.

**Arizona**

- Tuesday, April 28, 7pm: The Arizona Audiophile Society will host Jim Aud of Purist Audio Design for a discussion of cable design and a demonstration of his company’s latest products. The public is welcome. For more information, call (602) 417-0223.

**California**

- Friday, June 12 through Sunday, June 14 sees HI-FI ’98 taking place at the Westin Los Angeles Airport Hotel in Los Angeles. See the ad elsewhere in this issue for details of exhibitors and events, and how to order tickets in advance. Full information and online registration are available on the Show’s web site: www.hifishow.com

**Colorado**

- Saturday, April 4, 11am–6pm: Audio Unlimited (2343 W. Yale Avenue, Englewood) is hosting Tom Hoffman and Marshall Kaye of Audio Artistry and Art Manzano of Axiss Distribution...
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English expressed Threshold's commitment to current owners of Threshold, Forté, and PS Audio products: "We are working out the logistics and arrangements in order to continue to support both warranty and nonwarranty repair of all products. The issue of customer service has the highest of priorities and commitment from Threshold. Consumers and dealers are welcome to contact me at my e-mail address: calshl@ix.netcom.com.”

UNITED STATES

Barry Willis

Pundits and prognosticators run the risk of making big mistakes. Late in 1996 I predicted that 1997 sales of video products would slump as consumers held out for the next wave of improved-definition products. I could not have been more wrong.

According to the Consumer Electronics Manufacturers Association (CEMA), 1997 was a stunning success for makers of video and home-theater products. Statistics released in late January showed that 350,000 DVD machines had been sold in the format's first nine months, bettering the sales records of both CD players and VCRs. CEMA predicted that more than twice as many DVD players will be sold in 1998, bringing the total to well over one million by the end of this coming December.

CEMA senior economist Todd Thibodeaux predicts that DVD will achieve a 7% household penetration rate by the end of 2001. That figure is roughly equivalent to the CD's 8% five-year mark, and the VCR's 6%. (CD players can now be found in exactly one-half of all American households.)

Sales of VCRs were up 7% over 1996, with 16.7 million units shipped to dealers. 2.3 million combination TV/VCRs were sold — 5% more than in 1996. Gary Shapiro, CEMA's president, called 1997 "a strong year," citing record sales for large-screen TVs and stereo VCRs. Video projectors were up 3.4% (920,000 units), and sales of camcorders, of which 3.6 million were sold, exceeded 1996 figures. Television sales slowed in late December, but the year overall was a winner for video dealers. (Traditionally, the busiest week for US television sales is the week before the Super Bowl.)

The high-end industry is succeeding in making itself irrelevant to the music-and-movie-loving American public.

Sales of audio products were off by only 1% in 1997 compared to the previous year. The total through the end of November was $72 billion to $73 billion in 96. Some segments of the audio market showed huge jumps: "systems" (read: rack systems) grew by 22%, with a total of $220 million, and compact systems went up by $32%, with sales of $167 million. Reflecting the public's fascination with all things video, the real winner was home-theater-in-a-box, a category that grew by 35% in one year. And in 1997, automotive sound almost equaled its sales record for 1996.

With all this growth and upbeat happy news, why was the audio market off from the year before? One simple explanation: the high-end industry is succeeding in making itself irrelevant to the music-and-movie-loving American public. The economy is the best it's been in 14 years: people are making money, jobs are plentiful, inflation is low, the government may actually get in the black, the crime rate is dropping out of sight, all is generally well... and high-end audio appears to be dead in the water.

Why? Draw your own conclusions — I'm not making any more predictions or pronouncements. As the old adage goes: Better to remain silent and be thought a fool than to speak and remove all doubt. Besides, everything I think is wrong. I believed with absolute certainty that the Green Bay Packers would flatten the Denver Broncos.

UNITED KINGDOM

Paul Messenger

In an industry where two-year product cycles are commonplace, a brand that leaves 20-year gaps between successive models has got to be doing something pretty special.

When Quad launched its original Electrostatic way back in 1957, it was an instant overnight success — almost to the point where other speaker designers were tempted to hang up their slide rules and retire gracefully. Demand continued to outstrip supply throughout the ESL's lifetime, partly because it was a bitch/brute — insert PC noun of choice — to manufacture. Many are still in use today, though Quad no longer offers the panel-rebuild service for what's now referred to as the ESL-57, and which is a necessary part of the loudspeaker's long-term survival (but more on this later).

The introduction of the ESL-63 in 1981 (development work had started back in 1963) saw the birth of another legend, and the story was much the same. Through a clever system of delay lines that made the flat diaphragm behave a little like a pulsating sphere, the...
new speaker solved much of the hot-spot "beaming" limitations of the original. The '63 was also much easier to build. Demand continued to outstrip supply.

Quad has been through more changes in the past few years than in the preceding 50-odd. In the mid-'90s, Ross Walker, the son of founder Peter "PJ" Walker, sold it to the Verity Group, which also owned Mission, Wharfedale, and Roksan. Not long after, Verity started work on its new NXT panel-speaker technology, so it's hard to say that little attention was paid to the much more costly panel speaker that Quad was already making.

Over the past couple of years Verity has been putting the lion's share of its resources into NXT R&D, and late in 1997 decided to concentrate these still further, selling the majority shareholding of both Quad and Wharfedale to the International Audio Group, a consortium led by Wharfedale managing director Stan Curtis and backed by the overseas distributors.

Any who expressed skepticism that Stan could revive Quad's fortunes already look as if they may have proved wrong. IAG took not one but two new prototype electrostatic speakers to Vegas, and a third new model is also close to fruition. The new electrostatics are genuinely unique and rather special loudspeakers, using a drive principle that has never really been properly exploited, in Stan's view. Why should Martin-Logan dominate the worldwide electrostatic market when Quad was there years before? As an audiophile outsider, Stan saw the electrostatic as the key technology to restore Quad's once-unmatched reputation.

And, as an ex-journalist, Stan is a gifted storyteller—the tale of what he found when he first started coming to grips with Quad is so good it might stretch credibility. When he first arrived, it was clear that the electrostatic speaker side of Quad had been neglected. Replacement panels for the ESL-63 were back-ordered many months, and sorting this out was a first priority. He also decided to put in place "clean room" facilities for producing the panels, controlling temperature, humidity, and dust levels in order to achieve better quality and greater consistency.

This sudden interest in their all-but-forgotten corner of the factory so impressed a couple of longtime Quad employees that they approached Stan and told him they had something to show him. He was taken to a broom cupboard (!), the buckets and mops were removed, and then a couple of ceiling tiles. A ladder was found, and Stan was led up into the roof space and taken over to a cordoned-off section, whereupon his jaw dropped. No, it wasn't the crown jewels, but a collection of prototype bits and pieces that represented 10 or more years' worth of developments of and improvements to the ESL-63 that had never been put into production. Which, of course, explains why three months later Quad was able to ship two new electrostatic models—the ESL-988 and ESL-989—to Vegas to show the world.

Details are still a bit sketchy, production hasn't quite got under way yet, and Stan gave me most of this information over his car phone while traveling to the airport en route to China. The finer details will have to wait until I can entice him and his publisher wife Angie down to our excellent local seafood restaurant, where we can crack a few crabs and bottles and put a bit more flesh on the bones while, or, taking some fish off the bones.

The improvements being instituted in the new models include beefing up the mechanical integrity of the structure, which was always reckoned to be the ESL-63's weak spot. It's one reason why some electrostatic fans (including yours truly) still preferred their ESL-57s, whereas others (such as SME's Alistair Robertson-Aikman) carried out their own mods to stiffen the structure. Other changes include improving the electronic components in the power supply and delay line, incorporating a switch that can allow a wider dynamic range if used in low-humidity environments, and instituting a slight backward "tilt" so that the speaker doesn't have to be lifted too high off the ground in order to direct the center of the panel toward the ears.

Why three models? Because different circumstances require different solutions. The ESL-63's dimensions might be the best all-around compromise, especially for modest-size British rooms, but the larger lounges found in the US and elsewhere could certainly benefit from a larger panel area—hence a new and larger model, still based on the same technology evolved from the '63. And nowadays there's the home-theater scene to think of, so a smaller panel is planned for use in 5.1-channel surround-sound systems, backed up by a 300W dual-driver active subwoofer. The prospect of a Quad electrostatic dialog speaker sounds very tempting indeed.

Nor should fans of the original ESL-57 lose heart. Although the original tooling and jigs have now gone, and IC1 no longer makes the Mylar film from which the original diaphragms were made, Stan has plans to re-engineer new panels that can be used in the old mastro, though the unavoidable changes will probably mean all three have to be changed at once (normally the tweeter panel is where trouble starts).

**M A R Y L A N D**

- **Monday, March 2:** JS Audio & Video has opened its new, expanded facility at 4919 St. Elmo Avenue, Bethesda, in the heart of the Bethesda/Chevy Chase retail district. The store specializes in high-end audio and home-theater systems from Thiel, Meridian, Classe, BAT, Sonus Faber, REL Acoustics, and others. For more information, call (301) 989-2500, e-mail jsaudio@erols.com, or visit JS Audio's web site at www.jsaudio.com

**I O W A**

- **Thursday, April 9, 7-9pm:** Video Logic (3702 Beaver Avenue, Des Moines) will host Bill McKiegan of Krell for a seminar and demonstrations of Krell's latest products. Call (515) 255-2134 for more information.

**C a l e n d a r**

Stereophile, April 1998
As more and more sophisticated technologies arrive that are capable of reproducing music with unbelievable detail and nuance, the performance bar is inevitably raised for loudspeaker manufacturers.

And no company has set the bar higher than Celestion with our new A Series loudspeakers. A fact clearly noticed by D.B. Keele, Jr. in the August issue of Audio magazine.

No matter what source materials he selected, from Mozart symphonies to movie soundtracks, Keele was amazed by the A3's performance. He wrote that "their dynamic range and effortlessness border on the best I have ever heard" and that "their imaging and localization could not be faulted."

There is so much advanced technology in our new A Series loudspeakers it fills a White Paper. Call us and we'll send you a free copy as well as full literature on the speakers and copies of the Audio review.

Once you've read the Celestion story and heard the Celestion sound, you'll see why D.B. Keele, Jr. and Audio gave us an A. And why it's time for other speaker companies to go back to school.

“WILL THE A3 PLAY LOUD AND CLEAN? IN SPADES! ITS BASS OUTPUT SURPASSES EVEN THAT OF SOME SUBWOOFERS.”
Nor is that quite the end of the story. Indeed, the best may be yet to come. While attending a business cocktail party organized for local Member of Parliament (and ex-Prime Minister) John Major, Stan got chatting to the head of a local transport company, who casually asked him whether he wanted to come and collect the stuff his company was holding in its warehouse, located next door to Quad’s factory. No one had mentioned anything about stuff being held in outside storage, so Stan went down to take a look.

Another jaw-dropper. Tucked away inside this warehouse were the partly-finished prototypes and boxes of papers that represented Peter Walker’s work-in-hand (prior to his retirement) on his third-generation electrostatic speaker. Whether this project could be resurrected and brought to some sort of fruition is now yet known. Now well into his 80s and rather frail, Peter is still seen piloting his Alfa Romeo Spyder around the village he lives near, so he might be able to provide some assistance. Rumor has it that this “next-generation” model is every bit as radical as its predecessors.

It all sounds a bit too good of a story to be true—Stan’s a notorious practical joker (who many years ago, under the pen name Olaf Piel, wrote a famous spoof feature about a digital loudspeaker), and may well have figured out that this is likely to appear in Stereophile’s April issue. However, I’ve been assured that it is all true, and it makes a wonderful tale anyway.

The third-generation electrostatic may or may not come to pass, but what’s certain is that Quad is getting serious about its electrostatic speakers again, and that IAG is determined to put this potential world-beating technology firmly back on the global stage. There are plans and new products on the electronics side too (with the ’99 series, also seen in Vegas), but they can wait until after the fish supper.

**NEW JERSEY**
- Friday through Sunday, June 19–21: The Consumer Electronics Manufacturers Association (CEMA) is hosting Fuse ’98 in conjunction with Atlantic City’s Beachfest festival. Fuse will combine “the hottest in car sound and electronics” with cutting-edge music, sports, and mobile electronics training and testing. For more information, call (702) 907-7600.

**NEW YORK**
- Saturday, March 28: The Analog Shop (57 E. Main Street, Victor) is hosting Richard Segal of Synergistic Research for a demonstration of how to use Synergistic’s system-dependent cable technology to match cables for your system. For more information, call (716) 742-2860.
- Wednesday, April 1, 7:30pm: The Western New York Audio Society is sponsoring a representative from Alternative Audio of Ontario and a guest from Celeste, who will demonstrate Celeste Moon amplifiers at the Lasalle Yacht Club in Niagara Falls.

**OHIO**
- In honor of its 25th anniversary and grand reopening, Paragon Sight and Sound is presenting a series of seminars and demonstrations at its new location (5206 Monroe Street, Toledo). Speakers and topics are listed in the issue.

**INDUSTRY UPDATE**

**UNITED STATES**

**Barry Willis**

Our web site, www.stereophile.com, and its Home Theater sister site, www.guide-to-hometheater.com, took off like twin rockets December 1, 1997. Only two and a half weeks later, we registered the millionth hit of an average of more than 55,000 hits daily, more than many successful sites enjoy in a three-month period. Webmasters Jon Inverson and Jim Heinz deserve all the praise you can heap upon them for their hard work, so keep it coming—let us know how you like it so far, and what you’d like to see in the future.

“VOTE!” is one of the sites’ most interesting features, with a new audio or home-entertainment-related question posted each week. Results from the previous week’s “VOTE!” are tabulated, as are comments from readers. (Hundreds vote each week, but only a small minority post comments.) Each week adds to an ever-growing database that is archived and available for public perusal at no charge to users. This database could be a valuable marketing tool for manufacturers with new products or entrepreneurs with hot ideas. You can also post questions you’d like to throw into this open forum.

The first week’s question: “How many channels and what formats do you want to see on DVI-Audio discs?” A plurality, 39%, said two channels at 24-bit word length and 96kHz sampling rate would be their preference, while 26% voted for 5.1 channels (surround system with subwoofer) at 24/96. Dolby Digital, 19TS, and “Open Standards” drew 6% each, while 11% voted for a mix of formats. Only 1% voted for a 16-bit/44kHz two-channel format. There were no votes for 5.1 at 16/44.

Some folks, like Randolph Carter, think the options offered were too narrow. Will P-Z. Clark believes eight channels are necessary to create a realistic soundfield. Traditionalists, on the other hand, disminised multichannel as a gimmick-ridden abomination. George Bahrynowski wrote: “More than two channels will kill high fidelity as we know it.” Jim Causey acerbically noted that “Very few artists provide a compelling reason to go multichannel.”

The second week’s question asked if music lovers would prefer downloading music over the Internet to buying the actual discs in music stores. (The accompanying description qualified the question with a presumption of equal audio quality.) An overwhelming majority, 74%, prefer to buy the disc. Many mentioned the tactile pleasure they derived from poking about in the bins at stores, and the element of surprise in finding new music. Another recurring theme was the social aspect of going into stores, something online transactions will never supply. John Healey: “There is nothing like going into a well-kept music store and interacting with other music nuts.” Louis Jones brought up the issue of the collectibility of recorded music, which includes artwork and packaging: “Copying on recordable blanks reduces collectibility... The cover and jacket are just as important as the work they contain.”

The future doesn’t look bright for the High End, according to the third week’s vote. Seventy-four responses were posted to a question asking if the market for high-end audio equipment would worsen or improve. This response revealed a deep pessimism among audiophiles:

**CALENDAR**

- **NEW JERSEY**
  - Friday through Sunday, June 19–21: The Consumer Electronics Manufacturers Association (CEMA) is hosting Fuse ’98 in conjunction with Atlantic City’s Beachfest festival. Fuse will combine “the hottest in car sound and electronics” with cutting-edge music, sports, and mobile electronics training and testing. For more information, call (702) 907-7600.

- **NEW YORK**
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- **OHIO**
  - In honor of its 25th anniversary and grand reopening, Paragon Sight and Sound is presenting a series of seminars and demonstrations at its new location (5206 Monroe Street, Toledo). Speakers and topics are listed in the issue.
Introducing the “Virtual World” of Synergistic Research. An exciting new web site that includes “The Explorer’s Guide Internet Edition” - a “Myst” like experience with digital art and sound, a virtual tour of Synergistic Research dealers, a bulletin board for High End cable discussions, and much more...

Liberate your system from yesterday’s cables with a computerized on-line diagnostic service that matches specific Synergistic Research cables to your components, then directs you to your nearest Synergistic Research dealer. While in the “Virtual World,” you’ll explore a digital landscape with hidden surprises.

Get the inside track on Synergistic Research’s latest cable technologies with information updated weekly. Take a virtual tour of Synergistic Research’s top dealers. View animated versions of digital art in the “Virtual Gallery,” and download futuristic images for use as desktop patterns on your computer...

You can even view Synergistic Research cables in custom designer color options so you can match cables to your home decor. Explore the “Virtual World” @ www.synergisticresearch.com

only 29% said it will improve. The remainder believe it will decline, because of computers (12%), audiophiles' limited income (8%), goofy products (5%), a combination of those factors (20%), or other reasons (23%). The discerning audiophile is a dying breed in America," wrote David Deines, "...and it doesn't help that there are a bunch of wacky products in the High End that are receiving an awful lot of ad space and attention these days." Marcus Slade sounded an ominous note with "when was high-end audio located anywhere else but a black hole?" Paul La Nove took the opposite tack in his address to high-end manufacturers: "Build your equipment with heart and soul and we will buy it."

Christmas week, we asked if changes in recording technology have made music better or worse. Equal portions (26% each) of "much better" and "some-what better" revealed that a slight majority (52%) think it is better overall. Only 8% think it hasn't changed, 22% think modern recording technology has made music "a little worse," and 15% believe it is "much worse." Forrest Mackay pointed out that the high-end ideal of re-creating an original acoustic event is often an exercise in wishful thinking. "Now there is no original performance," he posted.

"In many cases, there could never have been an original performance," Lon Lowenstein decried the lack of emotion in many modern recordings. "I'll take imperfection and keep heart and soul," he wrote. But Otto Rupel said that "Digital mixing and editing give the ability to come close to reproducing the 'live' feel..." and Curt Simon observed that "As long as musicians who have something to say are using the tools (rather than the other way around), good music will be produced."

Week 5, readers were asked if cable upgrades had made a difference in their systems. This always-contentious issue prompted 63 comments. Only 10% said they made no difference and were a "waste of dough"; 18% thought the difference was "subtle," 38% said the difference was "worthly," and for 31% of respondents the difference was "big." A reader who identified himself only as "Bishop" summed it up: "Sure, there are differences. And no, I can't afford it."

Question 6 — posted the week of January 11, while we were at the Consumer Electronics Show — asked readers what portion of their listening was to FM radio compared to vinyl or CDs. This issue provoked the fewest comments (26) of any question yet asked. Looking at the postings on the computer in Stereophile's CES room, John Atkinson mumbled, "There is no issue deader than FM radio." Vote results confirmed what marketing research firms long ago discovered: most radio listening takes place in the car. 34% of voters said they listen to FM only in the car. Only 12% claimed that FM was their dominant musical source; 21% said it was an equal source, and 27% admitted to some radio listening, but "less than CDs or vinyl." 4% of voters claimed they never listen to the radio.

Some radio enthusiasts mentioned classical, college, or NPR stations as being important parts of their audio lives, but others complained of excessive advertising and obnoxious announcers as their reason for avoiding radio. Many postings expressed a longing for "the good old days" of FM programming, before it became the orgy of commercialism it is today. "Without a doubt, corporate America has killed serious musical enjoyment on commercial radio," Ruben Sanoval wrote. "But on local listener-sponsored public radio, it thrives..." Eric Jansen blamed part of the problem on stations' limited playlists: "FM programmers need to find out there is more than the six-song rotation."

The final tally available as of this report (January 23) asked web-site visitors what they suggest the industry do to ensure the survival of high-end audio. 44% said the cure lies in "price reductions and a greater availability of existing equipment." 17% believe "better advertising to reach a broader market" will make a difference, "even if it means higher prices." 7% believe the High End will be saved by "entering new markets, like computer audio, car audio, and home theater." 5% think the industry should strive for "higher and higher levels of quality, even if prices go up." 20% had suggestions other than those supplied. Only 4% said do "nothing — everything's fine!" Hundreds of votes, and 62 comments, were generated on this issue. Many expressed resignation that high-end audio will always be a special interest. "Unfortunately, listening to music, as opposed to just wanting to hear music, is a distinction not everyone in the general public has..." wrote R. Bernstein. Not everyone took such a pessimistic view. Many think awareness through education is the answer. "Audiophile, share your passion!!!" posted passionate Jonathan Scull. And manufacturers, stop preaching to the converted, said Chris Fontaine: "The entire reason Bose is popularly considered to be the best speaker maker is simply advertising," Chris wrote. "If it worked for Bose, it can work for anyone."

We encourage your continued participation. The web site is one of the few places where you can vote with more than your dollars, and — who knows? — your comments might actually affect the

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Industry Update

Tuesday, April 14: Terry Dorn and Dave Gordon of Audio Research will discuss new products and developments.

Wednesday, April 15: Don Youngstrom of Martin-Logan will discuss the history of electrostatic loudspeakers, and new products and developments from Martin-Logan.

Thursday, April 16: Brian Kurtz and Brent Monning of TARA Labs will discuss the latest advancements in audio cable technology, including Isolated Shield Matrix Technology.

Friday, April 17: Allen Perkins and Mike Harvey of Immedia will discuss new products and developments from RPM turntables, Audio Physic loudspeakers, and Lyra.
"The YBA is a remarkable achievement owing to its combination of purity, openness and superb dynamics. In each of these areas, this integrated amp rivals the very best separates available."

— The Audio Adventure

"The YBA is a remarkable achievement owing to its combination of purity, openness and superb dynamics. In each of these areas, this integrated amp rivals the very best separates available."

— Hi-Fi News-Ken Kessler

"The best integrated amp. I've heard so far."

"The YBA DT Integre is remarkably transparent, offers great neutrality, and yet can still seek out the soul of music. A class act."

— Fi-Nov. 1996

"YBA gear is like a Mercedes automobile, even the less expensive models are built to a very high standard. Yes, you can buy someone else's separate preamp and power amp for the price of the YBA Integre. But you wouldn't own a YBA."

— Sam Tellig - Stereophile Vol 19 no.12-Dec. 1996

NETHERLANDS
Peter van Willenswaard
Philips kept the promises it made in June 1997: CD recorders were in Netherlands audio shops in December, and at an affordable DFL 1500 ($725). Only one model is available as yet: the CDR870. The back panel immediately reveals the machine's versatility. There are analog outputs and inputs, as well as two sets of digital in- and outputs, one electrical (RCA) and one optical. A built-in A/D converter chip (SAA7366) allows the user to record from an analog source (multiple sources if connected to an amplifier with a tape selector switch), and the double digital interface means that two different digital audio sources can be connected permanently to the CDR. Choosing between the three inputs is done by pushbutton, the display showing which source has been chosen.

When I inspected the CDR870's innards, I was surprised to find only one circuit board in view: the power-supply board, which features five voltage regulators. A second circuit board, for the control buttons and the display, is hidden behind the front panel as in all normal CD players. The rest of the electronics, including ADCs, DACs, and analog in- and output circuitry, are integrated into the transport mechanism itself! Cheap to produce in very large numbers, but the cost of development must have been high.

Two different types of "blank" CDs can be used with the recorder: the CDR-recordable and the CDR-eWritable. The CDR-R is for single use; the CDR-RW iserasable and can be reused at least a thousand times. For both, maximum recording time is 74 minutes. Once "finalized" after recording, CD-Rs will play in any CD player; playing CD-RWs is now restricted to the CDR870, but it's Philips' aim that, in the near future, all new CD players will be able to read CD-RWs.

CD-R(W) discs carry a code in the lead-in area to distinguish them from computer recordable discs. This is because of the dyes the manufacturer of the disc has to pay to record companies for copyright reasons. In Holland, it makes CD-R blanks DFL 13 ($6.30) against DFL 10 ($4.84) for a good-quality computer disc. CD-RWs are more expensive, of course—about four times the price of a CDR. The CDR870 will not write onto computer discs.

Each CD-R or CD-RW blank is provided with a spiral groove at fabrication that leads the laser during the writing process. The groove undulates slightly (0.03µm amplitude) at 22.05kHz, and a read-out mechanism in the CDR870 forces the recorder to maintain correct rotational speed. An additional modulation of about 1kHz is superimposed on 22.05kHz movement to provide the recorder with an absolute time reference.

In a normal CD, a microscopically thin layer of reflective metal is clamped between two layers of polycarbonate. Stamped pits form a pattern of hills and valleys that have different reflection properties for the laser beam. In recordable CDs the laser doesn't actually burn pits or holes during recording, but heats up spots in the recording layer that then change color. Those "pits" feature a different reflectivity from the rest of the surface, and allow the laser to read the information at playback. Laser power applied while writing a CD-R is 4–11mW, and the pits are formed at a temperature of 250°C; the recording layer has a reflectivity of 40–70%, meaning it can be read by a normal CD player.

For CD-RW, 8–14mW is necessary, and temperatures between 200 and 700°C are reached. CD-RW's very special recording layer is made of a silver-indium-antimony-tellurium alloy (developed by Philips NatLab in Eindhoven). Untreated, it has a crystalline structure; spots heated to over 600°C become amorphous and feature much lower reflectivity. Heating to only 200°C restores the original crystalline structure and erases previously present "pits." Erasing can be done while writing new information onto the disc; subcode data in a sort of File Allocation Table determine which area of the disc is occupied, and whether a certain track may be overwritten or not (much as on a computer hard drive). The downside is that the reflectivity of this rewriteable layer is only 15–25%, which precludes the great majority of existing CD players from reading a CD-RW. (Machines equipped with a Philips CD path transport seem to be the exception.)

Every CD must have a Table of Contents (ToC) in its lead-in area, otherwise a CD player can't read the disc. The ToC tells the player which track's number and where it starts and stops. CD-R and CD-RW keep track of what is being recorded in a second, temporary ToC called the Program Memory Area (PMA). When the user decides the disc is ready, the Finalize button must be pushed, which causes the machine to read the PMA and write the ToC.

The CDR can now be read by any CD player, but, as on a CD-R, the CD-RW's ToC can be written only once; from then on, no further recording on that disc will be possible. On a CD-RW, however, a previous ToC can be overwritten; a CD-RW can be reused for recording and subsequently finalized many times.

RHODE ISLAND
• Sound Images (Cranston) is hosting two audiophile seminars in April; reservations are suggested but not required. Each seminar will run from 10am to 6pm. For more information, call (508) 636-3400; e-mail: soundimages@worldnet.att.net
Saturday, April 18: Anthony Gallo of Gallo Acoustics will show the new Reference II speakers.
Saturday, May 9: Art Manzano of Axis Distribution will present what he calls "some of the most respected stereo components in the world," including the Accuphase range of high-end components from Japan.

WASHINGTON
• Tuesday, March 31, 6–8:30pm: Definitive Audio (14405 NE 20th Street, Bellevue) is hosting a seminar with Doug Blackwell of Transparent Cable for a discussion of Transparent's upgrade program for customers who have purchased Super, Ultra, Reference, and Reference XL cables. Call (425) 746-3188 to make reservations.

CANADA
• Wednesday, April 1, 6–8:30pm: HiFi Center (578 Seymour, Vancouver) is hosting a seminar with Doug Blackwell of Transparent Cable for a discussion of Transparent's upgrade program for customers who have purchased Super, Ultra, Reference, and Reference XL cables. Call (604) 688-5502 to make reservations.

Stereophile, April 1998

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**On RSC Decade Interconnect:** "The detail, nuance and tonal balance were so superbly balanced, the transparency so enhanced, that as an entire musical construct and experience, I felt I'd never heard it better... Its sweetness of presentation seemed born of an utter neutrality and a smooth frequency response that let the music out of the bag in all its glory."

**On RSC Decade Speaker Cable:** "Images were never shadowy, wispy or lacking in body. The Decade was quiet, wide-band, lithe, and agile; fast enough to deliver the detail necessary to hang such a palpable image before me, as they always did."

**RSC Decade Interconnect:** $795/m pair  
**Digital:** $335/m  
**Speaker Cable:** $2,700/10 ft pair

See your Certified TARA Labs Dealer for RSC Decade and the complete line of Rectangular Solid Core cables.
When recording from a digital source, the CDR870— unlike most D/A converters, DAT machines, etc. — does not try to lock onto the clock of the incoming signal. Instead, the CDR870 uses its own internal clock reference and a Sample-Rate Converter (SRC) to convert the incoming data-stream to one synchronous with the clock reference. This has as an advantage: any digital audio source having a sample rate of between 15kHz and 56kHz will be accepted without further ado. A second consequence is that a copy of a CD will not be bit-identical to the original, as an SRC interpolates new data between the original samples. (In the past, SRCS were not exactly known for their clean operation, adding many spurious in the process, but they have improved considerably in recent times.) Third, and on the positive side, an SRC, if well implemented, may get rid of jitter present in the incoming signal. On the whole, the result could be that the copy sounds better than the original.

A second, new protection against illegal copying is RID (Recorder IDentifier). The recorder writes a 97-bit code on the disc every 100 frames. The code, which is unique for every single CD recorder, can be traced.

As with DCC and MD, the CDR870 is equipped with SCMS copy protection. You can make a copy of a CD and give it to a friend, but the friend cannot copy from the copy. (But you can give the friend the original and keep the copy if you don't want to copy it again.) [And as some jitter-reduction boxes strip the subcode from an S/PDIF datastream, they presumably also remove the SCMS flag, although the use such a device to make a digital copy of copyrighted material would, of course, be illegal. — Ed]

**UNITED STATES**

**Jon Iverson**

If At First You Don't Succeed, Try, Try Again Department: The largest advertising and promotional campaign for an audio product in Sony Electronics’ (and possibly anyone’s) history debuted during NBC’s Thursday-night prime-time television lineup the first week of February. The campaign, titled “Make It with MD,” featured various celebrities as they moved through a Hollywood party sporting a small MiniDisc personal stereo unit playing their own personalized music mixes. Sony also plans major cable, billboard, print ad, and promotional tie-ins.

Sony first rolled out the MiniDisc technology several years back as a recordable digital replacement for the cassette tape. At the same time, Philips launched its own ill-fated cassette replacement, DCC. Both formats were considered feeble and left for dead within a couple years of their release, but Sony believes that the US market is ready for another look at the MD.

According to John Briesch, president of Sony Electronics’ Consumer Audio/Video Products Group, “MiniDisc will be one of the hottest consumer electronics products this year. We are creating a number of advertising and promotional vehicles that underscore how MiniDisc allows enthusiasts to digitally record their favorite songs and take their customized music mixes with them wherever they go.”

Reports about MD’s success in most countries are mixed, but several claim that the MD format has caught on in Japan and Europe. Reception of the format, which employs ATRAC data compression, has been cool in the US so far despite an initial Sony ad campaign that included bundling a free MD with every issue of Rolling Stone magazine back in 1994.

Critics have claimed that the MiniDisc format’s heavy data-reduction scheme limits its use as a high-quality digital recording and playback medium. They also cite its high cost relative to cassette recorders and players as a detrim-ent to the target market, especially high school and college-aged buyers.

But Sony insists that the public wants a smaller, recordable digital medium. John Briesch states that “People for years have expressed themselves through music. MiniDisc gives people the ability to easily personalize their own music without the problems associated with analog cassettes.”

Which brings up an interesting point. Sony is marketing the MD as a way for folks to record from existing CDs, since the market for prerecorded MDs is practically nonexistent. Yet we all know how much the music business hates digital recording. The RIAA has been very firm in controlling DAT, Recordable CD, and DVD-Audio.

But here’s Sony, in one of the biggest audio ad pushes in history, telling us to go out and make a digital recording from a CD. One might think that this would confuse consumers who don’t understand the subtleties of copyright law, but hear about the RIAA going after music “pirates” in the home. After all, the music business has made it pretty obvious that “Taping is Killing Music!”

So maybe MD sounds mediocre enough that nobody cares, or perhaps it sounds decent but nobody really thinks it will ever take off. Regardless, Sony is hoping you’ll crave a MiniDisc soon. It’s also interesting to note that Sony, one of the originators of the CD, has yet to join the ranks of manufacturers announcing inexpensive CD recorders for the consumer market. A mere coincidence?

**UNITED STATES**

**Barry Willis**

When Ben Piazza was a kid, he loved to watch Mr. Wizard on television, rarely missing an episode of the popular science-and-engineering show. “One in particular always stuck with me,” says the founder of Shakti Audio Innovations (SAI), “At the start of the show, Mr. Wizard—Don Herbert—had a group of kids go into a room filled with metronomes. The kids started the metronomes, which were all out of sync with one another. Then Mr. Wizard sent everyone out of the room and closed the door. ‘We’ll come back at the end of the show to see what’s happened,’ he said. When he finally opened the door, the metronomes were all swinging in unison! What he had demonstrated was the principle of resonance and mutual coupling effects. I never forgot that.”

**Calendar**

- **Robert Silverman** will perform all 32 of Beethoven’s piano sonatas in both Vancouver and Toronto. The Vancouver cycle will continue at the new, ART-EZ-designed Chan Center for the Performing Arts on April 26, May 10, September 20, October 18, November 22, and December 8, 1998. In Toronto, Silverman will perform on July 8, 9, 15, and 16, with the remaining recitals to be scheduled in 1999.

He will also be performing three of the Beethoven sonatas at HI-FI ’98 in Los Angeles in June. For more information, visit his web site, www.sloth.com/silverman. Silverman’s Stereophile recordings of piano works by Liszt, Brahms, Schumann, Schubert, Chopin, and Bach can be obtained by calling (800) 358-6274 — see the ad elsewhere in this issue for details.
We know your type. You've always owned speakers in cabinets. But now they just won’t go with that new designer sofa and loveseat. Here at Parasound we make in-wall speakers that won't ever force you to sacrifice sound for aesthetics. Speakers like our Parasound C/ST-280A. With its advanced 8” woofer, titanium dome tweeter, and precision crossover, it will practically turn your home into a 3 bedroom, 2.5 bath speaker cabinet. And for those of you who want to enjoy music out of doors, try our Nomad Ten. With its unique cabinet design and incredibly accurate 6.5” woofer, it's easily the finest outdoor speaker you'll ever hear. Which is saying a lot, considering how you've arranged your priorities.
Many years later, working full-time as a film and video technician at CBS in Los Angeles, and part-time as an assis-
tant to speaker designer and inventor Mike Petroff, Piazza applied this princi-
ple in the first prototypes of his Shakti Electromagnetic Stabilizers. How do
they work? “It’s really a form of energy
conversion,” Piazza says. Commonly
called Shakti Stones, the devices contain
trap circuits: elements that resonate at
microwave and radio frequencies, and
convert some of that resonant energy to
heat, thereby draining a persistent
source of noise away from audio and
video equipment.

“I chose the name ‘Shakti’ because it
means ‘energy,’ ” Piazza says, acknowledg-
ing that the name caused his invention
to be lumped in with a host of
faith-dependent ceremonial listening
aids. “Overcoming the mystical-magical
connotation has been something of an
uphill battle,” he admits.

But Shakti’s effect is all based on solid
science, Piazza asserts, and is repro-
ducible in controlled experiments. In
fact, the device’s effectiveness in attenuat-
ing RFI, EMI, and parasitic oscilla-
tions has been verified by several inde-
pendent California laboratories: Met-
rology Instruments Lab in Simi Valley,
UCLA’s High Frequency Laboratory,
and Compatible Electronics Inc. of
Agoura.1 Vancouver’s Architectural
Electronics uses Shakti products to
improve video color, convergence, and
picture detail in its home-theater
installations.

Now the world of professional
recording has gotten on the Shakti
bandwagon. London’s Astoria Studio,
famed for Pink Floyd’s records, is using
47 of the stones. Soundfield Studios in
Putney has also found them beneficial,
and several engineers at Abbey Road
Studios use them, including classical
remastering engineer and producer Paul
Baily. So does Doug Sax at the Mastering
Lab in Los Angeles. During a
brief conversation in early February,
Piazza mentioned that L.A.’s JVC Music
was evaluating Shakti, and Sony Music
had requested some samples. “The
effect is most pronounced with systems
of very high resolution,” he says.
“Recording engineers repeat almost ver-
batim the results reported by many
high-end reviewers and audiophiles.”

Often, valuable inventions go unre-
cognized because their owners are uncer-
tain how to offer them to the world. Not
sure how to market his, Piazza quietly
sat on it for years, sometimes lending
samples to audiophile and musician
friends for critiques. His anti-sales strat-
ey worked slowly but very well: Shakti
gradually gained a reputation in high-
end circles until breaking through as a
commercial product late in 1994.

SAI has grown steadily since then, and
recently its founder finally felt secure
even to buy his first house — in Pacific
Palisades, the posh neighborhood on
L.A.’s west side. Only a few miles north
but worlds away from his former digs in
Venice, Ben Piazza marvels at his good
fortune: “I owe it all to Mr. Wizard.”

**UNIVERSAL KINGDOM**

**Paul Messenger**

You know what it’s like on the outside
of your loudspeakers, ‘cause you listen
to them every day. Just imagine for a
moment what it would be like if your head
were inside the box.

Noisy. Very, very noisy, and in a very
confined space too. (There are speakers
around today I couldn’t get my shoes
into, never mind my head.)

Anyone who’s ever heard a dipole
(panel) or true infinite-baffle speaker
(see later) can’t fail to be aware that
the boxes used in conventional monopole
speakers introduce a whole lot of prob-
lems. Even if you make them tough or
clear enough to minimize panel reso-
nances, and add a bit of asymmetry to
defocus the standing waves and divert
direct reflections, you’re only moving
the problem around to reduce its
impact, not eliminating it.

The most common technique used to
try to reduce internal standing-wave col-
orations is to fill a speaker’s inwards with
damping materials and/or line its internal
surfaces with foam. This is usually done
simply by trial and error, and while it can
be quite effective, it’s rarely scientific, and
still has its down- as well as its upside.

Several leading UK speaker design-
ers are openly critical of the disadvan-
tages of damping materials and their
hysteretic effects on sound quality. One
of them proved this to me in no uncer-
tain terms a couple of years ago. The
end (brick-built, structural) wall of my
listening room has had two 15”-square
timber-lined hatchways fitted, which
conveniently accommodate a pair of 15”
Tannoy dual-concentric drivers.

Open back and front, this is a true
infinite-baffle (through bass and mid-
range), boxless loudspeaker system,
deriving considerable benefit from
removing virtually all the classic box

1 Compatible test reports are available from SAI at
(310) 459-5704. SAI’s US distributor is Musical
Surroundings, (510) 420-0379.)

---

**Indystry Update**

Robin’s latest creation, the exquisitely
styled Mission 750LE, follows his prin-
ciple of keeping damping to a mini-
 mum. This tiny subminiature uses just
one small piece of foam, relying instead
on an ingenious technique in which
deep, wide grooves are routed out of the
inside cabinet walls in an asymmetric
pattern to help break up standing waves.

By the same token, removing inter-
nal damping from speakers became the
thing to do at the tweaker end of the
UK scene back in the mid-'80s. My
own experiments suggested that, al-
though there were some benefits to
using an empty box, the first reflection
from the inside of the back panel intro-
duced an arguably worse ill in the form
of midband cancellation coloration.

All of which is a rather extended intro-
duction to the observation that loud-
speaker internal damping is something of
a necessary evil. However, as far as Clive
Gibson of Musical Technology is con-
cerned, that’s because the damping mat-
erials we currently use are relatively crude.

Musical Technology is one of Brit-
ain’s newer and more creative loud-
speaker makers. Its particular specializa-
tion is a well-received range of compact
floorstanding designs (named after spe-
cies of raptors, from Kestrel through
Eagle), but Clive and I both agree that
the considerable success this type of
loudspeaker is enjoying has more to do
with presentation, fashion, and practi-
cality than performance.

The basic dimensions of these tall,
slim speakers are simply acoustically less
favorable than those of more traditional
stand-mount shapes, and the main
problem area is the relatively long col-
umn of air needed to get the drive-units
up to ear height. This tends to introduce
a significant cancellation at about
130Hz, which is well below the range
over which normal foams are most
effective (typically 400Hz and above).
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About a year ago, MT introduced a new "smart" foam in its SE version of the Harrier. Code-named HQA (high-Q absorber), this tri-layer sandwich of two different foams and a film is much more frequency-selective than conventional foams, and may be tuned to any specific frequency band by varying its thickness. Tuning out the 130Hz resonance requires a 6" thickness, but much thinner tri-layer pieces tuned to 600Hz are also used in some of the tweeters.

The really impressive feature of this foam is how it can be tailored to provide specific absorption over a relatively tight bandwidth. Tuned to 130Hz, absorption is reduced by 50% below 90Hz and above 250Hz. MT sent me a MLSSA plot of a Harrier with and without the foam fitted: the damping flattened out a 9dB discontinuity seen under undamped conditions.

My own tests tend to confirm this claim. When I tested the double-HQA-damped Condor for Hi-Fi Choice, I noted how much smoother and flatter it was through the upper-bass region than most of its type, particularly the original, similar-sized, non-SE Harrier. Indeed, it was that review observation that prompted Clive's letter, and in turn led to this news item, which itself might herald a minor revolution.

**UNITED STATES**

**Barry Willis**

Babies born in Georgia may soon be going home with Mozart and Vivaldi, if Governor Zell Miller has his way. In January, Miller asked his legislators to approve a $105,000 expenditure for music for the approximately 100,000 infants born in the state each year. $1.05 per child would supply a classical music sampler cassette for each of them. The state's budget for 1998 is $12.5 billion.

The Democratic Governor is a strong believer in the ability of music to enhance brain development in young children. "Listening to music at an early age affects the spatial and temporal reasoning that underlies math and engineering," Miller said after making his legislative pitch for music. "Music helps those trillions of brain connections to develop," he added.

Many, but not all, experts agree that music is the neurological accelerator Miller believes it is. Sandra Trehaub, a University of Toronto professor of psychology who studies infants' perceptions of music, told the *New York Times*, "I don't think we have enough evidence to make that statement unambiguously." Trehaub dismissed as "an illusion" the idea that "you can buy a record, or have any one experience . . . that's going to be the thing that gets you into Harvard or Princeton."

Professor Trehaub is correct that human development is a complicated process, but several studies have correlated early exposure to music with improved mathematical ability. A study conducted by Frances Rauscher of the University of California at Irvine reached such a conclusion. Rauscher studied Los Angeles area preschoolers, dividing them into a group that participated in frequent group singing and piano lessons, and a second group that received no musical training. A year later, the musically trained children scored 80% higher on tests designed to measure temporal and spatial reasoning.

Although the idea of all-around intellectual enrichment as a result of musical experience may be debatable, no one questions that early exposure encourages musical talent. Music is a natural human expression; the youngest children sing to themselves as they play. Many can repeat, with a fair degree of accuracy, melodies they've heard only a couple of times.

But how can music make kids smarter? Dense internural connectivity correlates with higher intellectual capacity. Music excites complex brain patterns, encouraging complex connectivity. Psychologist Dr. Robert Zatorre of Montreal's Neurological Institute and Hospital has said that brain mapping shows that "musical networks" extend into the brain's emotional circuits in the limbic system, and that music, like its close relative, language, has a role in infant and child development. Studies of children reared in isolation have established that early and continued exposure to (and use of) language is essential for normal brain development. Without it, irremediable retardation is the result. Is it specious to speculate that some degree of retardation (or, at least, a less complete development) occurs without music?

Governor Miller thinks not. In addition to his political career, he is the author of an encyclopedia of Georgia's musical history, *They Hear Georgia Singing* (Mercer University Press, 1983). The lifelong fan of country and bluegrass has recruited Atlanta Symphony Orchestra music director Yoel Levi into his campaign. Levi has compiled a sampler of ASO recordings that include St. Saëns' *Carnival of the Animals*, Holst's *The Planets*, and the overture to Rossini's *The Barber of Seville*. Miller's passion is com-

---

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INTERNATIONAL
Barry Willis

Almost three years ago, the Strasbourg-based European Science Foundation issued a warning that the rapid expansion of the mobile communications industry was a serious threat to radio astronomers worldwide. Dr. James Cohen of Britain’s Jodrell Bank observatory decried the ongoing deployment of numerous low-earth-orbit satellites. The International Telecommunications Union (ITU) had assigned a frequency of 1410MHz to the satellite/mobile phone systems, dangerously close to the 1412MHz signature of the hydroxyl radical, a hydrogen/oxygen molecular fragment widely distributed in space and used by radio astronomers to map the universe.

Dr. Cohen stated at the time that even if the sideband emissions from mobile telephones were small, they would still devastate large radio 'scopes, which are so sensitive they can detect extremely weak and distant signals on the sub-nanovolt level. He likened the problem to a professional photographer having a light shining into his lens every time he tried to snap a picture. Dr. Peter Napier of the US National Radio Astronomy Observatory concurred with Dr. Cohen, saying the problems were severe and getting worse. He characterized common engineering practices as “inadequate to prevent severe disruption to radio astronomy.”

In the time since the ESF issued its warning, celestial traffic around the earth has increased tremendously, supporting an ever-growing market of pagers, wireless modems, mobile telephones, radio communications, and radar — including an experimental system intended to prevent auto collisions. Most of the brightest “stars” in the night sky are recently launched satellites in geosynchronous orbits. Even the 24-satellite Global Positioning System put in place by the US Air Force contributes to the problem. Intended originally to help ships and airplanes navigate, the system is now used by ordinary motorists, and even hikers, hunters, campers, and fishermen, who can buy small GPS receivers for under $200.

The situation shows no sign of abating. Mike Cousins, who runs the Stanford Research Institute’s radiotelescope research program, told the San Francisco Examiner that the problem is “constant, sometimes severe.” There is now a cellular phone tower just over the hill from Stanford’s 150’ dish, he told Examiner science writer Key Davidson. “There’s really nothing we can do about it.” The Stanford dish is sensitive enough to pick up radar reflections from ships in the western Pacific and CB radio transmissions from as far away as Florida. Seth Shot- tak of the SETI Institute in Mountain View, California, characterized the problem as “science vs heavy-duty commerce.” Scientists at his institute search for signals from alien civilizations.

(Light pollution from nearby cities is a problem for optical astronomers, too. Most optical telescopes, like their radio counterparts, stand in once-remote areas that are now surrounded by civilization, such as the Mount Wilson Observatory in Pasadena.)

Radio astronomers have developed a few techniques for separating signals from noise. One is computer correlation of signals received by two or more dishes spaced hundreds of miles apart. Using this technique, they can filter out the transmissions of “yakking yuppies on cell phones” and concentrate on the spectrum they are studying. But perhaps the only real cure is to build dish antennas as far away from terrestrial noise as possible — such as on the dark side of the moon, which has been proposed half seriously by some respected astronomers. The moon’s far side is effectively shielded from planetary radio waves. Of course, getting Congressional approval for such a project is as likely as the proverbial cold day in Hell.

But how about this? Little noted or remembered is the fact that Ray Dolby, of audio tape noise-reduction fame, did his early work in radio astronomy. In fact, his inspiration for the Dolby-B noise-reduction system — which lifted the lowly cassette tape into the realm of high fidelity and earned Dolby enormous wealth — came from his work in trying to extract very weak cosmic signals from background radiation noise. Maybe Dolby Labs, in a philanthropic gesture to honor its founder’s origins and to further his early work, could apply some of its considerable brain power toward reducing RF noise here on Earth. Imagine the headlines: “Advance in Noise Reduction Enables Discovery of Life on Other Planets.” We can dream, can’t we?
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Dolby is a registered trademark of Dolby Laboratories
"I f you like those 50W, wait till you hear 11W," declared Dennis Had of Cary Audio Design.

Dennis was referring to the 50Wpc Cary CAD-805C amplifier I discussed last month, and to the $4995, 11Wpc CAD 300SE Signature monoblock amp, the subject of this month's scribblings.

Dennis' remark gets to the heart of what the single-ended triode phenomenon (SET for short) is all about: hearing more from less. And what could be more appropriate for the late 1990s than sonic downsizing?

Weary of 100W? 200W? 300W? SET may be your bet. Less is more!

While your audiophile friends aspire ever upward in power and in price, you can go down. You can even aspire to no power at all...like my Russian friend, Val.

"No watts per channel!" he crows, winding up his vintage gramophone for yet another night of spinning the shellac.

As Val has it, our friend Fremer is wrong: Shellac, not vinyl, rules. (Actually, Val likes vinyl, too. It's CDs he can't abide.)

I first caught up with the Cary 300SE back in the November 1993 Stereophile (Vol.16 No.11, p.69). "These are the magic Carys," I proclaimed then. If anything, they're even more magical now. The original CAD 300SE was the amp that opened my ears to single-ended triode sound and to the 300B tube.

"Le tube de la siècle," says Jean Hiraga of La Nouvelle Revue du Son. "God's tube," says Sam. And the Western Electric 300B is in production again—same tube, original factory. Dennis Had has wisely chosen to make the WE 300B standard with the CAD 300SE Signature.

He's made other changes, too.

"There's more iron in the output transformer," says Dennis. It's now rated for 25Wpc instead of 15Wpc.

The input tubes are a pair of 6SN7 dual triodes instead of a single 6SL7, as in previous versions, allowing Dennis to achieve an input sensitivity of 450mV for maximum output. And the rectifier tube is now a 5U4GB—a directly heated cathode tube like the 300B.

In one way, the new CAD 300SE Signature is less sexy than the original CAD 300SE. The chassis is no longer chrome plated, just painted black. The small front plates are gold-toned. Handsome amp, and you won't have to wipe your fingerprints off the chrome. Still, I miss that mirror finish.

See those two switches on the front? One turns on standby power to the filaments, the other sends plate voltage through the tube. You want to be careful about those switches when you unpack the amps—it would be easy to break them, though they're quite sturdy in use. I tend to leave the filaments warmed up.

The amplifier is entirely hand-wired. The binding posts are Edison-Price—no plastic-covered Euroshit here, as there is with so many amps designed to meet CE requirements. And the amp now has a choke filter system in the power supply. This should make it even less susceptible to effects from your AC line, including the so-called "AC ripple effect" that can ride along with DC and cause hum.

And the power rating? Like I said, a whopping 11W into 8 ohms, maybe a little less into 4 ohms unless you change the output transformer tap to 4 ohms. (The dealer can do this for you.) You buy two of these amplifiers—or three, if you want to use the CAD 300SE Signature for ultimate home-theater retro.

The Western Electric 300B tube was used in the most popular and perhaps best-sounding theater amplifier of all time: the Western Electric Model 91. Word is that Westrex is bringing it back! Just wait till you hear a 300B tube with a great movie soundtrack. Who needs surround?

Let's get back to the input sensitivity for a second.

That extra 6SN7 has allowed for greater gain. In other words, you have enough gain in the amp that you can probably get by with a passive preamp or the volume control on your CD player. Since most active preamps, especially those under $2000, tend to muck up the sound, in my opinion, this could represent a big saving. I used the $325 passive Creek OBH-12 with its nifty remote volume control. A remote volume control is very useful when you're dealing with 11Wpc.

But what about speakers?

Yeah, I thought you'd ask about that.

With the 50Wpc Cary 805C, your choice of speakers is a fairly wide range. Most available speakers (except the most pigish American models) will probably work. With 11Wpc—and the amplifier optimized for an 8 ohm load—your speaker choice is somewhat more limited.

What will work and what won't? With SET amps, you can't always tell.

1 Cary Audio Design, 111-A Woodwinds Industrial Court, Cary, NC 27511. Tel: (919) 481-4494. Fax: (919) 460-3828.

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What you need to do is try—possibly with the speakers you own now. You may be pleasantly surprised!

High sensitivity is nifty, but not the main thing, apparently. Impedance is—you want to get it up. Generally, you'd rather have an 8 ohm than a 4 ohm speaker. But you might get by with a particular 4 ohm speaker if its impedance is relatively flat across the speaker's frequency range.

Avoid speakers with mean impedance curves; it, sharp blips and dips across the frequency spectrum. Ideally, the speaker's impedance shouldn't fall more than 25% relative to its nominal impedance. So if you have an 8 ohm speaker, impedance shouldn't fall below 6 ohms.

A rising impedance presents much less of a problem. Tube amps in general and SET amps in particular like high-impedance speakers.

ProAc speakers have always been a favorite choice with the Cary CAD 300SE, even before the Signature was introduced. Of current ProAc models, the Tablette 50 Signature is especially recommended. I borrowed a pair briefly, and it is a terrific match—not only because of the speaker's relatively high sensitivity (90dB), but also because of its relatively flat, 8 ohm impedance and its tonal characteristics.

Stacked 'steens
“Stacked 'steens—that's another way to go with the Cary CAD 300SE Signatures,” suggests John Rutan of Audio Connection in Verona, New Jersey.

This involves stacking one Vandersteen 1C speaker atop another and wiring them in series, which presents an impedance of about 16 ohms to each amplifier.

“Smokin'!” says John, the hi-fi gentleman of Verona. “It's awesome.”

Meanwhile, I used the amps with the Mordaunt-Short 101 Classic, the Atelier de Synergie Acoustique (ASA) Baby Monitors, and the Triangle Electro-acoustique Zephyrs. I didn't think there was enough power to drive the ASA speakers, though these French marvels do fine with the Cary CAD-805C.

Nor am I sure that the Triangle Zephyrs, with their nominal 4 ohm load, are an ideal choice—even though they're 93dB sensitive. A little lean-
sounding but very highly resolving, these speakers sounded leaner still with the CAD 300SE Signature.

The Mordaunt-Short 101 Classic (specified to be an easy 8 ohm load), on the other hand, has proven superb—although I did need to position the speakers about 18” from the back wall for decent bass and the best tonal balance.

The CAD 300SE is certainly not a heavy-or dark-sounding amp, but neither is it overall aggressive in any way. The bass is tight, taut, tuneful—very well defined, not overripe. Still, you can run out of power with 11W, and the bass is where you're likely to hear it first.

Any old speakers?

Dennis may kill me for writing this, but he likes to hang out at RadioShack while his wife, Donna, roams the mall.

“I got this $99 speaker on sale this month,” he'll say on the phone. “Go check it out.”

Yeah, sure.

Dennis usually ends up rebuilding the speaker—changing its crossover components and wiring, adding better connectors, sometimes even bracing the cabinet. He's got a point: Almost any old speaker can be made to sound decent, and often much more than decent, with a 300B-based amp.

The magic Carys

So what's the magic of the CAD 300SE Signature?

The amp is alive, man, alive—living and breathing with life and light in a way that only a great SET amp can (in my opinion). Most hi-fi is far removed from the experience of live music. The CAD 300SE Signature gets you closer, much closer.

I get the same response from civilians—i.e., nonaudiophiles—every time I play the CAD 300SE Signatures.

“It's live! I've never heard anything like it!”

The CAD 300SE Signature has a pristine purity, a stunning clarity that simply has to be heard to be believed. This is one of those very few must-audition amps—even if you're not in the market to buy, even if you've completely closed your mind to an 11W amp. Go listen!

All of a sudden the differences between various solid-state amps become...well, relatively insignificant. Remember what Gertrude Stein said—“a difference that's no difference is no difference?” Believe it!

Listening in a different way

Even more than the Cary CAD-805C—which reproduces music with more drama, more spaciousness, more of a holographic effect—the smaller CAD 300SE Signature forces me (and that's really the wrong word, because there's nothing "forced" about it) to listen in a different way.

Now, instead of being blown away by some of the music, I'm drawn into all the music—the quieter moments even more than the louder ones. I hear more of the score, more of the subtle nuances of the performance.

And the harmonic richness!

Tube amps—regular tube amps, that is—usually have harmonic richness too. That's why tubecophiles love them. The Cary 300SE Signature goes beyond this. There's a pristine purity to the harmonic presentation. It's clean but never lean.

And talk about definition and detail...I notice it especially in vocals: the clarity of the sibilants, the way each word is clearly, cleanly articulated. There's no smearing. None. The effect is more than amazing—it's astounding.

So I find myself listening in a different way: drawn into the music rather than hit over the head by it. I also find it virtually impossible to listen and read at the same time—even the newspaper. The music simply commands my attention and involves my emotions, not just some of the time but all of the time. Sometimes—I mean this literally—the amplifier brings tears to my eyes.

Get out of the car

Big amps can convey the sweep, drama, and drive of the music—its dynamics. But tiny SET amps like the CAD 300SE Signature can convey something more: the magic of the moment, the mystery of the harmonics—the same experience as live. Forget those who say that hi-fi can never replicate real music. Single-ended triodes can and do.

Conventional hi-fi is like looking at a beautiful scene through the window of a car, train, or bus. Even if the glass is clean, there's a barrier between you and nature. You miss the ambience, the smells, the sounds. You might almost as well be peering at a photograph.

With SET, you step out of the car. You become one with the landscape. You hear more. You can almost touch. Or smell. You've gone beyond virtual reality to reality itself.

Is there something miraculous, almost religious about single-ended triode sound? Hold the measurements.
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“Did that musician fart?” I asked Marina as we played a chamber-music disc.

“I thought you did.”

“Ahh! You see? Only with single-ended triode.”

I hit the rewind button.

“Yup, someone cut the cheese, all right. It’s there on the recording. I think it was the first violinist.”

“Plooboo! (Bad boy!) You’re Beavis and Butt-head combined!” she said. “And here I was enjoying the music.”

With the Cary 300SE Signature I hear more snuffles, more coughs, more scufflings of the feet. Sometimes more traffic noise, too. There’s more there there. Mainly, I hear more of the subtleties and nuances of the performance and the music. More of the score. More of the musicians’ artistry.

I’ve been talking at some length with Dennis. As Had has it, “There is no more linear device than a low-powered single-ended triode output tube like the 300B or the 2A3.”

Solid-state amps?

MOSFET output transistors may give you some of the harmonic richness, some of the tube bloom—but there’s that old bugaboo “MOSFET mist,” sneering details and adding a certain overlay of grunge to the sound. Bipolar transistors can be made to sound clean, but it’s as if they scrub away some of the harmonic richness. This is why the Electrocompaniet AW-60 is such a stunning solid-state amp: it combines bipolar clarity with a generous degree of harmonic richness.

Other tube amps of the conventional push-pull variety?

You get more power, to be sure. Plus lots of bloom and spaciousness sometimes, as well as a rich, full-bodied harmonic presentation. But to my ears there’s still a certain degree of glare and grunge that SET wipes clean.

“The foundation of the music is found in the lower midrange,” says Dennis. “This is what single-ended triode amplifiers do in spades. There is a warmth, a full-bodiedness in the critical lower midrange that continues into the full midrange.

But what else accounts for the stunning—nay, astounding—in immediacy of SET sound?

“The answer lies in the triode output tube—in this case, the 300B. It’s such a linear tube that, with a properly designed amp, there is no need for feedback.” (There is, in fact, no loop feedback in the CAD 300SE Signature.)

“When you eliminate the feedback, you then have an amplifier that presents a depth of field like you have with live music. There is Sam’s space,” Dennis joked: “space behind, above, and around the instruments that is scraped clean by feedback amplifiers.”

With the Cary 300SE Signature, I hear more of the subtleties and nuances of the performance and the music.

And you don’t get this with push-pull?

“With push-pull, the signal is being chopped in half. You alter the original input signal into the amplifier so you have a ±180° out-of-phase signal that will help drive the pair of output tubes.

“The very nature of a push-pull design eliminates the second-order, fourth-order, the other even-order harmonics. The harmonics left over are the dissonant, odd-order, very nonpleasing distortion.

“In my opinion, push-pull eliminates some of the beauty and the weight that a single-ended amplifier affords us because it is so rich in second-order harmonics.

“You know, people are often listening to second-order harmonics deliberately injected into recordings every day and they’re not even aware of it—especially with female vocal recordings. Sound engineers do this precisely to add weight and fullness to the performance.”

So we’re being bathed in second-order harmonic distortion?

“It goes along free for the ride. That’s part of the nature of a single-ended triode: the second-order harmonic distortion that emits from the tube. I think we’re being shielded from the fifth-, seventh-, and ninth-order distortions.”

As I said, this is a must-hear amp. While $4995 isn’t cheap, you may not need an active preamp. And you may not have to spend a great deal on speakers, either.

Make an appointment with your Cary dealer, bring your favorite recordings and your speakers, if you can, and leave your preconceptions at the door.

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C all it a convention, call it a trade exhibition, call it CES, call it “Bernie”—no matter how you laser-slice it, it's a show. And for a show to succeed, it needs an audience. For an audience to show up, it needs stars, it needs a good book, and it needs some decent tunes or compelling drama.

The Consumer Electronics Show used to have all of those things in such profusion it could mount two productions a year—one in Chicago, one in Las Vegas. But as the '90s wound up, the star power wound down: there were no new bright lights—no new big-screen TV, no VCR, no camcorder or compact disc to attract the hordes. The hordes dutifully dwindled—especially in Chicago, where you could easily measure attendance by how long it took the McCormick Center parking lot to fill. In the early '80s, if you didn't get there by 8am you were turned away; toward the sorry-assed end you could waltz in anytime and park indoors, close to the entrance. The outside lot, once gorged with cars, became a lonely expanse of sizzling concrete. The show closed; the audience had moved on.

But there was always Las Vegas! Surely the crowds would keep coming to Vegas—America's premier convention city. There were new "stars" on the horizon to help ensure the show's continued success, including DSS small-dish satellite technology, DVD, and HDTV, all under the comforting and easy-to-conceptualize "home theater" umbrella. Yet over the past few years even Vegas, it seems, has seen attendance shrink. It's more difficult to tell: there's no central parking lot from which to take a pulse, and the show is more spread out. But clearly, over the past few years the sinking feeling that gripped the Loop show began to consume the Las Vegas CES. Unless there was change, this show, too, would be threatened—even as Comdex, the giant computer show, grew.

So this year's model came with some high-profile celebrity speakers: Bill Gates, Barry Diller, Steve Forbes, and Scott McNealy (CEO of Sun Microsystems), and a high-profile product: HDTV. There was a high-profile logo and slogan: "Touch Tomorrow." And the show's host, CEMA, the Consumer Electronics Manufacturers' Association (“A sector of EIA”), did an impressive job of organizing everything into the most focused, comprehensive, information-packed, and user-friendly show guide ever—a full-sized telephone book of a document on hard copy and CD-ROM that for the first time explains CEMA, its organization, and its mission.

It's a digital year!

CEMA's audited attendance figure was 91,641 down a little from the 1997 Show's 95,725, but from what I could gather, the number of visitors at all the CES venues appeared to be down. The first day, the Alexis Park Resort Hotel, where specialty audio was sequestered, was a ghost town, but that was hardly surprising: the "High End" we all know and love has been gradually marginalized over the past decade, and no one seems willing to do much about it.

The next three days saw attendance climb to the point where the Alexis walkways were almost crowded, but take it from me: with a few exceptions I'll get to in a minute, the specialty audio part of CES was about as exciting as watching corn grow.

I heard the same thing from some of the home-theater exhibitors at the Las Vegas Hilton Convention Center. It was reported to me that the mood of the crowd was listless—even though exhibitors had HD TV and DVD, DTS, DSS, and Dolby Digital to trumpet. And this is, as CEMA claimed, "...a digital year."

Why did the show fail to generate heat? I'll get to high-end and analog at the show shortly, but first note that, of the "star" speakers, two were computer geeks, one of them the Antichrist of computerdorn. If CEMA goes for the computer/consumer electronics "convergence" the computer guys want, COMDEX wins, CES loses, and—better believe it—we audiophiles lose. After all, their idea of "music" is a jitter-rich, RF-polluted, 16-bit sound card and a pair of powered plastic mini-speakers. I couldn't find it in the guide, but apparently some of the forward thinkers in the computer/audio convergence field saw fit to hire a Stereo Review writer to bring them into "high-end" audio. That's how off the chart they are.

In my opinion, Stereo Review and its ilk have spent the past 20 years trying to kill off the mainstream audio industry in America with their "it all sounds the same" message. In Britain, modestly priced two-channel audio is still an exciting, viable market—and a stepping stone to the "high end." Here the link has been cut, audio stores are dying, and the crowded computer stores look like the audio stores of the early '70s—they're on a roll, and everyone wants the latest upgrade.

No one in the computer industry is stupid and/or ignorant enough to say "you have enough memory, you have enough speed, all computers are the same." When the convergence the computer industry seeks occurs and entertainment really starts flowing through the Internet, consumers will put their

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1 CEMA's breakdown is interesting: 28,372 exhibitors; 45,458 buyers and distributors; 3261 nonexhibiting manufacturers (whom I assume were "outboarding" at Las Vegas hotels, but still needed to register to visit the show); 2446 manufacturer representatives; 2379 guests; 2212 consultants and financial analysts; 1307 engineers; 967 "developers"; and 2654 editorial press. —JA

Stereophile, April 1998

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audio money there; not into some tweaky equivalent of grandpa's console radio. Of course, the sound will be incremental, but by then it will be too late for the "high end."

CEMA tried to play the HDTV card this year. Big mistake, in my opinion—that's next year's news. This year, all we got were a couple of impressive-looking demos like the one I saw at Toshiba: an incredible display of what football will look like...someday. This day, it took a wall of noisy, complex video gear to provide the picture.

This year's home-theater news was really last year's news: Dolby Digital, DTS, and DVD, all of which are, at this point, for "tweakers," not Joe Sixpack. Joe gets DSS (read: football). What does Dolby Digital mean to him? Not much.

When consumers see HDTV they'll get the picture, but the price and the limited programming will make the transition long and painful. Meanwhile, big-screen TV sales—low-profit-margin items to begin with—have ground to a halt, with consumers afraid to invest in what they think will soon be obsolete technology. It's the worst of all worlds for the television industry. No wonder the home-theater crowd was listless.

What about analog?

As usual this CES saw many manufacturers "outboard" at various Las Vegas hotels, but the most organized of these, Ken Mavrick's "dissident" International High End Show, split between the Debbie Reynolds and Howard Johnson hotels, had me hanging my head. First of all, I didn't even know the IHES was being held this year. And if I didn't, whom did they tell?

Eventually the IHES handed out an "official directory" at the Alexis Park, but after reading it I bet many recipients didn't take it seriously enough to attend. Particularly hilarious were the instructions on "How to Maximize Your Show Agenda": "Because there are five main venues, you should allow one day for each. One day for Debbie Reynolds, one day for Howard Johnson, one day each for Golden Nugget and the LV Convention Center, and one day for Alexis Park. Due to the El Nio [sic] storms, you may have to change the Alexis Park day as it is an outdoor venue." Why not come right out and say it: The Alexis Park is contaminated by nuclear waste and shouldn't be visited at all?

What's happened is, for the most part, the High End has gotten too exotic, more expensive, and more expensive. The companies making affordable gear have sought shelter in the bosom of home theater, pitching their tents at the Convention Center. There were exceptions, of course...

As usual, Musical Fidelity Hall showed off affordable Creek/Epos systems and a $299 turntable complete with factory-mounted Goldring Elan cartridge. And guess what? The sound from that modest system was among the best I heard at the Show. The two-speed belt-drive MMF-2 table, made in the Czech Republic (at the same factory from which Sumiko sources its Project series), features an alloy platter running on a stainless-steel-and-bronze bearing assembly with a Teflon base. The arm allows for both VTA and azimuth adjustment. Now there's no excuse for not adding analog to your system, and I bet it sounds better than any digital rig in the ways that analog fundamentally beats digital. The $95 Ringmat, which Hall also imports and distributes, made an impressive sonic improvement, particularly in the bass.

There were other attempts at affordable Pink Triangle's swave-looking Tarantella ($1095 without arm), an electronically regulated, DC motor-driven, two-speed table with a surprisingly sophisticated suspension that offers vertical but (purposely) not lateral isolation. The bearing, of the inverted, polished-ball variety, puts the acrylic platter's center of gravity below the bearing point for added stability. The Tarantella with Rega's outstanding RB300 tonearm will set you back $1495. According to designer Arthur Khouscerian, the 'table also does well with Naim's ARQ arm.

Pink Triangle is distributed in the US by Pro Audio Limited, which also distributes Wilson Benesch products, including the intriguing-looking new "budget"-priced Circle turntable. This uses ultraslick carbon-fiber rods as part of a unique bearing suspension system. The bearing itself is an impressive-looking, high-tolerance, phosphor-bronze sleeve with a tool-steel spindle. The acrylic-plated Circle with Rega RB300 sells for $1995; with WB's new a.c.t. 0.5 carbon-fiber arm (a handsome-looking combo that we'll soon review), it will set you back $2995. Add the Ply cartridge, WB's version of the Benz Glider, and you have the Full Circle ($3895) ready to play. Also on display: the new Analog One 300µV moving-coil cartridge ($3800), which Jonathan Scull reviewed in the February issue of Stereophile.

Over at the home-theater exhibits I found a new turntable: Rotel's RP-955, a non-Rega-sourced two-speed, belt-drive unit featuring a heavy metal chassis and die-cast platter—$599 with pre-mounted Audio-Technica cartridge.

Basis' A.J. Conti, who builds "high-end" cappuccino machines in his spare time and who seemed to be running on high-octane caffeine when I encountered him, proudly showed me his new model 1400 budget 'table, which sells...
The ART Preamplifier is a limited edition work of strikingly advanced audio technology dedicated to your passion for music, designed to reveal subtle nuances hidden in your treasured recordings.
$10,000 Debut Gold. Machining quality is the same as on the most expensive 'tables, with platter runoff accurate to 0.0005". The 1400 is upgradeable in steps to the full-blown 2800; by the time you're finished, you haven't spent any more than had you started with the 2800. Basis, distributed by Musical Surroundings, was a strong presence at the Show, with turntables in almost a dozen rooms.

Even Rockport's Andy Payor has entered the "budget" (for him) turntable sweepstakes, with the superbly constructed Capella 2, a fully upgradeable $7500 basic 'table (no arm) featuring a nonairbearing platter, no vacuum holdown, and no suspension. Add the airbearing platter, vacuum holdown, and air makeup unit, and the price dou- 
tles to $15,000. The active pneumatic suspension adds $5750. Finish it off with the upgraded Rockport airbearing arm ($6750) and the total price floats to $28,500 ("for thereabouts," says Mr. Payor). As in all Rockport products, the Capella 2's build quality is as good as it gets in the High End—or anyplace else, for that matter. Rockport's top-of-the-line Sirius 2 will set you back about twice as much.

Also present and accounted for was Lloyd Walker with his Proscenium Gold Signature airbearing tonearm/radial load air-pressurized platter-bearing 'table. This kind of platter bearing is not a true air bearing, since the axial load (vertical) makes mechanical contact. Despite its turntable being literally handmade, Walker is a mechanical engineer; it shows in the quality of his work and the attention he pays to every last detail. Beautiful to look at in a retro way, the brass/piano-black-lacquered 'table with outboard motor and large but dead-quiet air-compressor unit, soun- 
ded superb fitted with a Clearaudio Insider cartridge.

The Proscenium is based on Bruce Thigpen's Maplewood/Eminent Technology design, which features a stationary airbearing and a moveable spindle. Fortu- nately, Walker's arm includes a silicone damping trough to deal with the high horizontal mass. With a 100-lb plinth and 70-lb lead platter that he insists will not "cold flow," Walker throws a great deal of mass at the problems associated with vinyl playback, and wins.

Last year Walker offered me a review sample, but I hesitated to report on a new, limited-production, handmade, and very complex product. Walker told me he's sold over 30 'tables and not had one failure. The Walker 'table doesn't offer the refinement and grace of Payor's Rockport products, nor does it offer a true airbearing platter, vacuum holdown, or air suspension, but it costs "only" between $11,000 and $15,000.

AHT designer Dan Fanny scored points with moi by not boasting that his phono stage "blows away" everything else and is the best in the world. (there are a few options), while offering a level of sonic performance that puts it near the top, in my listening experience. While not officially exhibiting, VPI had sprinkled turntables throughout the Show, as had Immediate (the RPM-2). Also present: Project by Sunikko, Kuzma, Oracle, and Judy Spotheim's spectacular-looking La Luce, which Cardas Audio now distributes.

The message: Analog is back, it's here to stay, it's an accepted part of the audiophile mix, and it still sounds much better than digital!

Electronica

Helping the Walker 'table sound so fine was the American Hybrid Technology Non Signature MM/MC phono stage ($5750), which incorporates ultra-high-quality parts, including "nude" 0.05%-tolerance Vishay resistors and Teflon caps in a single direct-coupled, noninverting amplification stage. DC offset must be user-nilled, but that's easily done. AHT also makes the AHTP DM model ($3500). Both feature adjustable loading and enough gain for any cartridge currently available. Designer Dan Fanny scored points with moi by not boasting that his phono stage "blows away" everything else and is the best in the world. Reviewers don't like to be so pressed.

At the other end of the price spectrum was the really interesting and promising-looking Entec Black Cube (at $700), now imported by Hologra- phy Importers and Distributors of North Dartmouth, Massachusetts. The Black Cube features double-sided printed circuit boards in both the amplification/passive RIAA circuit and outboard regulated power supply, and surprisingly high-quality parts for its price. With 61dB of gain in MC mode, low noise specs, and adjustable loading, the Cube sounds like an extremely attractive product and we hope to audition it for you soon. (This Entec is not the Monster Cable line, previously owned by Demian Martin and Gerry Crosby, but a German one; I don't know how they're going to work out the trademark problem.)

If you're really strapped for cash, NAD introduced the PP-1 MM phono section featuring an outboard power supply, a resistive/capacitive (47k/220pF) input, and hard-wired, shielded, low-capa-citance, gold-plated cables. Plug that Music Hall 'table right in, and for $430 you're analog-ready! Or use NAD's own Rega-based 533 ($449).

Parasound told me that John Curl is about ready to "sign off" on his new, fully balanced P/JP 2000 MM/MC phono section ($1500), meaning that it will soon be available at a dealer near you. I also saw the cool-looking, all-tubed Thor Audio TA-3000 MM/MC phono section ($5990), which offers 60dB of gain using four 12AX7s and two 12AT7s. The Thor offers selectable loading and capacitance, soft-start power supply for increased tube life, and the all-important "mono" switch.

There were FET/tube hybrid phono sections from Herron Audio (VTHP-1), Sonic Frontiers (The Phono 1), and Wavelength (The Cotangent, $1000), and a new solid-state one from Ensemble (Fonovivo, $2500). Wavelength also introduced an upgrade of its bat-tery-powered (rechargeable Nicads) Tangent phono section, which couples a step-up transformer with a tubed RIAA/MM stage ($3000).

Audio Research demoed a new, upgraded version of its well-received

Stereophile, April 1998
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PH3 phono section, the PH3SE ($2495). Standard PH3s will continue to be available for $1500. Current and future PH3 owners will be able to upgrade to the SE version for slightly more than the difference in price between the two versions. And, of course, “veteran” phono stages like the Pass Labs Aleph Ono, the BAT VK-5 and VK-10, and the FM Acoustics 122 and 222, were also in use.

Cartridges & accessories
More useful to a reviewer than a consumer—though there are those who must have everything no matter what—is Thor Audio’s phono-section break-in box, the Phono-Burn ($399). It outputs an appropriately low-level, RIAA-inverted signal, sourced by a supplied CD, for fast and proper phono-section break-in. I’m hoping to try one soon—I need it!

Musical Surroundings introduced Graham Engineering’s new Nightingale integrated armwand/cartridge, featuring a transducer built to Bob Graham’s specs by Immutable Music, makers of Transfiguration cartridges. The cartridge body is pre-aligned and rigidly bonded to the headshell, so there are no mounting screws, and the wiring is soldered directly to the cartridge generator pins (don’t try that at home!), which eliminates the cartridge clips. This was the first CES in many years to feature a full line of Koetsu cartridges, now also distributed by Musical Surroundings.

TMH Audio familiarized me with the Miyabi low-output (250µV) MC cartridge it imports. The Miyabi uses Alnico magnets, “six-nines” copper windings, and a PA Ogura Line Contact stylus ($3995). Lauerman Audio, which imports Rega to America, has also begun importing two EMT cartridges: the TU2 ($1000 medium output) and the TU2 S (low output, $2000) from Germany. Scan-Tech, makers of the Lyra cartridges distributed by Immedia, is in the midst of an update of its popular Lydian MC cartridge. And DJ Kasser showed me two accessories for VPI turntables: a carbon-fiber record clamp and a two-piece clamping carbon-fiber armboard.

Finally, I spent half an hour with mechanical engineer Wally Malewicz (see “Analog Corner,” November ’97), who introduced me to some of the newest analog setup tools to spin ’round the turntable in a long time, including: a VTA setup tool ($299.95) that takes the guesswork out of setting the arm precisely parallel to the record (a good, repeatable reference point); the Wallyskater, which allows you to set antiskating without a test record or oscilloscope ($39.95); and the Wallybalance, an

Analog Corner

Stereophile, April 1998
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But more important, Malewicz showed me how to set azimuth for minimum crosstalk with just a digital voltmeter and any number of commonly available test records. And, on the plane to Vegas, he came up with a way to determine the percentage of speed accuracy of your table with just a stopwatch. Next month’s column will be devoted to explaining all of the great free setup tricks Wally showed me, and to reviewing his inexpensive setup gizmos.

Software?
There were no big vinyl surprises this year on the level of the RCA or Mercury reissue announcements, but Classic Records did hold a press conference to announce a new single-sided 45rpm LP release program. Every other month, Classic will issue ultra-limited-edition 45rpm versions of some of its most popular reissues. Many reviewers have been enjoying test pressings of these for a few years now; when they become available, make sure you get your favorites. When you hear them, you’ll know why!

Here’s the list:
LSC-1806-45 Also Sprach Zarathustra
MGVS-6149-45
Sonny Stitt Blows the Blues
LSC-2449-45 Gounod: Faust
LSP-2438-45
Desmond Blue (Paul Desmond)
LSC-2225-45 Witches’ Brew
CS-8192-45 Time Out (Dave Brubeck)

Analogue Productions was selling its superb Thelonious Monk box, along with many other titles, but the software news at this show, even from Classic, was not about analog.

The big story was the new 24-bit/96kHz-sampled two-channel music DVDs created — on their own initiative — by a consortium of high-end hardware and software manufacturers including Classic, Muse, Chesky, Ayre, and Resolution. I know this is someone else’s beat, so I’ll just say that, while I admire the initiative, and while the sound I heard was absolutely amazing, and perhaps as close to if not closer to the master tape than the best LPs, the odds of there ever being sufficient software to make the format viable and worth investing in are really slim. Sony and Philips have their own ideas about “super CD,” and unless it’s back-compatible with “normal” CD players, retailers aren’t going to touch it — which means the format is limited to what the High End can license for itself. A noble idea, but...

Finally
I had the flu, my head was stuffed, and my hearing was compromised, but I have to single out a few rooms for great sound: Balanced Audio Technology driving new Hales speakers, the Creek/Epos/MMF-2 turntable system, the Walker Audio/AHT/Clearaudio Insider/Lamm amplifier/Von Schweikert Model 6 speakers combo, the Revel/ProAc Response 5s driven by Audio Research gear, the new enclosed Gallo speakers, and the Alon Circe/Milennium preamp/Cary 805 combo (I forget the digital source).

If I didn’t get a chance to visit you, or I missed you, or I spaced out ... I apologize. Over and out.

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**Analog Corner**

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I grew up in a gentler world—a world filled with quiet civilities and unspoken codes of behavior. Stifling? Comforting? Perhaps a little of both. But having Emily Post close at hand makes me feel a little more in control in an out-of-control world.

So when erstwhile Absolute Sound staffer Frank Doris came over during the Stereophile party at the 1998 Consumer Electronics Show to complain that he was only now finding out about the babies born to audiofilies over the past year, Emily’s voice echoed in my mind. After all, being in public relations now, Frank speaks with these audiofilies regularly. Why hadn’t they said a word to him? Frank was baffled. Poor Emily would have been beside herself.

My dear, dear Frank: Audiophiles are a wild, passionate breed—a cross between James Dean, Bruce Springsteen, and Arnold Schwarzenegger (after all, they have to lift all that audio equipment). Throw in a little Seinfeld whining and Frasier snobbery, blend with the gene that drives them on the endless search for the perfect sound, and you have the basis for The Audiophile Code of Behavior.

Audiophiles need not announce births, weddings, or other such events. Only significant life events need be announced: Finding the shaded dog they’ve been seeking for years. Buying that new Krell amplifier.

Although formal announcements are the preferred way to communicate these happenings, multiple phone calls to audiobuddies late at night are far more common. Announcing the event via bulk e-mails has recently been deemed acceptable.

Of course, sending one e-mail to one audiobuddy usually does the trick. A few months ago My Audiophile’s e-mail was forwarded through the entire universe of audiophiles in less time than it took him to install his new VPI JMW Memorial Arm.

I told Frank I’d keep my ears open on the baby issue as I continued to mingle. My Audiophile and I joined a group of audiophiles who were lamenting those who were missing CES due to the pending births of their babies. Having a baby during this important event? Well, I did say that passion was an audiophile trait. And hearty congratulations must be given to those bringing new audiophiles into the world, even if attendance at CES is sacrificed.

Can a newborn really be an audiophile? Of course! Most audiodads I know clock in more than 450 hours of in-utero audio listening with their babies before they’re born. Can in-utero listening sessions really have an impact? Well, one friend claims that his baby developed a rash when placed in a room with an inferior rack system; another, that his baby’s first word was “vinyl.” When you think about it, the baby-to-be does have the perfect listening conditions: warm, dark, constant supply of food, someone else to jump up and constantly tweak the system…

Oh, sure, moms can whine all they want about losing their figures and getting varicose veins, but such complaints are dwarfed by the sacrifices made by audiodads. I know several audiodads who have relinquished the sweet spot to their babies, others who have given up some watts for a safer heat level, and still others who have actually foregone purchasing a new piece of equipment in order to pay for Pampers.

As My Audiophile and I continued to circulate, some friends were quick to provide updates about their children. None of those boring details about learning to walk or talk — nope, they told us of their child’s latest musical accomplishment. (Is it really possible to play a Fender guitar while still in the cradle?)

But when I asked how old their children were, most of the audiophiles looked at me dumbfounded. No surprise — My Audiophile often has difficulty remembering the ages of our niece and nephew. I would write this off to poor memory, except that he always knows exactly how many hours of playing time his tubes and cartridges have accrued. He also remembers the names and acquisition dates of all the equipment purchased by his audiobuddies for the past 20 years.

I’m certain that audiophiles suffer from selective-memory disorder. I think it must be linked to the “drive for perfect sound” gene. Ask My Audiophile what I served for dinner last night and there’s a long silence. Ask him about an RCA recording and he’ll offer to recite the entire Living Stereo catalog. Do you want it by composer, catalog number, or release date? Should he include the different pressings? Do you want his commentary on the sound, performance, and availability of each LP? (Oh, hearing his commentary is never really an option — it’s mandatory.) He can also provide the opinions of reviewers and the numbers of the issues in which they appeared, beginning with the first reviews by Sid Marks.

As the Stereophile party began to wind down, I noticed a group of audiophiles across the room passing around photographs. I love photos! The yearly onslaught of holiday photo cards is never enough for me. I love to see babies covered in baby food! I love to see them building their first snowmen! Or at Little League games, karate competitions, and ballet recitals. I love them all! I rushed over, only to find that everyone was oohing and ahhing over Harvey Rosenberg’s “wall of audio equipment” photographs. (Okay, the wall was worthy of many oohs and ahhs.)

We circled the room one last time to say our goodbyes. Of course, we’ve mastered the audio goodbye wave, which allows us to communicate how much we’ve enjoyed seeing someone without interrupting their current audio discussions. You see, there is indeed a code of excruciatingly good behavior among audiophiles, one that even Miss Manners would be pleased to document. This code is built around the three principles of audiophiledom: 1) the love of music; 2) the drive toward perfect sound; and 3) the need to make the rest of us insane while fulfilling 1) and 2.)
Standing Pat in Vegas

When it comes to mobilizing the entire audio industry, nothing beats a Consumer Electronics Show, and this year's event spread over a greater portion of Las Vegas than ever before. The High End congregated at the Alexis Park once again; “Emerging Technologies” were featured at the Sands Expo and Convention Center; “Home Theater” and “Home Control/Automation, Home Security” took over the Las Vegas Hilton; and the “Zoo” at the Las Vegas Convention Center contained everything else — lumped together were digital technologies as different from one another as DTV, DVD, and digital photography. And that doesn't even begin to account for the outboarders.

Far-flung as this year's show was, as I wandered around the Alexis Park it seemed to me that attendance was light. Very few rooms were crowded, and the sidewalks weren't particularly thronged. Official CEMA figures contradicted this impression, however: While the official attendance of 91,614 was down 4000 over last year's, it was still a strong showing. It is true that when I made it to the LVCC and the LVH, both sites were jumping, so it may also be that the Alexis Park is just so spread out that it absorbed crowds without apparent strain.

Conspicuously missing in action was a strong Asian presence — due, everyone was convinced, to the turmoil in the Far Eastern economies. Would their market unrest send tremors throughout the industry? Different theories vied for consideration, but everyone agreed that the American companies that had been neglecting the domestic market in order to concentrate on the East were in for a tough time.

I didn't sense much of last year's optimism this time around. The High End, at least, isn't in a state of panic — yet. But there was a sense of the industry holding its breath, just waiting to see what's going to happen. This year there wasn't any big technology lurking around the corner to inflame passions. Refined of existing technologies seemed to be the order of the day.

Nowhere was that better illustrated than in a back room, where I found a pair of classic Quad ESLs pushed back

1 CEMA deserves congratulations for embracing newer technologies in the form of the Consumer Technology Source CD-ROM CEMO Official Directory they handed out with the paper directories this year. It's a bit chunky to use, is missing important information (such as contact names), and has been copy-protected so you can't input information into your own database where it can be kept current, but I've already found it an indispensable tool. I eagerly await next year's improved version.
The impending rollout of High-Definition TV had the home-theater contingent all abuzz.

Before we get into the software side, 2 An inside joke for philosophy students: Eidolon is Greek for the image of an ideal. We audiophiles are such cut-ups.

...front-end. Dutch hi-fi distributor and audio engineer Jos van de Brock was showing off one of his spectacular recordings, Star Tracks by the Yuri Honing Trio (Jazz in Motion 9920102). Sting’s “Walking on the Moon,” played by a tenor sax, string bass, and drums, was moody, dynamic as all get-out, and possessed of deep, palpable bass.

The roomful of audiophiles listened transfixed. John Atkinson was sitting next to me, and I swear he forgot to breathe for the entire song. Me too. It may have been the best sound I heard at the show.

The other high point for me was a listening session in ProAc’s room, where their $14,000 Response Five was doing right by the music, in combination with Audio Research electronics and cables. ProAc USA’s Richard Gerberg and Stanalog Imports’ George Stanwick were playing their own eclectic blend of music—DCC’s Elvis reissue when I entered, and many another fine track before I took my leave. For a few minutes I forgot all about audio, shows, and business—right then, I wouldn’t have traded places with anyone else in the world. Only an exceptionally overdeveloped sense of duty propelled me out of that sweet spot.

Perhaps such simple moments were the best we could hope for at CES ’98. If the industry wasn’t breathless with anticipation of the Next Big Thing, neither was it cast into paralysis at the prospect of a Really Scary Year. All that was left was for each of us to do what we do best. Some years, that’s enough.

Expensive Loudspeakers

It starts to worry me that so many companies are addressing their speaker designs to the upper end of the market. “Big speakers can have big errors,” said the late Spencer Hughes of Spendor to me when I was of an impressionable age, and that thought continues to surface whenever I see a gnomous and pricey new box stuffed with motley drive-units. But some speakers justify their price tags on first hearing. ProAc’s new Response Five, demonstrated with Audio Research amplification and CD 2 CD player, was the last system I heard at CES, but it impressed the heck...
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I hope he didn’t wear those jeans out of the house.

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out of me. It combines a 3" soft-dome midrange driver with twin 7" woofers and soft-dome tweeter, and should sell well despite its $14,000/pair price. The JMlab Utopias, in one of what seemed like a whole corridor of Audio Plus Services suites, also made music. (Check out J-10's Utopia review elsewhere in this issue.)

**Aerial Acoustics** always makes good sound at shows, and the '98 CES was no exception. In a too-small room, the new Aerial Model 7B impressed me with its neutral balance. Source was again an Audio Research CD 2 player, with Mark Levinson No.33H monoblocks providing the drive via Transparent cable. Costing $3500/pair, the 7B uses twin 7" woofers with an unshielded version of the midrange unit developed for Aerial's excellent-sounding CC3 center speaker. As unassuming-looking as the Aerial speaker was the new top-of-the-line ES30 front Epos, which replaces the rather disappointing ES25 from a few years back. A brief audition in the Music Hall room was promising.

**Von Schweikert** speakers have generated quite a buzz on the Internet, so it was with a sense of anticipation that I listened to a pair of the revised VR-4 Gen.II speakers in the Melos room. Priced at a competitive $3950/pair, the VR-4s, driven by Melos's RW270 single-ended triode amplifier, worked some musical magic with the Classic Records CD reissue of the Dean Peer solo bass guitar album. Changes over the earlier speaker involve a rounding of the midrange enclosure baffle, crossover revisions based on the circuits developed for the VR-6 and '8 (which impressed Showgoers at HIFI '97), and what is claimed to be an "aperiodic" woofer alignment.

**Hales Design Group** launched its new Transcendence range at the '98 CES, building on the success of their good-sounding Revelator series. The Transcendences range from the $1995/pair One, which combines a magnesium-cone woofer with a 1" aluminum-dome tweeter in a stand-mounted, reflex-loaded cabinet—a port on a Hales speaker, no less!—through the $5490/pair Five, which adds a 10" polypropylene woofer and a proprietary low-distortion tweeter in a floorstanding enclosure, to the Eight (price not yet decided), which uses two aluminum-cone woofers. The sound of the Five, driven by BAT electronics, was promising, though I felt that the overall sound of the $2195/pair Revelation Threes in the next room, also driven by BAT electronics, was better. Thems the breaks with Show sound: The exhibitors are at the mercy of the individual room acoustics.

That is, unless you are Audio Artistry, whose dipolar models minimize the speakers' interaction with the room. Designer Siegfried Linkwitz gave a fascinating presentation on the philosophy behind his new $62,000, 4-way, quad-amplified Beethoven Grand system. With the Beethovens, driven by all-Rowland amplification and a Pioneer DVD player feeding a Muse DAC, the sound was almost beyond reproach. Even a hackneyed audiophile favorite, such as the Roches' first album—"I'm going away to Ireland soon..." they sing; "Yuck," I groan!—sounded delightfully inviting.

Electrostatics, of course, also had a reduced interaction with the room. I didn't get to hear the new Quads, but I did listen to the $4500/pair Innersound Eros 'stats in the Townshend room, which combine an electrostatic panel with a powered dynamic woofer. The integration between the two disparate drive-units was seamless. I also auditioned doubled-up pairs of the Dutch Audiosonic CDIs ($5500/pair) in the Threshold room. Excellent bass extension and well-defined soundstaging was my verdict. Originally there was a plan for Threshold to manufacture the Audiosonic designs in the US, but that plan has apparently been shelved pending the California company's reorganization. The speakers at the show were made in Holland.

I'd read about the German full-range Manger drive-units in reviews of the top-of-the-line Medea model from Audio Physic, so I was intrigued to hear a Manger speaker, the Zerobox 107. The biamping mode Manger drive-unit offers a time-coherent performance, though its sensitivity is low compared with that of a traditional moving-coil unit. What I heard from this $7000/pair design was promising, but the company was still looking for US distribution at the time of the show.

The sheer size of CES, and the large number of venues, make it impossible for a single reporter to see and hear everything on his or her beat. I therefore missed Martin-Logan's new Statement system, as well as the new Dunlavy Audio Labs Signature series, because both companies were demonstrating at off-the-beaten-path hotels. But I heard good things about each of them, especially the much-revised version of the excellent Dunlavy SC-I. And the Dunlavy SC-III made good music in the Bel Canto room. As did the humongous Tannoy Churchills in the Manley room, with a system that included a C.E.C. transport driving the Manley Reference DAC (now with H1/CI)
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decoding) via Illuminations Orchid AES/EBU cable and a Genesis Digital Lens. Voices sounded stunningly real on this system, I thought. "These rooms are easy to get good sound in!" proclaimed company owner Eveanna Manley; though it may, of course, have just been the effect of the lava lamp between the speakers.

I was as impressed as Wes Phillips by Avalon's new Eidolons in the Classé suite, and Larry Greenhill reports elsewhere on the sound in the Revel suite: "What he said!" applies to my reaction. The home-theater experience was simply awesome, and while the big Revel floorstanders need more work, they hold great promise. But you kinda expect good speaker design from Revel's Kevin Voceks, and what he wasn't expecting was the superb sound I heard in the Wavelength room. Not because Wavelength's amps aren't good-sounding—they're among the best of the single-ended persuasion—but because the speakers in the room, the $7995/pair Köchel K3005es, were very obviously horn-loaded.

Now, despite what you may have heard or read, I'm not prejudiced against horns. Rather, almost all the horn speakers I've heard fail to overcome the technology's limitations, not the least of which is that any horn is very much a band-limited device: serious problems outside of its band are the price paid to get their high sensitivity. There were other horn speakers at the show—the Italian SAP 1 Horn, for example—that may have played to high levels with just a 1W amplifier, but I thought it sounded distressingly colored in an old-fashioned way. The French Confluence speakers, which use a horn-loaded tweeter, also sounded more colored than I had expected. But the Köchel horns, in a system that featured a Miyabi cartridge and Nirvana cable as well as the Wavelength amplifiers, sounded effortless, uncolored, and musically communicative. Along with the new Thiel CS2.3—which, considering its $3300/pair price tag sounded astonishingly good driven by Mark Levinson electronics—the Köchels get my vote for best sound at CES.

**BONNIE MCKENZIE**

Speakers Under $2000/pair (mostly)

In the world of high-end audio, you might think drawing the assignment to cover speakers under $2000 at the 1998 WCES would make for a short Show report. It turns out there is so much available now in that price range that I could easily have spent a couple of weeks covering it all.

One reason for the increase is the influence of home theater. A large number of speaker manufacturers—including some known for larger two-channel speakers—are now producing smaller speakers that can be used for audio or home theater. Many of the new small speakers are magnetically shielded, and were introduced with partnering center-channel and subwoofer units.

The least expensive highlight I saw was JPW's new ML110, the smallest of the Millennium series, at $175 (all speaker prices are per pair, except as noted). This two-way, rear-reflex-loaded system is designed to be used as a main or A/V rear speaker. Also jumping on the bookshelf-speak-
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some of the same materials used in the MiG fighter planes have been incorporated into Audes designs—these solid black speakers certainly look like they could survive an aerial attack. Several models are available for under $2000, starting with the compact 75AC-104 ($399). The 170 AC-013 is a three-way floor-stander ($749), while the 170 AC-025 is a taller three-way with a slave cone ($1000). I heard the 75AC-104s, and would have guessed that they cost significantly more than they do. It made me curious as to how “expensive” the other models might sound.

We go to great lengths to make sure we have great listening systems at home, in the car, and at work, but what about outside? NHT introduced the first outdoor-specific two-way loudspeaker, designed to provide good sound without the benefit of surrounding walls for bass reinforcement. These $400 speakers are extremely weatherproof, and have a frequency range of 57Hz–21kHz with a sensitivity of 88dB into 6 ohms. Imagine gardening to The Ride of the Valkyries!

Danish loudspeaker manufacturer Avance International made their US debut with the Epsilon and Dana series. The two lines constitute a full range of audio and home-theater speakers, priced from $700 for the Epsilon Center 950 to $2200 for the Dana 2 Santos. Avance’s product philosophy includes an analogy I relate to only too well: “Like a gourmet meal, a great loudspeaker begins with the finest ingredients.” Avance believes in “insisting on the best components and materials available, then complementing their capabilities with the most advanced design, construction, and testing techniques in the industry.” From what I heard in their room, I'd say bon appétit!

Not only is Advent introducing two lines of compact speakers; this March they'll release a satellite/subwoofer system with built-in virtual surround-sound. This system feeds an AC-3 5.1-channel signal into two channels, at which point algorithms synthesize the surround decoding and allow your brain to interpret the sounds as being produced, Advent hopes, anywhere around you. The electronics and software are all built into the subwoofer of the 500 series. For $799, you get a small, unobtrusive plug-in-and-go system. When I watched GoldenEye, a bullet from James Bond’s gun whizzed close by my left ear to somewhere behind me!

UK-based NEAT Acoustics had a roomful of beautiful, English cherrywood-finished loudspeakers for under $2000. The Critique is a small, two-way, bass-reflex (rearported) design ($900), and the Mystique is a floorstanding two-way ($1300). The NEAT Petite is a $1650 compact model that uses a ribbon tweeter; it can be upgraded to full-range status by the addition of the Gravitas subwoofer ($2600 each)—the two units are designed to complement each other. NEAT’s design approach is to allow the music itself to determine the choice of components and technologies to use, the real emphasis being on the overall feel of a piece of music and how it translates emotionally. It certainly sounded like they'd reached their design goals.

Totem Acoustics, of Canada, augmented its existing minimonitor line with the floorstanding STTAF mini-tower ($1500), and will soon have a smaller sibling, the ARRO ($1100). These are available in beautiful exotic finishes, including cherry and African mahogany.

Australian speaker manufacturer Osborn introduced two bookshelf models, the F1 ($1195), and the F2 ($1395). I was enjoying how Strauss sounded— as if I were listening in a huge concert hall. I casually asked to verify that the large, multi-thousand-dollar speakers that were visually dominating the room were the ones being played. Imagine my surprise when the answer was that the large speakers were acting as stands for the tiny F1s sitting atop them!

Meadowlark Audio is adding to its $1000 Kestrel speakers with “the two-way lover’s two-way,” the Shearwater ($2000), the bookshelf-size Vireo ($900) is on the horizon. These speakers are all engineered for extreme dynamics using Patrick McGinty’s phase-aligned, first-order crossover design to preserve the original waveform. They also have transmission-line bass systems. McGinty relies on his own listening tests to determine if the speaker is right: “If Beethoven’s 5th doesn’t give me goosebumps when played with the speaker, it ends up on the scrap heap and I start over.” From the rendition of Beethoven I heard, he should be shivering. The speaker cabinets are designed and made by expert woodworker Robert Lane, and are as pleasing to look at as to hear.

I drew the line at par-

Patrick McGinty with Meadowlark’s Shearwater.
tial differential equations in college, so I'm certainly not ready for the fourth-dimensional mathematics developed by Canadian TetraSound to develop their Vector Equilibrium (VE) systems. Suffice it to say, they claim this technology allows the VE speakers to adjust themselves to the room by using the existing space as part of the system itself. It is hoped that the listener will hear a stereo panorama and imaging from any position. The VE system is also supposed to cancel standing waves and echoes within any listening environment, assuming speakers with a sensitivity of at least 91dB and a frequency range of 20Hz-25kHz. The VE system did allow me to walk around the room and hear very little change. I also could sit anywhere while the speaker was rotated 360° and hear very little difference. The VE technology is built into TetraSound's lowest-priced speaker, the Maya ($1000). This is truly amazing technology with unfathomable potential and applications.

Impact Technology made an impact with their new two-channel home-theater system. The small Charisma transmission-line monitors ($1250) really rocked. They're black, with a unique anodized wraparound metal grille. The Median center channel ($850 each) and Foundation powered subwoofer ($1390 each) can be added for home theater.

The Hales Design Group demonstrated both their Revelation series loudspeakers for music and home theater, comprising the Revelation One compact speaker ($1995), the Revelation Two ($1695), the Revelation Three ($2195), and the Revelation Center Channel ($995 each), along with their new high-performance Transcendence series. The Transcendence One, a high-resolution magnesium-core speaker system, costs $1990.

Truly wonderful sound could be heard in the Magnepan room, where the newly introduced MG1.6/QRs were playing. This Quasi-Ribbon Magnepal is an affordable $1475, and produced an incredible soundstage and a sound that made me sit back and smile. Also new was the slim, Quasi-Ribbon MG101 Magnepalan ($1275).

Joseph Audio delivered beautiful speakers and sound with their RM22si Signature floorstander ($2299) and RM7si Signature ($1299). This great sound could be heard from either side of the room without being limited by a "sweet spot." They were also demonstrating their Cinergy center-channel speaker, which, with the Joseph "Infinite Slope" crossover technology, was said to be free from the off-axis comb-filtering present on so many other center-channel speakers.

Gershman Acoustics, from Canada, proudly introduced the X-1 loudspeaker ($1600). In the tradition of its much larger siblings, the X-1's cabinet is designed with nonparallel sides. This makes for a unique compact trapezoidal speaker featuring a 1" dome tweeter and a custom-made, magnetically shielded woofer.

Recoton Audio Group announced its partnering with Bob Carver's Sunfire line to develop products. One of the beneficiaries of this is Recoton's Acoustic Research brand. AR introduced the P315 HO floorstanding speaker ($2400) featuring a 15" servo-controlled, side-mounted woofer driven by a built-in Sunfire 500W amplifier. If this is starting to sound familiar, it's probably because of Cary Christie's (formerly of Infinity) design input. The P315 HO's three-way acoustic-suspension system includes a Dual Focus Array midrange configuration and a "plasma-transferred, diamond-coated" titanium tweeter, said to be four times stiffer than commercially pure titanium. All of this is packaged in a slender tower finished in beautiful black ash or cherry. Definitely one to keep an ear out for.3

NHT introduced its Model 2.9, a speaker based on their 3.3, but with a 10" subwoofer and a smaller enclosure. This four-way speaker features a baffle angled at 21°—NHT's Focused Image Geometry (FIG) technology, designed to minimize room reflections and internal standing waves, and to make NHT speakers less sensitive to placement in the room. The 2.9 showed all the promise of the bigger sibling it takes after.

The trend is obvious: The lower-priced speaker has become such a competitive category that manufacturers are cleverly designing more technology into well-built, beautiful cabinets. The greatest benefit is the vast number of doors this opens for new audiophiles, people on the edge of dis-

3 Although I found the subwoofer's level too high for the small room, the mids and highs were unusually transparent, imaged beautifully, and made singling voices sound very natural. It was one of the best-sounding loudspeakers I heard at the show.

— Larry Greenhill
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• LARRY GREENHILL •

Loudspeakers & Subwoofers

Although most “live” two-channel loudspeaker exhibits were in the Alexis Park Hotel, I found many new loudspeakers at the Las Vegas Convention Center and the Las Vegas Hilton. At Bally’s Hotel, I heard the latest version of Sony’s “flagship” DSP-based loudspeaker system, first demonstrated at HI-FI ’97 in San Francisco. This was a technological tour de force, the best hybrid of digital and analog technology I saw at the show. It was originally planned as an engineering exercise, like an automotive “concept car,” but Sony’s Daniel Anagnos thought the enthusiastic response so far might convince the company to offer the speaker as a product priced “less than Wilson Grand SLAMMs” ($75,900). Source material was provided by a Sony DVD unit or a Nagra-D playing 24-bit/96kHz PCM digital tapes led to six separate chassis: two for each pair of woofers, midrange-units, and tweeters. These chassis incorporated the necessary sample-rate converters, DSP inputs (SDIF2), low-, mid-, and high-pass DSP, DSP outputs (SDIF2), and bass, midrange, and tweeter IACs to provide analog signals for the six right and left channels. If the Flagship becomes an actual product, Sony plans to integrate all six DSP chassis into a single control module.

The two bass and two midrange channels were fed to four Pass Laboratories Aleph 1.2 amplifiers, and the two tweeter channels were handled by a single Aleph 2 stereo amplifier. The digital crossover yields 96dB/octave slopes (135dB of stop-band attenuation and negligible ripple effects within the passband). Using this DSP processing, the Sony engineers aimed to provide flat axial response, linear phase response, flat power response with good off-axis behavior, and high attenuation rates for each passband.

While the rack of DSP equipment was impressive, more beautiful were the Flagship’s cabinets: narrow, deep, rosewood-veneered, and weighing 572 lbs each. Each speaker’s head unit contains the two magnesium-cone midrange units and the 1” dome tweeter, and sits on a much larger woofer cabinet housing four 10” woofers, two internal and two external, in a push-pull “isobarik” configuration. The cabinets are designed to minimize resonance and diffraction effects by means of non-parallel surfaces and internal deflection panels, all in thicknesses of MDF varying from 2” to more than 4”.

The sonics resulting from all this technology did not disappoint. Playing source material I brought to the show, the DSP Sony’s offered all the right things: terrific dynamic range, a smooth tonal balance that did not change when I walked around the room, and profoundly low bass that equaled that of any subwoofer I heard at the show. Best of all, the midranges and highs were smooth, effortless, natural, and transparent. Imaging was first-rate, with wonderfully wide and deep soundstaging. Clearly, to produce this kind of sound at a show is remarkable, and indicates that Sony’s engineering efforts are paying off. Now we have to hope that Sony goes ahead and manufactures the speaker!

Stan Curtis’ International Audio Group (IAG) was running a newly manufactured pair of Quad ESL-63 USA Monitors as front-channel speakers for a rear-projection Faroudja TV on the open floor of the Hilton exhibit area. Sonics on the open floor were impossible to evaluate, but that was not the point. Watching the financial changes at Quad as it’s been bought and sold twice in the past year, Quadophiles have worried that supplies of ESLs and parts might dry up. They should be pleased. IAG is planning to produce a full new line of Quad electrostatics, including a redesigned ESL-63 with two bass and two midrange panels. IAG is planning to produce a full new line of Quad electrostatics, including a redesigned ESL-63 with two bass and two midrange panels.

Sony’s Daniel Anagnos demonstrates his statement DSP speaker.

Dynaudio introduced the Contour 3.0 ($4999), a new full-range, three-way, floorstanding loudspeaker. Featuring only a single bass-reflex-loaded 8” woofer, the Contour 3.0 is very similar to the company’s flagship dual-woofer Contour 3.3 model reviewed positively last December by Wes Phillips, though it’s listed as 3dB less sensitive than the

4 The SDIF2 digital architecture provides separate left data, right data, and clock signals.

Stereophile, April 1998
Think of it as protection and direction all rolled into one sleek, rack-mountable unit. The **new** Max® 1500 Surge Protector and Line Conditioner from Panamax monitors and organizes every incoming AC, cable, satellite and phone line to make sure the signals reaching your system components are clean and pure.

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3.3. It was not surprising that Dynaudio's Mike Manousselis was driving the Contours with Krell's stereo powerhouse, the Full Power Balanced 600. Even with the port in place (John Atkinson had found that the Contour 3.3 had improved bass response with the foam removed), the Contour 3.0 delivered impressive, well-defined bass. The mids and highs were open, unstrained, and natural. Best of all was the superb imaging Dynaudio achieved in their small Alexis Park room.

Velodyne's flagship FR-1800R Mk.II 18” servo-controlled subwoofer has been replaced by the $2399 FR-18. The new model's amplifier—a class-D transformerless, direct-line, power-switching amplifier featuring an energy-recuperation design that eliminates “current shoot-through” —is easier to adapt for 230V service overseas, and its power rating has been increased from 600W RMS to 1250W RMS (3kW peak!). The combination of a low switching frequency and effective shielding should minimize stray RF-noise output.

Carver Corp. showed their Darkstar subwoofer ($1500). It features two opposing 15” extended-exursion, side-mounted woofers in a single 2.4ft³ wedge-shaped cabinet whose narrower front side exposes a polished aluminum extrusion with a glowing Darkstar logo. Power is supplied by an internal 1200W Lightstar power amplifier. Though the Darkstar's shape and cosmetics make it far more attractive than the standard subwoofer cube, its performance was difficult to evaluate; the Carver booth was flooded with subwoofer output from the Velodyne exhibit.

Over at the Alexis Park, Aerial Acoustics' Michael Kelly introduced his new SW-3 subwoofer ($3000 active model, $1500 passive). Shaped to fit under the company's 10T speaker praised by this magazine, the subwoofer is also designed to fit under AA's CC-3 center-channel speaker. The sub's bass reflex cabinet uses a long-throw 15” driver and a very “open” voice-coil to allow for long excursions. With a Q of 0.4-0.6, a selectable 12/24dB/octave high-pass filter, and 24dB/octave low-pass filter, the new subwoofer is very adaptable—a must for any aftermarket sub. It can be used in linear or “theater” mode (25-40Hz boost) for home theater. Its internal amplifier clips at 350W, and has a photocell JFET input that protects it from DC and being overloaded. Although the subwoofer was not set up for music, AA's new Model 7B speaker ($3500 in black ash to $4500 in rosewood, show model) was playing, offering a surprisingly deep and wide soundstage for such a small loudspeaker and room, perhaps aided by the artful use of Tube Traps.

Westlake Audio was demonstrating their huge new BB-105WP subwoofer speaker system in the Boulder suite at the Alexis Park. The usual huge cube — at 30” per side, 275 lbs — houses an 18” driver and has a sensitivity of 96.5dB and a bandwidth of 26-2000Hz. It also functions as a stand for the company's BB5M-10 satellite speakers.

Usually associated with high-performance car amplifiers, Phoenix Gold showed a home version of its car subwoofer that employs similar technology. The Cyclone ($1500), using “vanes” rather than piston woofers, is a compact, corner-mounted woofer with a clear Lucite top and contoured sides. Despite its diminutive size, it played impressive bass during a showing of a videotape of The Rock on a home-theater system.

The best bass I heard at the show came not from any of the subwoofer exhibits, but from a full-range stereo system on display in the Revel suite at Bally's. Kevin Voccks' new full-range, four-way floorstanding Revel loudspeaker (yet to be named at show time) employs new drivers: a 1.1” textile dome tweeter, a 4” inverted-dome titanium mid-frequency transducer, a 6.5” midbass mica cone driver, and the 8” dome bass transducers. Voccks intends the drivers to be truly pistonic throughout their operating bandwidths—their performance under operating conditions was confirmed by laser interferometry during their design to make certain that cone breakup does not occur during high-power conditions.

The styling of the new speaker's attractive cabinet resembles the Revel Gemini's, with its bowlike black side panels, rounded tweeter, and mid-frequency head module and flat bass panel covered with an acoustically transparent arched screen.

Resplendent with Mark Levinson "heavy iron" — No.33 and No.33H amplifier monoblocks were everywhere—the Revel suite featured excellent demonstration rooms for two-channel audio (the new speakers) and video: Joe Kane of the Imaging Science Foundation demo'd the best video picture I've ever seen, featuring the stunning white dresses and roses of the bridesmaids in the credits of My Best Friend's Wedding, and the best showing of the 1998 CES's video demo standard: the Diva scene from The Fifth Element. Playing selected pipe-organ music, the system based on Revel Gemini's, subwoofers, and Revel's new center-channel speaker played deep, room-shuddering notes that rivaled or bettered anything I heard at the show for deep, solid bass with excellent pitch definition.
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The year of the tiger? Nah, 1998 is the year of the monster amp. Everywhere I turned there were stunning new mega-power wonders, led by Krell's new steamer-trunk-sized Master Reference Amplifier monoblocks, Krell's biggest amp to date. Each MRA chassis weighs 650 lbs and puts out 1000W into 8 ohms or 8000W into 1 ohm — or, in typical Krell understatement, "offers complete freedom from worries about headroom." In reality, continuous power will depend on what you can pull from the wall, and Krell will configure the MRAs to your needs, be it a single 30A, 120V line per chassis, or two 40A, 220V lines apiece. Paired with Martin-Logan Statement loudspeakers in a huge suite at Caesar's, the MRAs produced a sound that was (to employ an understatement of my own) huge, effortless, and spectacular.

Boulder's giant was their $55,000/pair 2050 monoblock, which looked for all the world like a gorgeous 230lb chunk of milled aluminum. The 2050 is rated at 1000W continuous into 8, 4, or 2 ohms, and features "Automatic Load-Sensing Class-A Biasing," a system that adjusts the bias based on the output current rather than the input signal. Pass Labs joined the kilowatt sweeps at $24,000 with the 200-lb, 1kW X1000 monos. The X1000s have only two gain stages — a fully balanced class-A stage based on their patented "Super-Symmetrical" topology, and a class-AB MOSFET output stage.

At the Golden Nugget, Spectral displayed (but didn't play) their new DMA-360 Monaural Reference amps, and Classe unveiled their monster, the $15,000 Omega. The Omega is a completely dual-mono design, each huge chassis housing two 400W amps, bridgeable to form a 1600W monoblock. Both Spectral and Classe were using Avalon's new Eidolon speakers and getting superb but very different sounds — Classe's smooth and coherent, Spectral's the very definition of speed and precision.

At the Debbie Reynolds Hotel, Essence was demonstrating the lovely Emerlad II, available as either a 300Wpc stereo amp for $12,000, or 600W monos for $26,000/pair. It combines a very simple circuit — 38 components input to output — with superb execution, including passive components made in-house and the most extensive mechanical damping control I've ever seen. The system, consisting of the Emerlad II, Essence's new $9500 hybrid line stage, a Klyne phono stage fed by an Immedia/Immedia/Lyra front-end, Yamamura cables, and Audio Physic Virgos, was one I could have listened to for hours.

Rounding out the monster-amp division, Rowland showed "TI" versions (using the topology and output devices introduced last year in their Concentra integrated) of the 200Wpc Model 8 stereo amp and the four-chassis, 350W Model 9 monos. A pair of Rowland's new six-channel, 150Wpc MC6's (which also use the new topology) were driving the quad-amped Audio Artistry Beethoven Grands in one of the show's most spectacular demos.

Madrigal, Conrad-Johnson, and Sutherland all showed prototypes of tantalizing new solid-state products to be released later this year. After years of format debates, Madrigal decided to stick with a standard two-channel configuration for the Mark Levinson No.32, the company's first "Reference" preamplifier. The No.32 looks like a typical power-supply/preamplifier setup, but is actually quite unusual, confining all of the switching and power-supply functions to one box, the other handling only DC power and audio signals. Expect the No.32 mid-year at about $15,000.

At Conrad-Johnson, the big news was the debut of the first solid-state products in the Premier series. The P300SA is a 300Wpc stereo amp that uses a JFET input stage and bipolar outputs, set for a June/July release at $5995. In August, C-J will follow up with the $4995 P150CA, or "control amp" — essentially half of the P300SA combined with a passive line-stage. Sutherland's new product was an integrated amp as well — or, more correctly, a platform that can be configured as either a preamp or an approximately 100Wpc integrated amp. The as-yet-unnamed unit uses a larger chassis than the 2000 series but is classic Sutherland. For example, the volume is adjusted by running your finger along a hidden row of touch-sensitive bumps. All switching functions are controlled by microprocessors on a board just behind the faceplate, then relayed back to the isolated audio boards via infrared signals passed into a shielded inner chassis. Line-stage and full-function preamp versions are being shipped at $5500 and $6500, respectively, with the integrated amp later this spring.

Each year a few new, "out-of-the-box" technologies pop up at the show. One this year was the $12,000, 150Wpc TACT Millennium, the result of a collaboration between NAD and Tocatta Technology, a Danish DSP firm. "The world's first true digital audio power amplifier," the Millennium accepts a standard S/PDIF or AES/EBU digital input (an outboard ADC is optional), converts the PCM signal to PWM in the proprietary Equitbit DSP section, and then uses it to directly control a class-D output stage.
STATEMENT evolution 2

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Symfonía, from Australia, introduced (but wasn't playing) the $3800 Opus 10 power amp, which incorporates the "Class Extension Zero Delta" dynamic bias-stabilization approach developed by the Australian design firm Techstream. According to designer Graeme Hton, the approach eliminates dynamic bias shift, the primary reason that amplifiers don't all sound the same. The end result is, in Hton's theory at least, a "new class of amplifier" that matches the sonic performance of class-A circuits while maintaining the higher efficiency of class-A3.

ReVox and Perreaux each introduced new products that were "out of the box," but only in terms of cosmetics. For ReVox, now distributed in the US by Pro Audio, it was the Exception Series: an integrated amp, CD player, and tuner with sleek, futuristic, stackable chassis and large blue LCD readouts. Expect to see them in the background in some Hollywood hero's super-chic apartment. Perreaux's new cosmetics feature a swoopy, bulbous, cast-aluminum faceplate, said to be inspired by Harley-Davidson's use of style to create a unique market niche. I'm more of a Ducati guy, though, so the effect was lost—all I thought of was a Looney Tunes car bumper. Perreaux offers more traditional cosmetics as well, which Duncan Perreaux referred to as "industrial" but I thought were quite handsome.

CES also provides an opportunity to see products from new and smaller companies, like Clayton Audio's $5600/pair M-70 monoblocks, a smallish, pure-class-A design. The room was consistently too crowded to do any serious listening, but seemed to be making good sound. Another intriguing small monoblock that I found hidden amid the LP, CD, and accessory booths was the 80W, $3500/pair Coffin 1M from Pocatello, Idaho. The matching 2P remote-controlled preamp is equally nifty, and lists for $2200. Reflection Audio Design's $4700 ($550 extra with phone) OM1 preamp is a high-speed, super-widebandwidth design based on 2500V/µs ICs. It's purported to be flat to 2MHz and to maintain absolute phase ±0.5° across the audio bandwidth. It's a very pretty two-chassis affair (three if the matching $1550 battery unit is added) with a high level of attention to detail, with touches like the use of "naked" Vishay resistors and heavy, curved circuit traces to avoid HF reflection.

Natural Acoustic Systems, a German company exhibiting for the first time at CES, showed a couple of nice-looking and smooth-sounding pieces: the NRP 101 Reference preamp at $4000, and the NPA 150 Reference monoblocks at $3400/pair. It was also the first CES for Hegel, a Norwegian company whose principals have spun off from the satellite communications industry. Their IC-based gear, which sounded great driving a small pair of Sonus Fabers, includes a CD player, a full-function preamp, and a 300Wpc stereo amplifier. Prices should be around $2000-$4000 per component.

Bow Technologies from Denmark added a less-expensive integrated amp to their line of super-slick gear. The $2800 Wazoo (reviewed by Kalman Rubinson in progress) is a passive line stage mated to a zero-feedback 50Wpc amp section. Alternative Audio showed two relatively inexpensive single-ended MOSFET amps: the $2500 CA35 and $4500 CA100, rated at 25Wpc and 100Wpc, respectively. The AA amps feature very simple two-stage signal paths, and were surprisingly small given the thermal management required for single-ended operation. The CA35 was being used to drive Alternative's own planar/dynamic hybrid loudspeakers; the sound was sweet, but a bit laid-back in terms of dynamics. Finally, Siemel, a French company new to the US market, introduced a series of products including a solid-state line stage and 60Wpc MOSFET amplifier, for $2995 and $3995, respectively (review in progress by Sam Tellig). They're well finished and laid out, and, combined with a Jadis JD3 CD player and Cabasse Catalan 500 speakers, made for a nice small system.

One of the show's pleasant surprises was the good sound in nearly all the rooms I visited. In a few cases, however, everything—system, room, software, timing—came together just so. In closing, and with apologies to the manufacturers I didn't have time to visit or room to mention, I'll tip my hat to three rooms that worked particularly well. The first was Ayre Acoustics', with a Well Tempered/Cardas Heart analog rig, Ayre's new $6850 (with phone) K1 preamp, and a pair of the 200Wpc V-1 stereo amps were driving Audio Artistry Beethovens. It was a great match, and made me wonder how a pair of V-1s might sound on my Dvoraks. The Chord room was another that worked well, with Wilson Benesch Actor speakers being driven by Chord's new 350W SPM 1400B monos, decked out in the "Tragery System" anti-resonance chassis. The rest of the system consisted of a Wilson Benesch analog front-end feeding Chord's MC 4000 head amp and CPA 3200 preamp. The WB speakers sounded good in a number of rooms, but nowhere better than in the Chord system.

Last but not least was the Threshold/Audiostatic system, which consisted of a PS Audio Lambda transport feeding a Threshold DAT 2 DAC, T2 preamp, and T800D amp, in turn driving two pairs of the new Audiostatic DCIs. One of the demo discs I used this year was JVC's XRCD reissue of The Poll Winners (JVCXR-0019-2), a Contemporary release by Shelly Manne, Ray Brown, and Barney Kessel. The Threshold system absolutely nailed it: superb image dimensionality and inner detail, super-fast and super-clean dynamic transients, and a you-are-there sort of transparency. I nearly skipped this room because Threshold's only new products were a series of power-line conditioners. Ironically, according to Threshold's Randy Patton, it was the conditioners—separate units designed specifically for low-level components, amplifiers, and the electrostatics—that really made this system work. Whatever the reason, it was certainly a stop I would have hated to miss.

One of the show's pleasant surprises was the good sound in nearly all the rooms I visited.
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computer. I'm happy to say that the only problem was where to begin.

How about with Linn? They've created a new high-end product category: the integrated amp/CD player/alarm clock. Classic, eh? In fact, it's called the Classik. Load it up with your favorite wacky-wakey music, set the alarm, and be serenaded to consciousness the next morning. Expected US retail price is under $2k. I rather innocently asked Linn honcho Ivor Tiefenbrun what the nominal Wpc rating would be. His gruff but amiable answer: "Enough!"

There were lots of other reasonably priced goodies from the British Isles. Arcam showed their new Alpha 10 integrated amp ($1599) and Alpha 10 power amp ($1199). Both are rated at 100Wpc, and both are ready for the future: The integrated has room for daughterboards that can add, say, AC-3 and/or DTS decoding, and you can add a third channel to the basic amp. Thus, you could start with an integrated and eventually grow it into a full-blooded, fire-breathing audio/video sound system. The add-ons weren't available at showtime (nor were their projected prices), but should be by the time you read this.

Also new to the US from across the sea (not the Caspian) is the Caspian series from Roksan, comprising a line-level integrated amp ($1500), tuner ($1000), CD player ($1700), and power amp ($1000). Both the integrated and basic amp offer 70Wpc into 8 ohms. All units share a similar clean, modern styling. Exposure had their newest offering on display: the $1895 25 Super integrated line-level amp, a minimalist design that is essentially a volume control in front of a 55Wpc amp—that is, there is no preamp section per se. Simple and effective.

You want more from England? How about the latest from the value-minded folks at Audiolab: the 60Wpc line-level 8000LX integrated amp ($695), 60Wpc 8000SX stereo power amp ($895), 125W 8000MX monoblock power amps ($995 each), and 100Wpc 8000PX stereo power amp ($1195)? How do they do an integrated amp for less than their stereo amp of the same power rating? I don't know, but they're doing it again (their 8000A and 8000P were like that too).

More Brit high-bang-for-the-buck is available from Cambridge Audio; new to the US is their A1 Mk.3 SE, a 30Wpc into 8 ohms (or 40Wpc into 6 ohms, as they list it) integrated amp at the stunningly low price of $329; for an additional $59 you can get a phono stage installed inside the case.

Two more entries from Britain, and certainly some of the more striking designs at any price, were the Kraken and Forseti lines from Alchemist. The Kraken integrated ($1200) and stereo ($1100) power amps are both class-A and rated at 55Wpc; the Kraken preamp is available for $1100. The Forseti line comes in two flavors: regular and à la Tim de Paravicini. Like the Kraken lineup, each Forseti has an integrated stereo amp and preamp. The regular integrated (100Wpc) and preamp go for $1700 each, while the power amp (150Wpc) will run you $2450. De Paravicini is mostly known for his classic tube designs; here, he reworks the basic Forseti, cutting the power on both the integrated (80Wpc, $2200) and the stereo amp (100Wpc, $3300—whoops, outta my range!), and the price of the pre bumps up to $2200. The Forseti models are also good looking, but I find the Kraken to be truly inspired.

You and I don't usually think of "striking good looks" when we think of (yes, UK company) NAD, but that's about to change, thanks to the pending introduction of the Silver Series, part of their 25th-anniversary celebration. As the name implies, the finish is silvery, not the usual NAD drab-but-businesslike almost-brown gray look, with cool blue indicator diodes, thick extruded aluminum chassis, and tweaked'n'matched parts inside to complement the upgraded outsides. The line will include the S100 preamp (with MM/MC phono!), S200 power amp, S300 integrated amp, S400 tuner, and S500 CD player. Prices aren't set yet, but should land in the range of $1k–$3k each; official debut is scheduled for HI-FI '98.

Continuing our world tour, a new face in the US belongs to Hegel—not the German philosopher, but the Norwegian audio company. They currently offer a preamp, CD player, D/A converter, and power amp. I trust their other products will be covered elsewhere, but their preamp appears to offer good value at $1200 with a phono stage! The look is clean and somber, and the sound was quite promising during my all-too-brief audition. Moving on to France, Audio Réfinement is a new company featuring the designs of Mr. YBA himself, Yves Bernard André. They offer a complete system—in fact, the line is called Complete, with the Complete 50Wpc integrated for $1k, Tuner Complete at $700, and CD Complete at $900. They weren't hooked up to play, but they looked to be chock-full of innovative engineering at entry-level prices.

From the other land down under, New Zealand, Perreaux brought their new E series, slated for release at about the time this issue hits the stands. Oddly, they had them holed up in a non-Show room—odd, because I'd sure be showing them off. It's a full lineup, with the EP line-level remote control preamp ($995), Model 160 power amp ($160Wpc, $1595), ETR tuner ($895), ECD1 CD player ($1295), E160i remote-controlled integrated amp (again, 160Wpc, $1995), as well as a three-channel amp and preamp/AC-3 processor for the home-theater-minded. The look of the E series is something of a cross between their Classic and P series, with shiny endcaps that look milled or cast, and a more businesslike center panel. I found them most appealing, visually and economically.

And what about Canada, eh? SimAudio's stylish Celeste lineup includes the P-5003 preamp, which, at $1695, offers a remote, and single-ended and balanced outputs. Also in the Celeste series are the 70Wpc W-4070se ($1995) and the 150Wpc W-4150se ($2395) amps. In the higher-priced Moon series is the new P-3 pre, similar to the P-5003 but "not" tweaked, for $2295.

5 Rick "Visits" Rosen wondered if they'd engage me in a dielectric dialectic.
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showed a handsome 20Wpc monoblock based on an 845 driven by a 300B, the SE-845 ($4998/pair). It's a single-ended, directly heated triode that runs in pure class-A with adjustable feedback.

**AudioPrism** introduced a handsome pair of monoblocks at 100Wpc (55Wpc in triode), called the Mana Reference, for a cool $12,995. They're powered by eight 6L6/5881 beam power tubes per side running in class-AB1 with a user-adjustable fixed-biasing system. Each monoblock uses a pair of 6SN7s for input, another pair for gain, and a WE 417A/5842 single-triode to split the phase.

Another company showing renewed blood is **Melos**, now making amps “under the influence” of newly married designer-in-residence Mark Porzilli. Imagine, his bride knew what he does for a living and still said, “I do”! New for CES was the 3+5 Home Theater Triode amp, with five channels of “Pure Tube High Current Power” ($11,895). Stereo-wise, the new Triode MAT-100 stereo amp captured my eye, as did Melos’ new RWT-150 single-ended monoblocks ($14,895). “You have my complete attention, Mark!” Don’t worry, Melos is still good value in the bang-for-the-buck category; Mark was particularly proud of the new PS-1 Gold phono stage and V-SHA preamp with phono, each for $1595.

Our next stop was at tubular stalwart **Sonic Frontiers**. While John Atkinson got the Grand Digital Tour (including the ultracool CDJ Transport/Turntable with its iris-opening tray), K-10 and I got the blow-by-blow on analog. This included the quiet-running Phono One, with four 6922s and 54dB of gain at $1195. The factory can set you up with higher gain (62dB) or lower (44dB), depending on your cartridge of the moment. And does Gordon Rankin at **Wavelength Audio**, Sonic uses JFETs on the input to keep the noise down.

Wavelength wasn’t the only single-ended manufacturer around, but the room was chockablock with low-power tubeware. They ran the Sine v.2 line-level preamp ($3500) and the 8Wpc Duetto Signature 300B stereo single-ended power amp ($4750), wired up with **Nirvana** S-L interconnect and S-L Shotgun on the striking Köchel horn speakers. (Look them up at www.koehlel.net.) Analog was spun on a **Basis** 2001 Series 2/ Graham 2.0 rig with Wavelength’s Cotangent hybrid MC/MM phono stage ($1000) sporting a new battery power supply. **Shun Mook** was all over the room, by the way, as it was at the newly monkish Joseph Audio installation.

One small manufacturer raising eyebrows and scaring the horses was the charming and offbeat **Moth Audio**. Their design aesthetic seems to originate somewhere between a turn-of-the-century Georges Méliès film—1902’s **Voyages Dans la Lune?**—and **The Big Sleep**. Dig their phone number: “Hollywood 7-4300.” Cool! film noir meets H.G. Wells. Their lineup consists of the quirky, the improbable, and the highly unlikely. There’s the outrageous-looking Sphynx balanced line-out amplifier with phono at $4600. Or the UD-1AC, a modern-spec’d H1D1CD 20-bit D/A with tubed power supply for $3500. Or take the s2A3—please: single-ended class-A1 with a flealike 3Wpc on “tap.” Sure . . . or try the s572 stereo amp, offering a more realistic 25Wpc for $6000. Just make sure you’re near a chair when you check out their XANA headphone amp, “102 lbs of class-A1 tube circuitry directly coupled to headphones via monstrous paper and oil capacitors.” It’s $6980—order yours today! I’m kidding; really, I salute their vision. To me, it’s what makes the High End tick.

I needed to soothe my inflamed imagination, so Kathleen and I dropped in on **BAT**. Ahh, feet up, great sound . . . . Victor Khomenko and partner Steve Bednarski had the **Hales Design Group** Transcendence Fives set up.

**One small manufacturer raising eyebrows and scaring the horses was the charming and offbeat Moth Audio.**

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perfectly in their room. The soundstage was huge and well populated, solidly laid out by their VK-500 solid-state bruiser. (A pair of VK-60s sat nearby idling their thermionics.) I listened carefully and enjoyed the sound on the VK-D5 CD player ($4500) and VK-5i preamp. Both pieces are presently in our system; a review of the player is in the works.

Wes Phillips, K-10, and I dropped into Lamm together and turned an ear to the L1 line-stage on ML1 monoblocks — two 6C33Cs per side for 90Wpc push-pull in pure triode at $19,990/pair — driving Kharma Exquisite Reference 1A speakers from The Netherlands. Lamm also introduced the ML2 single-ended monoblocks at $27,290/pair for 18Wpc. The L1/ML1 combo also sounded lusciously musical in Ken Hosp’s Verity Audio setup. He caught us up during the last hour of the show. Listening to music in his dark, wormlike room relaxed both of us.

Speaking of relaxed sound, my favorite room for total refinement, sweetness, and palpability of image was that of Ensemble of Switzerland. On Friday we listened to the Dichrono digital front-end driving the 150Wpc Evocco tubed integrated on the Profysia speaker system. The sound was superb. Saturday, Urs and Anne Wagner switched to their “budget” system — only $9k, excluding the front-end. This consisted of the well-regarded Animata speakers on their new Gambalette stands, dedicated cables, and the new 100Wpc Eccotube/bipolar integrated amp. The sound surprised all’n’sundry with its musicality and coherence. Ensemble has replaced the Dichrono DAC in our system with a fresh example, including their newly introduced Jitter Absorption Module — full details to follow once Ensemble has arranged for US distribution. I was intrigued by a $2500 phono stage they called the Fonovivo. Viva Las Vegas!

Well-known but low-key Man About Tube Town Kevin Hayes, of VAC, showed up with a winning concept he calls the Visionary Audio Components System. It allows various units in the line to connect to each other by means of “gracefully curved, wing-shaped external pillars, which dock and lock together.” It’s very attractive and offers a variety of finishes and cosmetic trim items with which to fine-tune the looks. There are even “open space” modules for other brands of components, heaven forbid. All Visionary components include an integral cable-management system that keeps cables out of sight and out of mind.

Of course, Kevin is populating his tube sockets with hand-picked Golden Dragon tubes, such as the KT88s on hand at the show. As of now, the range includes two remote-controlled triode-based preamps: one sports an optional phono stage, the other is optimized for home-theater applications. There’s also a six-channel “leveling amp,” a 70Wpc (x5) solid-state amp, a DVD player/CD transport, an HDCCD player with triode tube output, a 90Wpc stereo amp, and 160W tube monoblocks with triode/ultralinear switching and variable feedback. This guy isn’t sitting around on his hands wondering what to do.

JoLida’s “World of Sonic Pleasure” is still making life easier and more musical for tubeholics on a budget. Their line is getting better looking too. At the opposite end of the spectrum, Graaf was captivating all corners with the GM 100Wpc and 200Wpc OTLs, the new 20Wpc GM20 OTL, the Graafiti VTS.35 (35Wpc x5), and the Graafiti Ventincenque power amp (25Wpc, stereo) — sexy, great-sounding, and built to stay that way! Bruce Moore Audio Design once again made wonderful sound on Voce Divina speakers. I particularly liked the push-pull 300B monos on the Pear speakers. “They’re shaped just like you!” quipped K-10.

Nic Poulson at Trilogy (UK) was making sweet sounds, as were the innovative “Vacuum Transistor” hybrid products from KR Enterprise. Blue Circle was busy, their hybrid products looking better than ever. Hovland, best known for their MusiCap capacitors, debuted a striking new preamp called the HP-100: it’s a tube/solid-state hybrid featuring a “monocoque” chassis. Sounded good on Bobby Falkovic’s Merlin speakers. Voluptuous Unison Research, from Italy, was back with a full line of sensuous-looking (and, one suspects, lush-sounding) electronics, now imported by Laura Hendershot at AudioEuropa in California. Their Dream preamp still gave me the shivers as I ran my hand over its smooth flanks.

Final notes: A pleasure to chat with William Z. Johnson at the Audio Research reception. Behind his smiling countenance lurked the Reference One pre-amplifier, VT200 power amps, and Wilson Audio Grand SLAMM Series II. Munching a shrimp, I wandered down the hall and was stunned by the quality of Theta’s home-theater setup (and much intrigued by a prototype all-out processor called the Precedent). Arturo Manzano at Axiss slipped a Koetsu Rosewood Signature Platinum into my hot little analog hands as we listened to warmly glowing Air Tight electronics. Herb Reichert at Audio Note put paid to my day by spinning Lou Reed’s Songs for Drella. And just next door, Holger Fromme’s Avantgarde horn speakers sounded wonderful on German Audiolabor electronics.

As always, it was a delight meeting Stereophile’s many enthusiastic readers. A big thanks to those who pressed the flesh and spoke words of encouragement and delight. Now get out there, listen to some music, and let’s have some fun!
Digital (Except for Home Theater)

When I received my CES assignment — “Digital (except for home theater)” — I anticipated an unvarying list of CD players. But the category was much richer than I had expected. First and foremost, there was the advent of DVD-Videos carrying high-quality audio. Second, I saw the appearance of digital amplifiers and digital room/speaker equalization components. And stuffed into this sandwich of new stuff was a filling portion of CD players, transports, DACs, and CD recorders.

Bigger, Faster, Better . . .
The big news was the unveiling of DVD-Video discs carrying 24-bit/96kHz stereo audio data and compatible equipment from the collaboration of several individuals and companies: Kevin Halverson of Muse, Michael Hobson of Classic Records, Charles Hansen of Ayre Acoustics, and Jeff Kalt of Resolution Audio. Their technology uses the DVD-Video standard, which permits two channels of 24-bit, 96kHz-sampled audio.

In addition to classic Classic reissues, 24/96 releases from Chesky, Virgin America, Vox/Turnabout, and Atlantic Records are anticipated in 1998, and hardware to play these discs is available via the analog outputs of the new generation of DVD players capable of 24-bit/96kHz decoding. By the time you read this, Muse, Ayre, and Resolution will have released their 24/96-compatible DVD/CD transports and DACs, interconnected by the PS bus standard suggested some months ago.

Does it work? Is it worth the bother? Damn right! Comparisons of standard CDs with DVD-Audio disc prototype transports and DACs at the Muse, Ayre, and Resolution rooms unequivocally demonstrated the new medium’s superiority. More remarkably, even the one-box DVD player at the Joseph Audio demo revealed how much more natural and resolving the new system is, even without the help of M&Ms. (See the sidebar “Bringing DAD Home” for my thoughts when I auditioned the discs at home with a stock Panasonic DVD player)

Digital Branches Out: Other big digital themes at CES were digital equalization and digital amplification. The field of digital EQ is becoming significant as digital sources proliferate and analog ones do not. (I tried to be tactful, Mikey.) Digital EQ and tone controls entered the High End with the NAD 118 preamp and the Z-Systems RDP-1 Transparent Tone Control, both featured in their respective demo rooms. The RDP-1 was joined by the new RDQ-1, which deletes the preamp functions and offers a sophisticated shelf and parametric EQ system for less than $2500.

Room/speaker-compensation systems based on digital DSP were demonstrated by TACT, Meridian, and Accuphase. Meridian’s modular 861 Reference Surround Processor can include a Windows-interface room-EQ system. Restricted to frequencies under 200Hz (those being the most susceptible to room modes), the 861 DSP demo proved capable of making the room walls seem to melt away from the soundstage.

TACT’s RCS 2.2 system ($8000) requires a PC for setup, generates test-signal pulses, and permits the user to define a preferred response. Powered by four 66MHz DSP engines, the RCS 2.2 is capable of 0.6Hz resolution (!) at the critical low frequencies. In addition, it possesses multiple memories, and adjustments for input, volume, and balance that permit it to function as the system controller.

The Accuphase digital graphic equalizer ($16,500 with one analog input) is a treat to use. The device establishes appropriate signal levels with wideband pulses, then sweeps the audible range several times with narrowband pulses as it sculpts and shapes compensatory response curves. The ongoing correction procedure is displayed as a narrow-bin frequency histogram.

TACT also showed the beautiful Millennium power amp ($12,000), based on its proprietary “Equibit” PCM-to-PWM conversion: The whole amp is simply a high-powered DAC capable of driving conventional loudspeakers. Low-level linearity graphs and the sound of this 150Wpc (into 8 ohms) amp were impressive. And I loved rolling the large gain-control ring that surrounds the bright read-out!

CD Spinners and Stuff: The maturing 16-bit/44.1kHz technology is permitting the marketing of truly sophisticated designs at much lower prices. Philips ($649) and Marantz (under $1000) offered CD recorders with analog/digital inputs and user-friendly interfaces. If you can use a cassette recorder, you can use these. In addition, Advanced Audio Devices unveiled their Discribe CD recorder (under $2000), which stores the selections on an internal hard drive and permits the user to edit and assemble selections before “burning” the CD.

Even top-echelon companies are offering real-world products along with their “statement” products. Wadia’s top-of-the-line 270 CD transport ($7950) incorporates a temperature-compensated oscillator (TCXO), prodigious vibra-

6 Home-theater coverage can be found in the May ’98 issue of Stereophile Guide to Home Theater.
You recognise performance. We create it. Every effort towards supreme success comes from concentration on the goal. Endless scrutiny of components, methods, processes, achievement, a way of life at Naim. Where we cannot buy performance components we have them made for us. When we cannot have them made for us we manufacture them ourselves, building our own facilities to do so. We think hard and long about what you need. Hand and mind for performance. When you audition you will hear the results.
tion control, and 24-bit resolution enhancement, the last usually a feature of add-on filters. The 270 can slave to the clock of a matching Wadia DAC for minimal jitter. For those of us with smaller budgets but big appetites, Wadia's low-priced (under $3500) 830 player seems to pack many of the features and much of the sophistication of its 800 series into a sleek, compact single box. Tempting.

Krell unveiled their all-out, $20,000 KPS-25s—an integrated CD transport, D/A converter, and analog preamp that provides a top-loading transport (with a flashy LCD light shutter) along with dual 80 MHz DSP circuitry and UltraAnalog DACs for its dedicated 16x, 20-bit converter CD system. For other digital sources, it has a separate UA-based converter with up to 24-bit/48kHz capability. A fully balanced, remote-controllable analog control accepts analog sources, making the KPS-25 a complete source and control system. On the other hand, the front-loading KAV-250d player ($2350) is a cosmetic (and ergonomic) match for the KAV-series integrated amps and preamps, and includes an HD/CD filter and Burr-Brown DAC chips.

Conrad-Johnson took an interesting turn in their digital front-end offerings by combining previously available transports and DACs into integrated players—the solid-state DP2 ($1695) and the tube-based DV2b ($2895) —at very attractive prices.

**Bringing DAD Home**

The WCES press conference announcing the advent of DVD-Audio Discs with 24-bit/96kHz sampling was exciting—software and hardware manufacturers stood on each others' shoulders to show us their view of the audio future, and I grabbed the bag of DVD-Video DADs with great anticipation. The demos from Ayre, Muse, and Resolution were impressive, but how was I going to play them at home? The DAD-quality transport/DACs are still in prototype form, and California Audio Labs' tantalizing CL-20 player won't be shipping until some time after CES.

Ah-ha! Kevin Halverson of Muse said that these discs are playable on any current DVD player, and that some of the new players may even be capable of 24/96. As luck would have it, my son-in-law had just bought a new DVD player and I made plans to 'borrow' it from him on my return to NYC.

"Sure, you can borrow it," Michael said, "but let's try it here first." I couldn't refuse. We A/B'd the CD and DAD samplers on the Panasonic player through its video system, and agreed that there was a consistent advantage to the DAD. On the other hand, neither format was particularly impressive in this system configuration. So, after a gracious interval, I grabbed the DVD player and cabbed it home.

The player is a Panasonic DVD-A300 and it has a NYC street price of a bit over $500. It looks just like any of the myriad of AV components that crowd mass marketer shelves but, according to the documentation, it's capable of 96kHz sampling audio without downsampling to 48kHz, as many other players do. I connected its front-channel analog audio output jacks to my present system (Klyne preamp, SimAudio Moon amp, PMC IB1s speakers) via Cardas Golden Cross interconnects—which, I suspect, cost more than the player—and popped it in the DAD sampler.

The DVD-A300 makes so much mechanical noise when spinning a DVD that I can't imagine any self-respecting audiophile being comfortable with it. On the other hand, the music emerging from the speakers was uncommonly lively. The sense of space and pace were instantly engaging. By comparison, the CD sampler sounded constricted. So what? Should one expect more from such a machine? The real test would be against the CD via decent hardware.

I put the CD sampler into the Audio Alchemy DDS-Pro transport routed through a Z-Systems RDP-1 and AA DDE 3.0 DAC, all fed to the amp and speakers. Ahhh, this was nice: lively and balanced, with a decent sense of ambience and a reasonable (considering the sources) lack of HF emphasis. Surely the Panasonic, even with the 24/96 source, couldn't compete with this.

But it did. The characteristic differences of the two systems were distinct. The CD sampler on the higher-quality hardware was smoother, particularly in the HF, and had a better bottom. The tonal and spatial presentations were quite good, much as you'd expect.

Switching to the DAD on the Panasonic, two things were apparent. First, I perceived increases in the resolution of the space around instruments and in the harmonic coherence of the instruments themselves; dynamic contrasts seemed unconstrained. Second, the entire presentation was overlaid by a disturbing brightness and a tinge of shrillness that made extended listening a bit of a trial.

This is merely a first exposure to the new medium under far from ideal conditions. For example, despite the technical specs that trumpet "96 compatibility," it is almost certain that the DVD-A300 cannot deliver anything close to 24-bit capability at its analog outputs. Moreover, I suspect that the tonal imbalance is due in part to the expensive and highly integrated analog output stages and puny power supply.

But even in this context, it was impossible not to be enticed by the blandishments of DAD. When I listened past the abiding brightness, the DVD-DAD was much more relaxed and natural in its instrumental and spatial representations on each and every cut compared to CD. I can hardly wait for the right stuff to play this on!

—Kalman Rubinson
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* "Stereophile, October 1997 Recommended Components"
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Classé displayed the $1400 CDP-3 player, which retains the brand's classic appearance, along with HDCD and B-B DACs. Another integrated player was demonstrated by Ultech. Also possessing an HDCD filter and dual B-B DACs, the UCD-100 looks and sounds too good for the asking price ($895). New and with immaculate cosmetics were the Hegel CDP2 player transport and D3 DAC. US distribution of this Norwegian firm had not been established by press time, but the export pricing suggests real value in the sub-$2000 range.

Entech, scion of Monster Cable, showed production samples of their Number Cruncher 203.2 ($299) and 205.2 ($449) DACs. Developed by Peter Madnick and Demian Martin, these DACs differ in number of inputs and stages of voltage regulation, and signal the return of feverish market attention to truly low-cost flexible digital components.

Camelot displayed two new products: the Merlin-Pro transport incorporates the Pioneer Stable-Platter mechanism, PS bus output, and a TCXO-based clock, and the Morganna-24 player ($2195) adds the Crystal CS4390 24-bit/96kHz DAC and an analog-domain volume control derived from their Uther DAC ($3000). Compounding the remarkable value of these products, Camelot has finally improved their cosmetics from industrial-but-acceptable to quite nice. Prototypes of their battery-based, continuous-DC power supplies were also displayed.

Arcam offered a real surprise: their Alpha-9 24-bit CD player (only $1650) has an ASIC/FPGA chipset based on the dCS Ring DAC, and a Motorola DSP-based 24-bit filter. Keeping with their policy, Arcam will also offer upgrade kits to owners of their Alpha-7, -8, and -8SE players. Trickle-down economics works!

Equally exciting was the first fruit from the merger of California Audio Labs and Go Video. The CL-20 DVD/CD player ($2495) is packed with features, including an HDCD filter for CDs and — get this — 24-bit/96kHz audio capability with DVD. Planned upgrades include RGB outputs and a built-in line doubler! I want this one.

Theta showed a slew of components that blurred the line between audio and home theater: the huge and heavy Voyager Universal transport ($6500), and the solid DaVid for DVD and CD ($4000). Both include Theta's Jitter Jail anti-jitter buffer/reclocking technology, which will be offered both as a separate component ($1000) and in Theta's new Jade CD transport ($2495).

Linn wants you to draw the obvious inference from the name of the Linn Sondek CD12. At $20k, this statement player, containing much proprietary componentry, was striking in sound and appearance. Perhaps even more innovative was Linn's Classik, a remote-controllable integrated CD player and control amplifier of graceful dimensions. Just add speakers.

Sonic Frontiers demonstrated their James Bond–influenced Transport-3, which communicates with the Processor-3 via an IP-enhanced interconnect. Chris Johnson assured me that the iris-diaphragm access hatch on the transport is user-friendly and won't eat fingers. With this cool-looking baby, you can wow even your teary friends.

Pink Triangle has been an advocate of providing users with alternative filters in their DACs, and their new Litatural player ($3695) makes it even easier. This trim-looking unit has switch-selectable HDCD and 20-bit filters so you can trim the sound to your sources and taste.

The first DAC from Pass Labs is certainly a chip off the old block. The D1 ($5000) uses a single-ended no-feedback stage for I/V conversion following the 24-bit NPC filter, and fully balanced PCM-63 DAC chips. Physical and electrical isolation of digital, analog, and power portions are maintained, and, of course, analog stages are class-A.

Audiolab introduced the 8000DX, an HDCD-compatible successor to the excellent 8000D. DC-coupled outputs and multiple low-noise power outputs have been added, along with the new PMD-100 digital filter. Thankfully, the 8000D's appearance and flexibility have been retained.

The snazzy new Pentagon line of componentry includes the top-loading CD-70 player ($4900). It features a 20mm milled aluminum support for the Philips CDM-12 drive, 16x/24-bit NPC filter, and Burr-Brown 20-bit DACs. Its pentagonal shape and rootwood front panel make it one of the most gorgeous players I've seen.

Speaking of drop-dead aesthetics, the Thor DC-1000 DAC ($7750) is a Jerry Ozment DAC snuggled in a “ring-around-the-tubes” Thor chassis. Three inputs plus optional PS feed a 24-bit/96kHz–capable bus and dual-differential 20-bit converters. With the 6JD8S glowing from the core of a hefty toroidal chassis, this would be a great centerpiece for any system!

Cables & Accessories

What's the mark of a well-dressed system? Accessories, accessories, accessories, darling! I gave this year's Rick'n'Lonnie hotel-room system a full makeover with all the latest tweaks, gadgets, additions, and enhancements you'll be seeing in the best salons in the coming months, and in the most au courant audio setups.

The basic system for the 1998 CES was certainly no plain Jane to begin with. The centerpiece was the fabulous JoLida 302 integrated tube amplifier, fed by the tried-and-true supporting cast of RadioShack CD3400 portable CD player, Audio Alchemy DDE v3.0 DAC/DTI-Pro 32

Yes, it's Monster Computer Cable.
As you may have noticed, our ads tend to have answers for just about everything. Like where to bow your head to at sunset (Skanderborg, Denmark, the one and only home of our famous speakers, which lies exactly east of Aanoraaq, Greenland), whom to worship on lazy, music-filled Sunday afternoons (may we humbly suggest our chief tester Erik 'The Ear' Nielsen whose fame in audiophile circles has reached that of any given dead pop star, except Josef Stalin) or, last but not least, how to build the penultimate, unsurmountable, unbelievably true loudspeaker (by lovingly crafting it around a voice coil three times bigger than the competition, or twice the size of Josef Stalin). This time, we're just telling you what to do tonight.

Switch off your beloved amps! Turn on the bloody computer again. And visit us at our new and extremely knowledgeable internet site on the WorldWideWait (it's at www.dynaudio.com, just in case you're the type who doesn't read headlines) Where, besides having tremendous amounts of fun, you will find some very good reasons why our speakers sound so open, airy and natural. How we manage to get such a well-defined and powerful bass. And, of course, some hints on why our speakers are - quote - "imaging like a bastard!" Should you happen to not have an internet access, you may contact us directly for your free personal snail-mail copy of our "Book of Truth" at (847) 288 1767 (phone) or (847) 288 1853 (fax). And don't forget to have a close look at our Contour 3.3 (pictured here with the world's first famous works raccoon, Knudsen) which is so brand new you won't find it even on the net. :)

DYNAUDIO
AUTHENTIC FIDELITY

DANES DON'T LIE.
dejitterer, and the positively de rigueur Illuminations D-60 Dataflex and Audio Magic IFS digital cables. Out front we placed the eminently musical Joseph Audio RM-7si loudspeakers, only because we like them. I felt that something was missing, however...interconnects! I, for one, never put together a system without them. Fortunately, new cables were at the show in spades — or, if you prefer, in the cool WBT locking RCA connectors, which seem to have taken quite a hold. George Cardas had just come back from rewiring Bernie Grundman's mastering console with a variation of his brand-new Neutral Reference cables. He was really excited about them, and when George Cardas gets excited... well, it's a little difficult to tell. Early impressions suggest they're a must-audition if neutral is your favorite flavor.

If your tastes run to something a little nuttier, there were some new and wild cable designs in evidence. Renaissance Audio's Silver Renaissance Blue interconnects are Teflon-insulated braided solid-core silver in a clear jacket filled with glacier-blue viscosity oil to prevent microphony. Liquid? Of course, and they performed admirably in our hotel system while looking a very pretty translucent turquoise. Yes, the oil can be changed for different viscosities, or every 50000 miles.

Also in the esoteric department, Kimber's new Select cutting-edge interconnects feature connectors housed in cocobolo, a dense, rich wood I've only ever seen and admired in custom knife handles. They're held in pairs via a carved piece of the same exotic hardwood — a cocobolo bolo, if you will.

The wildest cable design had to be the air dielectric from Sahuaro Audio. Imagine a long, 5"-wide balloon covered with black fishnet and sporting a connector on each end. An audiophile would have to be certifiable to run these through his living room. Then again, their room sounded pretty darned good. I'd have liked to have listened to some Zeppelin.

Steven Hill of Straight Wire filled me in on the additions and refinements — based on careful listening — across his cable lines, once his hired masseuse had unraveled the knots in my shoulders. There's the rub. (Note: To improve the music, one mustn't overlook the benefits of tweaking the listener as well as the system.)

There has been quite an explosion from the Monster lab. Among the new Monster Cable offerings is the Monster Lock™ Connector, a 24k-gold terminator that accepts any of eight types of screw-on connectors. I snagged some DataSpeed™ 350 Ethernet cable for enhancing my ISDN router's connection to www.stereophile.com.

Also from the cable news network, AudioQuest is introducing a new AES/EBU digital interconnect that they expect will give the Illuminations Orchid a run for your money. Stay tuned.

Having made my connections, the RJR/LB room system still needed more — something to add tone, a little lift. DJ Casser of Black Diamond Racing had just the thing to gently raise the components or lower the noise floor, depending on your point of view. I'm referring specifically to Those Things, whose name I finally figured out after an exchange suitably reminiscent of Abbott & Costello. When a whole shelf is too much, try these little carbon sandwiches. They're about 24" square, very high in fiber, and, screwing together, mate perfectly to the carbon-fiber Pyramid Cones. They worked their magic under the JoLida.

For those of you looking for something in an alternative to carbon fiber, look no further than Ultra Systems and their line of PolyCrystal accessories. PolyCrystal is a very dense, energy-dissipating composite that can be made into cones, stands, shelves — anything, it seems, short of a high-tech aircraft invisible to radar. The brass/PolyCrystal speaker spikes (reviewed in this issue by J-10) were just right under our Joseph Audio speakers. The digital components benefited from the carefully tuned G-Flex balls. Even with all these improvements, there was still room to tweak the interconnects with the new Shakti On-Lines, broad-spectrum resonators to take the ringing out of cables. Not to be used on telephone cords.

And how 'bout the tubes? "Oh my god, they're naked!" Shun Mook quickly put a cap on that with their Valve Resonators. Don't ask how these little ebony tube hats work — just listen. If you have a proclivity for vacuum tube amps, perhaps you might be induced to test your tube bias with a Svetlana Bias King. Its male/female socket goes between the tube and the amp to produce a little light reading about current events inside your valves.

It sure was a shame to have our fully dressed-up hotel-room system sitting on a downscaled hotel-room dresser. It wouldn't have been difficult to remedy; judging from the plethora of offerings, it looked like audio/video furniture is the fastest-growing segment of the market. A little support in the right places can work wonders. I might have started with the sleek, self-contained, multilevel Cornerstone vibration-control platform from Ultra Resolution Technologies, or the massive custom hardwood stands from Silent Running Audio, available in a variety of handsome finishes and apparently filled with technology borrowed from American nuclear submarines. To hold up the speakers, the SE24s from Atacama would be a likely choice, once they're available here in the colonies — the fillable welded-steel stands are all the rage in Britain. In the meantime, the Osiris speaker stands, or their Ariel pneumatic isolation platform, look like good, solid designs with appealingly massive spikes. Another impressive speaker stand is the Gambaletto from Ensemble: two sandwiched
In 1997, for the sixth consecutive year, Stereophile's editors and reviewers voted for the magazine's Products of the Year, giving recognition to those components that have proved capable of giving musical pleasure beyond the formal review period. (To be eligible, a component had to have been reported on between the November 1996 and October 1997 issues of Stereophile, either in a full Equipment Report, in a Follow-Up, or in Sam Tellig's or Michael Fremer's regular columns.) Once again, the awards were presented at the Consumer Electronics Show by Stereophile editor John Atkinson and publisher Larry Archibald; except where noted, Kathleen Benveniste, aka K-10, took the photos.

1997 Component of the Year:
Digital Source of 1997:
dCS Elgar D/A processor ($12,000; reviewed by John Atkinson, Vol.20 No.7, July 1997).

Budget Component of 1997:
Epos ES12 loudspeaker ($1095/pair; reviewed by John Atkinson, Vol.20 No.4, April 1997).

Editor's Choice of 1997:

Loudspeaker of 1997:

Joint Amplification Components of 1997:
Krell Full Power Balanced 600 power amplifier ($12,500; reviewed by Martin Colloms, Vol.20 No.4, April 1997) and Pass Labs Aleph 3 power amplifier ($2300; reviewed by Muse Kastanovich and John Atkinson, Vol.20 No.4, April 1997).

Joint Analog Sources of 1997:
Magnum Dynalab MD 108 FM tuner ($5500; reviewed by Don A. Scott, Vol.20 No.5, May 1997) and VPI TNT Mk.3 turntable ($5000–$6000; reviewed by Michael Fremer, Vol.19 No.11, November 1997). (As in previous years, VPI did not attend the CES, so could not be presented with their award.)

Accessory of 1997:
HeadRoom Max headphone amplifier ($1335; reviewed by Wes Phillips, Vol.20 No.2, February 1997).
platforms supported by well-damped aluminum tubes. In response to the knuckle-rap test, it's dead, dead, dead.

If I'd only brought my Linn LP12 to Vegas, I'd have certainly put it on a Mana Acoustics Sound Table, just like they do across the pond. Heck, I might have put it on a stack of eight or more Mana platforms, like the folks from Flat Earth Audio did. I'm glad they're finally importing these here. Check out their cool precision spirit-level, which fits over the spindle of your table.

For the full rack treatment, few were more modern and elegant than the Synergy system from Salamander. The optional side panels have just got to be felt. But they're not; they're SoftLeather, and sheesh, I could be swayed. Leaning more toward the modern end of the spectrum, pARTicular Contemporary Design's suspended Ypsilon and Novus equipment furniture has got to be seen to be believed.

Far and away the most interesting and innovative rack at the show — in fact, the single coolest thing I saw — was Townshend Audio's Seismic Sink Stand. Its inner rack and shelves are entirely supported on a cushion of air. Give a push, and see it gently undulate back to equilibrium. Let the air out, and instantly hear the sound deflate right along with it. It's quickly restored with a few strokes of a bicycle pump. Check it out at http://ds.dial.pipex.com/townshend/audio/.

You just can't play your system without software, and it's just as well I couldn't play LPs in my hotel room, because if you don't get to the DCC room on the first day, the Elvis is Back and Elvis 24 Karat Hits! LPs are sold out. These are incredibly good-sounding records from one of the greatest voices to ever grace the planet. Long Live The King!

There was no shortage of discs I couldn't play. You've no doubt heard about the consortium consisting of Classic Records, Kevin Halverson of Muse, and others who are bringing us a high-resolution Digital Audio Disc standard by exploiting a loophole in the DVD video spec. Every kid needs a 24/96 DAD. Chesky is at the forefront of the 24/96 bandwagon with an awesome demo, and Mobile Fidelity is working with Theta to create their own 24/96 DVD standard, which also promises excellence. Exciting.

Gene Pope has a knack for getting the best sound from the formats available today. He's expanding the scope of PopeMusic's repertoire to include r&b from keyboard man Marty Grebb, whose upcoming release features a duet with none other than Bonnie Raitt. Among other discs I could actually play were J.R. Monterose's The Message — the killer-sounding original LP is a Holy Grail for monophile jazz collectors — and the similarly rare Red Rodney: 1957, both on CD from Classic's Prevue division. 1957 is also available on vinyl, as well as on the new DAD format, which promises close-to-master-tape fidelity.

Audio Power Industries' Les Edelberg, two-time winner of Stereophile's Accessory of the Year, will be vying for the hat trick with the all-new Power Wedge Ultra line. The new Ultras promise even greater component isolation and filtering, which will be necessary to handle the increased noise and electrical garbage created by the upcoming high-resolution DAD/DVD gear.

The power in the RJR/LB hotel-room system was conditioned with APT's venerable Power Pack, with further help from T.G. Audio Lab's HSR power cord,
Critical Mass

Pictured from top to bottom:
DC-300 Precision Digital Preamplifier,
DP-90 CD Transport,
A-50 Stereo Power Amplifier

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while Bybee Technologies Quantum Mechanical Filter Modules filtered the quantum right out, which has a lot of audiophiles raving over them.

With the system dressed to the nines, all that remained was to put in a CD and crank it up to 11. Of course, I wouldn't dream of putting a disc in without either the Statmat electrostatic control system from QR Design — the people who gave our turntables the Ringmat — or the Orpheus Crossbow CD Mat from Marigo Audio Lab, which brings electromagnetic "State Collimation" to your CDs and makes them sound better, too.

When we finally did get a chance to listen to the fully accessorized system, how did it sound? LB and I agreed: It was our best transportable in-room system yet!

**BARRY WILLIS**

That was the show that was!

Wasn't it the opening scene of The Longest Day? A couple of German Army officers standing on a cliff above the fortified Normandy beach? They look out over the calm and apparently empty sea. Anticipating the onslaught to come, one of them says: "Out there is a coiled snake of men and ships. Soon it will strike."

Or something to that effect. Maybe I've got the wrong film, but that same sense of foreboding came over me as Las Vegas came into view from the air. Below and ahead lay thousands of acronym-laced public-relations spels; numberless hands to shake, cards to exchange, products to view, and demonstrations to hear; each adding its pound or two of superlative-spangled paper to an ever-growing burden luggered over miles and miles of concrete; long days stacked end-to-end, punctuated by short bouts of fitful sleep — CES '98.

The extravaganza was spread throughout the entire city, making it impossible to view everything — although SGHT's Tom Norton, who consistently gains the most yardage, seriously tried. Jon Iverson and I were assigned Stereophile's first-ever real-time online show coverage: we ran from press conference to press room and punched out the news like 1940s B-movie reporters exposing corruption at City Hall. "Copy! Hold the press!"

This left precious little time for lingering in the High-End Bazaar that was the Alexis Park. Our meals'n'meetings-intensive schedule allowed us few opportunities to actually sit down and listen to anything. The TACT Millennium amplifier was one of the exceptions. Touted as the world's first all-digital amplifier, the Millennium accepts PCM data and employs a Pulse-Width-Modulated output stage, eliminating the need for both a traditional DAC and any amount of negative feedback. Although the room, the music, and the loudspeakers were unfamiliar, it impressed me as sounding extremely open.

In the same suite we heard a demonstration of Lubert Finsterle's AVS (Audio Virtual Standard) ambience-recovery system, which purportedly un-layers congested two-channel recordings with the aid of a pair of rear-channel speakers. At what expense this acoustic decongestant comes I failed to note, but from the looks of the hardware I would guess somewhere off the top of the affordability chart. AVS is said to have some under-$1500 products in the works. Jon claimed he heard the effect clearly with an old Led Zeppelin recording. It was lost on me, but my learning curve is much steeper and rockier than his. We were joined by Gene Pitts of The Audiophile Voice and Chuck Bruce of the Atlanta Audio Society for a lovely rendering of Gary Karr's double bass performance of Albinoni's Adagio through the Dali Megaline loudspeakers. Such moments epitomize the High End's whole raison d'être.

Confluence, a French company, showed a pair of gorgeous and exotic loudspeakers that appeared to be at least partly hand-carved from laminated hardwoods. I was transfixed by chanteuse Elisabeth Caumont's Dix Chansons d'Amour, and extremely disappointed to discover a week later that San Francisco's Virgin MegaStore doesn't stock it. Neither does Tower. Help! The crew of Frenchmen in attendance (Confluentes?) patiently endured my playing Michelle Peyroux's lush version of "La Vie en Rose" (Dreamland, Atlantic 82946-2). "Nostalique," one sniffed.

VAC's stackable gear (integral outboard pillars on each piece form a "rack" when units are placed one atop another) looked and sounded great with Montana (aka PBN) EPS loudspeakers, as did the Montana XPS driven by massive Threshold T-800 amplifiers, the only "outboard" demo I heard. (Montana's big system was set up at the Howard Johnson Plaza. Stevie Ray Vaughan never sounded so good.) I was also impressed by the looks and performance of Gershmans Acoustics' products.

But sound technology was overwhelmed this year by the official debut of High Definition Television, shown in bewildering variety at the Las Vegas Convention Center. Best of the bunch is still Faroudja, who displayed the only...
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STEREOPHILE, 3/96, p. 114
Recommended Components, 4/97

Suggested Interconnects
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Tourmaline
- Oxygen Free Copper
Sapphire
- Solid Fine Silver

"Why play with firecrackers when someone hands you dynamite?... The sound knocked me out." Clement Perry THE AUDIOPHILE VOICE
Vol.3, No.2, p.86

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HI FI CHOICE, July/August, 1997, p.50

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THE POSITIVE FEEDBACK, Vol. 7, No.2

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ready-to-wear 1080i big screen at the show. The Silicon Valley company not only makes line doublers and quadruplers for consumer use, but is building upconverters for broadcasters, so that the huge stock of "legacy video" (NTSC) programs and films can be seen in the new format. Yes, friends, you will be able to watch all eight years of Seinfeld as near-HD reruns. Faroudja's technology is reportedly being incorporated into the next generation of upscale televisions. Bad TV shows are going to look pretty good.

Startup (or is that upstart?) Unity Motion of St. Louis showed its own version of 525p digital TV. Unity's picture quality rivaled that of other more expensive and purportedly higher-quality systems. CEO Lawrence Miller stated that his company will begin broadcasting this spring with 18 transponders on Ku-band satellite. The satellite's footprint covers all of North America.

Thin-panel displays were hot and promise to get hotter. Philips, Panasonic, and Fujitsu all had versions of this promising product category. Panasonic's curved panel looked very good even way off-axis, but Fujitsu's Plasmatomic flat display got the nod from J1 and me. The 42" diagonal by 4" deep unit has a 400:1 contrast ratio and is very bright, with excellent color and detail. It accepts every possible form of video or computer input and is lightweight enough to hang on the wall or sit on a mantle. At $11,000, the Plasmatomic is a precursor of better, cheaper, and more versatile video gear coming soon.

"What Were They Thinking?" Award #1 is shared by several makers of widescreen television sets who used ordinary 4:3 NTSC video as a source. Why, why, why would you want to stretch a picture to twice its normal width for a demonstration? Chicago Bulls star Michael Jordan, in a clip from Spacejam, looked more like the Notorious B.I.G. The funhouse mirror effect is amusing, but no way to debut new technology.

A stroll through the adult video section at The Sands revealed an industry that knows a hot technology when it sees one. Many vendors there were promoting their own Digital Versatile Discs. "We have DVDs," read several large signs. Like it or not, adult video is part of the driving force behind Home Theater. In fact, the genre has never had a friendlier medium: noise-free stillframes, digital zoom, multiple camera angles—a phenomenon, of course, generally passed over in silence by the mainstream home-entertainment press.

Overwhelming convictions I brought home from this show: 1) Traditional two-channel hi-fi—especially turntables/nitubes retro-audio—is increasingly becoming an island unto itself. 2) There's a computer in your future, and it wasn't Meridian's endorsement of FireWire or convergence products like the Philips DVX-8000 that drove this home. It's the fact that the only device compatible with all varieties of the continually mutating DVD is a DVD-ROM drive. This prompted a quip to John Atkinson and Wes Phillips that perhaps we ought to be reviewing sound cards. Rolling his eyes heavenward, JA said, "But they all sound like shit." Pressing the point, I asked if that didn't indicate a wide-open market for an audiophile-quality version. "Perhaps," he sighed, "but a computer is a terrible environment for audio. What you need is a data handler with a digital output to a high-quality processor." Like I said...

"What Were They Thinking?" Award #2 goes to the chip maker who arranged a private press conference for Wes, Jon, and me. After the pleasantries were exchanged and we were comfortably seated for the presentation, a company officer broke the ice with: "So, Stereophile. What do you guys do?"
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Stereophile, April 1998
MUSIC, SOUND, & TECHNOLOGY
by John M. Eargle
Van Nostrand Reinhold, 1995, $54.95

Mark Twain said, “It is better to remain silent and be thought a fool than to open one’s mouth and remove all doubt.” So I’m in a quandary: While not new, this book is so basic to what I do that to confess that, before spotting it in Denver’s Tattered Cover bookstore, I’d never even heard of it, might seem to reveal founts of ignorance I’d previously kept undetected. On the other hand, this book is so fascinating, so filled with solid information about recorded sound, that I’d be derelict in my duty not to share it with you.

John Eargle, the recording engineer for Delos Records, needs no introduction to audiophiles. Music, Sound, & Technology pulls together musical history, mathematical and physical concepts in acoustics, the principles of speech and music reinforcement, and the principles of recording, high-fidelity playback, and noise control. Eargle writes in a clear, comprehensible style, and MSAT overflows with explanatory line drawings, photographs, charts, and graphs.

The book is designed as an introduction to the concepts it covers. While it isn’t comprehensive in any one area, it gives the reader all the information needed to grasp the basics, and each chapter features a recommended reading list that will take you as far into each subject as you’re willing to venture.

As a former tuba player, I immediately turned to “Acoustics of Brass Instruments.” Eargle’s brief history of the field is accompanied by a chart categorizing brass by bore and length, as well as one giving the transposition intervals between the various members of the tribe. The discussion of the use of crooks, valves, and slides to change the speaking length of an instrument is illustrated with diagrams of the three major valve types, as well as one listing the changes in the harmonic overtones when valves are used. There is a section concerning each instrument, complete with descriptions of playing technique. There are photographs of each instrument, as well as tables contrasting power output and the sound-pressure level at 1 meter for each. The spectra and directional properties of brass instruments are covered in detail, with individual dynamic-range graphs, spectra charts, and a graphic analysis of the directional properties of brass instruments—which turned out to be more uniform than I would have guessed. Eight references are cited in the chapter bibliography, while Eargle recommends another 14 for further reading. He even suggests a Nimbus recording of Weber’s Concertino for Horn as a listening resource. An amazing amount of information is delivered in 21 pages.

Music, Sound, & Technology has become one of my most valued references. I use it daily, and couldn’t be happier about the way it puts the information I need at my fingertips. If you’re curious about the scientific, musical, or acoustical concepts involved in high-fidelity music reproduction, you’ll love it too.

— Wes Phillips

THE MANSION ON THE HILL
Dylan, Young, Geffen, Springsteen, and the Head-On Collision of Rock and Commerce
by Fred Goodman
Times Books, 1997, $25.00

Few music books have ever stirred as much controversy as Fred Goodman’s finely honed and ultimately restrained portrait of how rock (not rock’n’roll, but rock) became big business. In one sense this is the story of the Albert Grossmans and David Geffens of the world, the new model managers who wrested control from the labels, gave it to the artists, and made themselves rich in the process. For the most part Goodman avoids the obvious temptation to slice and dice these complex characters, managing by the end to even paint a grudgingly respectful portrait of the thoroughly Mephistophelean David Geffen.

This is also the saga of the artists and how they’ve managed—whether poorly or well—the dance between the power of gold and the retention of artistic credibility. Dylan and Springsteen in particular come off looking amazingly well, human. It’s this recognition that we’re all mortal that guides Goodman’s balanced portraits of these artists. Springsteen is frankly revealed to be an eccentric, inspired genius who “ain’t very bright” but who, under Jon Landau’s malevolent tutelage, becomes savvy and single-minded, and whose purchase of a $14 million mansion in Beverly Hills is ultimately seen as “an honest and appropriate move.”

Goodman does bulls eye several personalities, beginning with Landau—the overly influential journalist turned overbearing Springsteen confidant—and his pal in crime, writer Dave Marsh, whose ridiculously laudatory Springsteen biography Goodman rightly characterizes as “grotesque puffery.”

Throughout, Goodman weaves in priceless anecdotes. The infamous back-stage mêlée at Newport in 1965—highlighted by an axe-wielding Pete Seeger trying to hack through the cables to Dylan’s amp—has never been painted with more flavor. Then there’s the scene where Dylan throws Otto Preminger (who wanted the singer to score a film) out of the director’s own Park Avenue townhouse so the singer and his wife can have dinner (on Preminger) and get “decorating ideas.”

Not as dark as Frederic Dannen’s 1991 examination of the music industry, Hit Men (reviewed in Stereophile by Jack Hannold, Vol.13 No.12), or as linear as perhaps it should have been, The Mansion on the Hill is tremendously entertaining and insightful. While some of Goodman’s conclusions may be skewed, there is much truth here about how, almost as much as money, personalities have shaped the uneasy alliance between art and commerce in the world of rock music.

— Robert Baird
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Componennts 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. Relevant reviews that appeared in our companion Stereophile Guide to Home Theater are indicated by “SGHT: No.1”; i.e., 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, Vol.3 Nos.1-4 in 1997, Vol.4 Nos.1-10 in 1998.) Please note that dedicated home-theater products are no longer included in this listing but are part of Stereophile Guide to Home Theater's “Recommended Components,” the most recent version of which was published in that magazine's March/April 1998 edition (Issue 13, Vol.4 No.3).

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 the reviews, but not here. To obtain back issues of the magazine, visit www.stereophile.com or see the advertisement in this issue. (We regret that we cannot supply photocopies or e-mail copies 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—i.e., 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 downrated 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
"...tonally balanced, harmonically convincing, dynamic at both ends of the scale, and seemingly not in need of more or less of anything."

— Michael Fremer, Stereophile, June 1997

"These speakers out-perform everything in their class and then go on to stomp all over the next league up."
- WHAT HI-FI MAGAZINE, February 1997

"Even the best of this bunch was made to sound over-aggressive and clumsy by Tannoy's new large bookshelf design, the Mercury m2."
- WHAT HI-FI, April 1997

"It's the m2's greater consistency and wider bandwidth that help it outstrip the competition."
- HI-FI NEWS, April 1997
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, 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 reviewed (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 (K).

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 (February 1998). 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: $$$ . We also indicate with a $$ symbol that products have been on this list in one incarnation or another since the "Recommended Components" listing in Vol.18 No.4 (April 1995). 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).

A note on editorial style is in order. When a passage is quoted from the original review, the past tense is used. But when the comment is taken from a more recent private communication from a reviewer, the present tense is used. For example: "Sounded so good I had to cry," said JA of the original version of the Symphonic Bonbast A-123 in his review. ST demurs, however, saying that the current Mk.VIa makes his reference speakers "sound like the woofer are disconnected!"

We are not sympathetic toward letters complaining that the Symphonic Bonbast A-123 Mk.VIa, which we recommended heartily two years ago, no longer makes it into "Recommended Components" at all. Where deletions are made, we endeavor to give reasons (there are always reasons). But remember: Deletion of a component from this list does not invalidate a buying decision you have made.


TURNTABLES

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-D image solidity, tight, deep bass, super-plush midrange, and "enormous palpatibility factor." Very similar Forsell Air Reference ($14,500) lacks the air-bearing Flywheel drive system; it uses an internal motor and a silicone-rubber belt. (Vol.17 No.1)

Immedia RPM-2: $4995
"This 'table has a way with rhythm and pace that is impossible not to notice," observed W.E. "Images are incredibly big, which does indeed mean that the soundstage is huge — not to mention filled with detail... Bass was deep and dynamics were spectacular... As I listened I kept muttering, 'It's so big, it's sooo big!' And it was." Turntable must be ordered for a specific tonearm. Price is with acrylic base; upgraded metalic base adds $1000. (Vol.20 No.9)

Linn Sondek LP12 with Lingo power supply: $3045-$3120, depending on finish $55
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 Transpolin suspension reduces the effect of the support. Cirkus bearing/Subhabis, now fitted as standard, costs $395 including labor. As an 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 CG feels that the LP12/Cirkus loses a certain something compared with the original version, he will concur 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 receded into insignificance." Superbly low measured rumble and excellent speed stability reinforce the feeling of maximum musical involvement offered by this classic 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 20 years. (Vol.14 No.1, Vol.16 No.12, Vol.17 No.5, Vol.19 No.2)

Naim Armageddon LP12 turntable power supply: $1200
A 430VA low-impedance transformer designed to drive the Linn LP12 Basck turntable while isolating it from powerline noise. WP was enthused, citing the improved pace and energetic presentation of the music over his Valhalla I 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 trade-off that many would not undertake willingly (JA, for one). Highly recommendable — MC agrees with WP that the LP12/Armageddon is a Class A turntable — but advises before committing your Linn to surgery. (Vol.19 No.2)
The Golden Dragon project is controlled in England by former employees of Mullard, M-O Valve, and Brimar. Each Golden Dragon tube goes through many prototype iterations, each of which is evaluated for both measured performance and sonic character. Only when superb sound is achieved does a design become a Dragon.

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See EC at the January Chicago Show, Alexis Park, Room 208
Oracle Delphi Mk.V: $3100 $$

"Superbly machined and finished," says MF. "Airy and rich-sounding, with impressive focus and fine resolution of low-level details." He also found the "table's high-frequency performance was smooth yet detailed, indicative of outstanding speed stability and effective energy transfer from the motor to the platter." Turbo power supply adds $550. (Vol.20 No.12)

VPI TNT Mk.3: $5000

MF's reference. Modular design allows owners of older models to upgrade easily and inexpensively, finding that the improvements start with the TNT Jr. and upgrade as finances allow. Slightly on the warm side of neutrality, asserted MF; but "big, full, weighty, and rich." The massive 'table's speed stability and ultra-low noise floor "flattens the sound so far, proving the 'table's 'tonal in a groove, it liberated it from the mechanical world to the living, breathing, real musical world." $1k, a long-time Linnie, feels the current iteration finally swings realistically and concurs with MF: "Definite Class A. Flywheel adds $3000. (Vol.19 No.11)

B

Rega Planar 9: $2595

Refined improvement rung upon the Planar 3. MF praised its "subtle, direct, finding that the sonic signature of the Planar 3 is in terms of focus, bass extension, and neutrality. Lack of sprung suspension dictates the use of some sort of anti-resonant base. MF was most impressed with the Planar 9 as a system incorporating Rega's new high-end tonearm and Exact cartridge. Those looking to mix’n’match, he felt, might be better served elsewhere. (Vol.20 No.8)

VPI TNT Jr.: $3000

Capable of being upgraded in easy stages, the high-mass Jr. uses a simple Nivico suspension and, according to SS, is "absurdly simple to set up." A "blacker soundstage" than VPI's popular HW-9, he found, commenting that it had excellent low-bass extension and definition. Tripod pulse system, PLC (power-line conditioner), and new drive-belts for the TNT Jr. take it most of the way toward full TNT Mk.Ill Plus 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 $3100. (Vol.19 No.11)

C

Linn Sondek LP12 Valhalla: $2045-$2220, depending on finish

The standard against which newer turntable designs have been measured for almost two decades, the Linn is felt by some to be more colored than the other Class C tables, particularly in the upper bass. Latest version has a laminated arbour and Cirkus bearing/subchassis ($595 including labor as upgrade kit), which result in a considerably more neutral sound. Certainly it's harder to set up and is more likely to go out of adjustment, though with the latest springs, Spurtopin suspension, glued subchassis, and Cirkus mod, it's now much easier to better in this respect. (Low-bass extension suffers when the LP12 is not set up correctly.) Still sets a high performance standard, found WP — although it can certainly be bettered in one area or another, its balance of virtues is high (but not impossible) to improve upon. Current version with a Bank power supply is available for $1690. (Vol.17 No.12, 13, Vol.16 No.11, Vol.16 No.12, Vol.16 No.13)

VPI HW-19 IV: $1850 $$

The Mk.III version of the VPI 'table (still available for $1250) was undoubtedly more elegant than the original, and achieved a standard of sonic resolution that is very close to the SOTA Star Sapphire — and at a significantly lower price. Borderline Class B. The Mk.IV version is better still, the music arising from a velvet-black background, thoughtful, with significant improvement in dynamics. "Detailled, neat and easy to set up, and a bargain," enthuses RJT. An upgrade with a standard Mk.IV player from older HW-$19 costs $800; with a TNT Series 2 platter, the upgrade costs $900; an acrylic arbourboard for the ET 2 costs $50, while the special 1.5" thick arbourboard for the ET 2 when the TNT platter is used costs $120. The 11WV readily accommodates a wide range of tonearms, and is easy to set up. The $450 Power Line Conditioner (see Vol.12 No.2) is an essential component. The '19 can be upgraded to TNT status. (Vol.7 No.2, Vol.8 No.4, Vol.9 No.4 & 9, Vol.12 No.11, Vol.15 No.8; see also Vol.13 No.7, p.112, and GLS' ET 2 report in Vol.14 No.10).

D

Rega Planar 3: $695 $$

Rega Planar 2: $495

Two syntactic modes of no-nonsense deck with superb arm [included]. Lack of environmental isolation may be problematic (see “Letters" in Vol.16No.10). However, "outstanding performance," MF crowed about the Planar 3: "It's quiet, dynamic...free of obvi- ous tracking distortion or other supposed analog play- lengths, extremely well balanced top to bottom, offers very deep and reasonably tight bass, and will do no damage to your precious records." Then he threw down his analog gauntlet: "If you're an all-CD kind of person, and you're happy to trade a little fidelity for a better price, the Rega 3 will blow your mind, even if you have a very high-priced spread." MF found the very similar Rega 2 an "incredible bargain," proclaiming it to have speed stability and an arm far better than the 'table's price should allow. Planar 3 can be found in a dedicated version for playing 78s. (Vol.7 No.3, Vol.8 No.6, Vol.9 No.12, Planar 3; Vol.19 No.12, Planar 2)

Rotel RP-900: $499.90 (including arm)

Budget deck based on Rega parts, including glass platter/feet/mat and robust variant on the Rega RB-200 arm, offers surprising detail, says MF. Spring-mounted feet offer moderate isolation. Speed accuracy before purchase. MF feels the extra bucks for the Rega Planar 3 are worth it, however. (Vol.16 No.8)

Thorens TD 320 Mk.III: $1085

While praising its build quality and value per dollar, MF lamented the 320 Mk.III's lack of rhythmic excite- ment and punch, as well as its loss of inner detail and lack of focus. (Vol.19 No.12)

K

Rockport Technologies Sirius II, SME Model 20, Wilson Benesch, Simson Yorke turntable/arm combob, Semikko Pro-ject 6.9, VPI TNT Mk.IV, Well Tempered Record Player.

Deletions

Kazuma Stabi and Well Tempered Classic Turntable not auditioned in too long a time to be sure of cur- rent rating.

TONEARMS

A

Clearaudio/Southem Tri-Quartt Improved: $2500

SS felt that the TQ5's axes — elegant design, longevity, resolution, low-level detail, superb soundstage deline- ation, top-end air, and accurate midrange re-creation — far outweigh its relatively minor shortcomings of a retic- ence in the bass and a daunting setup procedure. "Mates synergetically with Clearaudio 5-type cartridges," SS opines. MF was not impressed. In his opinion, the TQ5's somewhat difficult-to-nudge cartridge "absolutely suspect" — there are concerns about record wear, among other things. But he allowed that, when mounted on the Clearaudio Reference turntable, the TQ5 "produced a big, down- right intoxicating sound — rich and reach-out-and-touch-it transparent." Clearaudio offers an upgrade for the TQ5 for $600. Price is $1000 when purchased with Clearaudio Reference turntable. (Vol.18 No.8; Vol.20 No.11, V241 No.2)

Graham 2.0: $2250-$3000 depending on options

The most significant difference between the 1.5 and the 2.0 is the latter's rigid mounting platform. (An SME- style mount version is also available; series 5 tonearms can be updated to 2.0 status by the factory for $750.) A "more precise and accurate alignment system" than the 1.5, et al., writes MF. "The Graham 2.0 is one of the most neutral, revealing cartridge carriers you can buy, though I wouldn't mind a bit more bloom and richness — a bit more generosity — in the mids and upper mids." Purists should experiment with arm cables, which can make a big difference. Ease of setup and removable arm "wants" it "for its arm design with several cartridge configurations." The Graham 2.0 is appropriate for use on a Linn Sondek LP12 — the Graham LP12 3-layer arm- board costs $1500. (Vol.20 No.8)

Immedda RPM2: $2495

This medium/high-mass damped unipivot tonearm is, for now, MF's favorite, WP, too, is a big admirer. See Miyko, "It is...brilliantly designed and executed, and it sounds bitchin'!" Not for everyone, however. It must be mounted on a well-isolated armboard. Some will find the IPM2's "just the facts" delivery lean, but WP thinks it's just reporting what's there, adding nothing to nothing of its own. Others may find it a bit too "fiddly"—change- able, but it involves changing VTF and damping. (Vol.20 No.5)

Linn Ekos: $2595 $$

"Cleaner-sounding than the Itok — upon which it's loosely based," the Ekos trumps the SME in overall neo- classical presentation of the music. Certainly it involves changing VTF and damping. (Vol.18 No.11, Vol.13 No.3, Vol.16 No.6)

Naim ARO: $2515 $$

"An inner balance and harmony consistent with the musical message," says MC of this unipivot design. MF found the ARO to offer superb timbral accuracy, soundstaging, dynamics, and rhythmic integrity. He also found it less bright than the Linn Ekos, and better balanced in the bass than the SME V. WP concurs, ranking it high among the arms he's auditioned, but cautious that the lack of any overhaul adjustment dicta- tes careful cartridge matching, or the ability to drive new armboards with a subtle brightening than the spindle-adjusted spine. (Vol.20 No.8)

SME Series V: $2550 $$

This beautifully constructed pivoted tonearm has an extraordinarily neutral midrange; with one of the low- est resonant signatures in this region (though I/OJ feels the Graham offers slightly more midrange detail). Easy to set up, VTA and overhang are adjustable during play, but there's no azimuth adjustment — something that I/OJ feels to be a significant drawback. "The best bass presentation on the market," says SWW, LA concurs, with the V on a VPI TNT, but JGII, JA, I/OJ, and LL feel that the whole bass range is somewhat exagger- ated. Not recommended with the LP12. Some compati- bility problems with cartridges having low height. A less versions, the WW, (which uses Series V headshell and Magnat V1 wiring), appears to offer the V's sonic virtues and more at a lower cost ($1995 $$). (Vol.9 No.6, Vol.14 No.8; Vol.16 No.6)

105

Stereophile, April 1998
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Triplanar (Wheaton) IV Ultimate: $2550-$2710, depending on termination, finish, and wiring options.

Superbly finished, handcut pivoted tonearm allows for VTA adjustment during play, and comes with Caradas internal wiring, decoupled counterweights, and silicone cartridge damping. A "robust, rollicking, Babelianist sound," found SS, who also commented on its dynamics and drive. A richer balance than the Clearaudio/Souther Tri-Quartet Improved, but less well-defined imaging than the Grahans, felt SS. MF concurred, adding, "no GS in it; the last word in dynamic presentation." (Vol.18 No.2, Vol.21 No.2)

VPI JMW Memorial Tonarm: $2300

Unipivot tonearm features vestibial anti-skating, which disconcerted MF. Nonetheless, he enthused over its low midrange, ultra-smooth top end, and rock-solid imaging and soundstaging. "Subjectively," he observed, "it seemed to have lower distortion than any other pivoted arm I've heard, but part of that might be the result of its unsmooth frequency balance. Inner detail was outstanding." However, he added, "I think there's a slight midbasas exaggeration that may be part of the spreading warmth above this range, and which gives this arm its inviting midrange." WP admires the arm, but suspects we have not seen its ultimate incarnation yet. Additional arm assemblies cost $900. (Vol.20 No.3)

Rega RB300: $425 $$$

The Rega offers very good detail, depth, midrange neutrality, attitude, and precision of imaging, almost creeping into Class B. Works well with the Rega and Rotel 'tables. The Audio Advisor also offers it as a package with the VPI HW-19 MLIII and JF. muntables. Lack of midrange adjustment, however — VTA can be adjusted only by adding spacers under the base. (Vol.7 No.10, Vol.10 No.1, Vol.11 No.12)

K Wilton Benech A.C.T. One, JMW Memorial 12.

Deletions

Graham Model 1.5-T/C and Rockport Series 6000 replaced by new models; Ruzma Seelig and Well-Tempered Classic Arm not auditioned in too long a time to sure of current rating.

PHONO CARTRIDGES

A

AudioQuest 7000 Fe5: $7250

More expensive replacement — with boron cantilever and nonremovable body — for the excellent-sounding 7000mks is less dry-sounding and not quite as "razor-sharp," notes MF. He enthused over the remarkable low-end output, richness, and sonic texture. "Big, generous, and easy-sounding," and possessed of ample 0.4mV output, "while maintaining resolution of inner detail." However, he cautions, "greater midrange liquidity and sense of quiet background [is available] from other (more-expensive) cartridges." Correct VTA critical for optimum performance. (Vol.14 No.6, Vol.15 No.1, original version; Vol.19 No.4)

Clearaudio Insider: $7500

JS felt hand for this pricey low-output moving-coil. "Perfectly transparent, neutral, and supremely musical... [it] always pulled the best out of the vinyl it tracked." He went on to praise the "quick and sure hand it displayed with transients and dynamics, the colorful palate, and the ease with which it threw up a soundstage," concluding that it's "the best cartridge in the world." SD harmonics: "sells the king." (Vol.19 No.5, No.9)

Crown Jewel Reference: $2650

Beautifully built low-output moving-coil cartridge that MF deemed "one of the most seductive and trans- siong..." He further elaborated: "while its tonal balance leans slightly toward the warm, liquid, hsh side of the spectrum, the mpv delivers a reasonably neutral overall frequency balance, combined with smooth high-frequency extension on top and solid, balanced authority in the bottom." Perhaps likely to present an excessively warm portrayal if teamed with gear already headed in that direction, he warned, but overall "an extremely attractive combination of refined attributes aimed at the sophisticated listener." (Vol.20 No.3)

Lyra Clavis Da Capo: $1895 $$$

"Demands precise setup," cautioned MF, but 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 luxurious sounding." Dynamic balance a touch "reserved" — due, possibly, to its 250V output. Even so, "I loved 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 unhesi- tatingly gave this Scan-Tech-sourced low-output MC a Class A rating. "A music-lover's cartridge... immediately musical, satisfying but never Reference sound- ing..." was Mr. E's conclusion; "delightful midrange textures, and 'conveys emotion," summed up the sanguine Mr. S. (Vol.18 No.2)

Transfiguration Tempor: $3800

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

van den Hul Frog: $2500

"More expensive cartridges are going to be hard put to justify their cost with the Frog around," proclaimed WP of this moderate-output (650mV) moving-coil. "A big-sounding output [as well], I was able to turn down my preamp substantially while maintaining high output levels, and crossovers and other dynamics gained considerable heat. The lower noise floor meant I could hear further into the recordings as well."

vHfd estimates +0.1 ohms at 1kHz — as much as twice the norm — and also offers retipping for $500. (Vol.20 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 'hoppers and incorporates JF van den Hul's latest thoughts on cartridge design. Changes significant during break-in, after which it is not as analytical-sounding as the Symphonic Line IG-8 but "balanced more toward the relaxed, rich, and musical," decided JS. The vHfd also features a "very wide and enveloping-ly deep soundstage." (Vol.18 No.7)

Wilson Benech Analog: $3800

"You deserve a visceral thrill for this kind of money," deadpanned JS. "You should find yourself exploring heretofore unknown nuances, even in the most familiar repertoire of recordings. This is the measure of analog, and that's the pleasure of the Analog. Midrange textures were for the die, the highs sweet and beckoning, but quick and sparkly too. The bass was altogether acoustic and 'vibratory'. As I seem to have written in my notes... I haven't heard better at the price," and it significantly outperforms the $1500-$2500 cartridges I've audion- tioned." (Vol.21 No.2)

Wilson Benech Carbon: $2800

Low-output moving-coil cartridge uses a carbon-fiber shell. MF found the Carbon "a fast, very detailed trans- ducer offering superb extension at the frequency extremes and outstanding linearity in between." He also loved its "image focus, speed, and control through- out the audible spectrum." MF did an outstanding job of capturing the acoustic envelope — the spatial concert sur- rounding instruments and voices on live recordings... [its] other strongest suit was capturing the textures of voices and instruments. Slight top-to-bottom grain did not detract substantially from MF's admiration. "A good tracker at 1.7 grams, extremely dynamic, detailed, yet rich, harmonically suave, rhythmically supple, airy and extended on top, tast yet warm on bottom, the Excel is a superb performer at any price, and a real bar- ron." (Vol.21 No.3)

Grado Reference: $1200 $$$

"The finest fixed-coil cartridge I've ever heard, and one of the finest-sounding cartridges I've ever heard — especially in the midrange — regardless of design," said MF. But it has some quirks. It was hard to hand-adjust overload, and it can be susceptible to more noise. Not as detailed or refined as the better moving-coils, "but what it did in the middle was pure and right, and what it did on the bottom so dynamic and weighty..." WP also found himself listening to record after record long after I should have stopped." Just misses Class A by not hav- ing the top-end resolution and air of the best MCs, but out-tracks all of them and doesn't require a headamp. (Vol.21 No.3)

Samiklo SHO Reference High-Output: $1800 $$$

WP feels this high-output MC has body, presence, and rhythm — and a purity in the high frequencies that caus- es overtones to flow forever. "It sounds like music," he pronounces. Well-built, reliable, and extremely musical, he says, with an uncanny knack for sorting out audible details in the quietest passages. JA agrees that it extracts maximum music from the grooves. (Vol.18 No.4)

van den Hul MC-10 Special: $1200

"Immediate distinction must... in one area: high- frequency purity and resolution," said MF. The MC-10 offered the purest, most refined and resolved high frequencies, absolutely free of grain and grit. "It was some- what reticent in the bass, however, and 'too polite for rock, outstanding for classical and jazz.'" (Vol.21 No.3)

C

Audio-Technica AT-ML150/OCC: $400 $$$

Snap-on presentation enables the MFs to do "an out- standing job of delineating boundaries between images," claimed MF. "Transect attack throughout the spectrum was vast, with well-articulated bass and crisp yet nasal-sounding high frequencies. Yet," quoted the proseman, "despite its superior information retrieval, the ML150 began to sound thin and gray, as though the music were coming through a scrim that wasn't letting all the colors through." Faster and more detailed than the Shure, the AT has plenty of snap, but it lacks the Shure's richness and harmonic completeness," he sums up. (Vol.20 No.7)

Benz-Micro Glicer: $750 $$$

"The aural pictures the Glicer paints," Lf effaced, "are so good they really give you a glimpse into the original event." Citing the cartridge's presentation of detail, pin- point imaging, and almost physical presence, he did call that some may find the nibblas on the soft side of accurate. "Powerful snarl," he said of one night's audi- tion; "magic, in fact." Retipping costs $400. Borderline Class B. (Vol.19 No.8)

Benz-Micro Gold: $350 $$$

"A real smoothy," MF proclaimed. A luxurious top end and a great sense of liquidity were compromised some-
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Ortofon MC-15 Super Mk.II: $250 $$$
“A real sleeper,” according to MF; “offering very neutral tonal balance—a bit lean, if anything—good ambient retrieval, fine extension on top without grain or glare, good coherence below, and impressive overall dynamics.” For his taste, it tracked a tad heavily at 2.2 grams, “but it provided a quiet background from which the music emerged.” (Vol.19 No.12)

Rega Exact: $595
Hand-built, Rega offers a reasonable set, that MF claimed will “get your heart racing, that’s for sure.” The Analog Kid was knocked out by its explosive, energetic sound, breathtaking midrange purity, and transient snap. He was less fond of its “aggressive” top end and abundant low-frequency emphasis. Even so, he recommended auditioning the Planar 9 as a system incorporating this cartridge and concludes that “the Exact could bring a somewhat retroist system to life.” (Vol.20 No.8)

Share V3 VS/MR: $300
While the latest version of this venerable design didn’t offer MF “all the air and space present on live recordings, or the kind of front-to-back layering of perfectly focused images I hear from the top-shelf moving-coil, and it didn’t recover the plane or the microbalance of energy that makes a magnetic sound live.” Mikey nevertheless concluded that, “if you’re looking for music with a reasonably honest portrayal of the harmonic structure of the real thing, you’ll get it from the V15.” (Vol.20 No.7)

Ortofon X1-MC: $125
High-output MC that MF praised for its “surprisingly good low-level resolution.” Despite some graininess on top, “a very good performer for the money.” (Vol.19 No.12)

Rega Elys: $225
This MM cartridge, MF discovered, “offered high output, top/mid, and good extension top and bottom.” On the downside, “it accentuated surface noise and was less than exemplary at the very bottom.” (Vol.19 No.12)


Deletions Benz-Micro Ruby, Symphonic Line BG-8 Gold, Blue Oasis, Clearaudio Signature, London (Decca) Jubilee, and Grado ZTE+ all not auditioned in a long time; Linn Akiv and Sumiko Blue Point replaced by new versions not yet reviewed.

PHONO ACCESSORIES & RECORD CLEANERS

Alphee Orbitrac 2 record cleaner: $34.95
MF considers this indispensable for optimum vinyl hygiene—he uses it to preclean records before using a vacuum-operated cleaning machine. Otherwise, he maintains, the machine’s intake pads become contaminated and, in turn, contaminate every future record cleaned upon it. (Vol.20 No.4)

Audio Physic crystal cartridge demagnetizer: $399
MF found this expensive device most effective in maintaining that “like-new” quality of his MC cartridge. He recommends placing the stylus in the groove of a stationary record when using in order to counter the coils in the machine’s field. (Vol.18 No.12)

CA 2D2 record brush
“When used in a conscientiously applied program of regular vinyl hygiene,” MF asserted, “these brushes... are very useful for manucuring loose, dry dust from already cleaned records. I recommend giving even the cleanest record in your collection a once-over.” (Vol.19 No.11)

The Cardon Deep Records: $16
Inexpensive degaussing aid for cartridges that also, it claimed, ultrasonically cleans stylos. Record also features blank, unwrapped areas that facilitate antiskating adjustment—or, for linear-tracking arms, level. MF found it effective albeit when considering its price—it wouldn’t be without it” enthuses JH. (Vol.18 No.12)

DB Systems DB-10 Protractor: $39.95 &
Fiddly but accurately guide for setting cartridge tangency. JAs and JGH’s preferred alignment protractor. (NR)

Graham, Hunt’s Rubber matting, or Stathurst carbon-fiber record brushes
Properly used (held with the bristles at a low angle against the approaching grooves and slowly slid off the record), these are the most effective dry 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)

Diswasher record brush
If you don’t have a record-cleaning machine, the DW system will do a commendable job on relatively clean records, but won’t get out the deep grunge, wrote JGH. If you begin to accumulate lots of gunk on your stylos after cleaning your record with an older DW brush, the bristles are worn out; send it back for resurfacing, or buy a new one. (NR)

Express Machining “The Lift”: $99.95 (chrome), $119.95 gold-plated
Predy mechanical device that lifts manual tonearms at record’s end. MF found that all of the parameters properly adjusted, it worked flawlessly and reliably, reports MF. Ah, the rub: “the getting-it properly adjusted may well provide some heart-stopping moments as your tonearm goes flying through the air.” (Vol.20 No.5)

Gruv-Glide II: $23.95
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)

Hi-Fi News & Record Review Test Review: $25
Although MF was frustrated by the ecuminic instructions, he deemed this an essential tool for analog setup. Available from Acoustic Sounds. (Vol.20 No.1)

K-A-B SpeedStrobe Digital Phonograph Speed Readout: $89.95
Easy-to-use strobe disc simplifies precision adjustment of turntable speeds from 33 1/3 to all the variations on “78.” “It’s just fantastic,” effused JH. “It looks cool, and it’s a snap to perfectly set the speed.” (Vol.19 No.2)

LAST Power LP Cleaner: $32.50 &-9 oz bottle &
This small bottle of Frenon-free cleaner is enough to treat 75 LPs. JE 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 groove noise to acceptable levels. “A worthwhile companion to LAST’s wonderful Record Preservation.” (Vol.17 No.5)

LAST Record Preservative: $36.50-2 oz bottle &
Significantly improves the sound of even new records, and is claimed to make them last longer. A 2-oz bottle contains 60 treatments. (Vol.6 No.3)

LAST STYLAST Styli Treatment: $27/-9 oz bottle &
Styli treatment designed to reduce friction between groove and phon cartridge. Some manufacturers caution against it, claiming it erases the cantilever and attracts dust—but MF recommends testing it. One reader suggests applying it to brush rather than styli, which would reduce the possibility of overapping. MF has found STYLAST effective, but expresses concern over possible damage to cartridge. (Vol.18 No.12)

Lyle Cartridges Allignment gauge: $15
Inexpensive but highly portable—a small mirror has alignment markings and a spindle cutout. 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. (NR)

Nitty Grity Mini Pro 2 record-cleaning machine: $59
Mini Grity 2.5FI record-cleaning machine: $575 &
Nitty Grity 1.5FI Mk.II record-cleaning machine: $509 &
The Mini Pro is a semiautomatic machine that cleans with disc sides simultaneously. The 1.5 is identical to the 2.5 but substitutes black woodgrain vinyl for the latter’s genuine oak side panels. Instead of a vacuuming “tonearm,” as on the professional Keith Monks machine, the NG cleaner uses a vacuum slot. Cleaning is efficient and is guided by Nitty Grity’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 Grity does a nearly equivalent job on dusty albums as the similarly priced VPI HW-16.5, CG felt that the VPI’s hand-brushed brush did better with really dirty LPs than did NG’s velvet one. He found the effect of both was to produce a less colored, more detailed midrange sound from LPs, as well as provide the expected reduction in surface noise. (Mini Pro, Vol.8 No.1; 2.5FI, Vol.7 No.5; 1.5FI, Vol.5 No.7; 1.5FI, Vol.4 No.1; Nitty Grity 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 Grity), are manual units that offer the least-expensive way to effectively clean LPs. Record 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 record cleaning accessory—available for $17 including S&H from K-A-B Electro-Acoustics, P.O. Box 2922, Plainfield, NJ 07062-2922—which fits beneath the existing platter. The Nitty Grity 1.0 is also available as the oak-finished 2.0 for $305. (NR)

QR/DNM Design Ringmat MK.II XLR: $16 &
 turtable mat: $90 &
R13 found this paper/cork mat (available in three thicknesses) to both reduce groove noise and increase detail resolution when used on his Lingold's Linn. ST had some initial difficulties with the cork rings contacting, but he found the Ringmat to turn his AR into a more detailed, more neutral-sounding 'table. Changes in the cork rings and their space result in “greater clarity, focus, slightly tighter bass, and a wider, deeper soundstage,” according to ST, who proclaimed it “The only mat that matters.” MF points out that, while it changes the sound of glass-paned 'tables such as the Rega, not everyone will find the change an improvement. Now distributed in the US by Music Hall. (Vol.17 No.5, Vol.16 No.1, Vol.19 No.6 & 11)

Rega cartridge torque wrench: $125
Expensive, but a must, MF felt, “for serious analog addicts and professional installers.” Agreed, сет ST, but “for God’s sake be careful with this thing, especially with the new Grado wooden-bodied cartridges... best used with very strong-bodied cartridges—such as Rega’s.” (Vol.19 No.11)

Shun Mook record weight: $1200 &
The best record weight JS has used on his Forsell turtable, “bar none.” Ridiculously expensive, however. (Vol.17 No.2)

The Disc Doctor’s Miracle Record Cleaner: $19.95/pint plus $5 S&H
MF's favorite LP-cleaning stuff, in combination with the Orbitrac and the VPI HW-16.5. A quart of fluid costs $30.95 plus $7.50 S&H; a half-gallon costs $49.95 plus $15 S&H. LP brushes cost $34.95. Replacement brushes for brushes cost $9.95. (Vol.20 No.3)

Townshend Audio Elite alignment gauge: $35
Plastic cartridge-alignment gauge that frustrated MF as a final setup gauge, he writes, “but a final diagnostic check on the quality of your [setup], it is indispensable and not expensive. Once you’re done [using it], you know where you stand in terms...
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CD PLAYERS

Editor’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 as it ever was. Yet, for LP fans, it 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.

A

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 amplifier, the Karik forms a synergistic match with the Numerik to give true Class A sound. MC finds its laid-back presentation off-putting, but WP enthuses over its excellent touch of timbre and improved sense of pace and timing. The latest version of the $2595 Numerik offers a switchable power supply that RH felt gives a significant improvement in sound quality, and Burr-Brown PCM1702 DACs that give a better sense of LF pace. (Vol.15 No.1, Vol.17 No.10)

Mark Levinson No. 39: $5995

Versatile No. 39 plays digital inputs (both TosLink and S/PDIF on RCA) and output, digital switching, and high-quality variable output in the analog domain.

B

California Audio Labs CL-10: $1975

This five-CD changer with 111CDs decoding impressed the heck out of RH with its “rotary machine/upper bass, lower bass presentation, and spacious soundstage.” He also praised the “smooth mélange, which performed flawlessly... if your idea of fun is loading a player with six hours of music and letting the good times roll, the CL-10 is just the ticket.” (Vol.19 No.11)

Exposure CD Player: $1995

MC “confidently recommends this British CD player for its simple, single-ended transistor analog circuitry and the fine sound it made.” He called it an “exceptionally musical CD player that has very good soundstaging abilities, is quietened neutral but dynamically resolved, has an involving and pacy character, and is convincing and satisfying in the long term.” Although he noted a slight hint of brilliance, he felt that it detracts substantially to his listening pleasure. The digital volume control is not recommended for serious listening. (Vol.20 No.11)

Krell KAV-306cd: $3500

WP praised this player’s “robust, big-boned sound. It captured the majesty of a full-blown orchestral crescendo or a shattering organ blast without a hint of constriction or compression... Transients... were fast and startlingly crisp. And no matter how dynamic or congested the passage, the Krell was up to the challenge. Torment it as I might, I never made it whimper...” (Yet, as good as the 300cd was—and it was very good—it still lacked that last snudge of rhythmic ease that inhabits the very finest digital gear.) Just misses Class B, he felt, but “On most systems... I can’t imagine the KAV-306cd being the limiting factor.” (Vol.20 No.12)

Rega Planet: $795

“A beautifully mechanically engineered product... Produces a rich, full-bodied, dynamic (but not overly-nu- matic) sound,” said ST. JA was also impressed, but noted it sounded “just a little tilted-up at the top end, which made it a better match for darker-balanced speakers and electronics.” And perhaps it “makes CDs sound a little more reverberant than I suspect they should.” In his opinion, “the Planet has a more involving presentation on rock music... On classical CDs, however... the Rega sound[d] a little unny” compared to more expensive players. “But at a whisker under $800, it is an astronomical high-end bargain.” Digital output allows use for a transport. (Vol.20 No.6, Vol.21 No.21)

YBA CD 3: $3400

Despite some quibbles—phase inharmonies, eccentric ergonomics, unit doesn’t automatically initialize discs—ST was taken by this top-loading CD player’s “excellent detail and stupendous spatial resolution.” “Blue laser” is somewhat of a misnomer, as the unit uses a blue LED to (it is said) produce the optical equivalent of diode. (Vol.19 No.12)

C

Marantz CD-67: $4000

The identical but cosmetically different CD-63 reviewed in ST’s budget reference: astonishingly detailed, smooth, clean, clear, sweet, nonfatiguing. Lacks dynamic drive, however, as well as ultimate bass extension and resolution. “But a bit special,” confirms MC. Marantz CD-67 Special Edition costs $500; ST decided that the ‘63 Special Edition was worth the extra 100 bucks for its smooth, open-bitted, dynamic, and open- ness and resolution. Sounds more airy than the Quad 67, but has a leaner balance overall. “A killer $500 player,” he concluded. (Vol.17 No.1 & Vol.17, No.12)

Stereophile, April 1998

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Recommended Components

Roeal RCD-950: $449.90
MK found the RCD-950 "wonderful sounding... and a bargain at $450," 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 "extra-ordinary detail" and "lively, involving presentation."

Superior-sounding digital output a plus for those who wish to upgrade to a separate DAC. (Vol.19 No.6 & 8)

D Denon DCM-360: $320
"Tons of detail for an affordable machine," MK opined. He was also impressed with its transient speed and living presence. "Indeed, it's endearing," he concluded. (Vol.20 No.9)

NAD 515: $499
This affordable five-disc changer exceeded RCD's expectations of what is possible at $499: "the 515 has superb image focus, good spatial resolution, a smooth treble, lack of glare, and satisfying bass... The 515's compromises were in ways that were too musically obtrusive."

Its coaxial digital output "provides an easy upgrade path if you add an outboard digital processor," he added helpfully. Can a $499 changer be considered high-end audio? If that CD player is the NAD 515, absolutely! (Vol.20 No.9)

Sony CDP-2A1ES: $350
MK deemed the CDP-2A1ES smoother and more refined than much of its similarly priced competition, but somewhat weak dynamically. Digital out, a usable (but not highly recommendable) variable output control, and a better than usual headphone output offer budget shoppers desirable flexibility. (Vol.20 No.9)

K B&O VK-13, BoseTech ZZ-82, Naim CI-3.5, Theta Miles.
Deletions

Accuphase 1PF-6S not auditioned in a long time; Naim CI 32, Califonia Audio Labs Icon Mk.II, and NAD 510 replaced by new models not yet auditioned.

Digital Processors

Editor's Note: The sound of any particular CD transport/digital processor combination will be dependent on the datalink used.

A Class DAC-1: $395 $55
RH was "stunned" by the performance of this giant-killer processor, deeming it "a revolution in the price/performance ratio in digital playback."

In its resolution impressed him mightily: "on a par with the Spectral SDR-2000 Pro... That's saying a lot for $4000!" He also noted the DAC's "fantastic" sound stage, and his "one major complaint" was the DAC's lack of an IVA converter, which he felt "must be included in the future, if it is going to be competitive with the up-and-coming generation of CD transports." (Vol.20 No.12)

4C3 Elgar: $12,000
A remote-control IVA processor that turned-up in profile in that it will decode two-channel, 24-bit 192kHz and 96kHz recordings (although it does lack HDCD decoding). "The Elgar sounds simply superb and has a measured performance to match," RH gushed. While there were differences between the two units, Fearless Leader felt the Elgar was within striking distance of his long-time reference, the Mark Levinson No.30.5.

However, he added, "the sound of 96kHz tapes reconstructed by the Elgar was simply more real. And that is what the High End is all about." (Vol.20 No.7)

Encore Pyramid 1: $3595-$4995 depending on options
This singular-looking IVA processor impressed RH with its "wonderful soundstaging, wide dynamics, powerful rhythmic drive, and freedom from grain." Dubbing it competitive with the best of the $5k-6k range, 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 I among a handful of processors that excel in presenting images as individual objects within the soundstage." (Vol.18 No.11)

Enlightened Audio Designs DSP-9000
Pro Series III HDDC: $9995
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 MF. (Vol.18 No.11)

Genevieve's Technological Digital Lens: $1800
RH dubbed this unique, RAM buffer-based, jitter-elimination/resolution enhancement digital device "the most sensuous attempt to date at reducing jitter in outboard processors."

Finding its effects "truly remarkable," he hears no improvement in even the more musical performance: soundstage size, bass definition and clarity, detail resolution, and timbral liquidity. "In short, this could be considered "a consistency from one recording to another, often replacing the natural sense of space with one dictated by the Genieva itself." To RH's mind, the Geneva is "the acme of the art in D/A conversion." (Vol.19 No.11)

Jadis JS1 Symmetrical: $12,325
This beautiful two-box processor features a Philips Bitstream DAC section and ribbed analog circuitry. The Jadis soundstage is, in JWS's words, "airy, layered, enor- mously detailed, and transparent in all directions, with almost state-of-the-art, midrange smoothness, and the crisp high 'offer an (almost) perfect blend of clarity, extension, and harmonic integrity' when the processor is driven by the matching Jadis J1 Drive transport. Some questionable aspects of the JS1's measured performance make the processor a borderline Class A performer, JA feels. (Vol.19 No.3)

Mark Levinson No.30.5: $15,950
The original No.30 was Synthesynth's "Product of the Year" for 1992. The No.30.5 update, which consists of a new data receiver board incorporating an "intelligent FIFO" memory buffer, is "a true reference-quality product," says RH. JA's reference — "the closest thing to good vinyl playback," quoth he, which is why the $30.5 was used to master Synthesynth's 1997 Satellite LP (No.30.5, Vol.15 No.3; No.36.5, Vol.17 No.10, Vol.18 Nos.3 & 4: Mark Levinson No.365: $6495
Mark Levinson No.36: $3995
Two very similar-looking IVA processors, differing only in price and a few minor options. One is very much the "real deal." With a $6495 price tag, Mark Levinson No.365, JA verdict. Very few differences between the two units, mainly the更 close to the music — the last step between great sound and goosebump-raising magic." (Vol.19 No.10)
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Cameo Technology Dragon Pro Jitter Reducer: $1495
(See Kit's review in this issue.)

Cameo Technology Uther v2.0: $2995
(See Kit's review in this issue.)

Digital Domain VSP: $1495
Intended as a sample-rate converter, this slim unit also
reclocks digital data and eliminates jitter. The sonic
result is to render digital sound closer to analog. JA
decided, and subsequently bought the review sample.
RH found it to "snap the bass into tight focus," with
bass guitar acquiring more dynamics, better pitch defi-
nition, and more detail. Some, however, will find that
the bass balance will become more lean as a result. The
VSP in its SRC mode rewrites each data word —
which will, of course, render it nontransparent to
HDCD-encoded data. Six digital inputs and four out-
puts — all on AES/EBU, ST, coaxial, and TosLink.
Once Class A, the appearance in 1996 of the Genesis
Digital Lens and Meridian S18 push it down in absolute
quality, feels JA. (Vol.17 No.11; also see "Industry
Update," Vol.17 No.1, p.39.)

Encore Ovation4: $1995
The Ovation4 is a musical chameleon. MK discovered,
it offers two filter settings. On the flatter of the two,
MK found the "Ovation4 output sounded a little bright...a
bit on the lightweight side," although "the mid-regions
were excellent...the bass was deep and tight, but espe-
cially bright." Switching to the second filter setting, "the
sound became warmer." He concluded by praising its
"highly transparent" portrayal of rhythmic intensity and
microdynamics...harmonic body, gentle softness, even
[as it can convey] the passion of a performance.
ST optical input adds $200, balanced vector
costs $2725. (Vol.21 No.1)

Enlarged Audio Designs DSP-7000 Series III
HDCD: $2495
SS's reference — he finds this smooth-sounding processor
involving and musically satisfying. He emphatically
recommends the Series III upgrade to all Series I and II
owners. Balanced outputs add $399. (Vol.19 No.5)

Muse Model Two: $1700 $$$
Borderline Class A! Impressively constructed 20-bit
digital processor featuring unique jitter-suppression cir-
cuitry and "near ideal" power supply. SD marveled at its
awesome bass definition and extension and its ability
to delineate leading-edge transient information.
Achieving this level of performance for less than $2000
is truly remarkable, he posited — while noting that the
passive current-to-voltage conversion used, which
results in a meager 1V output, will preclude the use of
passive control units. AES/EBU input adds $300 to
price; ST optical input, $200; HDCD option, $300;
Bessel reconstruction filter that SD highly recom-
mands, $200. (Vol.18 No.7)

"Sets a new performance benchmark for $2000
converters," proclaimed RH, who was taken by its
taut bass, solidity, and impact. While the midrange tended to be
analytical, he found its overall presentation laid-back,
Impressed by its musically engaging sound, "pristine
midrange...smooth without any weightlessness, wide dynami-
cies, and articulate bass," he found it adipose if "you buy any
$200 converter without first auditioning the Parasound, you'll never know how much musical perfor-
mance is possible at this price." (Vol.19 No.4)

PS Audio Balanced DAC: $2295
RH "highly recommends" the UltraLink 2 — espe-
cially when utilizing the RCA jacks — but notes that
despite its freedom from stridency and image focus, its
lightweight character rob's its presentation of virsual
clarity under all circumstances. Adds that the HDCD
soundstage is "fantasically wide" and "uniquely
improved compared with the earlier version.
(Vol.18 No.12)

Theta DS Pro Base III-A: $2695
The original III impressed TJD with "good detailing,
depth, and a lack of any irritating qualities — nothing
artificial about the sound of this converter." If he were
shopping in this price range, he'd put the Pro Base III
high on his list. WP concurs, finding the "A" revision of
this flexible and substantial DAC a revelation, giving
for its drive and swing. While its sound was detailed, he
felt that it wasn't relentlessly so. He also was bowled
by its ability to layer soundstage depth and to extract the
last bit of bass from recordings. Single-
Mode Laser Linepipe's optical connection is highly
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(Vol.18 No.12)
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unabated pleasure — “a device for those who have a taste for the airy things in life. The most overwhelming sonic characteristic is its ability to lift perfectly immense amounts of information [. . .] remarkably eloquently and enormously hyper-detailed to the limits of my ability to hear.” This, he found, was without cost: meridional setup and precise system matching are required. (Vol.38 No.3)

C.E.C. TL 1: $4950 $$$
Unusually, beautifully constructed belt-drive transport with a more laid-back, careful sound than the Levinson No.31, and less forceful in the bass. Sounds sweet and extraordinarily musical, however, with a hush midrange. LA’s reference: I/O feed that the passing of time has rendered this unit Class B. JA disagrees, and gets the final, Class A, word. (Vol.36 No.10, Vol.37 No.5, Vol.38 No.5; see also RI’s response to a reader’s letter in Vol.36 No.12, p.25)

Forcell 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 low speeds were extended and tight, the high air open, and the soundstage gigantic and unbounded; “paly factor” was the highest JS had experienced in his system. LA finds the sound “lifeless,” horizontal. (Vol.37 No.2; see also Vol.38 No.7, p.93)

Jadis J1 Transport: $16,950 $$
Very expensive but stunningly beautiful, the Jadis was somewhat sensitive to datalinks, found JS, who got the optimal sound with Kimber’s AES/EBU illuminating cable when the transport was paired with the Jadis Symmetrical processor. Dynamics, pace, and transparency are the Jadis’s strong suits. (Vol.38 No.3)

Mark Levinson No.315: $9495 $$
Upgraded to the original No.315’s “reference” components and rebranded as Jadis, “a... example of a state-of-the-art, potentially future-proof CD transport.” The improvement offered over the No.31 transport was substantial, he opined. “With the 315 recovering the bins...[ear] the best I have yet to hear from the 1967 digital standard.” “However,” he cautioned, “even the cheapest upgrade to 315 status, replacing it as does everything other than the chassis and half the power supply, is quite expensive at a hair under $3000.” (Vol.36 No.6; see also RI’s response to a reader’s letter, Vol.36 No.9, p.25; No.31; Vol.39 No.10, No.31S5)

Mark Levinson No.37: $3995 $$$
TJN compared this transport to the firmly ensconced Class A No.315 and found the less expensive Levinson “a little more open and airy, with more apparent depth and a slightly tighter bass...It sounded better. To me.” However, he pointed out that others might prefer the more relaxed presentation of the 315. The important thing, as he saw it, is “the price of state-of-the-art CD is coming down.” (Vol.20 No.1)

Theta Data III: $4900 $$
“In high-end audio terms, the Theta CD transport/laser disc player is a genuine winner,” said TJN of this CD transport based on a LD player chassis. But it seemed to offer no performance advantage over less expensive models used in home-theater applications — TJN felt the difference in price might be better spent elsewhere in that context. ST-optical output adds $300; Single-Mode Laser Linque adds $800. About to be replaced by V1312-capable models. (SGHT2 No.3)

Meridian 500: $2195 $$
This British transport’s bass was not as tight as that of the Theta Data Basic, found RH, but its treble was smoother. MC adds that he finds it not as good as the discontinued Meridian 200 when it comes to pace. But it formed a musically synergistic combination with the excellent Meridian 563 preprocessor, striking just the right balance between immediacy and ease. JA enjoys the relaxing balance. (Vol.17 No.4)

Parasound C/B-2000: $1550 $$
This belt-drive transport “presented a delicious and engrossing midrange and an ultraquiet, early-midrange sound that was distinctly addictive,” proclaimed RH. “Its sound, musically communicative, and immensely involving,” but, he added, bass is somewhat softened. Careful system matching a must, as it may not suit all tastes, although it presented a synergistic match to Parasound’s J/AC-2000. ST-optical output adds $225. (Vol.39 No.5)

PS Audio Lambda Mk.2: $1995 $$$
“Tremendous punch and dynamics,” decided RH of the original Lambda, though less liquid-sounding than the C.E.C. “Well-balanced, a fine value,” adds MC: “A workhorse,” according to SS. RI’s preliminary audition of the Mk.2 Lambda suggests the rating be continued. Price includes AES/EBU and coaxial outputs; AT&T ST output adds $300 to price. (Vol.39 No.10)

C: Rega Planet: $795 $$
The inexpensive Rega works very well as a transport, both ST and JA found. However, JA points out that you need to use it with a very good processor to get better sound than it provides as a standalone CD player. (Vol.20 No.6, No.21, No.2)

Rotel RDR-980: $699.90 $$
“Dynamically detailed, musical...enthused MK, also taking note of the exceptional parts quality for a unit in this price range. (Vol.26 No.7)

D: Editor’s Note: There are currently no Class D CD transports listed.

K: Meridian 800 CD machine.

Deletions
Acousphere 139-90 and California Audio Labs Delta not auditioned in too long a time: Ensemble Dohcorno Drive currently without US distribution; Sonor Frontiers SFT-1 and Theta Data Basic II discontinued.

CD Accessories
AudioPrism CD Blacklight: $39.95 ST heard gains “in clarity, overall smoothness, and an increase in dynamics” when he used this flexible, luminous CD mat on top of his discs. “Of all the CD accessories and tweaks I’ve tried, this one makes the most difference,” he raved. “Way recommended.” He cautions, however, that the Blacklight does not work for all players, must be carefully centered, and most emphatically should not be used in car CD players. (Vol.19 No.11)

AudioPrism CD Stoplight: $15.95 $$
Green, water-based acrylic paint for coating the edges of CDs. The green color, which PwW found absorbs the laser’s infrared wavelength, is presumably significant, but at present we have no idea why this tweak should so improve the sound of CDs. That it does so, however, seems to be beyond doubt to anyone with simple ears to hear (though no single product has raised greater eyebrows from the mainstream press). “This stuff works!” report JE, PwW, and JA, all of whom feel that it increases soundstage definition, improves the solidity of bass reproduction, and usefully lowers the level of treble grain so typical of CD sound. PwW and MC report that a water-based poster pen, the Uniposca from Mitsubishi, has a very similar effect. MC also notes that the CD should first be dusted and its edges degreased before the green paint is applied. (Vol.24 No.9, Vol.29 No.10; see also DO’s and TJN’s WCES reports in Vol.13 No.3, ST’s and RI’s articles on CD tweaks in Vol.13 No.3, and “As We See It,” Vol.38 No.7).

AudioQuest LaserGuide: $29 $$
“If you’re into glossing up your CD’s, this is the best stuff I’ve come across,” says CG. (With all CD transports, take care to not scratch the surface.) (NR)

Bedini Ultra Clarifier: $149.95 JS found this bulging 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 definition...This one is an easy-to-hear, fun-to-work, absolutely-no-downside tweak.” “What he said” concurs WJT. IA concurs. (Vol.19 No.2)

Compact Dynamics CD Clean! $9.95 creates 250 CDs
The essential accessory for those who frequent used-CD huts. (Vol.17 No.11)

Compact Dynamics CD Magic: $14.95 cleans 200 CDs
Restores badly scratched CDs. “For damaged CDs, this stuff really is magic” enthuses JE. Discwasher and RadioShack market similar products. (Vol.17 No.11)

Discwasher CD Laser Lens Cleaner: $17.95 PwW found that this CD lens cleaner and wipes clean a spiral in a spiral to be effective at improving the sound of his 18-month-old Marantz CD-80. (Vol.44 No.11)

Nordost Eco 3 anti-static spray: $39.95/8-oz bottle “Spray it on, wipe it off: a shot of this on CDs, electronic equipment, and cables will clean up a surprising amount of sonic snog,” claims BW. BL and BM concur. W.P adds, “Frustratingly audible when applied to the label side of CD.” He hates when that happens. (NR)

QR Design Stomp!mat: $39.95 This piece of thin plastic paper is to be “an electrostatic control system” designed to disperse the “low-voltage hot spots that would otherwise build up during play.” Whatever. According to ST, “it improved the sound of every CD I played in every player I had, sometimes quite dramatically.” (Vol.20 No.12)

Theta Optique: $50 $$
Reflective-index-matching gloop that XL 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 LV’s Theta Data Series II review in Vol.18 No.10)

Deletions
Aioxx Protective Stabilizer discontinued.

Preamplifiers
Editor’s Note: Apart from the Jadis, Conrad-Johnson, Audible Illusions, and CAT, all the Class A preamplifiers offer balanced outputs. And unless noted, the preamplifiers listed do not have phono stages.

A: Audible Illusions Modulus 3A: $2195 $$$
Simple tube preamplifier “offers the highest level of performance at a bargain price,” averred MF, who found the one-tube-per-channel line-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 phono board has sufficient gain for a wide variety of cartridges — although users of extremely low-output transducers may wish to audition this unit at home before committing. “If the Modulus 3A isn’t the finest-sounding preamp in the world, regardless of price,” MF insists, “it is one of the finest.” (HRJ) Concur. Current version features a stepped attenuator and improved capaci-
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tors. Price is with MM phono stage; MC stage adds $550; gold/silver faceplate adds $45. (Vol.19 No.2 & 9)

Ayre Acoustics

"Some equipment manages to conjure a sense of the reality of the musical experience," according to WP, and he says the K-1 qualities, "First and foremost, it is prodigiously fast and neutral." He also lauded its transparency, seemingly unlimited dynamic range, and excellent soundstaging. "The phono stage, however, takes it to an entirely different level. Simply stated, the Ayre's phono stage is the best I've ever heard: quiet as a tomb and grainless as flowing water." Remote volume control adds $250; phono stage adds $1600. (Vol.20 No.3)

Balanced Audio Technology VK-5i: $3995
RD admired the dynamic life, precisely defined presentation of detail, and exciting immediacy with which this balanced tube design rendered his favorite disc. "A stellar performer," he maintains. It's as transparent as any minimalist line-stage, he points out, but offers sufficient features to make it a joy to use. He found, though, that it sounded very slightly "while pre-entation instruments and voices in space." Caution T&N recommends careful system matching due to highish output impedance. Current production incorporates improved passive components. "Every aspect of performance — transparency, detail, bass extension/quality, air, soundstaging, you name it—is simply apsepted in his follow-up, older units can be upgraded. Optional remote control adds $500. (Vol.18 No.12, Vol.20 Nos. 8 & 12)

Cello Palette Preamplifier: $8500
As well as holographic imaging, the superb transparency across the band, the Palette Preamplifier offered a "non-technical quality I didn't know existed," according to LD, though JE is less convinced. Extremely high impedance, but only 6.67 of gain, incorporates a superb graphic equalizer that differs from the norm in having a linear phase response in the peak section. In combination with the fact that the maximum amount of boost and cut decreases toward the center of the audio band, this actually results in very fast optimization of program material by ear. Note that the response with the graphic flat but not bypassed is not quite flat, which will invalidate listening comparisons to pin down the sound of the EQ circuitry on its own. (Vol.15 No.6; see also LD's Cello system review in Vol.18 No.7)

Convergent Audio Technology SL-1 Signature Mkl.III: $5950
JE found the Mkl.I version of the tube CAT both harmonically accurate and able to endow music with "gripping midrange splendor." JS called it vibrantly balanced and "nothinglessly revealing." JS also felt that it excelled in the reproduction of dynamics and of a palpably real soundstage. Phono stage is quiet enough to work with the AudioQuest 7000mkx. Mkl.II upgrade changes tube complement, making it "definitely quieter," said RJS. "At the same time, music flows more linearly and feels better than in its previous incarnation. There's a definite improvement in dynamics, and the top is more open and extended..." The resolution of fine detail —which was already one of the CAT's strengths—is "better than ever!" (Vol.19 No.3, Vol.15 No.12, Vol.17 Nos. 11 & 12, Signature No.12; Signature MkI; Vol.19 Ns.12, Signature MkI; Vol.21 No.3, Mk.III)

Jadis JPL Mk.II: $6840 &
The tubed Jadis offers timbral accuracy and consumingly defined soundstaging, and sets a new standard in quality of tone and timbral definition. I still do not think that "something" is fleshed out the full spectrum of shadings from soft to very loud with the greatest of ease, he says. 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 pointy. (Vol.16 No.1, Vol.17 No.11)

Jeff Rowland Design Group Synergy: $4800
Beautifully made solid-state remote-controlled line-stage whose "strong suits are clarity and low-level resolution," according to RD. Optional BIPS's 1 battery power supply, RJS said, transformed it. "More dynamic, more transparent, and an overall presentation that just sounds more natural, less 'electronic.'" Price is with conventional AC supply; BIPS-1 battery supply adds $600. (Vol.18 No.12)

Krell KRC-HR: $6900
WP asserted that "The Krell must certainly qualify as one of the truly great preamplifiers out there. It's well built, thought-out, and a joy to use... In terms of pure accuracy and low-level retrieval, it stands among the exalted few." Remote control, the ability to drive both balanced and single-ended cables, and a unity-gain throughput make the KRC-HR unusually flexible for a contender for state-of-the-art status. While WP observed that the KRC-HR did not offer the final word in soundstage presentation, its transparency, low-level resolution, and tonal accuracy were second to none. "Class A" endorses KMC. Standard MC/MM phono stage adds $650. Reference MC phono stage adds $1250. (Vol.19 No.9, Vol.20 No.2, Vol.20 No.3)

Mark Levinson No. 5: $3995
When the circuit, pcb material, and remote-controlled, MDAC-based, 0.1lilpstep, balanced volume control are the same as those in the No.385 (as is the price), the substitution of 16 passive components left JA searchi ng for "something that's not... something that's superficially identical to your reference, but better..." There was a musical rightness to the sound of the No.385 that I consistently preferred. Stereo images seemed better defined, and individual sonic objects within those images had more of a rounded, balanced character. A small difference in objective terms, but one that is, subjectively, enormously important." (Vol.20 No.11)

Meeks MA-333 Reference: $3595-$6890
depending on options
Versatile tube, dual-mono, full-function preamplifier with separate power supply and remote control. Price includes separate phono stage. Line-stage alone costs $3595 with power supply and balanced outputs, $4395 with balanced inputs. Phono stage costs $2495 with power supply and balanced outputs. Latest iteration includes "Pho-tonitrometer" 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 tonal richness and absence of the usual output section sacrifice, soundstaging quality, and long-term linearity." (Original Gold version, Vol.17 No.11; Vol.19 No.4)

Nagra PL-P: $5950
Full-function, battery-powered tube preamplifier with transformer-coupled MC phonostage and headphone output. "It is so transparently avoided imposing anything of its own on the sound that, in effect, that absence of a signature because a signature itself," said JS. A "rather forward-placed soundstage... enhanced the sense that I was in a huge, black box room with no precise reproduction of the room's size. That was the way I wished the signal, bringing out all manner of inner detail. Also, it was rather cool and analytic, yet that very clarity allowed all manner of tonal color to develop. Boomy, yes, but not too much — nothing artificial, no preservatives." (Vol.21 No.1)

Pass Labs Apele: $4000
Well-built, remote-control solid-state preamp that SS arrow stands as proof that "simpler is indeed better," praising it as the "quaintest active preamplifier I've ever used." JR concurs. "I think it's the definition of the word 'dope.'" Also, "fills up the full spectrum of shadings from soft to very loud with the greatest of ease, he says. 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 pointy. (Vol.16 No.1, Vol.17 No.11)

Perfectionist Audio Components Pro Reference III/10K: $10,900
Expensive but "world-class," according to JE, who, pro-
claimed it "competitive with anything I have heard."
"Sounds were precisely articulated with remarkable resolution... [and] great speed." Moreover, the preamp "was superb in conveying rhythms and pace." A slight softening in the treble, a reduced sense of mid/upper-bass weight, and minor ergonomic glitches, however, are areas requiring improvement. Mark Price includes phono stage, rack, and power supply. (Vol.19 No.7)

Sonic Frontiers Line 2: $3295
"If one can find fault... it is only because of what it does not do," said KRI of this vacuum-tube line-stage. "It will not impose emphasis or richness or false dynamics, and if you expect to be impressed with it at a brief audition, you may be disappointed... It's one of the most neutral-sounding components I've ever used." BD concurst, but mutes that "...it's odd that it doesn't evoke a stronger emotional response. It is because it's so neutral... or is it that somehow does everything we notice very well, but is missing some- thing we don't necessarily notice?" (Vol.20 No.12)

Spectral DMC-20 Series 2: $7595
When he auditioned this preamp in conjunction with the other elements of the Spectral/Avalex/MIT 2C31M system, RI 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 made much of its overall transparency and high resolving power. Price includes phono stage ($600) and balanced input stage. (Vol.19 No.3)

Threshold T2: $5750
"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 at minimal sonic sacrifice, he summed up. JA found it to sound a little less refined than the Levinson 385, but marveled at the Threshold's powerful bass. Price is in black; "a silver pewter" finish adds $100. (Vol.18 No.2, Vol.19 No.2)

YBA Signature 6 Chassis: $19,000
The price of this solid-state, hififlountain preamplifier, with dual-mono line and RHA power supplies, left even the normally imperturbable JS gasping: "Can any component really be worth $19,000?" Apparently so. JS found this to be a preamp of subtlety and refinement: all shading, grunge, and nuance. But it wasn't shy; micro- and mid-dynamics were rendered with aplomp...[It] was utterly transparent... This finely wrought, naturally detailed transparency allowed a delin- eation sense of air to develop, much enhancing overall dimensionality." (Vol.20 No.12)
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Stereophile, April 1998
Electrocompaniet: EC-4.5: $1995 $$

This two-channel line-stage features a six-stage line preamplifier that is divided into two sections. The first section is a three-stage D/A converter for the left channel, and the second section is a three-stage D/A converter for the right channel. The preamplifier has a low noise, high-fidelity design, and it is ideal for use with high-end audio systems.

Lamm Audio Laboratory L1: $6990

This preamplifier is designed for use with high-end audio systems. It features a low-noise, high-fidelity design, and it is ideal for use with high-end audio systems.

McCormack Line Drive TLC-1: $1095 $$

This line drive is designed for use with high-end audio systems. It features a low-noise, high-fidelity design, and it is ideal for use with high-end audio systems.

Melos SHA-Gold: $1995 $$

This remote-controlled headphone amp/line stage is designed for use with high-end audio systems. It features a low-noise, high-fidelity design, and it is ideal for use with high-end audio systems.

Music Hall X-Pre: $299.95 $$

This tube line stage is designed for use with high-end audio systems. It features a low-noise, high-fidelity design, and it is ideal for use with high-end audio systems.

About this product: This product is designed for use with high-end audio systems. It features a low-noise, high-fidelity design, and it is ideal for use with high-end audio systems.

Editor's Note: This product is designed for use with high-end audio systems. It features a low-noise, high-fidelity design, and it is ideal for use with high-end audio systems.

Reference Line Preemphasis Two: $2095$$

This product is designed for use with high-end audio systems. It features a low-noise, high-fidelity design, and it is ideal for use with high-end audio systems.

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Stereophile, April 1998
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McCormack Micro Line Driver: $795

“A contender for the best disappearing act in audio,” proclaimed WP of the MLD used as a passive unity-gain buffer. However, the transient softening is achieved through the use of recordings sensitive to capacitance when used passively. Not far behind the TLC-1, (Vol.18 No.6)

Prestor Sound Systems Model 500; $325

“RN feeh in hours put loses a little transparency, but confirms that this inexpensive dual-wire, four-input device will “get you most of the way there as far as a control center is concerned.” A “humidifier,” says ST.

“Be it’s simple, its parts quality is high ... everything else stings up the sound of my Meridian 508 by comparison... I use it in my main system.” Silver Edition Model 500 costs $385, while very similar Model 1000 ($495) adds more inputs and is more versatile. Silver Edition Model 1000 ($568) has three pairs of Kimber RCA jacks (2 input, 1 output) wired with Kimber 125C. Some Wire; remaining two jacks are sourced from Vampire and are wired with Kimber copper wire. (Vol.17 No.8, Vol.11 No.1)

Creek Audio ODH-12: $325

ST said this remote-controlled passive preamplifier “isn’t really a preamp at all, but a switching box with volume control.” Fair enough. It was impressively transparent—“e in not obliterating the system of resolution... while providing the convenience of remote control.” (Vol.21 No.1 & 4)

PHONO PREAMPS/MOVING-COIL STEP-UP DEVICES

A

Audio Research PH-3: $1495 $$$

This phono preamplifier’s “Luscious, liquid midrange bloned... iron-fisted box control” had MF’s heart all aflutter. “Easy to use and endlessly flexible,” swooned WP. “Phony of gain, low noise, and very high overload characteristics, plus adjustable resistance and capacitance loading,” added MF. “I highly recommend-it” they chortled. (Vol.19 No.9)

Balanced Audio Technology VK-P10: $4000

“The P10 might not deliver the musical goods,” was JS’s assessment of this tube phono stage. User-selectable cartridge loading, high low gain settings, and built-in transformers attest to its flexibility. “The VK-P10 evinced no particular sonic characteristics of its own,” JS concluded. “Its total transparency let the analog from record and the recording do the talking... This is one fine effort, worth every penny of its asking price.” (Vol.20 No.6)

Conrad-Johnson EF-1: $1995

This phono preamp has switchable gain (40-320Lb) and different-valued resistors can be added in parallel with its basic 4% ohms, 500pF input impedance. “A natural,” MC declared. “It does just what you want from a phono preamplifier... it [made] the competition sound cold-in, revealed their shortcomings in the bass and a loss of focus and clarity in the mid, as well as a lack of speed and sparkle in the treble. It then compiled the deformation of the complexion by arguing a far stronger case for rhythm and timing, for overall excitement, and for less for one’s patience.” (Vol.19 No.10)

Expressive Technologies SU-1: $3500 $$$

A 35-lb step-up transformer that offers “utter transparency” and “exquisite resolution,” according to RJ. JA agrees, finding its LP sound with the SU-1 feeding the Mod Squad “unbelievable.” MM input to be deliciously transparent and musical. Unless 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 bass, and a peppy, three-dimensional image from the front of the soundstage to the rear corners. (Vol.15 No.7, Vol.18 No.1)

FM Acoustics Resolution Series 122: $5500

Ultraflexible solid-state phono section that MF characterized as “a lot of nothing.” What do you get for $5500, he asks? “No noise, no grain, no glaze, no etch, no bloat, no bloom, no warmth, no cool, no compression, and no distortion I could detect.” He was floored by the unit’s “inherent delicacy, its ability to offer up warm, palpable, three-dimensional images from the very front of the soundstage to the rear corners.” Collectors with large collections of older records will appreciate the unit’s adjustable RIAA curve, which can transform the sound of their discs radically for the better, he proclaimed. (Vol.20 No.3)

Krell KPE Reference: $2200 with external power supply

Solid-state phono stage that can be purchased as a drop-in board for the KRC-11R preamplifier ($1250), or as a stand-alone component ($2200). “It’s easy to configure for practically any MC cartridge available; it’s also quiet as a tomb and dynamic as a thunderclap.” WP enthused. “Add to that Krell’s superlative build quality and bullet-proof construction, and you have a contender for the state of the art. And when was the last time that was a bargain?” (Vol.20 No.6)

Lyra Aron Transformer: $1995

The Transformer offers 26dB of gain and is designed specifically to mate with Lyra cartridges, although it’s suitable for any MC of low internal impedance (6 ohms or less). “I loved it when I had it.” MF writes; “but it’s only what it was when I realized how much.” He called it “ultraflat... offers outstanding retrieval of detail, and a purity of sound unique to transformers.” Inability to load cartridges may disappoint some listeners. (Vol.21 No.3)

Mark Levinson No.255: $4300 $$

Available in High- or Low-Gain versions, this MC-level phono prep features identical circuitry to the phono section of the No.265. Price includes PLS-226 power supply. Needs careful positioning to avoid hum being induced into its circuitry from the power supplies of other components. LA’s reference. (NIR)

Naim Prefix: $750 $$$

Unique phono section designed to mount inside the plinth of a music center (specifically, but not exclusively, the Linn LP12), keeping the low-level signal path as short as possible. Choice of three power supplies allows for upgradability, but MC and SS feel that with the Super-Cap does it offer Class A performance. WP concurs, but considers performance with the Hi-Cap unusually refined and articulate as well. Available in three basic circuits, which allows for some flexibility, although careful cartridge matching a must. Flat-Cap power supply adds $700; Hi-Cap supply adds $1450; Super-Cap adds $4250. Price is for version with Auto Tone Control, plus those with SME, 11” MC-type connector is $800. (Vol.19 No.7)

Plinius M14: $3495 $$$$-

Unique phono preamplifier built more like a power amp, according to MF. He was beguiled by its sound, which he praised as “smooth, delicate, and refined overall, but especially on top, where the M14 skated with sharp blades on freshly Zambonied ice.” It offers convenient front-panel-selectable loading, but MF missed easy access to source loading and capacitive adjustment — features he felt a component at this price should provide. (Vol.20 No.9)

Sutherland PH-2000: $6800

“Saddest entry,” said MF of this solid-state phono preamp. “But its outstanding sonic attributes add up to the most attractive-sounding phono section I’ve had in my system. Build quality is superb, and the load, gain, and capacitance socket setup allow infinite adjustability in a matter of minutes. On the downside is its output, which is fine for switching only with the lowest-output moving-coil cartridges. But why should one have to put up with noise after spending almost $7000?” (Vol.20 No.12)

B

EAR 834P: $895—$1195

“This may be the phono stage for lowers of well-recorded classical works,” claimed RJF, noting its “seductive unswerving of detail and ambience surrounding midrange instruments. There did seem to be a ‘fat mudiness’ within a narrow range in the low frequencies, he allowed, and an overall dark perspective, qualities that keep the unit from a true Class A rating. Yet he held the 834P to be ‘a remarkable piece of work: a reference quality phono preamplifier that would feel at home in a system of any price.’” ST denounces, however. (Vol.20 No.7)

Gold Aero d845 Signature: $999

SS was impressed by the balanced nature of the d845’s harmonic presentation, finding it airy, sweet, and well defined. Though the d845 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 summed up, “if your preamp has adequate gain—passive units need not apply.” Standard version (not reviewed) costs $799. (Vol.18 No.9)

C

Musical Fidelity X-LP: $2495.95 $$$

“You get in the ballpark, though it’s the bleachers (with a good view though),” notes MF of this cute phono stage that Hochlights the mythological pieces. Only available via mail-order with a money-back guarantee, so if you’re so inclined, you’ve got nothing to lose. (Vol.21 No.11)

Rotel RQ-970BX: $199.90 $$

Good dynamics and a large, well-defined soundstage, rated RH. “A pleasant surprise, and a real find in budget high-end audio.” (Vol.19 No.12)

K

Conrad-Johnson Premier Fifteen, Musical Fidelity X-LP, Acousticphile PH-1, Linn Linto, Pass Labs Ono.

Deletions

Sonic Frontiers SF-1 replaced by new model.

POWER AMPLIFIERS

Editor’s Note: Due to the disparity between typical tube and solid-state “sounds,” we have split Class A for separate power amplifiers into two subcategories. Nevertheless, even within each subclass, 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 the amplifiers are stereo models, except where designated.
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I'm forced to admit it has a sound," kverted WP. "Soundtesting...was phenomenal—deep, detailed, holographic. Tonal balance was natural, and possessed purity and clarity galore. Low-level detail never let out at me, but existed naturally within the musical event...As an example, the guitar on "Our Love," where the news isn't about more, it's about less. It had no grain, no grit, no electronic character that I could detect. It had no 'warmth'...no MOSFET blur, no transistor itch, no tube euphony...It was practically perfect in every respect. It had to be better than anything else I've ever heard." (Vol.21 No.1)

Marlon Levinson No.333: $8995

When, after eight years, JA changed his reference amplifier, the No.333 is what he chose, citing "a refreshing freedom from the cold, clinical character...typical of solid-state amplifiers and that many audiophiles must take for 'accuracy.' This is one transparent amp [and it] remained transparent at very low levels...While it doesn't quite have the low-frequency solidity of the No.206 monoblocks it replaced in my system, the powerhouse No.333 has a more natural-sounding midrange and grain-free treble, and throws a spacious, well-defined stage. Its lush yet forceful presentation got the best from [every] speaker I used it with." MC was less impressed, however, feeling the M-1, bettered by the Krell FPB 600, while MK preferred the Pass Labs Alesp 3. (Vol.19 No.12, Vol.20 No.4)

Mark Levinson No.331: $4995 $55

LCs found this 135WPC Levinson to possess quickness, handling complex music, and transparency. "The No.331’s build quality is up to the highest standard found in high-end products today," he asserted. "This amplifier's sonic, superb parts quality, overall power supply, reduced price compared to its predecessor, and five-year warranty offer in owner a lot of value for the money, and I highly recommend a Classic A recommendation from me." (Vol.19 No.13)

 McIntosh MC 1000 monoblock: $13,000/Pair $50

ST described this 1000WPC solid-state monoblock "one of the most delicate-sounding amplifiers I have encountered, whether tube or solid-state." He was impressed by its dynamic presentation and agog over its super midrange and treble: "there were times when I could swear I was listening to single-ended triode tubes. String tones were particularly clean, deep, and pure. There was no grain, grit, or spit...I can find nothing to criticize about this amplifier’s sound...or its behavior." (Vol.20 No.8)

Pass Labs Alesp 1.2 monoblock: $14,000/pair $11,900/Pair

With the exception of JL, the magazine’s reviewers were not convinced by the price and thought it hard to recommend given its "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 Alesp 0 offers extremely transparent, music- naturally tall reveal and superb dynamics. "A breakthrough product," concluded D.O. SS bought a pair to use with Avalon Eclipse speakers—"Classic A with a bullet" sez he. Low input impedance mandates careful preamplifier matching. (Vol.18 No.3, Vol.20 No.11)

Pass Labs Alesp 1.2 monoblock: $14,000/pair $11,900/Pair

Single-ended, solid-state 200WPC monoblock power amplifier drove SS to proclaim, "If you purchase any high-power tube amp without auditioning an Alesp 1.2, you’ve failed to fully investigate your options...They’re hot, they’re happening, and they’re damn awesome, if I may comment. The quality makes them...so sonically stupendous? [Their] lack of any sort of electronic signature...midrange to die for...[and] unfappable positivity." (Vol.20 No.11)

Pass Labs Alesp 3.5: $2300/Pair $1995/Pair

Single-ended, solid-state 500WPC, class-A stereo amplifier that caused MK to throw down the gauntlet: "I positively dare all of you to go out and hear this amplifier for yourselves—even if you currently own much more expensive amps." JA, intrigued, did; then he lauded its "width, depth, height, detail...delicious perception of recorded detail without getting in your face; a purity of tone that became addictive; and an ability to go loud...that belied the 30WPC specification." Low sensitivity and power rating demand careful system/room matching, but magic has always required careful preparation. (Vol.20 No.4, 11, & 12)

Pilion SA-100 Mk II: $3995

"Waltzing" with the Bryston B-70-ST monoblock: $4795/pair $55

This 500WPC monoblock captivated LC with its speed, drive, slam, and superb control of the mid- and upper bass. "Open, exciting, transparent, dynamic, effortless," he enthused, calling the 70-ST an amplifier that can handle any loudspeaker load, play wide-dynamic-range music effortlessly, and excel in imaging and soundstaging. "A must-audition for "anyone who needs a new amplifier for driving high-impedance electronic loudspeakers, and for the eclectic listener who sees that somewhat higher" 20-year warranty." (Vol.19 No.10)

Forsell The Statement: $30,000

"The Statement has the power to inspire," JS decrees. "You not only listen to music through the Forsell—you enjoy it as well." He finds it acoustically巡游 capable of revealing even the most ill-conceived bass capabilities and harmonically rich upper frequencies, achieving an appealing balance of sound and sounding effortlessly musical at all times. Extremely sensitive to AC quality, he warns. TJN finds the test results unexceptional, given the amplifier's price. "A basic, no-nonsense crossover distortion in its output." (Vol.18 No.6)

Jeff Rowland Design Group Model 2 2: $5800 $55

"How do you define value in an audio component?" queries JL, 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, stunning transparency, dynamic liveliness, and firmness of bass response. Capable, he claims, of making you forget about the power amp connected to the music. The 95WPC Model 2 battery power supply ($2660) contains six 6V, 12 anop-1our, maintenance-free Sealed Lead Calcium (SLC) batteries as well as a microprocessor-controlled circuit that monitors and regulates charging. R11, the living room AC operation, and battery power stable, but "there’s no doubt in my mind that the 95WPC works’ under certain conditions; it allows the Model 2 to operate in a manner that results in a more musically satisfying listening experience." (Vol.18 No.8, Vol.19 No.6, Vol.20 No.7)

Krell Full Power Balanced 600: $12,500

MC was unimpressed by this 600WPC solid-state stereo amplifier’s "huge, uncompromised peak loudness" and "incomparable power delivery," as well as by its transpar-ent state-of-the-art depth, and midrange "noble" sonority. "MC confidently declares the FPB 600 first among all Class A Amplifiers: "Since that rating means "the best we know," I feel, in the light of this design achievement, the rest will have to be recalculated." WC concurs: "The amp just recalculates the scale." (Vol.20 No.4 & 12) 20.10

Lamm Model ML1 monoblock: $15,890/pair $13,000/pair

[They’ve] got soul, baby," enthused JS of these hybrid 140WPC monoblock power amps; "the magic that makes it all worthwhile." He also admired the "enormous, extreme lower-midrange” of the L1. The bass was nothing short of phenomenal...deep, taut, terrifically impactful, replete with tonality and individualism. Make sure you take the time to hear a pair." (Vol.18 No.4)

Marlon Levinson No.331 monoblock: $19,950/pair $15,500/pair

"If I go on about length how great the 331’s sounds, the Stereophile, April 1998 125
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timbers that the best tube amplifiers are known for, but has enough power to drive most speakers to very satisfying volumes," said RD, who also was impressed by the three-dimensionality of the soundstage. He found the 35W 1AB — it gives 55W at a relaxed 30TH (THD) limit — "quite special when it comes to harmonic accuracy." Incredibly to monoblock operation. (Vol.18 No.12)

Cary Audio Design CAD-805C monoblock: $8995/pair

Single-ended triode 50W/8 ohm. Driver and output tube have changed from 6Z4s (1994 review; driver was EL34, now 300B; output was 211, now 853). "Power ratings can be misleading," ST said. "The CAD-805C sounds big. Humongous, in fact. It's about beauty... the palpable presence of the musicians. The exquisite low-level detail. The perfect timing of the attack and decay of each note. Above all, the truth of timbre and the sheer beauty of the music." Bass could be better, and the "top end may be a tad rolled-off. But so what? The magic of the music is there." Particularly with zero feedback, adds MC. "The space champ"... sums up Mr.T. (Vol.17 No.3, Vol.21 No.3; see also MC's article on feedback in Vol.21 No.1)

Cary Audio Design SLM-200 monoblock: $16,990/pair

These monoblocks can be operated in triode (100W) or in ultralinear pentode (200W) mode. JS was taken by their deep, room-filling bass and startling dynamic delivery, but what really wowed him was the way they delivered the emotional component of music. "They're real music-lovers in that special way that only the best equipment manages to," (Vol.20 No.5)

Conrad-Johnson Premier Eight A monoblock: $16,990/pair

Massively powerful all-tube amplifier — measured clipping points was 89W into 8 ohms — that occupies pride of place in JF's system. "A tube-lover's dream come true"; electrifying dynamics and the best bass JF has heard from a tube amplifier are coupled with superb soundstage and air presence. Output tubes are 6550As. An MC favorite. (Vol.17 No.12)

Conrad-Johnson Premier Eleven A: $3495 $5

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 tube elevations to make this Class A amp sound even hotter, writes WP, who cites an increased sense of slam and articulation as the primary improvements. JA was impressed by the natural and unraveling soundstaging, and finds the unit a must- audition for those in love with the human voice. (Vol.18 Nos.2 & 10; Eleven A, Vol.18 Nos.8 & 9, Vol.19 No.3, Vol.10 & K)

Graaf GM 200TL: $12,500

200Wpc tube monoblock amplifier that JS declared "capable of conjuring up staggeringly beautiful music." "You couldn't call the GM-200A's sweet 'amp,' he noted. "It's got too much of the crystal-clarity thing going. Yet... within that clarity and purity of sound I heard all the colors and resonances of the musical rainbow." And despite concerns knowledge that OTL don't deliver bass, "the bass could sound positively menacing." (Vol.20 No.9)

Jadis JA 200 monoblock: $25,995/pair

A superb tube amplifier offering an honest 130W that, according to JS, "is a complete disappointment... It's not music that we're after in the area of soundstaging, where it unfolds a panoramic and rock-solid spatial impression of the original recording venue. Although harmonic textures are fluid in the best tube tradition, JD obtained the sweetest-sounding LSTMs... most striking was the Gold Arbiters 4A34LS for the stock 5650, JS likes Sveliana 6550Cs, with Gold Audio 12AU7s (German IITs) and Gold Audio 12AX7s (Platinum grade) input tubes to trans/>
"The midrange was clean and uncolored, the stereo imaging well defined and stable, and the bass generous without being boomy....This is one fine design.... There was no coloration that I could readily identify....With lesser speakers, diverse instruments tend to acquire a sameness about their sounds. By contrast, the Gold preserved all the tiny tonal differences that distinguish, for example, the English horn from the oboe, the viola from the violin, even when they are playing notes with the same pitches.... The Stratus Gold also scored big-time in the low frequencies. Where a recording had true bass information, the speaker reproduced it in full measure....Despite its size and its genuine bass extension, this is not a slow-sounding speaker. Rather it is fleet of foot and light in touch, as you might expect a minimonitor to be if its response could be extended down to the low-bass region....The Gold is going to put a serious crimp in the sales of its more expensive competitors. Enthusiastically recommended."

— John Atkinson, Stereophile, Vol.20 No.10
Marantz Model 9 Revise monoblock: $4200/pair

This reissue of the classic 70Wpc mated monoblock is assembled for Marantz by VAC and exhibits rugged retro glamor. SS found it "the kind of component you can feel good about," especially in terms of the overall form and fit. This sturdily designed speaker includes a set of front-panel 1725SEs, which boasts an engagingly rich, warm, and detailed sound. The speakers are also well balanced, with smooth, clear, and articulate midrange performances. The sound is remarkably detailed, with excellent spatial imaging and a well-defined, clean, and precise soundstage. Overall, this is a impressive speaker, well suited for a wide range of musical styles and genres. (Vol.19 No.10)

Jadis Orchestra: $2955 $2955

This beautifully built solid-state 100Wpc integrated amp really floated RH's boat, "Not only a great-sounding amplifier, but a fabulous value at $1995," he raved. "It had stunning transparency, soundstage focus, and detail resolution that would be remarkable even in much more expensive separations. In addition, its ability to portray dynamic slandering, from the quick leading edge of percussion to the visceral slam of bass drum, was first-rate. ...You may find the CAT-100's lively sound too edgy for your tastes, but for IH, "the sound was really infused with a finely woven quality that genuinely revealed detail... with subtlety and grace that pulled me in to explore the music's innermost structure." (Vol.20 No.9)

Jada Orchestral: $3245 $3245

40Wpc tone design (employing EL34a) that ST called "a real jadis," line-stage is passive (no tape loop or phone section is provided). Parts quality is high: the transformers are wired with OFHC, there are no bright or hard spots in the layout, everything is hand-laminated, and the rear panel is ceramic. "Really does sound like an orchestra -- full-bodied, harmonically rich... " he says. He also praised its bass extension and dynamics. However, the bass could have been tighter, and the amp still isn't the last word in low-level dynamics, but it's warm, and it accomplishes, "a very fine amp nonetheless." (Vol.20 No.11)

Krell KAV-300: $2350 $$$

Compact 150Wpc integrated amplifier that has "fine depth and surprisingly good transparency," according to MC. Well-balanced sound includes good focus, stable imaging, and satisfactory detail levels, all with "above-average slam." Dynamics, gauged MC, "were very real... in conjunction with good rhythm and timing" -- an area where KM feels the least Krell "may have the measure of its bigger brothers." (Vol.19 No.7) YBA Integrated DT: $2345 $$$

"A 50Wpc integrated amp, even with a phono stage, hardly seems like a bargain at $2345," ST allowed. "It is, you get beautifully detailed, neutrally sound, a superb tonal balance, magnificent build quality, and exquisite styling." The $400 extra you pay for the moving-coil module seems almost ridiculously cheap when you hear the quality of the phono reproduction. Version without phono stage costs $2195. Version with single-transistor, not reviewed, costs $1945. (Vol.19 No.12)

B

Adcom GFA-5802: $1750 $$$

(See MF's review in this issue.)

Aragon 800BST: $1999 $$$

TJN was so taken with 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 high transients. Overall, he rated this amp equal to power amplifiers costing as much as twice its price. "Most of the components that you might think you make a lot better about your budget." A $500 optional upgrade adds balanced inputs, two transformers, equals the output stage, and doubles the power-supply capacity, making the result the 8000BST (not auditioned). TJN's only complaint was that the three-channel version, the $2499 "Aragon 8000c, "every bit as good a performer -- an open window on the source." (Vol.19 No.6, Vol.21 No.8, 800BST; 800BST; 8008 BST; 8008c)

AudioPriss Debut: $1995

ST calls this fourth entry in the EL 34-based tube amplifier for its superb build quality, excellent adjustment flexibility -- it offers different levels of feedback, a variety of grounding options, and multiple output taps -- and excellent bass and dynamics. (Vol.19 No.10)

Atoll HP-150: $2200

This 100Wpc MOSFET amp "singing like a goon," said WP. "A success. A winning 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 "crystaline clarity -- hell, that's what I want from a solid-state amp," he thundered. SS agrees with ST and WP that the Ayre is borderline Class A, not quite reaching the level of those Canalons, but still a very compact-dimensioned unit. Its deep, rich bass, though SIJ bought one as an affordable alternative to his Rowlands. (Vol.19 No.8)

Bryston 3B-ST: $1565 $$$

This, 120Wpc solid-state stereo power amplifier "packs a punch" that ST says "proclaims the obvious superiority of the power output ...

But instead of the usual neutral midrange, solid bass, this may be your kind of amplifier, "capable of holding its own in any way, either in subjective listening quality or text-book competence." (Vol.21 No.3)

Stereophile, April 1998 129
ers sharing the same tendency. "Solid Class B," adds MF. (Vol.18 No.12)

Proceed AMP-2: $1995

TJN finds the sound of this affordable 150Wpc stereo amplifier gripping—with 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 proponent of D/A, he feels it works best with speakers having "lots of uncolored meat in the low end." The three-channel AMP-3 ($2995) is identical other than using three rather than two amplifier modules. Upgrade from two-channel amplifier to three-channel costs $995. (Vol.18 No.5)

SimAudio Celeste 4070: $1799 $$$

Hard-to-impress SS hailed the 80Wpc 4070 as "the first moderately priced amp I've had in my home that delivers the fine details of musical events," finding its transparency and low-level detail to be exemplary. He also praised its frequency extension and ability to unravel complex passages. However, he felt it erred slightly toward the thin side of harmonic balance and lacked the fully developed soundstaging of the best, more expensive analog amplifiers. "In the right system, [it] will make many people wonder why anyone would need to spend more money," he concluded. (Vol.18 No.12)

SONIC FRONTIERS Power 1: $2495

Push-pull 55Wpc stereo tube amplifier that MK recommended "for its superbly balanced rendering of voices and instruments.... There was plenty of accuracy and extension in the treble, and the bass was...solid...[T]he sound was exceptionally clean and clear, with very black silences." While he did not feel the Power-1 was quite up to his reference in soundstage breadth, or that it "provided quite as clear a window into the music," he deemed it "good performance for the price." (Vol.20 No.11)

Vacuum Tube Logic MB 175 Signature monoblock: $4990/pair

This tube monoblock produces 175W in triode mode or 90W in triode (switchable). MF lauded its "deep, well-controlled, well-damped bass, as well as its neutral," "if trending toward the lean side," tonal balance. While he felt the VT did not offer "the ultimate in sound quality," sounding "more big than from Class A, he was impressed by the "especially high-frequency extension, transient speed, and airy overall presentation—... An excellent combination of sonic and technical virtues at a more than reasonable price." (Vol.20 No.6)

Valve Amplification Company PARO/80: $3290

"Has tube magic in spades" avers WP of this 80Wpc design (3W% THD); he found it, warmed, dimensional, and beguiling. Slight midrange emphasis contributes to a punchy, propulsive sense of drive that he enjoyed. Not as extended in the frequency extremes—or quite as refined—as some of the Class A amplifiers, but almost second to none in its presentation of the emotional subtlety of the music, according to the big guy. Golden Dragon KT88/M8 output tubes now standard. (Vol.19 No.3)

B (Integrated Amplifiers)

Audio Note OTO Photo SE: $2495

12Wpc single-ended integrated amp with a unique photo resistor circuit. As he found, clean, liquid, soft, spacious, and transparent, but not at the expense of detail resolution. It had far better bass control and subjective output power than you'd expect from the price and first impression. Still, a loudspeaker with a fairly high impedance and high sensitivity is mandatory." RH thought the photo section exceptional. "Potential purchasers should be aware of the OTO's limitations in loudness and dynamics." (Vol.19 No.7)

Audio Electronics SE-1: $899

This modestly powered (8Wpc) single-ended amplifier from a subsidiary of Cary Audio sounds somewhat like the more expensive, more powerful Cary 300LE, thought ST, due to its palpable presence and truth of timbre. No dynamics to speak of, however. Also available in kit form for $699. (Vol.17 No.11)

Audio Electronics SE-811 monoblock: $1995/pair

ST reckoned these SE triode 811Wpc monoblocks, based on Svetlana'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 rich texture." Yet despite calling their top end "particularly smooth, soft, and extended," he felt that "some of the 300B magic was missing." Also available in kit form for $1195. (Vol.19 No.7)

Chiro C-200: $988 it

"Power, simplicity and delicacy" is how RH described the sound of this 100Wpc amplifier. "Fit's finish is a definite cut above what one expects at this level," he elaborated. "As of now, [it] is my favorite amplifier in this price range." Borderline Class B, it sums up. (SHT2 No.1)

Denon PMA-8200 THX: $1000

RH lauded its "smooth and unfatiguing, yet highly detailed" character, also enthusing over the tremendous bass extension and weight. (SHT2 No.2)

Marantz MA-700 monoblock: $500 each

Solid-state 200W amplifier. "Powerful and dynamic, with the slam and transient precision of amps costing much more than a paltry $500 per channel," said FM. "Add to that a meaningful lack of compression, a solid and unswerving soundstage, and a rich tonality that, if not completely accurate, is at least wonderfully complementary to the home-theater environment." Slight diminution in top-octave air imparts warmth to overall presentation. Compared to more expensive references, the MA-700 also glosses over microdynamic detail. (SHT4 No.4)

Marantz MA500 THX monoblock: $300 each $$$

"At $300 each, the MA500s are one of the best buys in Home Theater," exclaimed RH over these compact 125W 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." (SHT2 No.2)

NAD 214: $499 $$$

"Very good sound, specifically a natural-sounding midrange, the 80Wpc NA1214 struck RH as an excellent candidate for Class C—especially in light of its reasonable price. (SHT2 No.3)

Parasound HCA-100A: $399 $$$

Improved version of the $755 HCA-1000, sporting a more robust power supply, a second pair of RCA jacks (to facilitate "looping" two or more amps to a single source), and an auto turn-on circuit. IW was impressed by the original 1000, and particularly taken by its detail, soundstaging, and dynamic attack. However, he felt its bass reproduction lacked body, a shortcoming the 1000A specifically addresses with its befer power supply. "The 1000's few shortcomings have been completely addressed in the revision," he concluded, making it "a serious contender in affordable high-end amplification." (Vol.20 No.8)

Sonic Frontiers Anthem AMP-1 power amp: $1195 Stereo push-pull vacuum-tube 40Wpc power amplifier. "Exceeds at just about every parameter," said LH. "It's too bad it costs $1195, with everything from the low lows to the high highs rendered just right, and a bass punch, man, in the information-retrieval game. It'll get up and shun-a-ling and do the thing when it's time to bust-a-move, but the best part is the AMP-1's shear neutrality—it doesn't just get the notes right, it plays the tune." (Vol.21 No.2)

C (Integrated Amplifiers)

Audiolab 8000S: $1095 $$$

This 60Wpc solid-state integrated delivers "clean, crisp, solid-state sound—unimpeachable," ST avers. "Excellent configuration flexibility—no other integrated I know of can be used so many ways or can be reconfigured so easily. Keenly priced. Good value." Borderline Class B. (Vol.20 No.1)

Creek 4330R: $599 $$$

"Performance for the price...makes the Creek...a breakthrough product," said ST of this 40Wpc solid-state integrated amp with a passive line-stage (plug-in phono module available for $60). "The resolution of the bass reproduction is compelling, and an amp this size at this price, is almost staggering—not far from the very best I've heard at any price." Bass and midrange "are not as full as I might like, but the sound is very smooth, very soft, and the treble is nicely extended without ever sounding peaky... Exactly what we needed in budget hi-fi—something so good that you feel no need to mess around with more expensive stuff." Price includes remote. (Vol.20 No.11)
Awesome only begins to describe the Martin Logan Statement ($70,000). It was easily the most exciting "super speaker" at the show. The Statement is the vision of one man, Martin-Logan's founder Gayle Sanders, to build the world's finest speaker. It is a masterpiece, visually and sonically. This is a speaker that fully reproduces the recorded event without compromise.

The key to the Statement's success was to optimize driver technology for each range of the spectrum and to make a seamless transition between them. Also, the system had to be flexible, to allow for optimizing its performance in a variety of rooms.

All new electrostatic panels were designed to reproduce the crucial frequencies from 200Hz to 22kHz. Their resolution allows you to peer deeply into the subtleties of the music. A unique transition tower with eight 7" ultra high speed drivers in a dipolar array results in a seamless transition from the electrostatic panels to the subwoofers (40Hz/200Hz). Finally, sixteen specially designed low distortion 12" drivers are used in a "balanced force" design to effortlessly reproduce the lowest octaves (18Hz/40Hz), with speed and dynamics that are startling.

The all new electronic crossover is designed to address subsonic room nodes. EQ adjustments and phase control add remarkable flexibility to this system.

Visualize the involvement you feel at a live performance. The aura of the artist, the excitement in the air, the anticipation of the first note. And then the performance begins. At that moment nothing else exists. This is what you experience with the Statement.

The Statement is on display now with the Spectral High Resolution Reference System, and MIT's 350/850 Evolution Interface System. You are invited to audition the remarkable Statement.
For those unacquainted about the last few hers of low-bass extension, we have created "Classes A, B, and C (Restricted Extreme LF)" for those speakers that are state-of-the-art in every other way. Candidates for inclusion in this class must still 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, E, for "Entry-Level." Someone once asked me why Stereophile bothers to review inexpensive loudspeakers. My answer, as we've outlined in our readership by recommending that they buy any of these inexpensive models? Remember: It's possible to put together a musically satisfying, truly high-end system around any of our Class E and recommendations. That's why we've listed — and why you should consider buying them.

A

Artemis Eos Signature with Base Modules:
$15,800–$23,375/pair depending on finish (Vol.20 No.10)

Audio Artistry Beethoven: $28,000/system
Frankie, an amplified dipole system consisting of two dynamic main panels, two subwoofers, a pair of passive crossovers, and a unity-driver, noninverting, balanced, active (line-level) crossover. (Vol.20 No.11)

Dunlavy Audio Labs Signature SC-VI:
$23,950/pair
Price is for light and black oak finishes; rosewood and cherry veneers add $1000/pair. (Vol 19 No.8)

Eggleton Works Andra: $14,700/pair (Vol.20 No.10)

Jadis J1 $45,000/pair
High-sensitivity horn array with bioburk-loaded dynamic woofer. Formerly called the Eurythme II. (Vol.19 No.3)

Jmlab Grand Utopia: $70,000/pair (Vol.19 No.5)

Jmlab Utopia: $29,500/pair (See JS's review in this issue.)

Meridian DSP6000: $16,955/pair
Active system offers digital data inputs only and uses delta-sigma 13A conversion. (Vol.14 Nos.9 & 10; Vol.18 No.6)

Snell Type A Reference: $19,000/system
Seven-component system consisting of two Type A HF/midrange towers, two SUB18 subwoofers, two isolated output-output loudspeaker arrays, and an output electronic crossover. (Towers on their own cost $7000 each, the SUB18 1800 THX subwoofers — see "Subwoofers" — cost $2500 each.) (Vol.19 No.3)

Waveform Mach 17: $5995/pair $$$
Three-way, floorstanding loudspeaker requires triamplification, and should be used only with a 30-day money-back trial period. Price includes line-level crossover.

A — Restricted Extreme LF
Artemis Eos Signature: $7300–$11,555/pair depending on finish (stands necessary)

According to KR, "the EOS Signatures pull off the biggest trick of all for their size: fat bass extension to 20Hz. Without matching bass modules, KR says, the speakers were somewhat lighter in balance, but he preferred them solo for many sources. He noted a touch of "glint" around 6kHz, but it was not particularly bothered by it. Tower and midrange are wired acoustically out of phase with one another — which didn't bother KR because he never listens in the nearfield. For those who do, simply reverse the tweeter connections. Adding the Bass Modules gives the Signatures extra heft, mousing the combination full-range Class A territory. KR recommends giving them lots of room (place them a minimum of 10 from the listening position). "Bass is substantial and firm; the lack of high-pass filtering is of little concern except for headbanders and PA use." Easy to drive and to place ("if not to move")." Matching Artemis Eos bass subwoofer costs $8000–$11,820/pair depending on finish. (Vol.20 No.10)

Audio Physic Virgo: $5395/pair "Where'd they go?" asks MF, observing that "The Virgos flat-out disappeared. Aside from pulling a vanishing act, what they do better than any other speaker I've auditioned... is resolve low-level detail: spatial and ambient information, and especially texture and touch in the upper midbass and bass.

But they're not so little. Mach-2, the largest reviewed was the electronically identical but cosmetically different 502A. (Vol.19 No.3)

Myryad M1-130: $999

This 60W/60W solid-state amp is musical, ST decided, "if by 'musical' you mean sweet, smooth, liquid." However, the sound, overall, could use more body. Analog lovers are well served — excellent phone options include MM and MC boards at budget prices, and the headphone jack runs off the power amp rather than a cheap 'n cheerful op-amp. MM phone stage adds $100; MC phone stage adds $129. (Vol.20 No.3)

Rotel RA-970BX: $499.90 $$$

"Plenty of power [60Wpc], a relatively smooth tonal balance, good dynamics, and a solid bass presentation," rated RI. "I was surprised at how much musical performance the RA-970BX provided for its modest price. In addition, [its] high power output makes it an excellent choice for power-hungry loudspeakers." Though not as smooth or as expansive as more expensive competition, "with products like the RA-970BX available, that's the speaker's role for anyone to buy mass-market junk." (Vol.19 No.12, Vol.20 No.9)

1)

Editor's Note: There are currently no Class 1 amplifiers listed.

K


Dene...
The Spectral High Resolution Reference System

At Overture our goal is to go beyond mass market high-end. Achieving that goal requires constant evaluation of the world’s finest components. Only by hearing it all can the ultimate be found. Spectral provides us with what we are looking for; a level of performance that is in a class by itself. We knew it the moment we heard it, and so will you.

The Spectral Digital Reference System

The result of a 10 year development program, the Spectral SDR 3000 Reference CD Transport and renowned SDR 2000 Professional Processor achieve a level of performance that sets a new standard. Spectral's Dr. Keith Johnson developed the unique Spectralink digital interface system for unprecedented digital accuracy between the SDR 3000 and the SDR 2000. It is this no compromise approach that so impressed us, and you'll find it in every Spectral component. An industry milestone, the SDR 3000 and SDR 2000 achieve the highest level of musical performance available in digital audio.

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The heart of the remarkable Spectral reference system, the DCM 20 Series II preamplifier establishes a performance standard unequaled in the industry. Its stunning resolution, tonal purity and sound staging make it our reference pre-amp. It's the ultimate way to start your Spectral high resolution system.

The DMA 150 High Resolution Amplifier

Like all Spectral designs, the DMA 150 is the result of years of research, development and involvement with live recording sessions.

The final link in the Spectral reference system, the DMA 150 is the highest resolution amplifier we have ever heard. Its stunning clarity and realism results in large part from the fastest signal response yet achieved in an audio power amplifier. Its holographic presentation is simply unequalled. Both powerful and detailed, the DMA 150 establishes a new level of musical realism in audio power amplifiers.

Rarely do you find a company so totally dedicated to excellence as Spectral. When you do, you've found something very special. Please call or visit us to experience what makes Spectral the BEST in the world.

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where the original was already no slouch — was now better structured and detailed. There was a touch more upper-bass weight, expressed with a crisper punch. Overall, the midrange sounded richer, more natural, with small gains in detail and transparency. Perhaps, he felt, “there was a bit less low bass, but you’d have to hear the models side-by-side to be sure of this.” (Factory upgrade from W/TT Series I costs $2990 plus shipping to manufacturer.) (Vol.19 Nos. 8, 10, 11; Vol.21 No.1, Series II)

B

Editor’s Note: Note that all the full-range Class B recommendations have been included in the Aerial 8 & 8T and B&W 801, are floorstanding models.

B — Full-Range

Aerial Acoustics 10T: $6500-$7500/pair depending on finish (stands optional)

This three-way loudspeaker possesses solidly constructed, separate bass and tweeter/midrange enclosures. “Their ability to kick the tar out of any dynamic challenge... throws at them” impressed WP, as did their uncolored midrange and exciting, immediate presentation. “Misses Class A by half a gut’s hair,” WP insists. Optional (and highly recommended) matching stands add $650/pair. (Vol.21 No.10)

Aerial Acoustics Model 8: $5000-$6000/pair depending on finish (stands optional)

“Almost a full-range speaker,” MF writes, “with gutsocking, dynamic bass and a bit too much midbass — although a big room cure that to a great degree. Superbly engineered and built. An outstanding value for the money, but needs lots of clean, controlled power. Good image focus and big, too recessed soundstage.” Lacks the “airy excitement” and “ultrahigh resolution of inner detail” MF craves and the “finestre” speaker’s “improvisational, works best in a big room. Matching stands cost $400/pair.” (Vol.21 No.1)

Audio Physic Caldera: $18,955/pair

This three-way floorstater is built as three separate, decoupled enclosures, offering unusual flexibility in coupling the woofer to the floor. This level of refined development captivated MC. “It sounds complete and completed, and is emphatically not a prototype rushed to market,” he marveled. “Tonal balance proved highly accurate...[although] the tonality was warmer than I am used to.” He also commented on the Caldera’s fluid sound and “sense of stability and inner calm... Impressive on the grounds of pure quality alone, it quietly grew on me. Its introspective, even-handed powers of resolution, and ability to surprise by telling more about the inner harmony and balance of favorite works, continued to satisfy,” Difficult load for tube amps. Expensive, but under the right conditions could well offer borderline Class A sound. JA is working on a Follow-Up. (Vol.20 No.8)

Audio Artistry Dvorak: $7000/system

In SJ’s opinion, this four-enclosure speaker system, which incorporates a line-level equalizer/crossover, “successfully incorporates... the positive qualities of large-panel diodes and moving-coil designs while minimizing their respective drawbacks.” He also lauded their lack of rooms, cabinet, and air-cavity colorations, as well as their natural top-to-bottom tonal balance. Extensive revisions demand a follow-up evaluation. (Vol.19 No.4)

B&W Matrix 801 Series 3: $5500/pair (standing on platform)

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 moving-coil speaker capable of competing with the best planars. As LL put it, “a true musician’s reference transducer.” Strengths include excellent low-frequency definition and weight, a highly detailed midrange, and unreserved dynamics. Best used with stands — we’ve had good results with the Sound Anchors and with the wooden, sand-filled Arcies. (Also see Vol.12 No.10, p.45, and Vol.13 No.2, p.217, for discussions of a crossover modification that improves the sound of the original 801 Matrix.) Current version has a revised tweeter, a non-detachable lead, an improved crossover layout, and has done away with the APOC protection circuitry. (Vol.10 No.9)

Dynaudio Contour 3.3: $6999/pair

“In balance of strengths — tonal playfulness, dynamic expression, and tast, unaggerated bottom end” — impressed WP tremendously, despite his feeling that the bass region was somewhat lean. “In addition to its finely nuanced presentation of swing, it was a champion at revealing the emotional subtlety of the musical event.” Needs powerful amplification to open up. (Vol.21 No.1)

Energy Veritas v.2.8: $6000/pair & This tall, “hi-tech”-looking three-way/four-driver design from Germany shows a dominated midrange unit and has a flat midrange/treble response, impressive dynamics, and near-textbook horizontal dispersion. Borderline Class A sound and imaging are the result. However, the bass is balanced to be rather generous in all but very large rooms, found TJN. “The mids and highs are extremely accurate,” adds WP. “The V.2.8 can be wire-tried or tri-amped; some owners recommend reducing the midrange level by wiring a 1 ohm, 10W resistor in series with the “hot” terminal. (Vol.17 No.6; see also TNJ’s Thiel CS7 review in Vol.18 No.8)

Focus Audio Model 88: $8800/pair

Three-way floorstanding dynamic loudspeaker that impressed JA during his review audition. “It offers... excellent stereo imaging, clarity, bass extension, and dynamics... wonderful quality on the forward side, and with low frequencies that will be overgenerous in smaller rooms, it nevertheless sound eminently musical.” (Vol.20 No.6; see also WP’s Follow-Up in this issue.)

Gradient Revolution: $13995/pair

“Just a revolution!” enthused DJ. He found the Revolution, designed to be less room-dependent than ordinary speakers, “quite entertaining,” although not spectacular in conventional audiophile terms. He decided his greatest strengths were organic wholeness, sonically correct midrange, accurate treble, and convincing rhythmic drive. Original review samples turned out to have a broken crossover. JA’s Follow-Up endorsed DJ’s enthusiasm for this unprepossessing-looking but neutrally balanced speaker, and adds that the bass quality and extension are both simply excellent. MF also agrees, adding that the Revolutions work great as rear-channel speakers in a Dolby AC-3 system. (Vol.18 No.5, Vol.20 No.3)

Hales Design Group Revelation Three: $2195/pair

“A talented loudspeaker,” said RJ. “Exceedingly neutral, neither favoring nor neglecting any part of the range. With the right associated equipment, it was able to resolve the most subtle of musical details, but in a way that avoided sounding clinical or hyped... I know of no loudspeaker costing in the $2000-$3000/pair price range that is capable of providing a better, more musically satisfying performance than the Revelation Three. In fact, I’d recommend to anyone considering speakers in the $5000 (and higher) price range that they listen to this.”

Infinity Compositions Prelude P-FR: $3400/pair

RH calls the Compositions Prelude P-FR loudspeaker with its integral active subwoofer “a stunning musical, technical, and commercial feat. Ending it capable of producing ‘transcendental muscular moments’ as well as performing “impressive[s]y] on movie soundtracks.” But he’s most chuffed by their ability to be driven to satisfying levels by low-wattage SE triode amps — calling that combination “one of the most musical-sounding systems I’ve heard — regardless of price.” He does admonish that some will find the tonal balance too lean, wishing a little more weight and authority himself. ST, a proponent of SE triodes, concurs — adding, “they’re soundingizng champs.” (Vol.18 No.9, SGHTI No.2, Vol.19 No.2)

KEF Reference Series Model Four: $5200-$6400/pair depending on finish

TJN found the Four “hard to tame but worth the effort,” advising potential purchasers to audition them with the associated equipment they intend to use. With the Four properly set up, 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 might turn oppressive. (Vol.19 No.3)

Martin-Logan SL3: $1395/pair

Striking hybrid speaker system (48” electrostatic panel, 10” woofer) that captivated WP with its transparency (sonically and visually). These speakers work best with powerful amplifiers and require precise placement within a room, but when properly supported are capable of astonishingly lifelike sound, according to the big guy. “Designed for those who demand nothing less than the best from their speakers.” Dark oak or walnut finish adds $300/pair. (Vol.20 No.5)

Metaphor 2: $6250/pair

There’s “a lot of power in a metaphor,” quips WP, who greatly admires these 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 performance, they might be an even better loudspeaker hiding within. (Vol.18 No.7, Vol.19 No.4)

Mirage OM#6: $3000/pair $$$

TPJ “really liked” this bipolar loudspeaker with integral active (150W) subwoofer. “I know of few loudspeakers that can match its extended frequency response, output capability, sheer listenable quality, and low coloration. Thanks to its separately adjustable sub-woofer, it is relatively easy to position and is not overly demanding of associated components.” Overall sound is “a little laid-back and imaging, leading to absence of "jump factor," while bottom octaves are full and rich rather than tight and highly detailed. "Minor quibbles," said the major. "They were incredibly seductive, drawing me into the musical performance and refusing to distract the experience with... distracting colorations." (Vol.20 No.1)

Monitor Audio Studio 50: $5995/pair $$$

TPJ was impressed by this “expensive but undeniably classy speaker.” Although its overall presentation was a tad reticent, he found the Studio 50 line-focused, transparent, and possessed of good stereo imaging. MC’s pair had the tweeter wired out-of-phase with the woofer, whereas the peer pair played in Santa Fe did not — a FA problem we also experienced with Monitor’s Studio 2. Even so, theirs might be the better, leading to absence of “jump factor,” while bottom octaves are full and rich rather than tight and highly detailed. “Minor quibbles,” said the major. “They were incredibly seductive, drawing me into the musical performance and refusing to distract the experience with... distracting colorations.” (Vol.20 No.13)

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The Avalon Eidolon

For anyone auditioning speakers over $10,000, hearing the Eidolon is a must. It is a milestone in the industry. The Eidolon sets new performance standards to such a degree that it must be recognized as a classic design that will forever change what we consider to be acceptable in edge of the art performance.

The Avalon Eidolon has been designed for listeners seeking the highest level of musical realism possible. A professional instrument for home use, the Eidolon is the fastest dynamic transducer ever designed, and the most accurate. New proprietary technologies in drivers, enclosure damping, and low crossover noise floor have resulted in a lack of distortion and coloration that is nothing short of revolutionary.

When used with high speed electronics, the Eidolon's fast settling time achieves an inter-transient silence that reveals new vistas of detail, nuance and resolution. Combining thundering dynamic contrasts, pinpoint dimensional staging, and precision craftsmanship, the Eidolon will create an aesthetically beautiful and musically truthful experience in your home.

Please call us for more information or visit us to audition this superb speaker by Avalon.
NHT 3.3: $4300/pair

Unusual four-way dynamic speaker, deep but narrow, goes against the front wall to optimally load the woofer but still get minimonitor-like imaging precision. TJJ was impressed with the NHT’s sound, commenting on its extended, powerful, well-damped, clean bass, the sweet, delicately decaying mid-range, and well-focused high-frequency imaging. He did find the last less expansive than with some other speakers, however, the imaging restricted to the space between the speakers. “I'd choose the 3.3 over any of the speakers in Class A says Cissi, however; enthusiasm over the NHT’s neutrality and ability to play very loud without straining, and adding that he finds himself "without a single area of performance [he's] heard better by any other speaker.” MF feels that, as good as the 3.3 is, in absolute terms a lack of transparency keeps it from class A. Price is for black stain or mahogany or sycamore laminate adds $200/pair. (Vol.16 No.12, Vol.17 No.3)

Paragon Regent: $3850/pair

“There’s a strong vein of honesty and integrity running through this design,” asserts MC. “Timbre is nicely judged, the bass, mid, and treble ranges all are well proportioned. The overall effect is remarkably even-tempered, well balanced… even self-effacing.” Perhaps, he notes, the Regent shows a touch of reticence in dynamic contrasting over the NHT’s neutral and ability to play very fast but that could also be the cause of the speaker’s low frequency coloration as well. (Vol.18 No.8)

PBN Montana SP Series 2: $3495/pair

“The most consistent, floorstanding two-way, in first-rate “detail, imaging, dynamics, power handling, midrange and treble clarity, and ability to perform convincingly with a wide variety of music.” The speaker lacked deep bass, he cautioned; “its bottom octave was more implied than present”—a drawback for an acoustic at this price point. And he found it difficult to integrate the speaker into his small room, suggesting it needed a lot of room to breathe. Current production differs from the review samples in having a flared rectangular port, an internal acoustic high-pass filter (a foam pad below the bottom woofer) and a 2” deeper cabinet, yielding a deeper and smoother bass response, found IWHO. He also noted that the Series 2 retained the virtues of the original: “excellent soundstaging and imaging abilities, a smooth, quick midrange, and a delicate, grain-free top end.” (Vol.20 No.6 & 7)

ProAc Response 2.5: $4500/pair

“Makes great music,” MF asserts, “totally free of grain, crispness, and edge.” A "slightly forward but exceedingly rich" speaker, he found a curious absence of presence that was only slightly offset by a loss of air and space. Bass response, though, was everything: a "non-organ-loving music-lover could ever want," he claimed. "You don’t get something for nothing." JA cautioned, "and the price to be paid for the Response 2.5’s impressive bass extension is low sensitivity." This will be somewhat ameliorated by the speaker’s fairly stable 8 ohm impedance. Even so, careful amplifier matching is indicated. (Vol.19 No.10)

PSB Stratus Gold £: $2549-£2999 depending on finish

“Enthusiastically recommended” by JA, the latest version of the Stratus Gold uses the same drivers as the original, but places them in a slimmer, deeper cabinet. “The midrange was clean and uncolored, the stereo imaging well-defined and stable, and the bass generous without being boomy. Extreme highs were a little mellow, but this was not a bad thing… There was no [midrange] coloration that I could readily identify… Where a recording had true bass information, the speaker reproduced it without flub. ‘Slight HF cloudiness’ is not a serious flaw, but noticeable in context of ‘superbly clean’ midrange. (Vol.20 No.10)

Sony ES SS-M9: $3500/pair

A high-end speaker from Sony? JA says you betcha. “Nothing fancy, just well-defined imaging, clean treble, and truly excellent low-frequency extension,” he enumerated. Minor flaws, including “a somewhat polite top octave,” are “outrweighed by the things it emphatically does right.” Price is for cherry veneer. Black finish adds $500/pair; piano finish adds $7500/pair (Vol.19 No.9, Vol.20 No.10)

Thiel CS6: $7900/pair $$$

“Thiel’s CS6 offers high resolution values. JA says, “It is becoming more transparent, well-balanced, and, once set up optimally, with a gutsy amplifier and high-quality sources, sounds simply superb… dynamics were startlingly natural… forceful and clean bass-production gave the music a powerful foundation.” However, “the midrange is a little too assertive, the same degree of clarity or clearness that so distinguished the bass or treble octave… But for me, at least, this was a minor problem, offset by the many things the Thiel did right.” But it does keep the CS6 from scaling the Class A heights. (Vol.21 No.3)

Thiel CS3.6: $4300/pair $$$

Remarkably transparent, extraordinarily uncoupled floorstanding three-way, with first-order crossovers and truly time-coherent performance. Very revealing of source imperfections and bass on the edge of the generous side, both of which will mean extra care needs to be taken in system matching. “A terrific bargain” at its price, RH concedes: “The more I listen to them, the more I like them.” Needs a muscle amplifier to bring out their potential, but with the B&H recommended, the VAC 70/70, Cissi found the Aragon 4000 Mk.II drove the Thiel with aplomb, though he noted its limited loudness capability compared with the NHT 3.3. (Vol.16 No.5, Vol.17 No.3 & 5)

Trotternish: Apex Monitor: $2395/pair (stands necessary)

JA’s effusive encomium noted that the Mani-2’s “combination of clean treble, transparent midrange, natural dynamics, and powerful extended bass allowed the speaker to show its true depth and ability to communicate in a most effective manner.” (That’sấtisfor selected volumes only) 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 physically imposing speakers. “Enthusiastically recommended.” Matching Target R12 stands cost $649/pair. (Vol.19 No.2)

VandenAelde: 3A: $2595/pair $$$ $$$

TJJ thinks the 3A “sounds terrific with a wide range of program material.” He notes that, while it sounds “just a bit sweet and forgiving, it doesn’t go so far… that it’s insensitive to the equipment feeding it.” While not the last word in imaging, adding up for this is “in sheer listenability,” he opines. Sound Anchors rear prices cost $200/pair. (Vol.16 Nos.3 & 4, Vandersteen 3; Vol.18 No.4, S.Ct) NO.15 No.2, 3A)

B—Restricted LF Audio Physic Step: $1759/pair $$$ (stands necessary)

Well-made reflex-loaded minimonitor from Germany that, when driven with its well-defined imaging, clean treble, and truly excellent low-frequency extension, he enumerated. Minor flaws, including “a somewhat

Cabasse Farella 4000: $1995/$2195/pair

Four-way, floorstanding, reflex speaker that St actually bought and kept! “Nice, neutral, detailed sound with wonderfully articulate, well-damped bass,” he reports. “The bass on this speaker was so good it’s superlative that I consider the speaker a relatively small size. It’s… tight, controlled, nicely defined.” $4012 sensitivity a plus for those looking for a comparison to low-output amplification. (Vol.20 No.4)

Danzuro Acoustiques Jaguar: $4500/pair ($1895/pair necessary)

This small speaker beguiled MC with its big sound and spacious, airy qualities. Stereo images were well formed and low-level detail nicely captured. However, he felt the bass underdamped—though possibly not for American ears. “Dazzling resolution, a dash bright. Neutral-sounding ancillaries a must, he counselled. Matching stands cost $800/pair. (Vol.19 No.6)

Genelec 1030AP: $2198/pair (stands necessary)

JGH rated this powered minimonitor very highly for its top end, which he found essentially free from 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 audio. The matching subwoofer is not recommended, however, due to its rather ill-defined bass. (SGHT2 No.2)

Martin-Logan Aetius I: $1995/pair $$$

This upgraded version of the Aetius substantially improves upon the original, offering a new bass driver and crossover that enable the electronic panel to blend even more seamlessly with the woofer. Sam sez, “The bass is deeper, tighter, even more tuneful… The new Aetius has much more top-end extension, more sparkle… Overall, the sound is better.” Sounds best in small rooms—ST speculates that its 17 by 27 by 75” room represents the upper limit—and requires careful placement. Light oak finish adds $100/pair; bi-wiring option adds $100/pair. (Vol.20 No.7)

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 those little boxes,” was the oft-heard refrain during his listening. “It’s a bit of a bargain price to pay for that impressive LF extension—they need lots of juice! Punch amps 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 and smoothness, adding that, coupled with excellent clarity, it allowed musical detail to be easily perceived. “A must-audition speaker for the bass-loving audiophile with a small room,” he concludes. Matching PS-20 pedestal stands—essential—cost $329/pair. (Vol.18 No.10)

ProAc Response One SC: $2100/pair $$$ (stands necessary)

Upgraded version of Response One SC features new woofer and a crossover modification. “Touched by magic,” ST. Incredibly open and spacious, possesses of “phenomenal clean midrange,” the Response One SC has an “effortless presentation that transports you from your listening room to the performance space with wondrous ease.” Particularly good with tubes, even low-watt SETs. Lacks deep bass, but subjectively sounds satisfyingly full. (Vol.21 No.3)

Ruark Equinox: $4000/pair

“The real deal,” KH enthused—“a high-end loudspeaker with few compromises in performance… they have few defects, aside from their inability to pump a loud note. They threw a huge soundstage, were balanced at both high and low listening levels, and were remarkably uncolored, if powered appropriately and located carefully.” Don’t pass up a chance to audition them, he suggests. (Vol.20 No.20)

Stereophile, April 1998

Recommended Components

"There's great musical potential here," said MC.
In 1996, Overture stunned the audio world by winning “Best Sound” at the Stereophile HI-FI Show with our 2C3D Phase II System. Now we introduce our 2C3D Phase III System, which offers even more dramatic performance. This new system takes component matching to a new level by addressing all aspects of performance, including AC line treatment and the listening room itself. The result is a system with qualities that are unique in the industry — true three-dimensional holographic imaging, unsurpassed resolution, and ultra-linear response.

Spectral—In this system, Spectral’s ultra-linear high speed design is fully exploited. Their uncompromising design achieves the highest level of resolution we have ever heard, with remarkable holographic imaging. This level of performance is made possible in large part from the fastest signal response yet achieved in an audio component. New to the 2C3D Phase III system is the SDR 3000 Reference CD transport, the final link in the Spectral Reference System. To achieve the highest level of performance available, Spectral componentry is an absolute must.

MIT Shotgun EVO—MIT’s original Shotgun™ Interfaces established a standard of performance unmatched by any other company’s products, even today. Now MIT has revived the legendary Shotgun name for breakthrough new interfaces. The MH-850 Shotgun EVO™ Speaker Interfaces and MI-350 Shotgun EVO™ Component Interfaces deliver unsurpassed accuracy, integrity, and musicality. This new level of performance allows the 2C3D Phase III System to reveal every instrument and voice in its proper location, independent of playback level, so that the sources of sound seem to be the performers themselves.

Behind it all, MIT’s Z-Series™ Power Line Treatment products provide the ultra-clean AC power that is the foundation of this remarkable system. The level of sonic improvement these MIT reference-level components bring to the Phase III System will amaze even the most experienced listener.

ASC—World-renowned acoustic engineer Art Noxon has designed a remarkably flexible acoustic tuning system for this system’s listening environment. ASC’s unmatched Tubetrap technology allows the Phase III System to reveal its full potential in any room, including yours.

Avalon—Avalon’s newest speaker, the Eidolon, features the fastest signal response of any dynamic speaker, and it enables the Phase III System to provide the lowest noise floor we have yet heard. The Eidolon offers pinpoint dimensional staging, incredible dynamic contrast, holographic soundstaging with remarkable detail, nuance and resolution. The Eidolon fully reveals the unique qualities of this stunning system. With their beautiful design and compact size (43-1/2” tall), the Eidolon delivers flat response from 20 Hz to 35 kHz, and provides great flexibility in complementing any room decor.

If you are seeking a unique level of musical realism, the 2C3D Phase III System is a revelation. Please call us to audition this musical masterpiece.
Wilson Audio Specialties CUB: $5950/pair (stands necessary)

"TJN recently played the several months I spent with the Wilson CUBs in my home-theater system. Their openness, dynamic punch, and all-around ability to make soundtracks come alive cannot be denied. But one of their strengths for home theater—a forward, immediate presence—might prove to be a liability in some systems. It is particularly true in a two-channel system—you won't get the sort of sound quality you have a right to expect at these prices. However... it isn't all that difficult to get things right with the CUBs." Price is for black laminate; painted, $6460/pair; in wood veneer, $6700/pair. (SGHT No.1; see also TJN's review in this issue.)

C — Full-Range

Epos ES2: $2249/pair

While these floorstanding three-ways did not offer the last word in refinement, imaging, or bloom, ST felt they compensated with "dynamic drive that is as close to live as I have ever heard from loudspeakers... Quite special," he sowed, "and very different from the average loudspeaker." (Vol.19 No.5)

Jamo Concert 11: $3600/pair (stands necessary)

"Sounds very much of fact," said SS, "with little extra midrange warmth or schmalz. Male voices never sound hoary, thick or Sandbergish. Concert 11s, even at high SPLs... The top end is extended and smooth, but not sweet... I was also impressed with the low-frequency dynamic capabilities of the Concert 11s." Soundstaging is decent but "not as wowie-zowie as some designs. It has balance, and is somewhat on the cool side of neutral." (SGHT No.3)

Linn AV 5140: $2495-$2695/pair depending on finish

Magnetically shielded, three-way, reflex-loaded floorstanders that MK deemed "well balanced" and "commercial." "They have enough bass to do credit to hard rock... smooth enough midrange for classical... smooth enough treble for new wave, enough detail for puritan-miked recordings, and bumpin' dynamics for da funk." Not to mention high perceived-fidelity capabilities and ease of placement. HF sounds slightly sheveled-up compared to the midrange and LF regions. (Vol.20 No.5)

HDT 2.5i: $1300/pair

"Improved" version of the 2.5 features a new 1" metal-dome tweeter and 152mm Magnapole drivers. El Bee was impressed by its "serious bass," natural ("not overachieved") detail, and lively presentation. Perhaps he felt, the upper-bass-lower-midrange exhibited "slight (and I do mean slight) leanness," but, he allowed, "this perception may have been accentuated by the power of the lower bass." A most important product, "offering such a high level of performance at a real-world price." Price is for black laminate finish; mahogany or csequame laminate adds $150/pair. (Vol.20 No.10)

Paradigm Monitor 5: $1800-$2250/pair depending on finish

This three-way, four-driver, floorstanding, reflex-loaded design actually had as experienced a reviewer as TJN asking, "Is [this] the best loudspeaker in its price range?... It combines a solid bass with an uncolored midrange, fine soundstaging, and a detailed, open top end." Shortcomings include an occasionally shoppy top end and (sometimes) an audible edge in the mid-treble. "But, the major conclusion, you should definitely get the Studio 100s a listen," Borderline Class B. (Vol.20 No.10)

Rbaarq Templar: $1200/pair

"These ll7 dooijgers have no business sounding as enjoyable as they do!" exclaimed WP. While the infinitely-baffle design gives somewhat limited bass with tight, punchy definition, he declared the soundstage to be smallish, although exceedingly well defined. In terms of price and drive, however, he felt them to set a high standard. (Vol.18 No.12)

"The T-Line 3's are $2006/pair... The T-Line 3.5's are $2086/pair... the breakeven look at a budget, said MK. "The speakers are well voiced, with an overall smoothness appropriate for playing any type of music. The T-Line 3.5's strong dynamics and quick, rhythmic bass had me blushing my stuff in very unchaste ways." Listeners need to sit with their ears on or below the tweeter axis if a treble suckout is not to become audible, and there is a slight but noticeable boost in the 70-120Hz region. (Vol.21 No.3)

Third C.S.: $1450/pair

LB likened the baby Thiel 5 to a good tank: "they go deep and wide" in their soundstage. Detailed but not edgy, and 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're swell and provide a whole 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 ($850 stand options)

The latest version of Richard Vandersteen's classic three-way design has a larger cabinet and a revised drive-unit. The intrinsic balance is a little on the warm side, with a forward midrange and rather limited transparency and imaging. However, while there may be other loudspeakers that perform better than the 2Ce in one or more areas, there is 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 that DO was impressed by the 2Ce's tonal balance and sense of pacing. IA noted that it offers more extended lows than its competition. A great value for the dollar. The Vandersteen bases for the 2Ce cost $125/pair. A Signature version was to be released in the first quarter, costing $1495/pair. (Vol.16 Nos.4 & 9)

C — Restricted LF

Acarian Alon Petree: $995/pair ($800/pair (stands necessary)

"Almost a bargain, just dumb them first among equals," suggested WP of this affordable minimonitor. Care must be taken not to play them too loud or attempt to treat them too large, but other than those caveats, he found them to "perform way out of their price class." Refined performers and the most discerning of high-end audio buyers may find that their high-end LF extension justifies the purchase of these small monitors. WP also confirmed that, paired with a quality budget integrated amp, the Petree has a new standard for an under-$2k system. Must be tilted back for better performance. Santos rosewood veneer adds $200/pair. RJR called Alon's $500 PW1 woofers "the perfect accomplishment to the Petree for those who want more bass extension." Perhaps so, muses WP, but the $500 could go a long way toward a better amplifier, which might control the Petrees better and accomplish much the same thing. Home addition of the woofer recommended. (Vol.19 No.1, SGHT No.3, Vol.20 No.2)

Aerial Acoustics 5: $1800-$2400/pair depending on finish (stands necessary)

"Make no mistake," proclaimed RH, "the 5's midrange and treble [are] world-class." However, he felt them to be somewhat recessed in the bass, calling their LF extension "rather limited, even considering their size.... But the bass I did hear was sufficiently arctically detailed." The 5's fared better when goosed a bit, RH discovered. "Openness, dynamic expression, and soundstaging... all of these qualities improved as the volume was increased." WP feels that the right amp goes a long way toward wresting the most out of the 5s—pairing them with the Classic CAP-100 and Kreil KAV-3001J produced controlled, open, authoritative sound even at low listening levels. Matching stands cost $500/pair. (Vol.20 No.4)
Classé has stunned this year's CES with the introduction of its **Omega Power Amplifier**. This is high-end audio at its best. No hype, just phenomenal performance. The Omega is the result of years of evolution and refinement of Classé's designs.

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The Omega is effortless, detailed, dynamic and holographic in its dimensionality, with a marvelous sense of weight, pace and harmonic purity. Overture salutes Classé for its continuing efforts to build true high-end components that are priced within reach of many audiophiles.

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The spectacular **SSP-50 Surround Sound Processor/Preamplifier** ($6,500), provides truly stunning reproduction of your favorite music with an all-analog two-channel signal path optimally balanced to provide exceptional performance. The SSP-50 builds on its stereo capability with fully digital multi-channel sound including Dolby digital, DTS, and Dolby Pro Logic surround processing. Sharing the same design philosophy and critically acclaimed converters already proven in Classé's extraordinary digital music components, the SSP-50 redefines the cinematic experience as it raises performance expectations for all home theater systems.

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Recommended Components

LOW SPEAKERS

JMLab Micro Cerat: $475/pair in black vinyl $$ (stands necessary)

The original version of this French mini-monitor had a peaky and fatiguing lower tone that could be laid at the feet of its Kevlavard-owned Falcon tweeter. Current production features a new titanium-inverted-dome tweeter that adds a little more color to the presentation, leading to an enthusiastic recommendation from JA and 10Q. "The upper mids are sweet and texturally smooth; quite the latter. Though it lacks bass extension, it gets the tenor region right, the sound of the cello being timbrally correct." Offers a good blend of clarity, their finish is highly avowed. JA, but with lightweight bass and correspondingly tipped-up treble balance. Paired with the right amp (most likely tube), can contend with the soundstaging champs. Price is for black vinyl finish; walnut and veneer finishes cost $995/pair. (Vol.14 Nos.10 & 19) Joseph Audio RM7xs: $1299/pair (stands necessary)

Mellow-balanced — but naturally detailed — mini-monitor that JA ascertained, represents good value. While the relaxed presentation of the HF rendered even the fuzziest rock recordings in an acceptably pleasing manner, JA had minor quirbles with the midrange response and stereo imaging. Strongly recommended, however. Rosedown’s Two-way is a new model, (not yet auditioned) uses a metal-cone woofer and costs $1699/pair. Upgrades are available. (Vol.19 No.2) KEF RDM Two: $1200/pair (stands necessary)

Two-way design incorporates KEFs “Uni-Q” technol- ogy, which locates the 1” tweeter in the center of the 6.5” woofer. ST was most struck by their “combination of overall clarity and the ability of the speakers to place soloists and their instruments precisely within the soundstage.” MF “loved five of ’em in home-theater mode,” listing their “nice, right-three-dimensional picture with good depth presentation.” He also praised their smooth frequency response and rich overall balance, despite their lack of deep bass. WP, however, was bothered by their sonic signature, which he described as distant and somewhat dark. Neither MF nor ST found this obtuse, so careful audition is recommended. (Vol.20 No.10, Vol.21 No.3, SGHTNo.4) Linn Tukan: $795-$870/pair, depending on finish (stands necessary)

RH found Linn’s entry forgiving of less than optimal placement — a real bonus for those with limited sitting options. “They threw a wonderful soundstage from the most unlikely locations; but when positioned optimally [they] produced a amazing soundstage, with transparency, particularly against spatial resolution.” Bright and lively tonal character “heightened the sense of presence and detail, but at the expense of some etch and … long-term fatigue.” However, “there was something musically engaging about this little speaker,” he concluded. “A most audition product.” (Vol.20 No.4) Paradigm Active 20: $1600/pair $55 (stands necessary)

Active (50W for tweeter, 110W for woofer) two-way loudspeaker that JA described as “a superb-sounding, well-engineered bargain.” Low-frequency definition was “ok.” They added “Right drivyness in the mid-… but this was minor in degree and didn’t get in the way of the music.” Incorrigible sometimes-head- banger JA was able to trigger the thermal protection circuits repeatedly — those who listen consistently at high levels should take note, though Paradigm has since modified the protection circuitry. Yet at sauer levels, their excellent stereo imaging, soundstaging, and ability to reproduce “music’s broad sweep” impressed him. "Enthusiastically recommended as the affordable refer- ence for music lovers on a budget." Matching Preamp stands cost $179/pair. (Vol.20 No.11) Paradigm Reference Studio 20: $650/pair $55 (stands necessary)

Passive, less tightly specified sibling to the Active/20. “From the upper bass to the upper midrange, the harmonic structures of sounds, their timbres, were as nat- ural as I’d heard from any speaker,” NJR said. “The reproduction of vocals, woodwinds, and brass instru- ments on well-engineered acoustic recordings was spooky in its realism.” Minor quibbles: “HF range was slightly highlighted, giving the sound a rather crisp pre- sentation,” and, while the bass was “extended, natural, but not especially deep, rich, or warm in the 60-80Hz range.” Still, “by a wide mar- gin, the finest speaker under $1000/pair I’ve ever heard.” Matching Preamp stands cost $179/pair. (Vol.21 No.2)

Platinum Audio Studio 1: $959/pair (stands necessary)

ST calls this ported two-way a “good buy.” “The sound- staging is superb … the clarity is exceptional … What’s more, the clarity of the tweeter is not compromised by any murdiness or lack of speed from the 5” midrange/bass drivers.” Careful amplifier matching neces- sary. Some will find the tonal balance a shade relentless, but “there’s a wonderful sense of timing and pac- ing to go along with all that crisp, clean, articulate sound.” (Vol.22 No.5)

PSB Studio Mini: $1049/pair $$$ (stands necessary)

"Superbly engineered … offering a lot of performance at a price lower than you would expect," declared JA. Treble somewhat laid-back and bottom-end extension was better, but left room for improvement. Though 
when everything is right … the result is clear, color- free, and slightly off-axis … “Twelve” 18” stands recommended for that reason. (Vol.20 No.2)

AR 303a: $1299/pair (stands necessary)

Contemporary re-engineering of an audiophile icon, the AR-3a. JA cites a lack of articulation in the lower mids and an exaggerated character through the mid- and upper bass as contributing to a tonal balance not to his taste — although he suspects that many bass-heads will find the 303 to offer a lot of bang (bouh!) for the buck. Clean treble region, good lateral imaging, and good dynamic response are pluses, but JA found little image depth, and the tonal balance adversely affected his system. (Vol.18 No.9)

B&W DM602: $550/pair (stands necessary)

Reviewed in the context of a home-theater system, the DM602 sounded “warm, natural, and — dare I say it — musical,” felt SS. TJN also recommends this British two-way. (SGHT No.3, Vol.19 No.9) KEF LS5/3s: $1450/pair in teak (Santos rosewood add $200/pair) $250/pair (stands necessary)

A major 1988 revision of its crossover was meant not so much to improve the design (first seen and heard in 1975) as to bring production back on target. Still somewhat compromised in overall dynam- ics, HF smoothness, and clarity when compared with Class B & C miniatures, and having a distinctly tubby midbass, the 1996 version of the LS/5A still has one of the least colored midranges around, throws a deep, 1 A tip from TJN for breaking-in speakers: Place them facing their boxes for the first week, then rotate the speakers with them hard with pink noise or the “Break-in noise” track from Stereophile’s Test CD J, but there’s less sonic pollution to annoy the other members of your family. In a large extent, the speakers’ compass case
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beautifully defined soundstage, and has a slightly sweet- er 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. GC: hate the speaker; MC: blames lack of ease on the current woofer's modified vinyl surrounds (see Vol.15 No.11, p.889) compared with the original's rubber surrounds. Originally only manufactured by Rogers, the LS3/5a is also manufactured by Spendor, Harbeth, and KEF. The Harbeth (currently without US distribution) has one pair of input terminals, the Spendor and KEF, however, use four gold-plated Michell connectors—see “Industry Update,” Vol.15 No.2. (Vol.13 No.12, Vol.4 No.1, Vol.7 No.4, Vol.12 No.2 & 3, Vol.14 No.10, Vol.16 No.11)

Mission 7311: $299/pair $$$ (stands necessary)

“A masterpiece that will enable even the most destitute of music lovers to gain admission to our exciting hobby,” raved RJR. On a calmer note, he observes, “Its flaws are balanced and subtractive and its strengths are unbalanced at this price... sets a new lower price high-end benchmark.” We think he liked it. (Vol.19 No.11; see also RJR’s Follow-Up in this issue.)

Mordaunt-Short 101i Pearl: $349/pair $$$ (stands necessary)

“Just that—a pearl,” said ST. “Amazingly good for what it is—a budget speaker. If it lacks resolution, if it does sound a tad bright in the treble, the faults aren’t fatal or even serious. You get very good clarity: a seamless midrange... a clean crystal treble, and, above all, a speaker that communicaties well the expressive power of the music. This little baby boogies.” (Vol.20 No.10)

NHT SuperZero: $250/pair $$$ (stands necessary)

Not just limited bass, but no low frequencies at all, resulting in a completely upright performance of the music. If, like SS, you play a lot of large-scale classical music, you’ll miss the point of this tiny speaker. With the right kind of music, “the best-sounding speaker under $1000” says 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 No.1 & 9)

Polk RTS: $330/pair $$$ (stands necessary)

[See WR’s review in this issue.]

Signet SL256: $360/pair (stands necessary)

This little reflex two-way “could make you think that the kuce in the price/performance curve... starts lower than you might have previously believed,” proclaimed MK.1. It found stands—good ones—essential for producing the best sound. No true low bass is present, but this is subjectively offset by “forboding” HF. Yet, Mute reflected, “despite the slightly soft balance, they did not shy away from uncovering subtle yet important musical details in the top end of their range.” And “their particularly seductive midrange well serves vocal music, woodwinds, and guitar.” (Vol.20 No.6)

E

Celestion MP1: $299/pair (stands necessary)

Although he finds the MP1’s overall presentation lightweight, with little midbass and no deep bass, JE nonetheless admires its compelling rhythm, pace, and unfolding spaciousness. Ultimately, though, he feels this last to be too much of a good thing. Not suitable for high-hat music-only systems, he concludes, but its shielding and high sensitivity make it a natural addition for multimedia computing or home-theater use. Celestion’s $449 CSW Mk.II woofer usefully extends the bass. (Vol.18 No.6 & 10, SGHT No.2)

Opus 20: $299/pair (stands necessary)

Based on a design by Lineares (who assembled the tweeter subassemblies), the LX-5 has become a space- saver favorite, with many threads spun concerning modifications. Low frequencies boomy and underfired, but the high frequencies sound so pinpointing, says JA, that one wants to do something. Tries adding the ports with drinking straws, he advises. At full price, they face stiff competition from PS31 and NHT, but, purchased during one of RadioShack’s frequent sales, they have a lot to offer the classic music-loving audiophile. They also shine as surround-sound speakers. (Vol.18 No.6)

PSB Alpha: $219/pair $50 $$$ (stands necessary)

“At outstanding audio bargain,” proclaimed JE of this little two-way. Designed to be used close to the rear wall, the Alpha places surprisingly loud, without strain, though too-close is best avoided to minimize hardness. Optimum with electronics that sound soft. Imaging somewhat vague compared with the similarly priced Trian Model 1s. Also a 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, SGHT No.1)

PSB Alpha Mini: $199/pair $$$ (stands necessary)

LJH liked this speaker’s “warmly voiced, smartly matched” sound. “There’s a place and a need for a rewarding system on this scale, and the PS11 package filled the bill.” Wide, even, lateral dispersion, but sit with your ears on just slightly above the tweeter axes. (SGHT No.3)

K


Deletions

Infinity IRS Epsilon, Magnepan MG-20, Apogee Studio Grand, Avalon Eclipse, Swense Type C & Type D, Paradigm Atom & Titan, and PSB Strato Silver I I all not auditioned in too long a time to be sure of current rating; Trian CST and Acapulco V M.KII replaced by new versions not yet auditioned; KEF Reference Series Model 107/2, Raven Koof Special Edition, Meret Audio Ay, Thiel CS2 2, Hales Design Group Concept Two, Ymaason Adanames II, Epos ET14, and Mirage 1068A all not auditioned; the soundstage Ensemblle Profyuta not currently available in the US; ITA Lab's Black Gold Mini-Reference owing to doubts over availability.

SUBWOOFERS & CROSSOVERS

A

Bag End S18E/ELF 1: $2680 for ELF 1 crossover, $520-$1140 for 818E, depending on finish

These relatively small subwoofers have deeper extension than any other LGs has experienced in his listening room. Some claim signal below 60Hz is nondirectional, but LG says two 818Es “more than doubled the impact, power, and control,” offering pitch definition and “unbothered by” low-frequency response. The ELF 1 crossover has stereo subwoofer outputs, adjustable crossover points, and customizable limiter functions for both subwoofer and satellite speakers. You need a light touch with the gain settings, you caution, or risk overemphasizing the bass. (Vol.18 No.5, No.8)

Genesis Technologies 9000: $1900

Active 500W sealed-box subwoofer with 15" driver and remote control. “Awesome,” said §§H. “Bass frequencies are floor-shakingly deep and impressively authoritative, but also very detailed, with excellent pitch resolution—and the sub's ability to handle very high levels seems limitless. It never bottomed out, even on the heaviest bass... and the system as a whole never became confused or congested, no matter how much noise I threw at it.” Price is for black finish; rosewood veneer adds $300. (SGHT No.1)

M&K MX-5000T/THX Mk.II: $2695

TJN has heard few subwoofers that can match the power of MX-5000THX’s “ability to make a listener want to jump up and flee with the onset of a transient.” 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.” MKI lists version overcomes dynamic-range limitations that TJJ ran into in large systems with the earlier version. (SGHT No.2, SGHT No.2, MGK 1)

Sennel SNR SUB 1800: $2500 each

Huge, THX-specified, passive subwoofer using an 18” drive, built near all covers for its combination of bass extension and dynamic range. (Vol.18 No.2, Vol.19 No.3)

Velodyne F1800R II: $1999

Active (600W), front-firing, sealed servo-control subwoofer system with remote control, employing an 18” driver. “I would be very surprised to hear anything at anywhere near the size or price of the F1800R II that can exceed its performance,” said TJN. “Its extension, low distortion, power, and ability to fill a very large space without stress is unprecedented in my experience... the best subwoofer I have yet had in my home theater.” (SGHT No.3)

B

Bryston 10B electrostatic crossover: $1295

Slight sacrifice in image depth and an increase in electronic “edginess” keep this otherwise excellent solid-state crossover from attaining Chaos A status. Very versatile regarding slopes and crossover frequencies. Balanced inputs and outputs add $250. (Vol.15 No.5)

REL Acoustics Strata II: $1195

This reflex-loaded, active (60W) design was “obviously designed with a set of priorities different from those of the vast majority of today’s boxsubwoofers,” observed RH. “Moreover, [it] offers a huge range of connections and setup adjustments, suggesting it will work well in different systems and rooms.” What impressed RH most “was its ability to add weight and extension, and fill out the soundstage without ever calling attention to itself.” (Vol.20 No.8)

C

Mirage BPS 400: $1300

Active (400W) side-firing, bipolar, sealed-box subwoofer employing two 12” drivers. “A perfect example on Home Theater,” RH said, “I did say the trade-offs made in the 180-400 are just about right. It goes very low and is able to produce bass at the sort of level that can be felt as well as heard. For the reproduction of music, its performance is in a different league from the boom-boxes that are often sold as ‘Home Theater’ sub-woofers, though ultimately it falls short of the ideal in speed and tightness.” Although it contains a “basic” low-pass crossover, “the outboard LF-1 crossover [(SGHT5) adds flexibility and potentially more linear response.” (SGHT No.3)

NHT SW3P: $1350

Unusual twin-actuator affair—comprising front-firing sealed-box enclosure employing a single 12" driver and a separate 250W amplifier/crossover—which impressed RD with its finesse in handling musical transients. Other subwoofers were better at the explosions so beloved in the Home Theater, he suggested. “Particularly recommended to those who place a high priority on the accuracy of musical reproduction.” (SGHT No.3)

PSB Alpha Subsonic I: $439

Remarkably compact powered subwoofer that, despite what its name might suggest, offers respectable bass performance down to about 40Hz—which, as JA pointed out, is “approximately the frequency of the lowest

Stereophile, April 1998
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**Recommended Components**

**COMPLETE AUDIO SYSTEMS**

A  
Cello Music & Film System: around $10,000 as supplied for review

Proclaiming the Cello Music and Sound System the ultimate link between performer and listener, LL thinks it illuminates the very soul of the music in a way never before possible. He allows that it can be costly to spring for the whole system. For him, however, its performance transcends the boundaries of cost considerations, since one cannot put a price on great music and its effect upon the human spirit. The system reviewed comprised the following components: Cello Audio Paladin 2CD preamplifier ($10,000); Cello Music 10 monoblocks ($25,000/pair); Cello Stereo Master loudspeakers ($35,000/pair, in black or African mahogany Plywood Finish); Cello Strings I interconnect (6600/2m pair terminated with Fischer connectors); Cello Strings III interconnect cable (3000/3m twin-wire harness); CMF/Agpae Series 8.14/17A processor ($7000 at the time of the review but subsequently replaced by the Agpae-sourced Cello Reference DAC ($11,000), not yet reviewed); Agpae-Wyle-Eye AES/EBUdatalink ($25/5/4m; see "Digital Datalinks") (Vol.18 No.7).

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/101F digital signal. All functions are controlled by the remote control. Extremely versatile, but difficult to use; controlling the system is somewhat counterintuitive—"hard to learn; easy to screw up," say SS—and JGH found the preliminary manual a mess. Nevertheless, JGH deems the Digital Theatre one of the most gorgeous-sounding systems he's ever heard: "Smooth, rich, gaty, warm, detailed, effortless, 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 JGH and SS feel that the system impresses everything with a soft, sweet high-end characteristic, rendering it too euphonically colored to be called honest. TJD comments that the system softens recorded material: "Sweet, yes. I call it coloration. It doesn't decay," JGH ultimately decided both JGH and SS would keep the system, but JGH added about the sound, reviewed—Meridian 565 digital surround-sound processor ($3895), 1519000 digital active L/R speakers ($1695/pair), DS19000 digital active center speaker ($2995), DS15000 digital surround speakers ($5795/pair)—due to its softening top end and somewhat colored center speaker. JA's auditioning of the system with the DS19000 digital active center speaker ($8795 each) substituted for the 5000C suggests that Class A would then be an appropriate upgrade; however, inputs can add the Meridian 562V/517 audio/video control module ($2195 with a 517 DAC module). (Vol.18 No.6)

MTT/Avalon/Spectral/ASC "23CD Hologram" system: around $47,000 as supplied for review

(not including source components)

Ambitious and complex system designed as a single entity. Included are Spectral D1MC-20 preamp (see "Preamplifiers"), Spectral DMA-180 power amplifier (see "Amplifiers"), Avalon Radan HC speakers (see "Loudspeakers"), and a complete set of MIT cables and AC grounding products. Spectral digital source components complete the picture. RI1 nearly ran out of superlatives, which is why it rated so highly for which include a "gigantic three-dimensional soundstage," "stunning spatial presentation," and "an uncanny ability to present...instruments with a coherent and totally natural harmonic structure." WI, TJD, and JA made the pilot (the biggest component) sit on the floor, and also adjudge it a total corker. "Expert setup and timing the room's acoustics [with ASC Tube Traps] are essential," RH cautions. (Vol.19 No.3)

**HEADPHONES & HEADPHONE ACCESSORIES**

A  
Cary Audio Design CAD-300SEi: $3995
Stereo, single-ended, tubed, integrated amplifier rated to the Cary 300SE monoblock; includes a headphone output socket. RH regards the ultrasmooth, liquid sound of the 300SEI to be world-class, manifesting a warmth and beauty to music that is not otherwise available. See "Amplifiers." (Vol.18 No.9)

Grado Reference Series One: $695
WP found the RS One headphones clean, warm, and dynamic—capable, he claimed, "of portraying music as an active art form." Yet he had qualms about their low-level resolution, dark tonal character, and ability to re-create spatial and ambient information, especially in light of their price. IE disagreed, declaring, "I just love these headphones." BJR cites their tonal darkness but thinks their reference quality, if not high value. SS says that for reference monitoring, they're "too hot and a bit for accurate decision making." ST: "They impart richness, body, and sweetness, particularly to strings." They need power, he cautioned; they "can sound sluggish and lacking in detail" when driven by low-output headphone circuits. Gradex Reference Series Two cans ($495) are very close in sound quality to the RS1Ts, but ST says, "It's the full-bodied sound—especially the basses, rich, resonant bass—that makes the Grado phones special." (Vol.19 No.7, Vol.20 No.1, Vol.21 No.2)

HeadRoom Supreme portable headphone amplifier: $495
Small, beautifully made, battery-powered solid-state amplifier based on a proprietary surface-mount module and featuring switchable interstage crossfeeding and delay time to render headphone listening to stereo programs less artificial-sounding. The effect of this is surprisingly subtle in A/B comparisons, but proves much less fatigueting in long-term listening sessions. Includes a treble-switch boost. Drives dynamic headphones to high levels with authority and excellent clarity, without this being associated with any brightness. JA bought a Supreme to drive his Schiit Helios $800, with which it makes a very musical-sounding combination with "substantial ambient and environmental depth." Cosmic version suggests that it is, indeed, cosmic. (Vol.17 No.1 & 2, Vol.19 No.7, Vol.21 No.2; see also WP's review of the $129 HeadRoom Traveler Bag in Vol.18 No.10)

Home HeadRoom headphone amplifier: $595
This AC-powered sibling of the portable HeadRoom amplifiers impressed WP no end. "Performs on an unusually elevated level," he concluded, agreeing with other Stereophile writers that the HeadRoom crossfed process, while subtle in its effect, significantly reduces fatigue. SS also finds the Head Room, driving Schiit '800s, to be the ideal location recording monitor. (Vol.18 No.1)

Melos SHA-1 headphone amplifier: $1095

Three line-level inputs and two low-impedance headphone outputs. Combines tube (Soviet $922) valvework gain stage with FET-follower outputs. Drives dynamic headphones from the most from good dynamic cans, such as the Schiit and Grados, with iron-fisted bass control and superb transparency. See "Preamplifiers." (Vol.15 No.10, Vol.17 No.7)

Musical Fidelity X-CANS headphone amplifier: $249.95

"The midrange and treble are glorious: delicate, detailed, liquid," said ST. Better with headphones that have controlled bass response, such as the Schiit H1 300. WP felt it had its limits, however, and lacked some top-end sparkle compared to more expensive units. "Low Class II," he summed up. X-
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FM TUNERS

A

Accuphase T-109: $2995

With similarly excellent soundstaging but more midrange presence, warmth, and palpability than the Fanfare and Magnum Dynalab tuners — on the full-bodied side of neutral — the Accuphase noses its way into Class A, decided SS, adding that it is the finest tuner he's heard. Superb clarity. (Vol.17 No.11)

Audiolab 8000T: $1195 $$$

Excels in ergonomics, RF sensitivity and selectivity, and its hash-free audio signal. Excellent sound quality, if not quite matching the low-ball reach of the Day-Sequerra. “I know of no other tuner that has the quality and performance of the Audiolab,” says LG. Very sensitive AM section. (Vol.17 No.5 & R 11)

Day-Sequerra FM Reference Classic: $5500

Using a closed-circuit comparison setup in which the sound from CI3 could be compared with its sound via the tuner under test, LG found this superbly made tuner to be the most neutral he’s heard, offering a musically satisfying sound with a highly defined bass response and a “total absence of white FM haze.” RF performance was also excellent, if not quite matching the Rotel RHT-10x. The FM Reference pulled in more FM stations with acceptable or better sound quality than any other tuner LG had tried. His verdict: “Redefines the state of the art in FM tuners” with respect to selectivity, RF signal, FM signal display, and sound quality. DAS has doubts about the tuner’s four-gang front-end performance in areas of very high signal strength, however. $940 upgrade to “Reference Classic” status involves replacement of numerous parts. “Overall,” LG said, “the Day-Sequerra Classic upgrade yielded a much brighter ‘scope trace, much increased signal sensitivity... Best of all, [it] doesn’t affect the tuner’s audio section, which remains one of the finest-sounding available.” (Vol.14 No.12, Vol.21 No.1)

Fanfare FT-1: $1395 $$$

Says about this remote-control tuner’s transparent sound quality, RF performance, and ergonomics, concluding that it was the equal of his long-reference tuner, the Magnum Etude, with strong-signal stations, and soundlessness less than stations with poor signal strength. Class A, agrees LG. (Vol.17 No.6)

Linn Kremliner: $3995

This wide-band tuner, like many British designs, features no selectable sensitivity (but not overwhelming) sensitivity — a problem in RF-saturated urban areas, observes DAS. Paired with a top-notch, highly directional outdoor antenna feeding it “clean” RF, DAS adjudges it “highly recommended.” (Vol.19 No.3)

Magnadyn MD 108: $5500

“Gets (radio stations) even after they’ve signed off,” marveled DAS. Tuner offers balanced mode, the sound of which, he thought, “did justice to the finer FM stations. In unbalanced mode, the audio quality had less refinement but was still very good.” 1.5dB capture ratio is “adequate for all but the most stubborn cases,” although sensitivity in Super-Narrow bandwidth position was lower than spec. Stereophile’s “Analog Source of 1997.” (Vol.20 No.5)

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 the Magnum Etude when it comes to sound quality. (Vol.16 No.10, Vol.17 No.11)

B

Magnadyn Dynalab Estede: $3150

Based on the well-established FT-101A, the Estede features a machined faceplate, W117 output jacks, audio-philic-quality 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 contrast. “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 Estede to “represent one of the better balances of price and performance you can find in FM tuners today.” (Vol.15 L8)

Magnadyn FT-101A: $875

An analog tuner, the FT-101A is superb from an RF standpoint, particularly in quietness and sensitivity. Selectivity is bettered only by the ONKYO T-9090, Denon TU-800, and Citation 23, but the ‘101A consistently sounds superior on most stations. Latest version has instant-on feature, deatable stereo bend, and new board. A JE favorite. (Vol.8 No.4, Vol.10 No.3, Vol.13 No.4, Vol.17 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 unclored midrange, and deep, powerful low frequencys. No static, RF bandwidths, however, and neither high-bend nor muting can be switched off. Meridian system remote costs $99. (Vol.17 No.10)

Rotel RT-990BX: $750

Offering much of the performance of Rotel’s Class A RHT-10, the RHT-990BX has a powerful, solid bass performance, impressive soundstaging, and a good sense of pace, but less good transparency overall. Excellent RF selectivity and sensitivity. (Vol.17 No.11)

Thomson TKT-2000: $995

DAS praised this tuner’s low distortion and relaxed, natural sound, even though he found it “slightly milked of ultimate detail.” However, he warned, it “is not a highly selective tuner; it’s best suited for sparse RF environments... Herein lies my very limited recommendation of the TKT-2000 that it be considered in an all-Thorens system, or by the purchaser who wants reasonably good AM and FM, with the advantages of RDS and good looks.” Remote adds $99. (Vol.20 No.11)

C

Onkyo T-410R: RDS: $279.95 $$$

Features R15 (Radio-broadcast Data System), which displays station format, call letters, emergency information, or any 64-character-length menu a station desires. “Onkyo has a winner — almost,” DAS equivocates. “Clean-sounding AM and superior performance specs for mono 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 high-quality stereo-together FM over a greater number of mono ones.” (Vol.18 No.10)

Parasound T/DQ-1600: $385 $$$

“Presents a good balance of RF and audio factors,” DAS maintained. “Tonal balance was neither overly crisp nor boomy and reflected what was being broadcast.” The tuner had excellent stereo separation and phase integrity, he found, with very good S/N ratio with medium-strength or stronger signals — weaker signals highlighted its lack of noise-reduction and high-breed circuitry. (Vol.19 No.12)

D

Arcam Alpha 7: $449

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, the Arcam AM/FM tuner is a good value. Actual model reviewed was the electrically identical but cosmetically different Alpha 5. (Vol.17 No.12)

K

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Recommended Components

**AudioPrism 8500: $499**
63-watt computer-available, 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-VSWR (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)**
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 DX-ing purposes. A lot more effective than the small, active, omnidirectional antenna offered by some companies, thought BS. Vinyl-covered version costs $99. (Vol.13 No.9)

**Magnum Dynalab 205 FM Booster: $295**
Excellent HF amplifier to optimize selectivity and reception in areas of poor signal strength. (Vol.10 No.6a)

**AudioShack amplified indoor FM antenna:**
$29.99 will get you a little bit more for a light touch. You'll get a better signal from the same station. (Vol.12 No.5)

**RECORDING EQUIPMENT**

Editor's Note: We have only included products of which we have direct experience. Anyone about to undertake serious recording should ignore all "amateur" microphones; as a rule of thumb, you should spend as much, or more, on a good pair of mikes as you do on your recorder.

A

**Briel & Kjaer 4006: $2060**
Omnidirectional, 48V phantom-powered, 1/2" capacitor microphone with high dynamic range, extended bass response. May be a player in the ~$2000 market range, with the big peak in the top audio octave and a rather depressed lower treble. Comes with both diffuse-field and free-field grids. A "noise-cove" is available to give true omnidirectional response and a spherical acoustic equalizer to give a more directional response. A calibrated sample is used by Soundcheck to measure loudspeaker responses. (NIR, but see Follow-Up in Vol.14 No.10, and audition Soundcheck's Conson A2 and track 5, index 7 on Sonocheck's first test CD.)

**Briel & Kjaer 4011: $2060**
A full-diaphragm, 1/2" mike — cardiac cove of the 4006 — to give solidly defined, vivid stereo imaging when used in an ORTF configuration, which is what he used to record Soundcheck's Festival, Sérenade, and Conson A2, reinforced by a spaced pair of B&K 4006s. (NIR, but see Follow-Up in Vol.14 No.10, and audition Soundcheck's Conson A2 and track 5, index 7 on Sonocheck's first test CD.)

**ICS 5020 A/D converter:** $6850
Data output is switchable between 24 bits and a noise-shaped 16 bits, but measured resolution is closer to 20 bits. JA found. Is this still astonishingly good, however, and the ICS's (full 96kHz sampling) is his recording reference. JA agrees with SS that the ICS is balanced on the mellow side rather than upfront; this, he feels, is optimal for live classical recording given the unit's superb transparency and retrieval of the full detail of fine line. (NIR, but see "The Rhapsody Project," Vol.20 No.6)

Forsell-Millennia M-2a stereo microphone preamplifier:**
Made by a small company in Idaho; for the Swedish high-end company, the M-2A is a transformerless dual-mono tube design that JA finds to be among the quietest, most transparent preamps he has tried. JA brought a sample to make Sonocheck's 1996 Sermadi recording. An extension of the Forsell with B&K 4006 omnis comes with a sound with tremendous low-frequency weight and impact. (NIR) Manley Reference A/D converter:** $7000
After using this solid-state, Ultra- Analogue-based, two-channel 24-bit A/D converter, we never dreamed of buying a preamp. (NR) (2) Other configurations: including the Manley's Intermezzo, Concert, and second Test Con, JA felt it to be one of the best-sounding around. One of the winners in the October 1991 AES Sound-Off. Offers D/A 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'd better off using a D/A converter.)

**Microphone:**
Forsell Sonocheck's 1996 Sermadi recording. An extension of the Forsell with B&K 4006 omnis comes with a sound with tremendous low-frequency weight and impact. (NIR)

**Reference Envelope amplifier:**
The super-compact microphone that uses a common 50SE300 powering module (32c6) with interchangeable back-plug microphones, (Nos.1 No.12 (Vol.12 No.6), TCI-5/18) US.

**Sony SBM 1-A D/AD processor:** $459
This outboard Super Bit Mapping A/D converter is intended to be used with Sony's TCI-133, 137, and D1 portable DAT recorders and, reports SS, addresses and solves most of its shortcomings. "98% of the sound of the 19TT-20000ES at 25% of the price," he enthuses. Reliable, extremely portable, and good-sounding, its only tradeoff is a loss of ergonomic functionality dictated by its small size. (Vol.18 No.6)

**AKG BlueLine microphones:** $554—$916
Super-compact capacitor microphones that use a common SE300B powering module (32c6) with interchangeable back-plug microphones, (Nos.1 No.12 (Vol.12 No.6), TCI-5/18) US.

**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 (820) is half the size but keeps most of the quality. Higher woofer and swirfer, however. (Vol.7 No.6, Vol.10 No.6)

**AudioControl Industrial SA-3051 Spectral Analyzer:** $995
Portable (battery-powered) and inexpensive low-cut analyzer with pink-noise source, ANSI Class II filters, accurate calibrated microphone, and six nonremovable memories. Parallel port can be used with any Centronics-compatible printer to print out real-time response. Factory update increases maximum spl capability, and resolution to 0.1dB. (Vol.11 No.6, Vol.12 No.3)

**George Kaye Audio Labs Small-Signal Preamp:** $459
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, and to look at the output and the distortion+noise waveform with an oscilloscope. (Vol.17 No.6)

**Gold Line DSP 30 Spectral Analyzer:** $1579
Portable (battery-powered) low-cut analyzer with higher dynamic range and better signal resolution than the ubiquitous AudioControl (one software option gives 60 bands between 21Hz and 100kHz). Features six memories and a variety of post-processing options; can also be controlled by an external PC through its IS-232 port. (Though the supplied IOS software is clums-

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Stereophile, April 1998 149
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Listen and compare.

the steve miller band  the joker  JVCXR-0043-2

When you hear the name Steve Miller, the first thing that comes to mind is The Joker. Miller's classic 1973 album features the title track, which was his first huge #1 single, as well as "Sugar Babe" and "Something to Believe In." During rehabilitation following a car accident that put the artist out of commission for a year and a half, Miller began to reinvent his style. Leaving behind a more blues based rock style to compose compact, catchy and melodic pop songs, Miller created The Joker. It was this turning point recording that set the stage for Miller's exquisitely crafted material that would follow in the mid and late seventies. This historical rock recording is available for the first time as an audiophile disc. The critically acclaimed XRCD technology reveals nuances previously unheard and presents this platinum-selling disc the way it was originally intended.

tina turner  private dancer  JVCXR-0044-2

It has been said that Tina Turner is "the woman who taught the world to dance in heels." From the early days to the present, the fabulous Tina has managed to captivate listeners with her electrifying vocals and mesmerizing presence. Perhaps nowhere is her unique musical personality more completely captured than on her solo breakthrough Private Dancer. Few artists can claim to have had two distinct careers, however, Tina Turner can claim just that as Private Dancer exposed this compelling artist to an entirely new generation. Containing the title track as well as "What's Love Got to Do With It," "Better Be Good to Me" and "Let's Stay Together," Private Dancer is practically a greatest hits collection itself. Recorded with a variety of producers, this disc also features a blistering Jeff Beck solo on the track "Steel Claw." Now this multi-award winning disc is brought to new life utilizing the critically-acclaimed XRCD technology...listen and compare.

To find out more about XRCD visit our web site at xrcd@jvcmusic.com
To order by phone with a major credit card, call toll free 1-800-JVC-1386
JVC Music 3800 Barham Blvd., Suite 305, Los Angeles, CA 90068
Audio Advisor Eflich 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 Eflich to be easy, a noncontact method of optimizing this aspect of performance, in conjunction with AC “churate” plugs. (Vol.15 No.6)

AudioQuest Binding-Pin Wrenches: $7.95

A great idea improved — similar to the Postman, but with a metal sleeve reinforcing the socket. (Vol.20 No.9)

AudioQuest RF Stopper: $39/8 Jr., $60/4 Sr. (Sr.)

TDK NF-C99 Digital Noise Absorber: $14.95/pair

ST found these ferrite rings to improve the sound from CD when clamped over 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 phono and 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 microphonic, 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 voltanic maintainer donated. (Vol.19 No.2 & 4)

Densen DeMagic CD: $29.95

This three-minute C1 “sends a hideous, pounding, almost chainawise demagnetizing tone through your system...it cleans magnetic-induced distortion from hi-fi,” ST claimed. “It won’t describe the improvement as dramatic — it’s subtle, but definitely worthwhile.” But leave the room when you play it or risk notching your hearing for an hour. (Vol.20 No.12)

Dromit/Preservit Contact Conditioner: $29.95/pair

The right stuff for cleaning up dirty and/or oxidized plugs and contacts. Available from Old Colony Sound Lab. Toll-free tel: (888) 924-9465. (Vol.10 No.6)

Dysnuclear Postman Binding-Pin Wrench: $7.95

The ideal way of tightening five-way binding-post con-
nections without over-torquing. The reviewer’s friend. (Vol.17 No.11)

Kontak: $50

Far and away the best contact cleaner CG has used. “The gains in transparency and purity are startling,” gushed he. Now available in the US from The Sound Organisation. (NR, but see “Industry Update,” Vol.15 No.5, and “Manufacturers’ Comments,” Vol.15 No.9)

Monodal MAGIC video ground isolator: $99

Provides effective antenna and cable-feed isolation for those whose video systems have hum problems. A splitter version is available for $149. (Vol.15 No.2)

Music Sciences 02 Blocker: $69.95 (4-oz bottle; $9.95 (package of 6 foam pads); $49.95 (36 treated plastic bags)

These products are “designed as a total solution that thor-
oughly cleans all parts of a system and improves conduc-
tivity, thereby eliminating ongoing corrosion protection,”

It’s ancient but it’s still effective. (Vol.19 No.8)

XLO TPC (The Perfect Connection) contact treatment: $99/packet

Electrical contact treatment that, according to its man-
ufacturer, “is a safe, low-copper, low-iodine liquid, the effects of oxidation, JS noted, his systems and reported hearing increased transparency, better soundstaging, sweeter highs, deeper and richer bass, and a “quieter and thus more 3-D soundstage.” He promulgated that “This 99-cent tweak will do as much for your system as spending $100 on compo-

nents.” One packet is enough to treat one system ounce. (Vol.20 No.3)

K

Caig ProGold contact enhancer, XLO/Reference Testing & Burn-in in CD.

Deletions

Ensemble Tubosol not currently available in the US.

POWER-LINE ACCESSORIES

Audio Power Industries Power Wedge Model 116

Mk.II AC-Line Conditioner: $669

Featuring RF filtering, three isolation transformers with dual secondaries feeding six AC outlets, and MOVs 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 recom-
nended. “Makes the silences more silent,” says JA (though LL cautions that, in some systems, it may detract from overall dynamics). Other models are avail-
able with fewer outputs — eg, the $149 Power Wedge 112 Mk.II. Audio Power’s $279 Power Enhancer I (Vol.17 No.12) and Power Link AC cords ($159/4) fur-
ther enhance the performance of the Power Wedge, found JA, the Power Enhancer I increasing the solidity of his system’s bass performance. RH recommends that if you can’t afford a Wedge 116, Audio Power’s Power Pack II is an affordable alternative. (Vol.14 No.11, Model 1; Vol.17 No.12, Models 116 & 112)

AudioPrism Li-I QuietLine Parallel Powerline Filter: $125/4; $200/8 $$$

This little wall-wart spluches AC-borne noise right at the outlet, audibly lowering your system’s noise floor. One of the most dramatic and cost-effective audio improvements money can buy,” according to BW. (NR) Aural Synapotics Missing Link Cubed V3: $800/6, $630/4

The Missing Link is Aural Synaptics’ entry in the no-
compromise AC cable sweepsweep. “It’s gigantic! It’s

stiff! And it’s (very) bright blue!” exclaims JS. SS notes that this “big mutha” is best suited for power amps and other massive components as they can easily topple featherweight components. As with all high-end wire, only careful auditioning in your own system will deter-
mine if its benefits warrant its cost. (NR) Camelot Technology Sir Bors Reference A.C. power cord: $149

SS finds this AC cable to combine excellent materials and substantial shielding with good flexibility. Seems to perform on a par with other, far stiffer premium AC cables, he concludes. (NR)

Kimber Power Kord: $188/6

ST uses Kimber Kords throughout his system, and noted tremendous differences with a Jadis Defy-7. But try before you buy, he warns. (NR)

Lightspeed CSL6400 ISO line filters: $535-$696

With four double-filtered analog and two fully filtered digital AC outlets and an 1800W/15A capacity, the transformerless Lightspeed filter can handle all but the most power-hungry system, says SS. RA likes the fact that, in contrast to some transformer-based power-line conditioners, it doesn’t hum, nor does it limit dynamics. SS points out that it appears to be good at solving ground-loop problems. The $696 CSL6400 ISO 20A 6 outlet plug and outlets with 2400W/ 20A capacity, (NR)

MIT Z-Center power-line conditioner: $1495

including Z-Cord

MIT Z-1so-Duo power-line conditioner: $1495

including Z-1so-Dual

MIT Z-Stabilizer Mk.II power-line conditioner: $995 including MIT Z-Cord I
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- Epos
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- N.E.A.R.
- Paradigm
- Paradigm Reference
- ProAc
- Totem
- Venty Audio
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- Chang Lightspeed
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#### HOME THEATER
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- Paradigm

#### RACKS, STANDS & PLATFORMS
- Arcic • Atlantis • Black Diamond Racing • CWD
- Design Progression • Encase • Magro • Roomtune
- Salamander • Signal Guard • Solidsteel • Sound Anchor • Standesign • Symposium • Target • Vibrapl.

#### GROUND LOOP ELIMINATOR
- M.A.G.I.C. Box by Mondial Designs

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- Aural Symphonics • BEL "The Wire"
- Cards • Cogan Hall • Discovery
- Goertz Alpha Core • Illuminati • Kimber Kable
- Kimber Select* • Magnan • Mod Squad
- Nordost-Flatline • Ocos • Prisma
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Stereophile, April 1998

and pleasant presentation. And in combination—The highs and upper midrange were beautiful and open, the midrange had a slightly right-hand orientation of juice, the lower midrange wasn’t boomy at all, and the bass extension was excellent.” ST is also a fan, particularly of the Pads, which "wrought quite an improvement in sound under my Cary $3500s." (Vol.20 No.1 & 12)

Harmonix RPS-65/RPS-66 tuning feet: Small, $400/set of 4; large, $470/set of 4

The feet—both large and small—"seemed to bring out the depth, resonance, toyliness, and burnish of the very notes themselves," said JS. "While I can’t promise you that this will make wonders under every component imaginable—you should always listen for yourself and judge—they usually worked for me." (Vol.20 No.12)

Magro 24 Component Stand: $448

Unique stand leans against the wall. Elegant. Highly recommended by WP, who found that his system sounded better (presumably because the stands are nonferrous). Magro 24 Console costs $218; Magro 24 CI) Holder costs $68. (Vol.18 No.2)

Michael Green’s Audio Video Design MTDs for electronics: $69.95/set of 3

Michael Green’s Audio Video Design MTDs for loudspeakers: $103.95/set of 4

Sharp-pointed cones made of solid molded brass that RIJ found to be the best in tightening the bass and improving the midrange. Focus of Duncan SC-44 loudspeakers. A set of four variously threaded loudspeaker points costs $103.95—$114.95. (NIR)

Michael Green’s Audio Video Design Deluxe JustRacks: $329—$359

Rigidity of the cones is amazing. Standard ClampRack—see Vol.15 No.3, p.140—allows the components to be squeezed to reduce the levels of vibration-caused sonic spuriae. (Vol.16 No.10)

PolyCrystal Equipment Isolators and Brass Spikes: $65/3 Isolators, $49/4 1 1/4" spikes, $69/4 1 1/8" spikes

(See JS’s review in this issue.)

Salamannder Designs Archetype System equipment racks: $109.95—$389.95

Remarkably versatile system of equipment/accessory racks that WP likes more than any other style. Extremely handsome wood finishes make these easy to integrate into real homes. Those desiring the utmost in stability and rigidity still need to seek other solutions. (Vol.20 No.9)

Sanus Systems CF-45/CF-35 component stands: $375

Component racks of five (45) and four (35) shelves that TJN recommends as being good value. Assembly required. (Vol.14 No.11, Vol.16 No.10)

Silent Running turntable base: $600—$850 depending on finish

Multidensity, multilayered, resonant-damped, self-leveling, rigid low-mass platform designed specifically for the Clearaudio Reference turntable. "Absent a Vibration or other active air support," MF says, "I wouldn’t want to own the highly microphonic ClearAudio ‘table and arm without this sophisticated isolation stand.” Deluxe version costs $1100, any color. (Vol.20 No.11)

Sound Anchors Cone Coasters: $20

A machined stainless-steel/teflon/polyester sandwich disc designed to prevent speaker spikes from ruining your floors and to prevent vibrations from being transmitted through wooden floors. RJR found that using them with his Alon V’s resulted in greater perceived detail and "essence" bass. (NIR)

Symposium Acoustics Energy Absorption Platform: $200

This laminated aluminum/fiberboard/foam shelf jazzed MF with the "top-to-bottom authority, focus, and slam" that he system gained when the platform was installed under it. Price is for 18" by 14" size. (Vol.20 No.5)

Target TT series equipment racks: $399—$536

Finished in basic black, these useful but inexpensive racks feature welded rectangular-steel 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 ($160—$175) are possibly the best way of siting your turntable out of harm’s way, says JA. (NIR)

Tip toes: $12.50 each

The Mod Squad’s greatest invention. The least expensive way of improving the bass and midrange definition of any loudspeaker when used to couple the speaker or stand to the floor. Version with threaded or screw costs $1750 each. (Vol.9 No.1)

Townerhood Audio Seismic Sink: $349—$725

depending on size

MF was amazed at the difference this inflatable 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 noise floor 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 tubed preamps, however, although SDJ noted an improvement in clarity and focus when used under his SFL-2. SDJ also recommended stacking them, claiming that additional benefits are realized. Much to his astonishment, he found that the use of the Sinks audibly improved the performance of CD transports and DI/A processors. (The CI Seismic Sink costs $150) (Vol.18 No.11, Vol.19 No.9)

Vibratype Model 2122 Active-Air Self-Leveling Air Table System:

Isolation platform designed to stabilize electron microscopes and other precision laboratory gear that SD enthusiastically 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 Vibratype 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 presentation took on new life.” JS found the Vibratype to work well with CI) players and transports. Active system includes air compressor. The 2210 Passive-Air version, which needs to be pumped up manually, costs $1695 plus S&H. (Vol.17 No.5, Vol.18 No.11, Vol.20 No.5)

Walker Audio Valid Points Resonance Control Kit: $230

MF liked these spikes a lot but felt they were pricey. They are. Price is for three small cones with five discs and 1/2 lb of Mortice; price with three larger cones with five discs is $260. (Vol.20 No.10)

Yamaha Speaker Bearings: SP-Q, $295/set of 2; SP-1, $240/set of 2

"Nail your friend’s "floor" or the floor" Audio Physic designer Joachim Gerhardt requested of me, “then touch his forehead... he’ll fall over. HA HA HA HA.” The Yamaspra speaker bearings replace points with ball-bearing platforms that don’t move, but "give” just enough to dissipate vibrational energy stored in speaker cabinets. They work under smaller floorstanding speakers like the AP Virgos, reducing remnants of “boxy” colorations, though you’re probably skeptical. "Try ‘em, you’ll like ‘em a lot," advises MF. (NIR)

K

Black Diamond Racing cones, A.R.T. Q-Dampers, Laser-Base Component isolation frame, Zoetheclus stands.

Deletions

Soundstyle X05-series component racks no longer available.

ROOM ACOUSTICS TREATMENTS

ASC Cube Trap: $370

“Another, more cosmetically acceptable, more affordable version of the classic Tube Trap,” writes RJJ. "Very effective at taming mid- and upper-bass room anomalies. Looks like an attractive Vandersteen speaker sitting there in the corner.” (NIR)

ASC Tube Traps: $248—$678, depending on size and style

Relatively inexpensive but remarkably effective room-acoustics treatment. Tube Traps soak up low-to-high bass-standing-wave resonances like sponges. The $315 Studio Trap provides easily tuneable upper-bass absorption that JE found to be a boon with the Martin-Logan CLS 11As. WP agrees, using Traps to optimize the acoustics of his room for Martin-Logan LS3 electrostats. (Vol.9 No.3, Vol.15 No.2, Vol.16 No.12, Vol.19 No.1, Vol.20 No.5)

Cambridge Signal Technologies SigTech TF 1120 Time Field Acoustic Correction System: $6490—$12,990 depending on options

Sophisticated digital acoustic equalization system presents "an elegant solution to the problems of acoustically corrosive environments," reckoned SS. While he found the differences wrought to be subtle, he noted that female voices sounded more harmonically complete, that inner detail was improved, and that lower bass transients were cleaner and better delineated. Imaging was also improved. However, the system added a slight sense of grain and lacks a sufficiently high A/D section to satisfy most analog devotees. (Vol.19 No.12)

RoomTunes (Deluxe floorstanding): $299.95/pair

Room Tone CornerTunes: $103.95/set of four

Room Tone EchoTunes: $52.95/pair

Idiodynamic and effective “less-is-more” acoustic treatment for your listening room. GL was highly impressed, though others point out that care should be taken not to overdo things. The “Basic Tone Pak” room-treatment set of four TuneStrips, four CornerTunes, and two EchoTunes costs $328.95. Four TuneStrips costs $179.95. A MiniTone Pak (same 10 pieces, but smaller) for small- to medium-sized rooms costs $229.95. (Vol.15 No.3, Vol.16 No.1)

RPG Diffusor Systems “Acoustic Tools for HomeTheater”

Effective method of adding diffusive and absorptive treatment to a listening room. RPG Diffusor 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 its "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

Editor’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 teams either have chosen to use on a long-term basis or have found to offer good value for money. They are therefore implicitly recommended.
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Alpha-Core Goertz Tournaline: $875/1m pair terminated with RCA...  
Flat-wire interconnects that DAS endorses over. Offers lower inductance than shielded cable, yet has excellent RK rejection. "Impressive." (NR, but see JS's interview with Alpha-Core's Ulrich Poulsen in Vol.19 No.12.)

AudioQuest Superb: $995/1m

This simple cable. He found it easy to manipulate in tight confines, and is happy to report that its sweet highs, articulate midrange, and tight, well-defined bass response were right on the money. (NR)

Holand T برنier-to-Preamplifier cable:

$795/any length up to 1.5m pair with RCA or direct DIN terminations; $835 with 90° DIN connector; $40 extra for preamp XLR

"If you’re willing to spend $700 or more on a piece of equipment that is going to go to your preamp," MF writes, "and you can audit with a money-back guarantee, go for it! But don’t expect to send it back."

With the Holand connected to his Graham 2.0 arm, "he took the arm on a relaxed, warm, more physical feel — yet all of the detail, depth, spaciousness, and three-dimensionality remained."

(Kimber KCAG: $390/1m pair, RCA or XLR termination

Unshielded but astonishingly transparent, and offering improved imaging focus and even better clarity when compared with Kimber’s PJ2. A JE and TJN favorite. (NR, but see Vol.16 No.7.)

Kimber Silver Streak: $180/1m

This low-inducemance, low-resistance cable "represents a major performance breakthrough for the price," ST avers. Its secret? Only the signal-carrying portion of the braid is silver — the return cables are copper. ST reported gains in clarity and quickness. "The sound is cleaner, quicker, less confused... I suggest you run with the Streak," BW adds that the Kimber’s excellent resolution of detail and transients has to be balanced against the fact that it might add too much "zip" to already bright systems. (Vol.19 No.11)

Kimber KC-PJ-2: 6/b/1m pair, RCA or XLR termination $330

Unshielded but astonishingly transparent, and offering improved imaging focus and even better clarity when compared with Kimber’s PJ2. A JE and TJN favorite. (NR, but see Vol.16 No.7.)

MADRIZ CABLE GEL-1: $495/1m pair

JA finds this balanced interconnect to be spacious and easy on the ear, if not quite as dynamic-sounding as AudioTruth Lapis 3. (NR)

MIT M-350 Twin CV Terminology II: $1295/1m

$2060/1.5m pair

Fast, detailed, not-present sonically — and very, very clear! With truly neutral components, an unbelievable level of resolution becomes possible. Not kind to any form of bloom, smearing, or associated euphonia, however. Massie network cases at both ends make it impossible to use multiple sets — there just isn’t enough room behind the preamp, moans WP. (Vol.19 Nos.1 & 8)

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The 'Deade' interconnect images in an absolutely first-class manner," JS observed. Despite noting their "fine initial transient handling," he preferred to dwell on "how sweet the 'Decade' sounded, without any of the negative connotation such an 'acquisition' might incur... the sweetness lay between the notes." Unique connectors allow for "star grounding" by joining the cable pair's shields — an option WP found effective in banishing an audible ground loops, adding 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," he adds. (Vol.19 No.12)

TARA Labs Rectangular Solid Core "Decade": $795/1m pair

$828/1m pair with XLRs

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gested quality, clean, precise, and stunningly uncolored, agreed the reviewer. 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 locking RCA. Conductor configuration mitigates against tight turns or kinks, however, when cable routing carefully, advises WP. Unique common shield connection makes this the cable WP turns to when plagued by wooden hums—besides, he allows, "it just makes good sense." (NR) TransparentMusicLink Ultra: $895/1m pair terminated. Similar in broad terms to the MTRs that Transparent used to distribute, the Transparent interconnect works well in a WATT/Puppy-based system, says JA. (NR) TransparentMusicWave Reference Single-Ended: $1700/1m pair. Very, very pricey, but very right at capturing a correct sense of timing, 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: $1200/1m pair, RCA or balanced, $450 each 0.5m pair. Expensive but very transparent, with little editorial effect on the signal in either balanced or unbalanced forms, for WAT.

WireWorld Atlantis II: $90/1m pair, $18 each additional 0.5m $55. "A good budget interconnect," concluded RH, who could catalog a list of shortcomings ris-a-isi at the $1000/pair competition, but considered it “fundamentally uncolored” for its price. (Vol.19 No.8)

XLO Signature Type 1: $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 humpless midbass, and a somewhat leaner soundstage than some cables, and airy, open highs.” When (Vol.18 No.11)

XLO Reference Type 1: $275/1m pair, $875/terminated 1m pair, $600 each additional meter-pair. "How does Roger [Skofl] do it? marvels JS, encompassed by the "ultrazula" presentation, blacker backgrounds, vivid and dimensional manner, and constant image and tonal balance that characterizes this cable. Its retrieval of information is, he posits, without peer. While he considers it supremely neutral, "its clean, quiet, quick, and wide-band response could excite hard granite or gritty recordings." (Vol.18 No.9)

Yamamura Millennium 6000: $590/1m pair Yamamura cables and accessories are once again being imported into America. MF finds that these ultra-expensive interconnects, along with the speaker cables and Adapters, are "the most open, rich, liquid, neutral-sounding, nonmechanical, and musical cables he has ever heard. System-dependent? He doesn’t know, but in his all-tube system the Millennium 6000 ruled! "Pure and open, grain- and chaff-free, yet detailed and articulate. They reach out, sound about cables and just listen. I have a tough room, and yet, as manufacturers who actually bother to sit down and listen when they visit continually tell me, despite the room’s problems, ‘You get great sound down there.’ I give a good deal of credit to Yamamura’s cables and accessories, but for some reason they rang like crazy with the Adcom amp I reviewed in Vol.21 No.7." (NR)

K Straight Wire Virtuoso & Concerto, Synergistic Research Phase Two Mk V, MIT Terminator 2, TARA Labs The One, WireWorld GEI, XLO Limited.

**LOUDSPEAKER CABLES**

Alpha-Core Goertz-MI Ag 2 Carters: $72.50/fi Alpha-Core Goertz M2 Veracity: $10.20/ft; $88 JS was quite taken by the 9-gauge, high-capacitance silver Carter cables, calling them “ultra-clean and delightfully fast.” He also admired their extreme high resolution and wonderful spatial qualities, although he did note some degree of lightness in the bass. The less-expensive Veracity copper version is an LB favorite. (Vol.19 No.3)

Audio Magic Sorceror: $1499/8’ pair A silver cable insulated by PVC surrounded by silica said that $500 found to have higher resolution and a more neutral harmonic balance than his reference 10mm speaker cable. (NR)

Audio Note AN-L: $19/mono foot, banana terminated Shielded, Litz-constructed cable impressed RH with its “smoothness, clarity, and lack of grain or edge.” (Vol.20 No.3)

AudioQuest Midnight Hyperlitz: $415/8’ pair terminated $495/10’ pair terminated $780/15’ pair terminated Aproxixmate as good as AudioTruth Clear at a much lower price. (NR)

AudioQuest Indigo: $187/8’ pair, $215/10’ pair $500 Excellent, clean sound with excellent resolution of detail, says RH. “The bargain in affordable cables.” (NR)

AudioQuest Type Q: $2.50/ft; $55/1m Inexpensive flat twin-solid-core cable that RH enthusiastically recommended to a listener on the basis of good sound quality. (NR)

AudioTruth (AudioQuest) Argent: $1055/8’ pair terminated, $1295/10’ pair terminated This has so many of the sonic attributes of AudioTruth Dragon, RH’s reference, at a lower price. Excellent dynamics, rich bass, and good soundstage depth. Also musically coherent and natural, says RH. (NR)

AudioTruth (AudioQuest) Clear Hyperlitz: $1895/8’ pair terminated, $2135/10’ pair terminated (most common length) Very expensive, but solid bass reproduction with a clear (but), open midbass and treble. Can sound rather lightweight in some systems, but almost defines the term “neutral,” says JA. Uses “6N”-pure copper bundles in a complex lay that brings every conductor to the surface to the same extent. (NR)

AudioTruth (AudioQuest) Sterling: $2895/10’ pair terminated, $3235/15’ pair terminated $10,000/20’ pair terminated Two silver-conductor speaker cables that are vastly smooth and transparent, according to RH and JA. JA also finds the powerful bass performance of Sterling to be its strongest suit. (NR)

Aural Simplicities Hybrid V3: $3360/10’ biwire Intended for biwire applications, Aural Simplicities’ V3 was an excellent sonic match for SSS Avalon Design. The spade plugs are also perfectly sized to fit in the Avalon’s narrow termination strips. “Certainly worth consideration in any cost-to-object system,” sums up SS. (NR)

Cardas Hexlink Golden Five C: $840/1m pair, $1360/3m pair, $4350/10m pair. Very similar in sonic character to the Cardas interconnect. AJE reference cable. (Vol.15 No.12)

Cardas Cross: $399/1m pair Relatively affordable speaker cable that remains a JA favorite. (NR)

Discovery 1 X 2: $320/8’ pair terminated “Unbelievably high performance for relatively low cost,” effuses JS. Unshielded speaker cable that can be configured for single, bi-, or tri-wiring at no additional charge for termination. JS found it "had great bottom end 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 DAF-26: $300/8’ pair, $375/12’ pair, $420/16’ pair, $525/24’ pair An inexpensive cable that SS recommends highly. While it doesn’t warm up or harmonically enrich a speaker’s sound, neither does it emanate or whiten it, he notes. A nice ergonomic touch is the use of inter-changeable screw-in terminations (5/8”, spades, 1/4”, or banana plugs, $50/kit of four). (NR)

Kimber 4AG: $1295/1m pair An expensive hyper-pure silver cable that can offer a glimpse of audio heavens. Significant systems sensitivity, points out DO, so be sure to check for compatibility before you buy. No charge for termination. (NR)

Kimber 4TC: $46/5’ pair $60/10’ pair An excellent two-wire cable. "The big difference is found in the way the cable is built. Not just a standard numbered cable, but a component of the system that RH described as "staggering," in its ability to reveal low-level detail, it must be achieved as successful in passing that information along. "The soundstaging in particular," he raved, "was more three-dimensional than any other systems I’ve heard." (Vol.19 No.1 & 2)

MIT Terminator6 speaker cable: $3350/2.5m pair A HW favorite. See “Interconnects.” (NR)

MIT MH-850 Multi-Bandwidth CV Terminator: $8995/8’ pair, $14125/45’ pair (balanced) $6995/8’ pair, $7250/10’ pair (single-ended) The spectral tri-wire harness for the Avalon Radian HC was reviewed in conjunction with the complete Spectral/Avalon/MIT 2CD1 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 DMQ-1450 amplifier.” He offered back a check chore with a hint of grain right in that little transition area on top. Large-scale dynamics were good to jolly good, but low-level shifts in microdynamics weren’t handled quite so well...I liked the cables anyway." (Vol.20 No.3)

Naïve NACAS: $55/10’ biwired pair (M2A 4s) "Excellent, fast, deep, transparent bass," said JS, listing this cable’s attributes: “no upper-midrange bloat; midrange very well developed; upper mids smooth, not quite revealing; and treble slightly tweaked up in the presence region, vivid, then shelved back a touch above, with a hint of grain right in that little transition area on top. Large-scale dynamics were good to jolly good, but low-level shifts in microdynamics weren’t handled quite so well...I liked the cables anyway." (Vol.20 No.3)

Inexpensive cable that ST found to work well with the Spendor S100 loudspeaker. Worth investigating as a good-value cable, thinks JA. (NR)

Nirvana S-L Series speaker cable: $1095/2m, $1495/3m A JD favorite. See “Interconnects.” (NR)

Nordost Blue Heaven: $4400/2m pair with spade or banana plugs
The Blue Heaven speaker cables are sonically very similar-sounding to the interconnects, notes BD, with a slightly tipped-up tonal balance. (NR)

OCOS cable: $10/ft plus $7/5' pair terminated $25○

Sumikko used, this Isolacryl silver cable was found by LG to have a speed and clarity he hadn’t heard from before. He found the bass to be light-weight, but votes it a “three-star” design. (NR)

Purist Audio Coaxolus Rev.B: $133.00/15m pair, $220/40m additional $0.6m

The famed “water” cable with a fluid-filled insulating jacket. All found “routinely 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 $$

Bids parallel to cutting connectors, 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)

Synergistic Research Designer’s Reference Speaker Wire: $4000/1m pair

Like the Designers Reference interconnects, BD finds these speaker cables to be essentially neutral. “They add so little character of their own to a system’s sound that you’ll likely soon be impervious to first listen,” he warns. CS agrees, adding that he was “impressed with the way they just get out of the way and let you zero in on the music…[they] throw a good image with a lot of air in it, natural highs, smooth midrange, and nice, tight, uncanny transient decay.” (Vol.15 No.9)

XLO Reference Type 5: $55/ft, plus $100 termination ○

“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 forward in this region. Not as expansive as TARA ISAC or Monster Sigma; works well with tube amps. (Vol.15 No.12)


Deletions

Straight Wire Maestro II not auditioned in a long time.

DIGITAL INTERCONNECTS

Editor’s Note: Extensive auditioning by R1 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 as or focused a soundstage. “You don’t get that essential sharpness of image outlines, the sound becomes more homogeneous,” quoth he, which is why we no longer recommend any TosLink interconnects. JA points out that the specific character of any partners with a particular cable will depend heavily on the transport and processor it connects.

Apogee Electronics Wyde-Eye AES/EBU databank: $25.95/0.5m; $29.85/1.5m; $31.95/2m; $36.95/3m; $43.95/5m $57.95/10m $$$

“It if hadn’t heard this 110 ohm 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 $75/ft.) JA is also impressed. KR, however, while agreeing that it is an excellent value, notes that it is less transparent-sounding than the (much more expensive) Illuminations also available for the same price in a 75 ohm version for SPDIF applications, using Canare’s true 75 ohm RCA cables. But don’t confuse digital coaxial with audio-grade BNC wire. (Vol.15 No.9)

AudioQuest Orca: $45.95/3m; $54.95/6m; $109.95/10m $$$

While not as well-known, LD voices it as “another interesting cable, which has become less stiff and easier to work with in its last several iterations, is a JS favorite. ‘Air, air, and more air!’ he shouts, adding that the midrange is as good as digital gets. ‘Delivers the signature Marigo enormity of soundstage, coupled with the razor-sharp focus of the Orca Cable.’” (Vol.16 No.2)

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 full Spectral/ Avalon/MK 23Pin 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 1: $175/1m; $225/1m single cable, $275/1m balanced ○

Exceptionally transparent presentation, thought JA, with excellent soundstage depth and natural midrange. Chunky gold-plated RCA plugs are actually old-fashioned RF-connectors with RCA and BNC adaptors. (NR)

Parasound DataBridge: $89 ○

Coaxial cable that RH finds to give smooth treble, deep soundstaging, and tight bass. Not as resolving as the TARA Labs Digital Reference or AudioQuest Digital Sound Standard, but a good value. (NR)

Director’s Reference: $1000/1m, $1500/1.5m

The AES/EBU-terminated version of this data cable “reigned supreme over all other AES/EBUs” JS has tried. “Bass was tight and controlled…the midrange was colorful, textural, and graciously harmonic on many recordings”—although perhaps not as open-
sounding as the best S/PDIF cables he has heard. "The BNC coax proved a first-class performer, more revealing than the trick AES/EBU version (which nonetheless showed deft charm on less-than-stellar recordings)." (Vol.21 No.3)

TARA Labs RSC "Decade" Digital: $395/1m, RCA or BNC terminations, $413/1m with XLRs

According to J.S., the Decade digital datalink "delivered a coherent, wide-band, neutral, yet fully harmonic presentation that showed a light and quick touch with transients and dynamics." A little less robust-sounding than Illumination 13-60, he opines. AES/EBU version evinces sound with "At version points Yamamura enters measured drive-unit response, impedance and sensitivity, and target response; program designs appropriate crossover filter networks. Latest version handles double-ported bandpass enclosures and can calculate the effects of LF room gain, enclosure leakage, and absorption losses in sealed-box, vented-box, passive-radiator, and bandpass systems. Thiele-Small parameters can be calculated from two impedance measurements, and data can be imported from the 1MP PC-based measurement system. Standard L40 version costs $69.95. Available from Old Colony Sound Lab, P.O. Box 243, Peterborough, NH 03458. Tel: (603) 924-6526. Fax: (603) 924-9467. (Vol.13 No.11)

LEAP 4.6 Loudspeaker Enclosure Analysis Program: $395-$1195

Highly recommended by DO and much used by professional designers, LEAP imports raw drive-unit data (it accepts Audio Precision and MLSSA files as well as data produced by Audio Technology's own LMS system) and optimizes a speaker system's crossover network to meet the user's target specifications, either on- or off-axis. (It also averages responses to give a speaker's power response.) The fully loaded LEAP 4.5, which includes a SPICE-type passive network analyzer and an Active Filter Library, costs $195; a basic version costs $395, to which modular upgrades can be made for $175 each. Available from LinearX Systems, Inc., 9500 SW Tualatin-Sherwood Road, Tualatin, OR 97062. Tel: (503) 612-9565. Fax: (503) 612-9344. Web: www.linearx.com. (Vol.13 No.11)

The Listening Room: $47.50

Inexpensive but excellent computer program for PCs and Macs. Available from KB Acoustics, P.O. Box 50206, Eugene, OR 97405. Tel: (541) 935-7022. Allows an audiophile to move simulated loudspeakers and a simulated listening seat around a simulation of his or her room (in three dimensions) to find the position that gives optimal performance below 200Hz or so.

The suggestions made by TJN in his review have been incorporated in the latest version, which can also store different setups as separate files. Upgrades are available for $15 including S&H. The Macintosh version ($67.50) requires 1MB RAM and allows local optimization of listener and/or speaker positions. It also models the woofer's LF limit and slope. The Windows version ($89.50) is called "Visual Ears"—see "Industry Update" in Vol.19 No.4. (Vol.13 No.12)

The Complete Guide to High-End Audio: $29.95 (softcover) plus $4.95 S&H

Written by erstwhile Stereophile writer Robert Harley, The Complete Guide to High-End Audio offers explanations of how to listen critically, how to optimally set up your system, and how to get the best sound for your buck. It will also give you the background and technical information you'll need to get the most from reading Stereophile. Beginning audiophiles must read the appendices first. Deluxe, signed hardcover edition costs $39.95 plus $4.95 S&H. Available from Acappella Publishing, P.O. Box 80805, Albuquerque, NM 87198-0805. Tel: (800) 848-5099. (Vol.18 No.3)
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“After all, your pleasure has been our business since 1958”
One by one, classical recording labels send their budgets, artist rosters, and sometimes even their executives to the chopping block. Tumbling sales figures and a market share that has shrunk to 3.4% in 1996 (according to the RIAA, Recording Industry Association of America) inevitably bring them to a crossroads: Do they simply keep shrinking, content, like antiquarian book dealers, to occupy a small, quaint niche? Or do they go for something potentially bigger than ever before by exploring new musical crossover genres?

Prestige be damned, most are choosing the latter. Step aside, Beethoven—make way for the Titanic soundtrack, which isn’t classical music at all but earned Sony Classical quadruple-platinum sales, thanks to the promotion and popularity of what will no doubt be the movie of the year.

Elsewhere, though, crossover success is far more complicated. In fact, it must be earned anew with every new release. Because there’s nothing close to a formula for crossover success, nearly every such success redefines the term with an air of reinventing the wheel, each with a new genre, potential audience, and marketing strategy.

Consider Andrea Bocelli, a suave, bearded Italian singer...
Consider the room as a component — the recording engineer does. Why? Because when music is recorded or played back, for highest fidelity it must be in an acoustically optimized environment. In the service of music, Goodwin's High End has designed such an environment. A purpose-built recording and playback room with adjustable acoustical properties that provides an honest reference to live music — as well as an exceptional space in which to evaluate the world's finest components. So if you wish to experience accurate musical reproduction that's faithful to the original, listen to a system in our room — or better yet, have us make a room for you and your music.
whose voice is too refined for traditional pop songs, too thin for grand opera, but might bring out the protective instincts of female music lovers just enough to bring the Philips label the soaring sales figures that the mentally ill pianist David Helgott earned for RCA earlier this year. After all, Bocelli has sold millions of recordings in Europe. And he's blind.

The industry doesn't quite know where to put Bocelli. *Billboard* magazine listed his debut album, *Romanza*, in their World Music chart because he sings in Italian. But because his approach is soothing and romantic, his radio play is Adult Contemporary. The advertising for his Philips albums—reportedly $2 million, an astronomical figure in the classical world—is turning up in places like program booklets for Broadway shows.

Forget the usual classical niche marketing, says Lisa Altman, head of Philips operations in the US—she's going after everybody. "We're genre-bending like crazy and borrowing influences from the pop world, the classical world, the jazz world, and New Age in every possible amalgam you can think of." Indeed, Altman's label could be a major harbinger of the future. Stylishly renamed the Philips Music Group, it is actually a collection of labels: Gmell, which puts out music by the Renaissance music group The Tallis Scholars; Point, founded by Philip Glass to spotlight up-and-coming cutting-edge composers; and Philips itself, which has the Kirov Opera, Alfred Brendel, and Jessye Norman, plus some upscale New Age music.

Faithful classical buyers probably can't help feeling abandoned, but... there aren't that many of them. If anybody has been abandoned, it's the labels. During those few years of the 1980s when everybody was replacing their LPs with CDs, labels thought they were meeting the demand by saturating the market with new recordings of standard repertoire. Competition for artists grew so fierce that labels had to promise long contracts and big bucks.

Some of those artists are reportedly without contracts today. Those with contracts must reinvent themselves. Itzhak Perlman expands his repertoire to klezmer (*In the Fiddler's House*) and movie themes conducted by John Williams (*Cinema Serenade*). Yo-Yo Ma performs on movie soundtracks (*Seven Years in Tibet*), and plays jazz with Bobby McFerrin (*Vishul*) and folk/country with Mark O'Connor (*Appalachia Waltz*).

In effect, labels must find new buyers by doing whatever the pop labels are not—and hoping for something approximating pop-label sales, which could mean a leap from selling 5000 copies to selling 100,000. "I'm driven by the desire to have classical recordings be relevant," says Peter Gelb, who heads Sony Classical. "And by relevance, I mean having some kind of impact on as large an audience as possible... I genuinely believe that artistic excellence is rewarded commercial-ly. But working for one of the largest recording companies is not necessarily the place to devote oneself to the esoteric."

Some think that such statements about profit and commerce are against the religion of classical music. However, former *Billboard* classical columnist Heidi Waleson points out that, unlike the symphony orchestras and opera companies, recording labels are not nonprofit organizations: They exist to make money. If they don't make money, they don't exist. Thus they turn to crossover, even though it has acquired connotations that suggest a lack of artistic ideals. "They're trying to do something about their bottom line before they go out of business altogether," she says. "Classical music has always been part of the industry. You kept it going because it looks nice and sometimes it makes money. But in an economy where there are enormous profits from pop, people look at that and say, 'Why can't classical people do that?'"

That doesn't necessarily mean the labels are going about it in profitable or artistically gratifying ways. So much of what's coming out, Waleson says, seems to emanate from marketing contrivance: "Trying to create big crossover hits is pretty risky business. Hits are never manufactured—they always come out of nowhere."

The beginning of crossover as we know it started some 14 years ago, when Leonard Bernstein got it in his head to re-record *West Side Story*—not a common practice then with Broadway shows—and to do so with opera stars. Artistically, it was controversial. Commercially, it was a hit. From there, all sorts of singers started recording pop music, with all sorts of manufactured sequels (such as the Kiri Te Kanawa *South Pacific*) that didn't do as well. So it went with *The Three Tenors*; that first disc was huge. "Suddenly, everybody's expectations were raised to connect with a larger audience in a way that only happens when the planets are lined up," says former Angel/EMI Classics president Steve Murphy. "But that happens once every two years—and with one record."

One idea for creating such sales phenomena is to arrange meetings of remarkable men and women with hopes of hitting gold—such as *Merry Christmas from Vienna* with Plácido Domingo, Michael Bolton, and Chinese soprano Ying Huang. But as panaceas go, such hybrids are proving to be short-lived, lacking enough appeal to either the pop or classical camp. Only certain opera singers (such as Dawn Upshaw) venture into Broadway these days. What could be next? Bill Rosenfield, who heads the soundtrack and Broadway show division at RCA, audibly shrugs. "Riverdance?" (referring to the decidedly nonclassical Celtic craze).

One recent overworked trend has been the canonization of the tango as evidenced by a plethora of tango discs by such artists as Yo-Yo Ma, Gidon Kremer, and Emanuel Ax. Some labels are courting the youth market. Sony Classical put out the latest album by Joe Jackson, a British New Wave
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rocker with higher aspirations whose Heaven and Hell is a meditation on the seven deadly sins. EMI commissioned Paul McCartney to write his hour-plus orchestral work, Standing Stone, which has become a best-seller despite critical nays. EMI also has violinist Vanessa Mae, who considers herself as much a rocker as a classicist. Yo-Yo Ma's country/folk album with Mark O'Connor, Appalachia Waltz, isn't a fluke: Nonesuch came out with Last Forever, which sounds like a backwoods counterpart to Joni Mitchell. And Ry Cooder, a fashionable bluesman in the early 1970s, will soon be recording for Nonesuch.

Show music is also in the picture. There are serious, arty scores such as Nonesuch's Floyd Collins, whose music is country swing and bluegrass. Or not-serious ones, such as Philips' Victor/Victoria, the Julie Andrews stage vehicle. Some medieval and renaissance music has come to occupy a previously unthinkable market share in the wave of Chant, EMI's disc of Gregorian chant by Spanish monks that, as chant goes, wasn't very good but sold millions of copies, perhaps because of its New Age appeal. In its wake, the ethereally voiced Anonymous 4 has become a major cash cow for what is perhaps the ultimate antiquarian label, Harmonia Mundi. Some of the lighter minimalist music—such as Philip Glass's Glassworks—can also pass itself off to New Age buyers. More recently emerged are the so-called "holy minimalists," a new hybrid genre that came about only in the past 10 years, as exemplified by such composers of hypnotic music as Arvo Pärt and Giya Kancheli. Then there are re-orchestrations: Delos hit big with two discs—Heigh-Ho! Mozart and Mozart TV—of songs from Disney movies arranged in the styles of Mozart, Chopin, Bartók, and others.

But perhaps the biggest hope for classical labels lies in possible unions with the movie industry. Some labels are re-recording classic film scores as orchestral suites. Conductor Esa-Pekka Salonen and the Los Angeles Philharmonic had a big success with a disc of music by Alfred Hitchcock's favorite composer, Bernard Herrmann. Nonesuch released four discs this fall, each one featuring the music of a classic film composer: Alex North, Toru Takemitsu, Georges Delerue, and Leonard Rosenman. Some critics and listeners take film composers seriously. Others say it is, after all, written as background music, albeit background music of the highest order.

"I don't disagree," says Nonesuch senior vice president David Bither. "[Film music] is an art form unique to our time, and by presenting it in a different way, we're hoping to cast it in a different light. We're looking at the composer as the primary creative force here. The recordings are programmed so that you hear them not as a soundtrack recording, but as collections of compositions. When I hear [Rosenman's] East of Eden, I think I'm hearing a long-lost Copland score. We're pretending the films never existed."

Other labels are pretending no such thing, especially when putting out soundtracks to current films. Sony reportedly sank $800,000 into the rights to the Titanic soundtrack, whose Celtic influences also tap the Riverdance market. Many labels are signing up film composers to contracts for their future work in the way they once went for the latest winner of the Tchaikovsky Competition. Conglomerates such as PolyGram can get them with minimum financial fuss from their film-production end. If a film is a hit, there are no visibility or promotional hurdles; people will seek out the disc, as they have Titanic.

At Sony, Peter Gelb's next flourish involves symphony and opera composer John Corigliano, who is not only scoring the forthcoming film The Red Violin, but had already composed a concert suite that, months before the film's premiere, was unveiled last late in Boston, San Francisco, and New York, and was recorded by camera-friendly violinist Joshua Bell.

Can it be very long until many of these labels cease to think of themselves as “classical”? It happened a while ago with Nonesuch, which also had big hits with the Bulgarian Women's Choir and the Gipsy Kings. "This has always been a label dedicated to artists," says David Bither. "There are artists here such as Richard Goode and Dawn Upshaw who are classical artists. But even Dawn reaches into other worlds. What kind of label is Nonesuch? I don't know what the word would be. The 'through-line' is great voices with something to say. In a way, we're trusting that there's an audience for the music, and it's our job to find them."

With constant genre-bending, that's not easy. "The recordings don't live in one world. They live in a variety of worlds," says Bither. "There's always the question of where you rack these recordings in stores: Classical? Film? Do you persuade them to put it in two different places? That's hard to do."

But it can work. Yo-Yo Ma's Appalachia Waltz caused an outcry when it appeared on Billboard's Classical chart when it obviously should've been elsewhere. Nonetheless, it sold 200,000 copies. However, finding an audience that doesn't fit into any tidy age or demographic category is difficult and expensive, which is why Philips' advertising budget for Bocelli is so crucial. With similar unknown commodities that defy categorization, some labels have taken to issuing free sampler cassettes everywhere from record stores to car-rental agencies. Promotional videos are everywhere, costing a bare minimum of $5000 to produce but often much, much more. Some discs have flopped anyway, while others have gone into the stratosphere. Deutsche Grammophon's promotional video for Gil Shaham's recording of Vivaldi's The Four Seasons landed on the Weather Channel.

"You can't be too pretentious about the mechanism to reach people when there's so little infrastructure out there," says Chris Roberts, head of PolyGram's classical labels.
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Stereophile, April 1998

John Mitchell
However, finding a disc's audience can be more expensive than it's worth. That's what happened to BMG's "Songs of West Side Story," which featured, among other things, rock'n'roll star Little Richard singing "I Feel Pretty." Promotion costs were so high that they ate up the profits, according to inside sources.

Heavy investing in iffy crossover projects—and with no rulebook on the subject, who's to know that it's iffy until it's on the market?—could bring down labels faster than declining Beethoven sales. Another possible outcome is that new genres could be created—hybrids only hinted at by the pop-classical fusions of Wynton Marsalis and Jon Faddis, or even less welcome ones such as Arnold Schoenberg tone-rows arranged in the style of Disney movies. It's also possible that we'll wake from this a few years from now as if it's all been a bad dream, return to Beethoven, and find that the baby boomers who have long avoided classical music are now in their 50s and are really open to the stuff. "What will come out of this," says Roberts, "is a far more realistic business—and one that supports the real demand."

Indeed, nobody seems to be letting classical recordings go completely. Gelb, for one, is perfectly open to recording Beethoven if the performer has a distinctive interpretive viewpoint. This fits in well with his world view: "There's an intelligent alternative audience out there that could buy a Joe Jackson disc one day and Evgeny Kissin the next. Our goal is to have a number of recordings selling in the hundreds of thousands. This year, we have a large number that will achieve that, maybe 10 or 15. At the same time, we want to keep identifying important new talents in terms of artists and composers. We have a number of debut recordings. There's the

violinist Hilary Hahn and a number of singers, such as Susan Graham." Besides, many fine orchestras now pay their own recording costs, sometimes delivering a virtually finished product to the label's doorstep. Is there any better deal in the industry?

What's needed is the talent and popular appeal of a Leonard Bernstein to galvanize the public all over again. In a way, the classical recording slump can be traced to his and Herbert von Karajan's deaths. "Nobody can predict where the next classical superstar is coming from, but everybody is looking," says Rosenfield. "But, you know, I've seen good years and I've seen horrible years. And it still goes on."

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"You kidding, it's out?" exclaims Henry Threadgill when informed that the Flutistry CD by Flute Force Four, the flute quartet he co-pilots with James Newton, has finally been released on Black Saint. "That's great news. I'd love to see what it looks like. That's a lot of hard music, and we had to play it live first at the Verona festival in Italy. Now, when was that... 1990?"

Sitting in the passenger seat of my Volkswagen bug, Threadgill reminisces about the recording session: the formidable challenge facing new quartet member Melecio Magdaluyo, brought in at the eleventh hour for the date: the midnight-to-dawn rehearsal in the basement of an Italian hotel; and the foursome's enthusiasm for the final takes. As we navigate downtown Oakland's maze of one-way and no-left-turn streets en route to a cattish lunch down by the waterfront, I ask the iconoclastic composer/bandleader if his seven-year wait for Flutistry's release has been frustrating.

"No, you just got to let those things go unless you want to punish yourself," he replies with the poise possessed only by veteran jazz musicians who've been raked over the coals by recording-industry bigwigs. "It doesn't usually take this long, but you have to understand that these kinds of things are going to happen. You're not in control."

No kidding. The maverick maestro, in town for a five-night engagement with his Make a Move band at Yoshi's jazz club, recently received the news that Sony/Columbia Records had pulled the plug on his contract after three brilliant but slow-selling CDs: Carry the Day (Columbia 66995), Makin' a Move (Columbia 67214), and Where's Your Cup? (Columbia 67617). In 1995, when Columbia signed Threadgill, prominent jazz magazines such as Down Beat, Jazziz, and Musician covered the event as a coup for adventurous, free-thinking music. Steve Berkowitz, at the time Columbia's A&R rep, was quoted as saying that the label was sincere in wanting "Henry to be Henry." All the feature articles on the singular Threadgill—dubbed by critics as "champion of the maverick," "quintessential outsider," "outrageous nonconformist," and "virtual genius unto himself and one of America's best-kept cultural secrets"—celebrated the signing even while wondering how long the experiment would last. As it turned out, not long.

"People in high places at the label should have spoken up," says Threadgill, an angry razor edge in his voice. "They knew who I was. This was no fishing expedition. They knew they couldn't suggest to me that I do a Gershwin album. The label got a whole lot of attention for signing me, but I believe they had already made a decision that the deal was dead. When I signed, the divorce papers were already being drafted.


dan ouellette

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If you’ve been around as long as I have, you know not to get your expectations up too high. They cut heads off at record companies, you know, from presidents all the way down the ladder to secretaries and janitors. When I discovered that, I said, ‘Wait a minute, Henry, don’t be trippin’. Walkin’ in the door under the title of “artist” doesn’t protect you.” He pauses, then grins. “It’s a funny business.”

Threadgill should know. He’s a lifer in the struggle for musical originality and artistic integrity—two callings more often than not at odds with the commercial goals of the record industry.

Born in Chicago in 1944, Threadgill grew up with a diet of diverse music, including Mexican, gospel, European folk, and classical. He was playing boogie-woogie piano by the age of six, and took up the saxophone in high school. One of his first professional jobs as a musician was playing gospel with traveling church evangelists. He gigged in blues groups, marching bands, and ethnic ensembles, playing polka and mariachi music. He studied clarinet, piano, and composition at the American Conservatory of Music, and was a key figure in the Chicago-based ACM (Association for the Advancement of Creative Music) movement of radical jazz in the ’60s. In 1972, with bassist Fred Hopkins and drummer Steve McCall, he founded AIR, the traditional-to-free trio originally formed to bring new life to a batch of Scott Joplin tunes. Threadgill re-envisioned the group as New Air in 1982, with Pheeroan AkLaff, and later Andrew Cyrille, doing the drumming.

Also during the ’80s, Threadgill began to explore more unusual ensemble configurations to give voice to his increasingly complex and wonderfully strange compositions. He formed X-75, which included four bassists, four reeds, and a vocalist, and his Sextett (sic, actually a septet), with two drummers and cellist Diedre Murray. Then came his Very Circus ensemble, full of tubas, trombones, and guitars; and, most recently, Make a Move. This latest Threadgill group to be documented on disc may be relatively tame instrument-wise — Threadgill on alto sax and flute, Brandon Ross on electric and classical guitars, Tony Cedras on accordion and harmonium, Stonu Takeishi on 5-string fretless bass, and J.T. Lewis on drums — but Make a Move displays plenty of Threadgill’s penchant for compositional adventure.

In other words, don’t expect to hear any of the seven classical-, world-, and folk-infused tracks from Where’s Your Cup?, Threadgill’s 1997 Columbia swan song, on a mainstream jazz radio station anytime soon.

On that disc, Threadgill shatters calm and jars the status quo. Attentive listening is required as he and his crew avoid predictable head/solo/head jazz formulas in favor of charting musical journeys that at once brim with joy and are eerily unsettling. There are accordion drones, whimsical helixing sax-and-guitar lines, tumultuous drumming, anguished sax screams, and lyrical tango-nects-reggae dances. Tempos accelerate, meters shift, timbres bloom and dissolve. While Threadgill eschews the spotlight in lieu of letting his simpatico band interpret his compositions, the most gripping moment on Where’s Your Cup? arrives when he leads his cohorts out onto the serrated edge with lacerating alto-sax exhalations.

Threadgill’s music is compelling, even when he and his collaborators are playing instruments as seemingly unthreatening as flutes. Case in point: Fluidity. The album is a triumphant feast of flutes, ranging from piccolo to bass flute, all of which color the magical soundscapes. The recording features two of Threadgill’s ebulliently beautiful compositions: “T.B.A.” and “Luap Nosebor.” The flute quartet on “T.B.A.” sounds like a flock of birds twittering, chirping, and warbling; “Luap Nosebor” (spelt it backwards), inspired by watching parakeets in a zoo, also takes wing with flute soarings and swoopings.

In the liner notes of his last pre-Columbia CD, 1993’s Song Out of My Trees (Black Saint 120154), Threadgill set out to explain his art. He opened with a rambling discourse, then finally crystallized his thoughts in what proved to be a poignant statement on the state of jazz: “The underlying gravity is about Song. Very very strong sense of Song. Not song as an excuse to do something else or a pale platform for dead technique . . . This recording is not an attempt to be retro or stylistic in any certain way.” Threadgill’s manifesto? Move over, young lions intent on preserving a jazz canon, and make way for a composer revitalizing jazz with a spirit of border-busting adventurism.

Song Out of My Trees is a forward-looking, freedom-loving collection of deeply personal, vibrantly spiritual . . . songs. Only two of the five pieces include a drummer, and Threadgill himself is momentarily content to sit aside his sax and wear only his composer’s hat on two numbers. He experiments with unusual sonic textures, composing for alto and soprano saxes in two pieces (one of which features Ted Daniels on eerie-sounding hunting horns), and on another brilliantly meshing the sounds of two cellos, accordion, and harpsichord.

“When I write music, I want something powerful to come at people,’ says Threadgill, sipping a glass of chardonnay and waiting for his catfish to arrive. “And it don’t have to fit no categories. How can you deal with a broad range of thoughts and emotions if you stay locked into one road? So I open up my music completely. Keep it wide open. I like the idea of engaging the listener by making music that’s not passive. I like playing for people who have a broad diet. Otherwise, it’s like someone who only eats hot dogs. I think it’s ridiculous that people discriminate against a broad spectrum of music, stuff like opera, punk rock, country.”

Stereophile, April 1998
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Threadgill speaks with strident exuberance, and he loves to tell stories — like the one about getting schooled in country music. "I discovered something when I was really young. I had to give myself a whippin'. I didn't like country and western music, but I found myself in the army stationed in Kansas, where there was nothing but country music, which was called 'hillbilly' back then. Can you imagine that? It was like being put in jail. Every station on the radio, day and night, every bar, every jukebox: country and western." He laughs, then sings a warbly, singsongy Hank Williams imitation that sounds more like Jimmy Scott.

Threadgill explains that he ended up liking country once he stopped fighting the music. "I can dislike something, but I've got to give it a chance. I can't close the door completely. Otherwise, I shut out something that may be valuable for my own music. I can never turn off something because, as a composer and artist, I've chosen to deal with sound. I can't put limitations on myself. It was the same way with opera. I didn't like it. But at one point opera registered with me and the heavens opened up. Because I had been limiting myself, look what I was missing. I had to kill my limitations."

One of the major criticisms of Threadgill's music is that it is inaccessible to listeners who want tunes that are safe and palatable; it's been branded as commercially unviable, too challenging for the mainstream. Threadgill narrows his eyes and bristles in response to this. Once again, the conversation turns to the faceless decisionmakers of the recording industry.

"In America, record companies and radio stations disrespect the faith and intelligence of the audience. I think the audience is hungry for music that stretches. I've seen it when I play shows. I've had people come up to me and say they were surprised by how much they enjoyed my music because they had heard so many negative things about it. That's what I try to accomplish as an artist: engage people to listen and at least give the music a chance."

Several years ago Threadgill loaded his Very Very Circus ensemble into a bus for a cross-country tour. Along the way, they stopped in small towns to perform free sets of Threadgill's exciting music in town squares and parks. "You grab people's attention by doing something as audacious as that," he explains. "People were curious. They just stood there waiting to see what would happen next. A crowd draws a crowd, so before we knew it we attracted large audiences. And people stayed. Now that's what I was hoping for. They accepted the challenge without even knowing they were being challenged. They were curious enough to check out a style of music they wouldn't have dared to listen to. We just threw it on the table for them — no tickets, no previews, no reviews. Just, all of a sudden, food on the table, which they could taste without feeling threatened. And the people there got engaged. I'm sure not everyone liked it. But some digested it, while hopefully others went away feeling a little less scared to listen to something different."

As a composer, Threadgill rarely finds his inspiration by listening to music. He's often informed by theater or literature. Sometimes music flows to him by looking at the way light shines through clouds. What's he been feeding himself on these days? He shrugs his shoulders and curiously says, "Oh, science manuals, the tradition of frogs around the world, butt jokes."

Anything else? "Right now, poetry, lots of poetry. Derek Walcott, Arab poets, a Paris poet, a whole stack of books by poets from India. But it won't end there. It always gets broader than that. But that's how it works with me. Right now I'm not composing. I'm taking in information. I'm digesting. I don't know how it works, but I don't sit down and create. I'm like a farmer. I have to work the field before it's ready to produce. All this information I'm gathering inside me is like fuel, so that when I do write it all comes out at once. I'll write three or four compositions at the same time — music for string quartet, orchestra, Make a Move, pipe organ — the same way I'll read six or seven books at the same time."

Threadgill moved to India nearly four years ago, where he now lives more than half the year with his wife and one-year-old daughter. When he retreats to his mansion far out in the Indian countryside, he's almost impossible to reach. He has no telephone, and carries on correspondence with bookers via a fax machine in town. Living in India has been a major factor in allowing Threadgill to stretch as a composer. "I don't have to deal with information I don't want coming into my environment. I know what the telephone, television, and the mailbox have done to our lives. It takes a while to get away from all that, but once you do, you start to hear things inside your head that you could have never heard otherwise. That's why I had to get out of the city. There were things inside me that I couldn't get out."

Those sounds inside his head play an important role in Threadgill's use of unusual combinations of instruments — tubas, French horns, harmonium, violins. "It's like a DNA game. I have to take the sound apart and figure it out."

Does he listen to music in India? Some, although Threadgill's not forthcoming about what's in his collection there. What about his equipment? He laughs. "Just a CD player and a tape deck. You know, musicians have the worst sound systems in the world. I'm just happy that the stuff I have works, because half the time it doesn't. I don't have to hear the fine aspects of the music. I just need to hear it and get it to engage me. That's all."

Is he excited about the prospects of any younger jazz musicians? Threadgill pauses, then says he's actually been waiting for some truly revolutionary breakthrough in the music. "I'd love to see a group of kids working with radical ideas, but I don't see it. There are some individuals that I'm impressed by, but no movement, no avant garde, nothing that I could latch onto and learn from." Threadgill does admire the nerve and audacity of Steve Coleman, though he's not big on everything the saxophonist has produced. "But Steve's matured so much in the last few years. Before, it seemed like he was playing from his head. Something organic has happened in his life. He's become a whole person in his music."
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Threadgill is also a James Carter fan, though he worries that too much is being made of Carter's extraordinary technical prowess on the saxophone. "That's all surface qualification. Those things mean nothing to me. But the jazz world makes a big deal about technique because of the Marsalis influence. But to me, technique ain't nothin'. I like James because James likes music."

In returning to the topic of his own new projects, Threadgill takes a few more whacks at the record industry. At one point in our conversation he becomes so blunt in his assertions that our waiter asks if everything is all right with the food. Threadgill is irked that he didn't hear about his contract termination until after he returned from India with a new Make a Move project ready to rehearse. He admits to being disappointed. "I wasn't hurt, but I was dispirited. Funny thing is, if you came up to me and asked me to make a record, I wouldn't do it. I couldn't do it. I might be tempted because of the money, but recordings just flow out of me without being planned. That's what happened with this new material, which will probably never get recorded now."

Another Threadgill project that may never be documented on disc is his 21-piece dance band. As he describes it, that orchestra has the potential to make his most "accessible" recording since 1993's delightfully quirky Too Much Sugar for a Dime (Axiom 514258), produced by bassist Bill Laswell. Threadgill's big band includes strings (three cellos, three violins), brass (tubas and trombones), Brandon Ross on guitar, Tony Cedras on accordion, a few vocalists, and a large percussion section. The group used to play at SOB's in New York, but now performs almost exclusively in Europe.

"The young people there go crazy for it," Threadgill says with a satisfied smile. "It's the killingest thing. We play my compositions, for the most part. It's music to dance to, funky stuff and everything, but there ain't no formulas. We cover everything." He says that he wanted to record the group for Columbia, but was told the cost was prohibitive. "They chickened out. They dropped the ball on that one. But recording that band isn't as important to me as its live life."

He pauses, takes a drag on a cigarette, swigs some wine. "Look, record companies are not that damn important to me. I'm telling you, I wouldn't be disappointed if I didn't make records. As long as I can perform and make a good living at it, I don't have to record. I'm not thinking about how posterity remembers me. I don't care."

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A few nights ago, John Atkinson and I played host to a speaker designer and a turntable manufacturer. We were all chewing over the 1998 Consumer Electronics Show, talking about different systems we'd heard there and speculating as to which gear would be around for the long haul. The speaker designer said he'd heard no truly bad sound at the Show. Nods all around the table—none of us had. The turntable manufacturer asked if any of us could recall hearing any spectacularly bad products recently. We all shook our heads.

"Actually," I said, thinking about the Audio Research CD2 CD player I'd been auditioning, "it seems like the better products are sounding more and more alike—no matter what their design strategy might be. I wonder why."

"I think I know," JA said. "It's the same reason there are no longer any .400 hitters in baseball."

Silence resounding. The three of us were staring at John, wondering how he was ever going to connect those dots.

I just finished reading Stephen Jay Gould's Full House, which argues that progress and complexity are not valid yardsticks for the evolution of systems. Instead, Gould reasons, you have to look at the changes in variation within a system—in other words, as systems improve, they equilibrate and variation decreases. Using baseball as an example, Gould proves that the absence of the .400 hitter is not indicative of a general decline in batting skill, but rather of an overall increase in all baseball skills. Shrinking in variation must be measuring a general improvement—within the system of professional baseball, the range of variation between the best hitters and the worst is narrower than it's ever been.1

"The High End is like that now. The difference between the best and the worst products is narrower than it has ever been. The overall standard is so high that we don't see many products that stand head and shoulders above all other challengers—nor do we see many products so poorly designed that they're objects of ridicule."

Nowhere is this more apparent than in the state of contemporary CD-player design. Over the last year or so, I've been privileged to audition quite a few ambitious CD players—and all were superb. Oh, they were subtly different, each having a strength or strengths that distinguished it from the others. But the actual differences were minute—and, I'm sure, inconsequential to some listeners. But that's only to be expected as the standard continues to rise.

Will we eventually reach a point where progress is no longer possible? I doubt it. We'll reach a point where

---

1 I went home and read Gould's Full House—it's so well written and argued that it's a compulsion page-turner. I devoured it in a single sitting. Rather than try to recapitulate Gould's argument in detail, I'll just recommend that you read it.
the momentum slows, where improvement is accomplished in extremely small increments, but no matter how flat the upward curve gets, we're still short of perfection. But we have reached the point, as the Audio Research CD2 illustrates, where the variation between the finest examples has become bafflingly small.

It is a great advantage for a system of philosophy to be substantially true.
—George Santayana

I'm used to manufacturer hype—I tend to expect it in daily rations—so it came as something of a surprise to find Audio Research quite modest on the subject of their CD2. As marketing VP Terry Dorn described the rationale behind the unit, he stressed ease of use, the inherently low jitter of single-chassis designs, and the future-proof logic behind outfitting the player with digital outputs. "And people do seem to like the sound," he deadpanned. (Power is adequate," as Rolls-Royce likes to say.)

Rich Larson, one of ARC's engineers, filled in some of the details. "It's rather standard in terms of its digital circuitry, but the Crystal CS4329 DAC has a good 20-bit resolution. It's a double DAC, so the signal operates differentially from the chip through the analog stage. It also has excellent linear phase filtering. One-bit delta-sigma designs have better-sounding results than any of the multibit designs we've heard: they have better differential phase linearity and lower distortion than most multibits. The CD2 has low noise and exceptionally gentle filtering. The Crystal chip comes with digital de-emphasis that is much better-sounding than most analog de-emphasis we've experimented with. We designed our own analog filter — also very gentle.

"We look for good numbers, but we develop everything on the basis of listening tests. These told us we needed to add damping to the transport and chassis, and even to specific components on the board. We have a lot of proprietary techniques in the power supply and the analog stage—that's where most of the sound quality comes from. The power supply is fully regulated. The analog stage is DC-coupled, and uses both J-FETs and bipolar— it's very wideband."

The CD2 has the wide, black metal

Measurements

The Audio Research CD2 proved well able to cope with damaged CDs. The Pierre Verany test disc has deliberate data dropouts; the CD2 could play up to track 33, a 1.5mm gap in the data, without the sound muting. The player's output level at 0dBFS from its single-ended jacks was 0.7dB higher than the CD-standar 2V, at 2.16V. The channels matched to within 0.05dB at 1kHz, which is excellent. From the balanced outputs, the output offered the expected doubling, to 4.3V. The source impedance was similar to specification at 350 ohms (balanced) and 195 ohms (unbalanced), these figures varying slightly with frequency and channel.

The top traces in fig.1 show the CD2's frequency response at 0dBFS — absolutely flat! The lower traces, offset by -1dB for clarity, show the response with de-emphasis. I was puzzled by this, as the technical description implies that the de-emphasis is carried out in the digital domain, meaning that it should be flat — yet there is a -0.67dB error apparent in the mid-treble. With the few CDs that are pre-emphasized, the CD2 will sound just a little more laid-back than is strictly accurate. Channel separation (not shown) was almost 100dB in the midrange, with a slight rise in the crosstalk apparent above 1kHz, reaching a still-superb 87dB at 20kHz.

Fig.2 shows a spectrum of the CD2's output while it decodes dithered data representing a 1kHz tone at -90dB. There is a slight blip apparent in both channels at 200Hz — this could be a measurement artifact — and the traces are superbly clean. Performing a similar spectral analysis for a "digital black" signal and extending the measurement bandwidth to 200kHz gave the trace in fig.3. The 10dB drop in the noise floor compared with fig.2 suggests that the DAC actually muted when it detects this signal.

The Crystal delta-sigma DAC used by the CD2 offers both a very low noise floor and excellent linearity, as shown by fig.4, which shows the left channel's
handles and oversized faceplate that have come to be Audio Research's trademark. The review sample faceplate was finished in titanium gray rather than the traditional brushed aluminum — black is also available — but the front panel is definitely low-key. The drawer mechanism dominates the left center and the digital display mirrors it on the right. A row of seven well-marked pushbuttons runs across the bottom, controlling the basic transport functions. The remote recapitulates these controls and offers programming and display options not available from the front-panel buttons.

The rear panel is equally straightforward. Analog outputs are available through XLR balanced or RCA single-ended connectors. Digital outputs include TosLink, coaxial BNC S/PDIF, and AES/EBU. A glass-fiber output is available as an option. An IEC mains plug allows the tweaky to swap cables to their hearts' content, although I should point out that ARC supplies what appears to be a standard modular power cord — with a noticeable high standard of fit'n'finish. (Its female end provided one of the tightest fits of cord to player that I've ever seen.)

One last thing. The CD2 is not turned on and off — the front-panel power button puts it in standby mode. Once powered and stabilized, how it sounded on awakening from standby wasn't substantially different from how it sounded after hours of play. Impatient sort that I am, I approve of this.

The Miller Audio Research analyzer, while this produced consistent results, is the effect of jitter in the analog domain that really matters. We have therefore switched to using the Miller analyzer.

Fig.7 shows an analysis of the CD2's noise floor around the central tone. The grayed-out spectrum showed for comparison is that of the Myryad MC 100, reviewed in the January '98 issue of Stereophile. (The Myryad's noise floor is 3dB high overall because the FFT length used for its measurement was only 16,384 points.) The total jitter level is 168.6 picoseconds (ps), compared with the Myryad's 166.7ps — both are among the lowest I have measured, though the CD2 does not have the rise in noise around the base of the fundamental that the Myryad has. The sidebands marked in red are 229Hz-related jitter components — the highest in level, marked "I," contribute 93.2ps worth of jitter. The bins marked in blue are spurious noise components; those marked in purple are jitter-related sidebands, but, at 1550Hz spacing, are of unknown origin. Overall, this is very low jitter.

—John Atkinson
"shine a 500W light on everything" school of over-illumination. Neither is it a proponent of the "let's mush everything together" school. To quote the noted measurement expert Goldbloch, it was "just right." Whenever I listened for details, they were there—in their natural proportions and unobscured—but never were they spotted to the point where they overwhelmed the gestalt.

For this reason, I spent many hours listening to chamber music with the CD2. I love the symphonic repertoire, but quartets and trios are strong liquor to me, and I am able (and far too willing) to go on extended benders that take me through the entire outputs of Beethoven, Mozart, Bartók, and Shostakovich. It is said that, in a string quartet, you hear the bones of music laid bare, and I have certainly heard gear that proves that dictum with gory literal-mindedness. Play a work such as Bartók’s Quartet 4 (performed by the Végh Quartet on Astrée E 7718) on one of those, and all you’ll hear is bones and sinew, the grand ABCBA’ structure and the symmetry of the movements themselves. But there’s far more to such a work than the mirror of first and last movements, or the clever way they both end with same riff, reinforcing the tonal center of C. Look at the Bartók’s final movement, the Allegro molto: 16 strings scrape 15 bars of the most dissonant chords ever written—and the CD2 gave them a grandeur that many orchestras would envy. Over a constantly shifting rhythmic accompaniment, the main theme first develops, then mutates back into a variation that grows out of the first movement, and finally settles into a free recapitulation that sounds like nothing so much as Arab music before pounding back into the motif that ended the first movement. This nails the Fourth shut about as satisfyingly as any work ever written.

The Végh bites into all of this with searing intensity and an emotional directness that is astounding. The CD2 certainly laid the structure open for examination, but what was even more noticeable was how it also captured the gritty frenzy that Bartók embedded into his composition—and that the Végh extracts from it. The CD2 performed a wondrous balancing act: neither the structure nor the emotionality overwhelmed one another. What I heard was the complete picture, made stronger by its contradictions.

Every time I thought I had a handle on what the CD2 did best, I would hear a new CD that emphasized some other aspect of musical communication, and the CD2 would turn out to be equally adept at that quality too. Duh. Those qualities are, of course, embedded in the music, and the whole point of a high-end transducer is to accurately reflect what it’s been fed. That meant that, when I listened to propulsively rhythmic music such as Medesky, Martin & Wood’s Friday Afternoon in the Universe (Grammavision GCD 79503), I was impressed by the CD2’s slam, metric assurance, and taut pace. When listening to delicate music, such as the central movement of Ravel’s Piano Concerto in G (Ousset/Rattle/ CBSO, EM1 75158-2), the player’s strengths seemed to be tonal color and nuance. Over time—a lot of time—I felt I had gained a handle on the CD2’s sound. It didn’t seem to have the bass slam of Krell’s KAV-300iCl, which is similarly priced at $3500, although its bass response was taut and in balance with the rest of its range. It also seemed consistently on the warm side compared with, say, the $5995 Mark Levinson No.39. Obviously, it was time to engage in some level-matched direct comparisons.

It must be possible for an empirical scientific system to be refuted by experience.
—Karl Popper

Conditioned as I have become to the proposition that when you audition two components side by side you will be able to identify differences between them, I was initially startled by how few significant differences I heard when comparing the Audio Research CD2 with the Mark Levinson No.39. That’s not to say that there were none, just that most of them were either musically unimportant or so small as to seem piddling.

Ruth Laredo’s superb-sounding CD of Beethoven piano sonatas (Connoisseur Society CD-4210) served to show that the No.39 did a better job of reproducing tape noise and hall air than did the CD2. Alas, I thought. The No.39 will have more high-end detail! But no—on music, the two players were virtually indistinguishable in that regard.

Well then, what about my feeling that the Audio Research player was somewhat warmer-sounding than the Mark Levinson? I could certainly discern differences between the two, but they seemed to be on the order of shifting my seat in the concert hall from the first third of the hall to a point, say, six rows back. The Levinson placed me in row G, perhaps, where the direct sound considerably predominated over the reflected sound; the Audio Research moved me back to row M, where the sound was slightly more informed by the hall—less sharp, more blended. Which was “truer”? Well, neither—they both sounded quite real, just ever so slightly different in perspective.

Switching over to compare the Krell KAV-300iCl to the CD2, it was déjà vu all over again, to resort to that overworked phrase. The difference in slam was discernible, but the Audio Research certainly didn’t sound anemic or deficient, nor did the Krell sound too bass-heavy. The presentations were just different. This doesn’t mean that there was nothing to choose among the three. If only it were that easy…

Some will find the Krell more upfront in perspective, preferring the smoothness of the CD2’s tonal delivery. Others, I imagine, will require that sense of impact and power that the Krell so readily delivers. Audition carefully; I think most people won’t have too hard a time choosing a favorite.

It might be harder to choose between the Audio Research and the Mark Levinson. The differences were extremely subtle, and from disc to disc I found myself switching from one preference to the other. Of course, the Levinson offers more versatility: with its volume control, it can be used without a preamp, as a D/A processor for outboard digital sources, as a transport, or as an all-in-one player. But you end up paying $2500 more for that versatility, and most people don’t have the additional digital sources that would allow them to take advantage of the digital inputs. In comparison, the CD2 seems quite a bargain.

My colleague Jonathan Scull frequently speculates on the type of buyer who would enjoy the exotic creations J-10 reviews—a valid critical exercise that I think is appropriate here. If you value impact and immediacy, I suspect you’ll prefer the Krell. It delivers those qualities in spades, and achieves a laudable balance in other areas as well. If you have a sophisticated system, or wish to assemble an extremely simple
one sans preamp, the Levinson can easily accommodate your specialized needs. If you like to sit in the front of the concert hall, but not so close the trombones can blow off your hairpiece, the Levinson’s presentation should make you happy.

If you actually crave the more blend—
ed sound of mid-hall, but also value prec—
ission and amiability, then the Audio Research could be the final stop on your pilgrimage toward musical nirvana.

Which would I choose? I’m still trying to decide. I really did admire the CD2’s mid—concert-hall presentation a lot, but that’s the problem with systems that have achieved equilibrium: as the variations between choices decrease, it becomes increasingly difficult to isolate the criteria that make deciding easy — or even possible.

That man can interrogate as well as observe nature, was a lesson slowly learned in his evolution.
—William Osler

Is that really what’s happening in the ambitious realm of high-end CD players? I think so. The Levinson, Krell, and Audio Research are all stunningly good. And they’re joined by equally exalted players we haven’t yet looked at: The Wadia 850 and Meridian 508-24 readily come to mind (and will be reviewed in the next couple of issues).

Stephen Jay Gould writes in Full House: “Individual players struggle to find means of improvement — up to limits imposed by balances of competition and mechanical properties of materials — and their discoveries accumulate within the system, leading to general gains toward an optimum. As the system nears this narrow pinnacle, variation must decrease — for only the best can now enter, while their predecessors have slowly, by trial and error, discovered better procedures that now cannot be substantially improved.” That sounds like a natural rule for the High End, if ever there was one.

If we are creeping ever steadily toward the best that our current digital standard can accomplish, it is players such as the Audio Research CD2 that are within spotting distance of that goal. Like the Krell KAV-300/d and the Mark Levinson No.39, the CD2 has no real weaknesses to detract from its long list of virtues. It’s easy on the ears, true to the music, and, as these things go, relatively kind to your wallet.

Associated Equipment

CD players: Krell KAV-300d, Mark Levinson No.39.
Preamplifier: Conrad-Johnson ART.
Power amplifiers: Cary 300SEI, Krell FPB 600 and KAV-300i.
Loudspeakers: B&W Silver Signature, EgglestonWorks Andra, ProAc Response One SC.
Cables: Kimber KCAG and Wire World GEI interconnects, Kimber Black Pearl and WireWorld GEI speaker cables.
Accessories: Audio Power Industries Power Wedge 112, Magico Stereo Display Stand, Foundation 24” stands.
Sound treatment: ASC Tube Traps, Studio Traps, Bass Traps; RPG Abfussors; micronoetic feline.
— Wes Phillips

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The apparent demise of Audio Alchemy left a niche in the marketplace for a supplier of innovative, high-value digital components to provide the less-than-wealthy audiophile with state-of-the-art technology. Although Camelot Technology existed before AA went away, they have quickly taken over this niche with some interesting components. And I understand that some of the former AA technical personnel consulted for Camelot in the development of these products. (A recent press release indicates that Genesis Technology also played a major role in their design.)

While one cannot completely ignore the heritage of some of these products, it would be unfair to treat Camelot as Audio Alchemy reincarnated. These are newly thought-out components that are, for the most part, considerable advances over their predecessors. Also, they are part of a program of product development that is moving them still further from that older line.

The three devices under consideration here constitute a complete CDJ system:

1) The Merlin I is a relatively low-cost CDJ transport, based on a Sony mechanism, that offers S/PDIF, AES/EBU, and — be still, my heart — PS outputs. As such, it seems a ready replacement for my Audio Alchemy D/JS-Pro transport. My listening experience indicates that, all else being equal, simply changing from any single line interface to PS results in an improvement in the reproduced sound. Plugging the Merlin into the Camelot components (Dragon and Uther) or into the AA components (DT1 and D1E 3) confirmed this: with either, the PS link gave a more relaxed spatial rendition, with better differentiation of music and ambience. Not that the Camelot and AA components sounded the same; rather, they distinguished between the interfaces in the same ways. [We were informed by Camelot during the preparation of this review that the Merlin I is no longer available, and will be replaced by the Merlin Pro, which uses a Pioneer "Stable Platter" mechanism. We have therefore retained KR's comments on the Merlin only where they throw light on the other two products — Ed.]

2) The Dragon Pro2 anti-jitter box offers both jitter reduction and resolution enhancement, along with PS in/out. Considering the number of web newsgroup ads from folks wanting to buy AA DT1-Pro 32s, this baby has a waiting market.

3) Finally, in terms of complexity and sophistication, the Uther v2.0 DAC goes well beyond anything that AA had offered, and still provides PS connections compatible with AA and Camelot devices.

**Dragon Pro2 anti-jitter box**

This is, I believe, the most eagerly awaited of the Camelot products. Since the disappearance of AA's DT1-Pro 32, no comparable anti-jitter and resolution-enhancement product has come along to replace it. (Yes, there are simpler anti-jitter boxes, and there is the Genesis Digital Lens, but these are not truly comparable in approach.) Well, the Dragon is everything that the DT1-Pro 32 was, and more!
By Yves Bernard André

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Stereophile Vol.19 No.12

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INNER EAR REPORT

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"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."

John Atkinson

Stereophile Vol. 17, No. 7

YBA 2HC 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."

John Atkinson

Stereophile Vol. 17, No. 1
The Dragon Pro2 accepts coax S/PDIF, AES/EBU, TosLink, and AT&T glass inputs, as well as PS. Its outputs are S/PDIF, AES/EBU, and PS. This ain’t enough for you (and it ought to be), you have the option of a special hook-up arrangement with the Uther DAC, the Royal Bloodline, which adds the Uther’s inputs to this array (more about this below). Following a Crystal CS8412 input receiver, the Dragon Pro2 locks the 16-bit input signal with two phase-locked loops of different bandwidths. (Even the PS input clock is subjected to this lock.) This is the primary jitter-reducer.

The Dragon Pro2 also provides a choice of apparent resolution enhancement, to 18 or 20 bits, by the addition of triangular dither. Finally, the subcode data on the incoming datastream, including the “U” bit (user bit), can be a source of jitters on the next leg of the trip to the DAC, and in general is of no particular use in audio. The Dragon Pro2 strips that bit from the datastream and affords yet another type of jitter reduction, effective even with DACs that accept only 16-bit input. (Remember those?) High-quality transformers are used on all the nonoptical inputs and the outputs.

The Dragon Pro2’s ergonomics are first rate. First, bright (almost too bright) alphanumeric displays indicate the selected input and the sampling rate, while LEDs indicate input level, signal phase, and the bit depth of the output signal. Second, front-panel controls permit power on/off, input selection, phase reversal, and bit-depth selection. In addition, all this is done with only two toggle switches.

The chassis is, however, strangely smaller and different in shape from those of the Merlin I and the Uther. Late news from Camelot indicates that a Dragon Pro2 Mk.2 will have an extended 17" front-panel width, with sharper radiusing of the corners, and that newer Uthers will adopt the same profile. The other change that will distinguish the Pro2 Mk.2 will be the adoption of yet another proprietary PS connector, a 6-pin in-line locking DIN for input and output in addition to the current circular 5-pin DINs. Will there ever be a universal standard? Watch Stereophile for breaking news.

Sound, you ask? This is a better Uther. The improvements in subjective resolution and soundstage were such that I didn’t want to remove it from the system once it was in. For details, I refer the reader to the Stereophile reviews of the DTI-Pro32, and to my review of the DDS-Pro.2 I cannot deny the Dragon Pro2 at least the same standing.

Putting the Dragon Pro2 into the AA system in place of the DTI didn’t make much of a difference. On the other hand, popping the DTI into the Camelot system was marginally less successful. For example, I’ve been enjoying a CD by the North Texas Wind Symphony that contains an arrangement by Keith Wilson of Hindemith’s Symphonic Metamorphoses on Themes by Carl Maria von Weber (Klavier KC11 11077). This is a delightful translation performed with wit and style, but the recording per se is a bit edgy, the brass somewhat harsh and spitty. With the DTI, I kept switching and/or moving speakers and fiddling with the gain, but achieved little satisfaction. With the Dragon Pro2, I heard the problem clearly: a strange mix and overload on the brass. Now, knowing what is amiss, I can relax and enjoy the Hindemith for the wonderful performance it is.

All measurements were performed with the Uther powered by AC rather than by batteries. The balanced analog outputs measured as having a very low source impedance—just 3 ohms—except in the low bass, where this rose to a still low 27 ohms. By contrast, the single-ended outputs featured a slightly higher 13 ohms at mid and high frequencies, 20 ohms at 20Hz. The polarity was noninverting from both sets of outputs with the phase control set to normal. (The XLRs appeared to be wired with pin 2 “hot.”) The output level with the volume control set to “100” or “Out” was a high 6.125V RMS from the balanced outputs, 3.06V from the unbalanced.

(The latter is a very audible 3.5dB higher than the CD standard 2V, but is sufficient to fully drive 99.9% of the power amplifiers out there.) The analog volume-control steps appeared to be around 0.6dB/division; i.e., every reduction in the numerical setting of “10” resulted in a 6dB drop in level.

The top traces in fig.1 show the Uther’s frequency response. The output drops by 0.7dB or so at 20kHz, which may just be audibly to younger listeners as a very slight softening. The channels match to within 0.05dB, which is excellent. The bottom traces are the left and right responses with pre-emphasized data—they match the top traces very closely, indicating accurate de-emphasis. Fig.2 shows the Uther’s channel separation, which is also excellent, the crosstalk remaining below -100dB even at 10kHz.

Fig.3 shows a spectral analysis of the Uther’s output while it decoded data representing a dithered 1kHz tone at ~90dB. The upper pair of traces is with the Audio Precision digital generator’s word length set to 16 bits, the bottom with it set to 20 bits. The unit’s dither was switched on for these measurements; it can be seen that the Uther’s noise floor limits resolution to 16 bits below 300Hz or so, though the right

Fig.1 Camelot Uther v2.0, frequency response (right channel dashed, 0.5dB/vertical div.).

Fig.2 Camelot Uther v2.0, channel separation (L–R dashed, 10dB/vertical div.).

Fig.3 Camelot Uther v2.0, spectrum of dithered 1kHz tone at ~90.31dBFS, with noise and spuriae: 16-bit data, top; 20-bit data, bottom (8-octave analysis, right channel dashed).

2 Stereophile, Vol.19 Nos.3 & 7 and Vol.19 No.9, respectively.
Uther v2.0 DAC
The Uther v2.0 is the big gun of the Camelot line, and it certainly projects a macho image right from the faceplate. The protruding middle section has “CAMELOT” embazoned in its center, surrounded by four hefty square buttons for power, mode, and other functions (selection of one of eight inputs, gain control, dither mode, etc.). Flanking this section are two of the most prominent alphanumeric displays I’ve ever seen on a piece of domestic audio equipment. Read them from across the room? I think you can read them from across the street. Along with six LEDs, they provide the user with lots of important control information. Like the Dragon Pro2, the Mk.2 version of the Uther will redress some of these problems with a smaller name imprint, a 17” width, and a much-needed blanking option for the displays. Six-pin PS connectors will be added as well.

The Uther is provided with a remote control that will also control the Dragon Pro2 if they are connected with the Royal Bloodline (see below). It also comes with a separate power-supply “brick” that connects to the 10 local voltage regulators in the main chassis. There is the option of a battery power supply for the powerfully fastidious: The Charm ($3495).

The jitter-reducing input stages of the Uther, similar to those in the Dragon, feed a Pacific Microsonics PMD-100 digital filter. Aside from its HDCD-decoding capability, the PMD-100 has the ability to implement eight different dither modes; the Uther is. I believe, the first consumer DAC to give the user full access to all of them. You can even A/B two dither settings with the remote! I tried all eight modes and settled on the

dither turned off, the processor still appeared to be doing some waveshaping. (This waveform should be reproduced as a stepped wave switching between three distinct and equal levels—see the Audio Research review elsewhere in this issue for a good example.)

The Uther’s analog stages introduced a bit more intermodulation distortion than I would have expected. Driving the processor with an equal mix of 19kHz and 20kHz tones gave the spectrum shown in fig.7. Though the 1kHz difference component is conspicuous by its absence, the second-order tones at 18kHz and 21kHz lay at -66dB (0.05%), with other tones visible.

To examine the Camelot’s jitter performance, I drove it with data representing an 11kHz tone at -10dBFS while the LSB is toggled on and off at a 229Hz rate. (The test signal was played on a PS Audio Lambda transport, connected to the Uther via an Aperture S/PDIF cable.) A Miller Audio Research analyzer (see the Audio Research review elsewhere in this issue for more details) was hooked up to

Measurements
channel is better than the left in this respect. In the treble, however, the longer word length gives a 5–6dB reduction in the level of the noise floor. Fig.4 shows similar spectral analyses with the Camelot reproducing digital silence, again with both 16-bit and 20-bit word lengths.

Fig.3 implies low amplitude error; this is confirmed by fig.5, which shows the Camelot’s linearity. The output level tracks the data level very accurately down to below -80dBFS, with a still-negligible negative error down to -100dBFS. Looking at the waveform of an undithered 16-bit, 1kHz tone at -90.31dB (fig.6), however, revealed that, even with the Uther's
factory setting as most useful with most CDs. However, the eighth dither setting, TPDE (Triangular Probability Density Function), was especially forgiving in softening the edges. Hindemith recording mentioned above. The variable dither settings may also be a useful EQ tool for fine-tuning system character.

The Uther has two pairs of Burr-Brown PCM-63 converter chips for fully differential and balanced D/A conversion. While the B-B PCM-1702, with comparable specs, was supposed to supplant the PCM-63 several years ago, this venerable (in digital terms) device is still preferred by many engineers and listeners. Multiple bypass caps and trimmers for balance and offset surround the PCM-63. The analog output stage is discrete, provides single-ended and balanced outputs, and, minimally dither, contains an analog-domain volume/balance control accessible from the remote. The volume/balance steps are accomplished by switching in/out discrete metal-film resistors, all nicely lined up on a daughter board and isolated from the digital circuitry. If you have only digital sources (and that's what the Camelot's left-channel analog output and performed a high-resolution, 32,768-point FFT analysis of its noise floor.

This spectrum is shown in fig.8, with the grayed-out spectrum of the Audio Research CD2 shown for comparison. The overall jitter level was a still very low 175.4 picoseconds (ps) peak-to-peak, compared with the CD2's 168.6ps. Interestingly, the Audio Research's central tone spreads somewhat compared with the Camelot's, which might indicate the presence of very low-frequency jitter in the former's output. Note also that the fundamental 229Hz sideband is highest in level above the central tone for the Uther, whereas the Audio Research has the lower 229Hz sideband highest in level. I have no idea what this means.

The main jitter components that can be found in the Uther's analog noise floor, however, are the 229Hz-spaced data-induced components (indicated with red numbered markers), which presumably arise from the S/PDIF interface. It would seem a no-brainer, therefore, to hook up the Dragon Pro2 jitter reducer to the Uther via its PS interface (two PS cables are required to do this, as well as the Royal Bloodline connis link) to see if these sidebands would be reduced by the PS connection. Unfortunately, I couldn't get the Uther to put out an analog signal under these conditions. Everything was hooked up according to Camelot's informative manual, and the input switching, data-lock LEDs, and displays all appeared to be working correctly. But no matter what I did, no signal appeared at the unit's analog output jacks. Once I've figured out what was wrong, I will report on the measured effect of the Dragon Pro2 in a future issue.

Overall, the Uther measured very well on the test bench. But boy, it sure is one ugly piece of kit. — John Atkinson

The Uther was smooth on the top end, clean and balanced in the voice range, and possessed of considerable slam on the bottom.

...the presence of considerable slam on the bottom.

...the analog output signal (11kHz at -10dBFS with LSB toggled at 229Hz). Center frequency of trace, 11kHz; frequency range, ±3.5kHz. Grayed-out spectrum is that of the Audio Research CD2.
that the percussionist, Gert Mortensen, is given top billing on this CD’s cover. His contributions, particularly on timpani in the last movement of the 6th, were reproduced powerfully and articulately by the Camelot components. Yet there was no artificial spotlighting, and the rest of the orchestra and the ambience were beautifully balanced.

Comparisons? Forget the DDE v.3; it was outdated, as it should be, by the much more expensive Uther. Face-offs between the DDS-Pro/Dragon/Uther with the Sonic Frontiers SFCD-1 were curiously dependent on sources and on the rest of the system. With the Duettas and the DNA-1, the bass from the Camelots could be a bit overripe, emphasizing a room/speaker resonance to a degree not experienced before. On the other hand, the SFCD-1 educes no such problems with this combination, and seemed slightly more forgiving and natural with female voices. The new Diana Krall CD (Love Scenes, Impulse! IMPD-233) made both of these effects quite apparent right from the opening cut. On the other hand, the SFCD-1 was less extended in the bass when auditioned with the EOS Signature/Base Modules and the DNA-1. The magnitude of these differences, however, was quite small, and noticeable primarily with direct A/B comparisons. Besides, if you want to savor a slightly different flavor, try another dither setting on the Uther.

Summary
Okay, okay. What didn’t I like about the Camelot components? Well, their appearance didn’t suit my taste, but each person can judge this for himself. Moreover, Camelot will be improving this in their Mk.2 versions. I was also annoyed by Camelot’s adherence to RCA jacks, even though gold-plated, for all the coaxial digital connections. Surely, at this point in the digital era, some or all of these should be BNCs. Finally, the quality of the printed overlay on the Uther remote is a little tacky.

But all of this amounts to a hill of beans when considered with the performance one gets from the Camelot components. The Dragon Pro2 should become the new standard for anti-jitter processing, and the Uther 2.0 is simply the best DAC I’ve used to date. Together, they sounded great, have immense flexibility in configuration, and do not require a preamp or controller. Adding up the prices, they may not be the most cost-effective one-time purchase—one can buy other Class A-rated CD players for less. On the other hand, just add an amp and speakers and you’re on your way to wonderful sound.

A Note About PS Cables

For the past couple of years I’ve been using PS as my preferred means of interconnecting CD transports, jitter boxes, and DACs, and I want to emphasize that the standard OEM black PS cables are perfectly capable of demonstrating the superiority of PS over single-line interconnections. Nonetheless, as a reasonably compulsive audiophile, it has become necessary for me to try out a variety of PS cables in the hope/fear that they might affect the reproduction.

Of the PS cables I’ve auditioned, all improve on the OEM standard cable in at least two ways: they’re built more robustly, and they’re shielded. The former is probably more important for reviewers who change components and cables frequently, but it’s relevant to others as well. The flimsy standard 5-pin mini-DIN is a failure waiting to happen—I’ve discarded three or four that have just crumbled. (The 5-pin mini-DIN is the Achilles’ heel of PS; Camelot, Muse, Sonic Frontiers and UltraAnalog are pushing for the use of other connectors and implementations.) The Camelot and Audio One connectors have sturdier molded housings, and the Audio Magic and Camelot connectors have heavier gold-plated metal work. As for shielding, any listener benefits when the digital interconnects radiate less RF into the listening environment. If you doubt that PS is pumping out a lot of RF noise, fiddle around with your FM tuner while you turn the digital components on and off—you’ll hear it. Now think about how all your RF-sensitive digital equipment is swimming in that same noisy sea. Although the 5-pin mini-DIN connector means that the shield carries both the signal and chassis grounds, these premium cables improve on the OEM cables by providing additional shielding of individual signal lines. All three cables also have tougher and/or thicker outer cable jackets that help resist damage from excessive twisting and flexing.

Consequently, I urge every PS user to consider using one of these premium cables as replacements for the freebies that came in the box with the transport or DAC. Having said this, I am loath to recommend any one of these over the others for purely sonic reasons. I’ve listened to them and they sound substantially better than the OEM cables in the way they render the space around individual voices and the decay of sibilants. But while I’ve tried to characterize their individual sonic effects, all differences among them have been minuscule—on the order of the effects of changes in ambient humidity and temperature. You may find that one of them has a uniquely synergistic effect on your system; if so, that’s great. But even if not, they’re better than the OEM cables for environmental reasons.

Associated Equipment

Digital sources: Sonic Frontiers SFCD-1 CD player, Audio Alchemy DD5-Pro/DDT-Pro 32/DDE v.3.


Power amplifiers: SimAudio Celeste Moon W-5, McCormack DNA-1 (one or two), Sonic Frontiers Power-2 (via Cardas Cross or Straight Wire Virtuso interconnects).

Loudspeakers: EOS Signature and Base Module, Apogee Duetta II, PMC IB-1S (via Straight Wire Maestro speaker cables).

—Kalman Rubinson

Audio One PS Bus silver/Teflon digital cable. SW Marketing Inc., 116 Orthodox Drive, Richboro, PA 18954. Tel: (215) 953-7482.

Audio Magic Mystic Cable silver PS digital cable. Audio Magic, 456 South Potomac Way, Aurora, CO 80012. Tel: (303) 364-8202.

Camelot Excalibur III PS digital cable. Camelot Technology Inc., 30 Snowflake Road, Huntingdon Valley, PA 19006. Tel: (215) 357-8356.

—Kalman Rubinson
Wilson Audio Specialties CUB loudspeaker

Scratch an audiophile and, chances are, you’ll find a closet Wilson Audio fan. The Wilson WATT/Puppy would probably make almost anyone’s list of the most significant high-end loudspeaker designs. David Wilson first established his reputation with the custom-built WAMM loudspeaker—a monumental piece invariably included with products like the Infinity IRS, Genesis I, and Apogee Grand when the world’s most awesome loudspeakers are discussed. But it was the WATT, followed by the WATT/Puppy—the latter now several generations improved over the original design—that really put the company on the high-end audio map.

Typically, Wilson loudspeakers are not products we can all aspire to own. They have always been price-no-object designs. Not to mention the fact that up till now, the looks of all Wilson speakers have inspired either “Love it!” or “Not in my living room!” reactions. They’re astonishingly well made and beautifully finished to be certain, but definitely from the “high-tech” school of design.

Thus the CUB. With more and more high-end loudspeakers pushing five-figure price tags, the cost of a pair of CUBs in today’s market, if not exactly petty cash, raises only the most tentative of eyebrows. And the CUB’s appearance is almost conventional: a rectangular, stand-mounted box with three forward-radiating drivers. When I reviewed the CUB in a home-theater context for the January 1998 Stereophile Guide to Home Theater (an application that must have been in the mind of the designer, and for which the loudspeaker is very well suited), Wilson took exception to my characterization of the loudspeaker’s shape as “conventional.” Well, compared to their other loudspeakers, it is. But since it’s a Wilson, it doesn’t take more than a few seconds to see that there is really very little else about the CUB that’s “conventional.”

**Description**

The CUB—which stands for Center Unitized Bass—utilizes a pair of 6.5” treated-paper cone woofers (made by SEAS) and an inverted metal-dome tweeter. The woofers appear to be similar to the midrange driver in the Wilson WITT, which itself harks back to the woofer in the original WATT (since changed). It’s apparent that Dave Wilson likes this woofer, and, judging from the success of those earlier loudspeakers, his confidence is well placed. The tweeter is an inverted-titanium-dome design coated with titanium dioxide, the latter said to effectively damp the resonances that often afflict metal-dome tweeters. Focal, the manufacturer of the tweeter, calls this coating material “Tioxid.”

Each of the two woofers is mounted on its own separate sub-baffle, both of which sit just forward of the centrally mounted tweeter. These sub-baffles, made of an ultra-high-density composite identical to that used in the Wilson X-I Grand SLAMM, are tipped in on the sides facing the tweeter and finished in a high-gloss black that gives the loudspeaker a unique, elegant appearance. But I always have reservations about cabinet protrusions that might cause diffraction, even though here there are some fairly thin foam pads in the area of the tweeter to minimize this effect. The only justification for such a setback tweeter configuration is time alignment, and only the measurements and the listening will tell us if the effort has provided more benefits than liabilities.

Connection to the CUB is via a single pair of high-quality terminals. These are unusual in that they may only be used with spade lugs or bare wires—banana plugs need not apply. (Wilson says this reflects current European regulations.) The lack of a bi-wiring option is common to Wilson Audio loudspeakers, but it’s not a cost-saving measure; Wilson is apparently not a proponent of biwiring. And it’s not for its own designs. One obvious benefit of this is that you can budget for a single “better” pair of loudspeaker cables rather than two cheaper ones. (Still, there’s no guarantee...)

**Description**: Two-way, reflex-loaded loudspeaker. Drive-units: 1” inverted metal-dome tweeter, two 6.5” treated-paper cone woofers. Crossover frequency: 1.8kHz. Frequency response: 50Hz–25kHz, ±3dB; 55Hz–22kHz, ±1.5dB. Sensitivity: 94dB/W/m. Nominal/minimum impedance: 4 ohms/2.8 ohms at 400Hz. Recommended minimum amplifier power: 7W.

**Dimensions**: 22” H by 10” W by 22” D (to nearest inch, including crossover cups). Weight: 75 lbs each.

**Finishes**: black laminate, standard; painted, add $400; wood veneer, add $640.

**Serial numbers of units reviewed**: 0131, 0132 (also 0129, 0130, 0135 in home-theater applications).

**Price**: $5900/pair. Approximate number of dealers: 40.

**Manufacturer**: Wilson Audio Specialties, Inc., 2233 Mountain Vista Lane, Provo, UT 84606. Tel: (801) 377-2233. Fax: (801) 377-2282.
that any specific set of more expensive cables will sound better.)

A pair of test points on the back of the CUB, labeled "Resistor Test Port High Frequency," are provided to diagnose tweeter problems. More specifically, if you measure approximately 1 ohm across the test points, all is well. If not, a resistive fuse in the tweeter circuit has apparently blown and service is required.

(I measured 0.8 ohm across these points in our samples—well within the "normal" range.)

The CUB's rigidly braced and extremely solid cabinet is built of a combination of MDF and synthetic composite materials. And it weighs 75 lbs, so unless you spend a lot of time in the gym, you'll probably need help setting it up. Applying the old knuckle-rap test to the CUB's cabinet produced little result beyond some knuckles. Protruding from the back of the cabinet, looking like transformers that have escaped from a high-powered amplifier, are two gray blocks—the electromagnetically shielded, encapsulated crossover networks.

A wide variety of standard and custom finishes is available; our CUB samples were finished in a gorgeous rosewood veneer so smooth and polished that my first reaction was "plastic laminate." But the corners revealed no signs of a laminate finish, with good reason: This real-wood veneer overlaid with a high-gloss lacquer reminds me of nothing less than the interior wood trim in a Mercedes. The finish is completely covered with a semi-transparent film at the factory, which protects it from scratches in handling and transit. The film must be peeled off, Wilson recommends that it be left in place while you're finding the CUB's proper positions. But it will leave marks on the finish if left on for an extended period: remove it as soon as setup is complete.

In my SGHT review, I remarked negatively on the shiny heads on the steel bolts used to fasten the CUB's measured on the Wilson CUB. Because the loudspeakers were initially reviewed for Stereophile Guide to Home Theater, I was unavoidably familiar with these measurements when I performed the final listening tests for the present review, though not when I made the observations for SGHT, which I summarize here.

The Wilson's sensitivity measured 93dB/W/m (B-weighted), a very high figure. Its impedance is shown in fig.1. The enclosure is tuned to just above 50Hz, with the magnitude plot displaying the saddle shape typical of ported enclosures. The impedance drops down to around 3 ohms over the 200Hz-1kHz region. A good deal of the power in typical program material falls in this range, which suggests that the CUB will not be particularly easy to drive. While any competent high-end amplifier of the sort likely to be used with a loudspeaker such as this should have no problem, I still recommend listening to the CUB with the intended amplifier before purchase. The small ripples visible at 16kHz and 22kHz are due to the resonances in the metal-dome tweeter.

Fig.2 (top curve at the 100Hz point) shows the CUB's FFT-derived response on the high-frequency axis and averaged across a 30° lateral window, combined with the complex sum of the nearfield responses of the woofer and port. (The low-frequency nearfield responses of the woofer alone and of the port alone are shown in the lower curves.) This full-range plot explains a great deal about the CUB's audible performance. First of all, the bass holds up very well to just below 60Hz, then drops like a stone. Hence the limited deep-bass response but the lack of any leanness—the low-frequency response holds up strongly to 50Hz, which covers the fundamentals of nearly all instruments. (Many loudspeakers with limited very-deep-bass response taper off gradually,

**Measurements**

John Atkinson performed the measurements on the Wilson CUB. His report is found on p.196 of this issue. The measurements of the Wilson have been included here, mainly to show the sensitivity of their test equipment (the Wilson CUB's sensitivity measured 93dB/W/m B-weighted). The impedance of the CUB is shown in fig.1. The enclosure is tuned to just above 50Hz, with the magnitude plot displaying the saddle shape typical of ported enclosures. The impedance drops down to around 3 ohms over the 200Hz-1kHz region. A good deal of the power in typical program material falls in this range, which suggests that the CUB will not be particularly easy to drive. While any competent high-end amplifier of the sort likely to be used with a loudspeaker such as this should have no problem, I still recommend listening to the CUB with the intended amplifier before purchase. The small ripples visible at 16kHz and 22kHz are due to the resonances in the metal-dome tweeter.

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**Fig.3** Wilson CUB, vertical response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 45°-5° above-axis; reference response; differences in response 5°-45° below-axis.

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**Stereophile, April 1998**

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drivers to its baffle. In a home-theater setup, this is a possible source of unwanted optical reflections, especially for those who may wish to place the loudspeakers behind a perforated screen. (I don't recommend this; there's no such thing as a screen sonically transparent enough to do full justice to loudspeakers of this caliber.) According to Wilson, they use stainless-steel bolts to eliminate the possibility of corrosion.

The foam grille that comes with the CUB is attractive, but the loudspeaker looks fine (to me) without it. More important, while the foam itself is reasonably transparent to sound, the plastic grille frame looks like it could be a source of diffraction.

The CUB's high sensitivity may make it attractive to those with low-powered tube amplifiers. Wilson denies that the loudspeaker was intended for that purpose; the company never uses such designs in their show demonstrations, sticking instead to both tube and solid-state amps of medium to high power. Nevertheless, the fact that these loudspeakers don't really need unusually high power certainly won't hurt their potential market base.

**Sound**

Evaluated as a full home-theater array for the Stereophile Guide to Home Theater review, five CUBs had an immediate, vivid presence that was unmistakable, and very recognizable as Wilson loudspeakers for anyone familiar with the brand. The midrange was clear and articulate. Dynamic contrasts were particularly well handled, and while the sound struck me as noticeably forward starting at a much higher frequency.)

Further up the range, the entire upper-midrange/lower-treble region is prominent enough to produce much of the presence I heard — and the occasional edge or bite at high levels — but not enough to cause a serious skewing of the overall balance. The most notable aberrations occur above 4kHz. The response is down across most of this region, generally not more than 3dB, but notably more so in a narrow but steep dip centered on 6kHz. I suspect (though cannot verify) that this dip is caused by diffraction from the cabinet structure around the recessed tweeter. Taken in total, the lowered high-frequency response could well explain the lack of "air" I heard from the CUB, though the problem clearly extends down into the mid-treble, not just the high treble as I speculated in the auditioning comments. While there are indications that the 6kHz dip is less significant at normal listening distances than it might first appear (the measurements are made from just beyond 4'), I suspect it is not totally innocuous.

Finally, the peaks due to the metal tweeter resonances are visible above 15kHz. While they look nasty, and while one of them is in the "audible" range, in practice they are narrow (high Q), and high enough in frequency that they're unlikely to cause any clearly identifiable treble coloration. The overall response, while not as smooth as many we have measured, is within ±3dB over most of the audible range (if you accept that the dip at 6kHz will be more benign at the listening chair).

Fig.3 shows the CUB's vertical response family, plotted relative to the on-axis response. (The curves are normalized to the on-axis response, with the remaining curves showing the changes as the listener moves off-axis.) Note that the response becomes quite rough at points significantly off the main vertical axis. You should take Wilson's stand-height recommendation seriously. This response also verifies an observation I made during my home-theater testing: Used horizontally as a center channel, where the vertical dispersion in fig.3 then becomes the horizontal dispersion, the CUB's balance is erratic as one moves from the center to the sides of the listening area. In a home theater, the CUB is at its best in installations where the center channel can be positioned vertically.

Fig.4 shows the horizontal dispersion, again normalized to the tweeter-axis response. This is far smoother than the vertical response. There is a slight excess in off-axis energy at about 5kHz, not far from the bottom of the 6kHz dip in the averaged front response. Thus the overall room response in this region will probably be flatter than that shown in fig.2. A lot will depend on the loudspeaker position and the characteristics of the room. I generally like to see a loudspeaker that has a smooth response in the averaged front region and well off-axis. Such a loudspeaker should, in theory, be the least room- and placement-sensitive (at
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The low treble did sound more prominent than the extreme top end; the price paid for the Wilson's immediacy and dynamic capability was a tendency for the sound to occasionally "bite" with forward, somewhat bright (but not poor) recordings. But in compensation, the sound was never "polite" or wishy-washy. The CUB sounded alive.

I also listened to a pair of CUBs in the music system as part of that prior review, and found that the sound differed somewhat from the home-theater experience—suggesting, not surprisingly, some not atypical room sensitivity in the loudspeakers. My home-theater and audio systems are in different, separate rooms, and the music room is the more highly damped of the two. There, the CUB's top end remained clean and open, though the overall sound warmed up a bit from what it had been in the home theater. (The comparison here is with the CUB's performance in the home-theater system on music, using simple music surround modes for two-channel material.) The bass in the music room was tight, punchy, and crisp. It was not exceptionally deep, but neither did the CUB sound thin. Soundstaging was superb.

I was, however, troubled in the music-room system by a degree of forwardness and what I can only describe as "shout," particularly evident on closely miked vocals located at the center of the soundstage. This had been, surprisingly, much less apparent in the home-theater system—in which the center channel was represented by a real loudspeaker—than with the phantom center of two-channel stereo. After some tweaking involving power amps, cables, and placement, I was able to reduce this quality to the point where it no longer bothered me much, though I still occasionally heard it.

**Once more, with feeling...**

For the present review I felt it appropriate to supplement my earlier two-channel, music-room listening impressions with further auditioning. After all, 90% of my time with the CUB in that prior review was spent in the home-theater system—much more, if you count casual listening rather than "review mode."

Accordingly, the CUBs were again positioned in the listening room. This time, however, I tried a rather different setup. The CUBs were pulled farther out into the room—to the one-third point (the long dimension). They were

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**Measurements**

least above the bass region).

Fig. 5 shows the CUB’s step response on its tweeter axis, which indicates that the CUB is not time-coherent. This is not a serious shortcoming—very few loudspeakers are time-coherent, and then only at a specific point in space—but one then wonders about the need for the tweeter’s step-back. The woofer also appears to be connected in opposite polarity to the tweeter.

The cumulative spectral-decay or "waterfall" plot is shown in fig. 6. The response here is very clean, with little or no treble hash. There is a noticeable resonance around 3kHz—right where the ear is most sensitive—that might contribute to some of the minor colorations heard.

Finally, the CUB's cabinet resonances, as measured on one of its side panels, are shown in fig. 7. There is a single small resonance centered at 410Hz, and that is well damped. This is an excellent result, verifying the effectiveness of the Wilson's solid enclosure. A similar measurement taken on the top panel (not shown) is even more innocuous.

Altogether, this is a good but not exceptional set of measurements. We still do not, of course, have all the answers when it comes to measurements vs listening, particularly with regard to loudspeakers. Nevertheless, the strengths and weaknesses I heard while auditioning the Wilson Audio CUB are explained by these measurements far more convincingly than usual.

—Thomas J. Norton

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**Fig. 5** Wilson CUB, step response on tweeter axis at 50° (5ms time window, 30kHz bandwidth).

**Fig. 6** Wilson CUB, cumulative spectral-decay plot at 50° (0.15ms risetime).

**Fig. 7** Wilson CUB, cumulative spectral-decay plot of accelerometer output fastened to cabinet side. (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz.)

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*Stereophile, April 1998*
positioned about 9’ apart, 4–5’ from the sidewalls. The seating position was about the same distance back as before: just over 9’. Initially, I used almost no toe-in.1

When I experiment with loudspeaker positioning, I listen for two things: a solid soundstage with good depth, and good low-frequency definition and extension. It’s not always possible to accomplish both of these without compromise, and any attempt to add criteria to the mix before you’ve optimized the others is doomed to drive you to the funny farm. With the Wilsons, this first choice proved to be spot on. The soundstage was big and open—huge, actually—with crisp lateral imaging and impressive depth. There was no fizz or annoying brightness. On the flip side, the sound had a little less upper-octave air and openness than I prefer.

The quality of the mid- and upper bass in this location was such that I had no desire to experiment further. There was a notable lack of bass boom or energized room resonances. This will undoubtedly recommend the CUB to a lot of readers with small rooms and/or rooms with bass problems (which is more of us than we care to admit!). Nevertheless, the Wilson really did not produce any useful deep bass. Instruments with a lot of activity in the bottom octave and a half—pipe organ, bass drum, synth—lacked real foundation. There was not a lot of excitement going on here below about 50Hz. But it was a tribute to the quality of the bass above that point that I seldom missed the deep bass. The CUB never sounded in any way thin or lean.

In the midrange, I continued to hear occasional “cupped-hands” colorations. There was also a tendency to brightness in the lower treble, but the latter raised its head only at high listening levels.

At this point I decided to toe-in the loudspeakers a little more—roughly midway between straight-ahead and aimed straight at me. The main axis of the CUBs then intersected about 2’ behind me. The inner sides of their cabinets were clearly visible from the main seating area.

The improvement resulting from this simple change was significant. The sound retained its immediate, front-and-center quality, with the soundstage more often than not centered on a plane in front of the loudspeakers. The midrange coloration I commented on above was significantly reduced—and only rarely called attention to itself. The more on-axis listening position also opened up the top end, and while I still wished for a little more air, I was definitely happier with the result. Even the bass seemed better defined, though this certainly was due to improved definition in the higher overtones of the bass rather than to any change caused by the slightly altered positioning of the woofers.

Toeing in the loudspeakers even farther, however, did not result in further improvement. In fact, it actually degraded the sound slightly, adding a little unwelcome brightness to the low treble.

The bottom line to all of this discussion is that it took care to fine-tune the CUB for its best sound, care that was amply rewarded. Properly set up, the CUB was a genuinely exciting loudspeaker. The top end was natural-sounding, and sibilants were clean, without spit or sizzle. Yes, a little more air would have been welcome, but the tradeoff for this minor shortcoming was a canyon one: the top octaves were there, but never called attention to themselves. I still heard some low-treble brightness at high volume, but it was not often a factor.

The response through the bass region—with the loudspeaker’s range—was tight, with plenty of drive and a dynamic, punchy quality. The drums that punctuate “Einon,” from the MCA Dragonheart soundtrack CD reminded me strongly of what I heard from the same recording at HI-FI ’97 from Wilson’s big X-1/Grand SLAMMs. Not quite the same, of course, but a potent reminder nonetheless. And I was unable to push the CUB’s woofers to bottoming, even at reasonably high levels with my all-time favorite torture test, the drumset falling to the floor on Dafos (Reference Recordings RR-

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1 In my experience, loudspeakers pointed straight ahead often appear to be angled outward from the listening seat. I find this distracting. A very slight toe-in eliminates this optical illusion.

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**It was a tribute to the quality of the bass above 50Hz that I seldom missed the deep bass. The CUB never sounded in any way thin or lean.**

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**System**

The associated equipment used to review the Wilson CUB consisted of the Mark Levinson No.36S D/A converter and No.37 CD transport, the Rowland Consummate preamplifier, and the Aragon 8008 ST and Krell KAV-500 power amplifiers (the latter in two-channel mode). Interconnects in the music system were TARA Labs RSC Reference from D/A to preamp and Cardas Hexlink from preamp to power amp. The loudspeaker cables were Monster ML5s. Transparent Audio MusicLink Plus interconnects and MusicWave Plus loudspeaker cables were also briefly pressed into service. The digital link between the transport and the D/A converter was Kimber AGDL. The equipment rack was from Bright Star, and my 18’ by 26’ by 11’ listening room is furnished with a variety of room-treatment devices from ASC, RPG, and System Analysis, supplemented with the usual bookshelves full of LPs, CDs, and, well, books.

My home-theater system is located in another, somewhat larger, and more irregularly shaped space. That system consisted of a Pioneer CLD-99 Elite laserdisc player and Sony DVP-57000 DVD player driving a variety of processors, including the Krell Audio+Video Standard, Theta Casablanca, B&K 3090, and Proceed PAV/PDS. The subwoofer was a Velodyne F1800R II, and interconnects and loudspeaker cables were primarily from XLO’s VDO series. The CUB is designed to be placed on 15-22”-high stands. Special stands are made for the CUB by Sound Anchors, but were not furnished for this review. I used sturdy stands from Merrill and, in the later stages of the auditioning, Lovan. My stands were about 21” high, which placed the tweeters approximately 33” from the floor. —Thomas J. Norton

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12CD). This makes me suspect that there may perhaps be some protection in the woofer circuit to prevent just such overloading.

The CUB’s midrange also had an in-the-room presence more suggestive of a lion than of the junior member of the species. This was very definitely not your father’s laid-back audiophile loudspeaker. Yet it didn’t go over the top. It was much like a stereoscopic photo of those big Wilson X-1s: it offered a strong taste of the latter’s qualities, but without quite the reality of the X-1’s huge dynamic range, gripping bottom end, or sheer soundstage size. Still, at less than a tenth the price...

The CUB’s midrange also had an in-the-room presence more suggestive of a lion than of the junior member of the species.

Nor can the CUB’s soundstage be sneezed at. It spread wide, with uncanny center imaging. Its rendition of depth was excellent—all the more remarkable considering its immediacy on solo vocals and instruments. (It’s unusual for a loudspeaker to do both well.) The sound on the Rutter Requiem (Reference RR-57CD) sounded exceptional on the CUBs, with the chorus spread wide and deep before me. And the soundstage on Dead Can Dance’s The Serpent’s Egg (4AD 45576-2, CD) was also remarkable, with excellent inner detail and imaging spread beyond the loudspeaker positions (not a common event in my room).

With its exceptional sensitivity, the CUB did not really need the sort of power provided by the Aragon 8008 ST amplifier to get it to jump to attention. Near the end of my listening tests, I substituted two channels of the Krell KAV-500 5-channel amplifier (the same amplifier I used for reviewing the CUB in the home-theater test). The result was rewarding. The Aragon tends to have a little more sparkle at the top of the range than the Krell, but the latter is more lively and immediate a little lower down. The fact that the Krell added a welcome shot of openness to the sound of the CUB suggests that the slight darkness I heard in the CUB (which was not totally tamed by the Krell, but was helped significantly) was a little lower down in frequency than I might have suspected. As with any good loudspeaker, the proper choice of amplifier will pay dividends with the CUB.

Comparisons
Shortly after finishing my audition of the CUB, I set up the very same pair of Aerial Acoustics 8s recently reviewed for Stereophile by Michael Fremer (January 1998). This loudspeaker will cost you approximately $1000/pair less than the Wilson, depending on finish and the price of the stands you choose for the CUB.

The Aerial is a little more open sounding on top, with a less vivid overall balance than the CUB. I never heard any recognizable midrange coloration from it. It goes very deep in the bass—compared with the limited extreme low-frequency response of the CUB, it isn’t even a contest. You’re unlikely to consider adding subwoofers to the Aerial.

Yet the Aerial sounds a little warm and soft through the midbass. I was not at all bothered by this in my large listening room (in contrast to MF’s reaction in his room). But the CUB has clarity through the midbass. And while I would not describe the Aerial as polite or uninvolving, it’s not as dynamically vibrant as the Wilson. It also requires far more power than the CUB to truly sing. But sing it will. It’s sweeter-sounding than the CUB, and will never turn edgy, as the CUB still occasionally does. My preference? I’d have to lean a bit to the Aerial because of its bass extension and generally smoother, more linear response. But the Wilson’s strengths—its punchy immediacy, drive, and generally alive sound—definitely attracted me, and may swing the balance for many of you.

Conclusions
No real deep bass, some midrange coloration and low-treble brightness, and not quite enough top-end sparkle—if you wanted to write a case for the negative on the Wilson Audio CUB, you could begin and end it there.

But that’s only a small fraction of the story. The CUB is a Wilson loudspeaker from the glue in its joints to the lacquer on its surface. That implies certain qualities, and the CUB delivers: A fast, open, full-of-life quality. Excellent soundstaging. Impressive dynamics. Superb mid- and upper-bass definition. And a build quality that lesser loudspeakers can only dream about. If this is your kind of sound, the CUB could well be your kind of loudspeaker.
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I first met Jacques Mahul (the JM in JMlab/Focal) when my wife Kathleen and I traveled to Paris to cover HiFi (Hee-Fee) '96. The sound produced by the JMlab Grand Utopias — on a collection of many-chassis'd YBA electronics — got my enthusiastic vote for best of show! JMlab's large demo room was always packed to the rafters with avid listeners. (As a group, melomanes, as audiophiles are called in France, exactly mirror their stateside brethren in appearance and general demeanor. Yes, they're a raucous and demanding bunch!)

Over a bottle of JMlab Sauternes with Jacques Mahul, he casually mentioned plans for a smaller version of the Grand Utopia, to be known "merely" as the Utopia. Well, they say bigger isn't always better... The new Utopia made its debut at Stereophile's Hee-Fee '97 in San Francisco. I was impressed with its sound, and we made arrangements for the Grand Utopia's younger "sister" to be delivered to our listening room in New York.

The Utopia is undeniably elegant and sculptural, despite its weight of 275 lbs per side. The cabinetry and finish are truly extraordinary. The central enclosure is finished in Porsche "911 Carrera" lacquer, with side panels fashioned of anigre, an exotic African wood. The mid/high-range enclosure is encased in solid taun, another exotic, from the South American forests. The drivers are designed to run uncovered and are supplied without conventional grillecovers. However, each speaker comes with a pair of snap-on wooden panels to protect the drivers when not in use. This is sure to keep the lucky owner in touch with the sensual delights of using such a finely crafted device. (It's hard to say which was more pleasurable: adjusting the Nagra PL-P preamplifier's modulation and flicking its sexy buttons, or embracing the Utopias when snapping on their covers!)

Although striking in appearance, the Utopia didn't shout "high tech" at me. Nevertheless, its design embodies a myriad of bleeding-edge technical achievements. At first glance, the speaker appears to be one large unit, and a fairly wide one at that. Closer examination reveals that each speaker actually comprises four separate enclosures joined at the rear. From the literature: "The search for the greatest neutrality and least mechanical interaction between the drivers has given rise to an original concept based on totally self-contained enclosures. In the Utopia, each driver has its own load volume. This creates total immunity from the cross-modulation problems that inevitably arise from single-volume designs."

As you might imagine, these aren't ordinary enclosures. They're built up of 1"-thick MDF, then clad with another 1.2" thickness of anigre. In addition to "numerous reinforcements," the inner walls of the bass and midrange enclosures are further damped with lead strips 6" wide and 0.1" thick. Two huge WBT binding posts sit at tweeter height on the rear of the cabinet — no bi-wire option is available. The crossover is positioned just behind the binding posts in an isolated chamber, its cover held in place by a vast array of screws. (The tweeter is battened down from the inside of this chamber; no screwheads mar the lovely tauti-wood frontage. The crossover is also the result of meticulous attention to detail and implementation. This includes polypropylene capacitors,}

1 The Grand Utopia was very favorably reviewed in Stereophile by Jack English in May 1996 Vol.19 No.5).

2 As JMlab refers to it. "C'est toujours "cherez la femme" avec les Francais!"
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close-tolerance resistors, and large-diameter air-core inductors with low series resistance to minimize insertion loss.

The slopes are third-order. Mahul: "The crossover networks are classic, fairly simple designs. It's important to understand that we don't try to compensate for the defects of the driver in the crossover—they must always work together in concert." Wiring is entirely point-to-point, and components are soldered directly to one another; no printed circuit boards are employed. (The same technique is used by YBA.) Mahul: "Long sessions of critical listening revealed that circuit boards induce capacitive and inductive artifacts that disturbed the high definition and coherence of the sound." All internal connections are made with JMlab's own 6mm-square-section LCOFC pure copper cable.

Two 6" midrange drivers frame Focal's TELAR 57 inverted-dome tweeter in a D'Appolito configuration. Literature: "To obtain the best possible lateral dispersion while still approaching the principle of the point source," Focal/JMlab has worked especially hard on the upper-midrange enclosure, opting for a horizontally receding form worked in three solid pieces of tauri. While this elegant frontage calls for a sterling effort from the cabinetmaker, it eliminates undesirable edge effects without resorting to artifacts such as sticking felt around the loudspeakers—a trick unworthy of a truly high-end product."

Most notably, the Utopias sounded hugely fantastic on the mighty VTL Wotans that have once again returned to our listening room.

Ahem. And these aren't bread-and-butter drivers either. Check out the "Engine Technology" sidebar for the whole hoopy-scoopy.

Setup and associated equipment
Setting up the Utopias was a snap in spite of their size. After a bit of pushing and shoving, they wound up farther apart than the Avalon Radian HC's usually found on our 10' by 4' by 2½" MDF speaker platform. (The platform is glued and mightily screwed to the floor and joists beneath.) Playing with toe-in, I found that a moderate angle perfectly balanced the overall size and air of the soundstage with good focus, image specificity, and body. Too great a toe-in sounded a touch zingy on certain material, even as focus improved—but only by a hair. I tried various footers and settled on the best by far: a trio of the large ceramic Golden Sound DH Cones.

The Utopias were subjected to a wide variety of electronics and cabling. Most notably, they sounded hugely fantastic on the mighty VTL Wotans that have once again returned to our listening room. Luke Manley, guiding light at VTL, claims this new-series build corrects the minor flaws I found in my original review (A Follow-Up is in the works). The Utopias were also driven by the Forsell Statement and YBA Passion 1000 monoblocks. Cabling was both TARA Labs The One and Synergistic Research Designer's Reference.

Preamps in play were the Nagra PL-P, YBA Signature 6-Chassis, BAT VK-5i and VK-P10 line and phono units, and

Measurements

The Utopia goes very loud with only a few amplifier watts, I calculated its B-weighted sensitivity as 92.5dB/2.83V/m, which is very high—around 6dB higher than the industry average. It does demand some current from the amplifier; however, the impedance (fig.1) remaining between 8 ohms and 6 ohms over much of the audio band. And although the electrical phase angle (dashed trace) remains low in the midrange and treble, in the bass the speaker gets highly capacitive while the magnitude is still low. At 60Hz, for example, the Utopia combines 4 ohms with a -50° phase angle, which is going to stress wimpy power amplifiers.

The tuning of the port is indicated by the saddle in the solid magnitude trace at a very low 22Hz. Slight wrinkles in these traces imply the presence of resonances of various kinds. Those above 20kHz are going to be due to the tweeter's ultrasonic behavior and are likely to be subjectively harmless, but those in the midrange indicate possible audible cabinet problems. Despite its solid construction, from its impedance plot the Utopia does appear to have some resonances present between 100Hz and 200Hz. Fig.2, for example, shows a cumulative spectral-decay plot calculated from the output of a simple piezoelectric-tape accelerometer fastened to the side of the woofer enclosure. Several resonant modes can be seen, the highest of which, at 188Hz, coincides with the severest wrinkle in the impedance plot and could be detected on all of the speaker's cabinet surfaces. It was particularly strong, for example, on the top of the upper-midrange enclosure. Though J-10 didn't find anything untoward in the speaker's lower midrange, I was surprised to find this mode at all, given the
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First impressions were highly favorable. The Utopia sounded musical from the very first transient that snapped the dust off the drivers. Presumably because of the rigid, lightweight, high-efficiency drivers, the Utopia sounded VERY DYNAMIC! Really, it was incredible. The wonder of it all was that this superb dynamic shading and burst-proof power handling were evident from the most complicated and dense of orchestral crescendos to the most subtle and nuanced of information imaginable. It all burst and blossomed eagerly from the Utopia's willing drivers.

This incredible level of dynamic contrast and shading guaranteed that, even when playing at very low levels, the sound was still harmonically and rhythmically complete. Musical contrasts were fully available at any volume to flesh out the music.

About that tweeter... well, it is indeed a very special device. First, it always sounded open, open, open. It was so fast and transparent that I took the habit of setting VTA by raising the Forsell's arm until the highs bumped up against it and turned hard or edgy. Then I'd back it down a bit and zero it in. On the other hand, the tweeter, and the Utopia in general, could never be accused of harboring a ruthlessly revealing nature. In fact, they were happy to make the best of whatever material was supplied. They revealed all without bearing me up or destroying the music.

The upper treble was at once extended and linear, yet totally musical, sweet, and engaging. The "micro-information" that Jacques Mahul feels to be so vital for the Utopia's construction. However, given the speaker's very high sensitivity, it is probable that the direct sound of the drive-units will mask any radiation from the cabinet walls.

A low-level mode can be seen around 100Hz in figs.1 and 2. This makes its presence known in the nearfield acoustic measurement of the port output (the lower trace in fig.3), and slightly affects the nearfield output of the woofer (top trace in fig.3). The port output is free from higher-frequency resonant modes, and this graph confirms that the rectangular port is tuned to 22Hz or so, implying excellent bass extension. The woofer appears to cross over to the twin midranges at 300Hz.

The graph in fig.4 is a composite, the complex sum of the nearfield woofer, port, and midrange responses being spliced at 300Hz to the farfield response on the Utopia's tweeter axis, averaged across a 30° horizontal window. Due to

**Measurements**

Fig. 3 JMLab Utopia, nearfield responses of woofer, port, and midrange units, adjusted for differences in radiating size.

Fig. 4 JMLab Utopia anechoic response on tweeter axis at 50°, averaged across 30° horizontal window and corrected for microphone response, with the complex sum of the nearfield midrange, woofer, and port responses plotted below 300Hz.

Fig. 5 JMLab Utopia, vertical response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 20°-5° above-axis; reference response; differences in response 5°-10° below-axis.
Music lovers from around the world flock to the Santa Fe Chamber Music Festival—but if you couldn’t get to the 1997 Festival, we’ll bring the best of the Festival to you...with this stunning new recording engineered by John Atkinson.

The program opens with Felix Mendelssohn’s engaging Sextet in D Major (Op. 110), written for violin, two violas, cello, double bass, and piano—an uncommon combination of instruments. The third movement, Menuetto, is especially striking. Mendelssohn sets it in 6/8 instead of the expected 3/4 time and asks that it be played “Agitato.” An agitated minuet—most unusual!

Quartet No. 2 in A Major for Violin, Viola, Violoncello, and Piano, Op. 26, by Johannes Brahms is one of the masterpieces of the chamber music repertory. The work is so large-scale, so sonorous—with wide-open chords and rhythmic displacements—that it sometimes seems written for an orchestra.

You’ll thrill to the work’s granite solidity and dramatic contrasts—at times it seems that an entire orchestra is taking over the piece. There’s equal pleasure to be found in the piece’s quieter moments—the lyrical and lilting second movement, for instance.

Captures the Festival sound!

As Stereophile's John Atkinson says, “the recording venue defines the basic character of the sound.” But what if the hall is small and reverberation time is short? The recorded sound can be dry. JA used a Lexicon digital processor in post-production to achieve a full, rich harmonic presentation and still capture the sound of the hall.

The recording was minimally miked. JA used a pair of condenser microphones full-range for their excellent imaging, along with a pair of spaced omnis for a sense of bloom and accurate tonal color. You can almost look into the soundstage to see where the musicians are—the imaging is stable and solid. But at the same time you get the sense of bloom that you would have heard at the live event.

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was much in evidence; it illuminated all manner of delicious nuance in timing and harmonic interplay. There was always great coherence on tap, but never at the cost of harmonic integrity.

The cross between the tweeter and the two midrange drivers was seamless and in no way hokey or discontinuous. The entire midrange was open, fast, startling, and immediate, always superbly natural and beautifully integrated with the highs. In fact, the midrange was everything one might imagine a quintessential French product might be: lustrous and deep, with shading and bloom.

The integration of the lower midrange with the upper bass was also very clean, transparent, and unruffled. And talk about power... sheesh. First off, understand, this is a bass-reflex design: the slot runs along the bottom of the woofer enclosure. (I was never aware of the port; nary a chuff or whoosh betrayed its presence.) But there was also BIG and DYNAMIC!...Whew... it loaded up our 1200-square-foot loft to wall-flapping levels. After one memorable listening session, I marveled at their room-energizing power and pitch-differentiated nuance, and natural that, in the totality of the presentation, it worked perfectly to convey the power and majesty of music.

The entire bass range was so solid, harmonically rich, differentiated, acoustic, and natural that, in the totality of the presentation, it worked perfectly to convey the power and majesty of music.

The proximity effect, this measurement technique always results in a slight boost in the bass. Even so, the Utopia appears to be flat down to 20Hz. There is a slight notch at the port problem frequency of 105Hz, but, again, JS noted no problems in this region in his auditioning. The midrange and treble are overall very flat, though the trace is a little rougher-looking in the higher frequencies — I suspect the wide baffle gives rise to small reflections of the tweeter’s output.

Note, however, the peak at 1100Hz in this graph. This may not be the right shape to make the speaker sound a little nasal; if associated with a resonance, however, it might at worst add some upper-midrange aggressiveness to the Utopia’s balance, or at best reinforce the speaker’s presentation of recorded detail. To make sure that this was not a one-off sample problem, we unpacked the second speaker of the pair and, cursing its 275-lb weight, I performed an identical set of measurements. The second speaker measured identically—a tribute to JMLab’s quality assurance, and confirmation that the 1100kHz peak is real.

At 42° from the ground, the tweeter axis is a little high for a typical ear height in a typical listening chair. Fig.5 shows how the speaker’s response changes as the measuring microphone is moved above and below that axis. (The off-axis responses are normalized to the on-axis response, which means that the latter appears to be a straight line.) It can be seen that the balance doesn’t change significantly between +5° and -10° ref. the tweeter axis, meaning that JMLab has sensibly optimized the crossover design for seated listeners. In the lateral plane (fig.6), the Utopia offers wide, even dispersion, though again there are a few more ripples in the mid-treble region, presumably due to reflections of the tweeter’s output from the edges of the wide baffle. Note that the region above the 1100Hz on-axis peak fills in to the speaker’s sides, which might correlate with J-10’s finding that the speaker worked best when it wasn’t toed-in all.
the powerful acoustic bass rolls my soul. There’s an amazing sense of clarity, totally pristine yet liquid and musical.” At the end of “Call the Ghost,” listen to the backing female chorus that rides the tune into the fadeout. Notes: “The vocals are incredibly sexy, velvety smooth, silky, and textured. Schroek is terrifically adept at harnessing classic rock rhythms in an updated and modern fashion. The lyrics are romantic, strong, and intelligent, her voice steeped in their meaning. It’s the kind of album that makes me reach for the booklet, happy to find the lyrics within.” This Gateway-mastered recording sounded fab on the BAT VK-15, a player with one of the most developed digital midranges I’ve ever heard.

The vocals are incredibly sexy, velvety smooth, silky, and textured.

I rummaged on the Utopia’s effortless musicality while listening to Haydn piano trios by the Beaux Arts Trio (Philips 9500 657, LP). It was fitting music for a late-October afternoon: the leaves were turning rust as the radiators gurgled away—not always quietly—in our loft. The magnificent re-creation of the piano’s full power response throughout the entire audio band was thrilling. Notes: “Piano sound at the very top of what I’ve heard. Once again, with the Nagra, I feel like I’m sitting on the stage in a folding chair, lost in thought as the trio plays before me. How much better does it get than this?” I’ll tell you how much better. By spinning my favorite Miles Davis LP.

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**J-10 talks with Jacques Mahul**

**Jacques Mahul** is an interesting, thoughtful man. He’s entirely Parisian: international, urbane, and sophisticated. During “HerFest” ’96 in Paris, Kathleens and I sat down with him and spoke about his early years as an audiophile. We tried to find out what drives him to make the drivers he makes today! I asked him when had it all started:

**Jacques Mahul:** In 1980, I founded both Focal and JMlab. And before that, I was the chief engineer at Audax.

**Jonathan Scull:** I had no idea.

**Mahul:** Yes, and before that I was Rédauteur en chef of L’Audiophile magazine in France.

**Scull:** Ah-hah, you’ve worked both sides of the fence!

**Mahul:** Yes, I was two years an audio journalist before making the switch to Audax.

**Scull:** And before that, dare I ask...?

**Mahul:** Ah, long before I entered into the business, I was a hi-fi freak—since I was 15 or 16 years of age. So, Jonathan, you can see that all my career has been involved in one way or another with loudspeakers.

**Scull:** What did you do for Audax that we might remember?

**Mahul:** Soon after joining them, I developed the first soft-dome tweeter made in Europe. Later, I had the idea of using double voice-coils of the type we use now on our Micron and Meghan speakers. I’d begun by asking Audax to make a unit like that for me, but then decided to make my own.

**Scull:** So that’s how Focal started.

**Mahul:** Well, when I left Audax, it was a big company in France, but they were making low-end drivers. It was very difficult for me to have a high-end policy there. So, when I left them and founded my own company, I wanted to devote myself exclusively to the High End.

**Scull:** You had no doubt there were customers for true high-end products?

**Mahul:** Actually, many of my customers in England and America told me that if I left to make high-end drivers, they would follow me.

**Scull:** The Pied Piper?

**Mahul:** [laugh] Yes, that was very nice. Because at that time there were no high-end driver manufacturers. They were all generalists, you could say. But, of course, the High End is only a small part of the total market—even if you make thousands of drivers, it doesn’t mean that you can easily survive.

**Scull:** What was your first product?

**Mahul:** The first speaker we built was the Micron, which I'm happy to say is still in our catalog over 15 years later.

**Scull:** JMlab was not always as well known outside of France as it is today.

**Mahul:** Yes, as my business grew over the years, Focal sold products all over the world, but JMlab was mainly for France and Europe. Then, around 1988, we decided to open it to the world. So although JMlab was a latecomer in comparison with Focal, today it represents 70% of our turnover.

**Scull:** I see. And the other 30% of your business, if I may ask...?

**Mahul:** Twenty percent of that is the car hi-fi business, which we launched around 1989. And Focal represents the final 10%—supplying various manufacturers with drivers. In fact, our very first client was Jim Rogers himself! You know, the designer of the BBC LS3/5.

**Scull:** Sure.

**Mahul:** And JMlab was also wonderful because we could hear our drivers in a finished speaker. Most manufacturers never hear what their products sound like in a speaker! They produce frequency-response charts, but if it sounds good or not, nobody knows. Then it’s the customer who is checking the quality! And I can tell you it’s very bad to hear your drivers when they are badly used. Then people may say—incorrectly—that our tweeter is very harsh or too slow, when really it is the way it is used that is at fault.

**Scull:** A good point. What would you say is the overall design philosophy of JMlab, Jacques?

**Mahul:** From the beginning, my idea was to try and conjugate—is that the right way to say it in English?

**Scull:** Yes, conjugate, that’s fine...

**Mahul:** Yes, to conjugate the two opposite tendencies of high efficiency with neutrality and lack of coloration.

**Scull:** Opposite tendencies, Jacques?

**Mahul:** Yes, back in the 60s and 70s, high-efficiency designs were bringing lots of coloration to the reproduced sound. Then we experienced a movement toward low-efficiency speakers. High-efficiency designs were not very fashionable, you could say. So from the 70s to the beginning of the 80s, what I call the English speaker sound was popular.

**Scull:** Define that for us, if you would.

**Mahul:** Well, it was frustrating. Low-efficiency English sound had a good overall balance, but was a bit boring—no real emotion. In my experience, if you hear a composition for the first time, you have a better chance of finding the emotion by the micro-detail that exists in the music rather than by a good overall balance. You know, you can find yourself *surprised* by the music.
Ascenseur pour l’echafaud (Fontana 836 305-1). On the Nagra with the RG-8, I noted: “Man, that’s clean! I’ve never heard speed rendered with such fidelity and harmonic integrity. There’s a high-speed wrap surrounding the entire musical construct that keeps everything ultradynamic and right on time.” I think that’s one of the reasons the Utopia startled me on such a regular basis. I loved the immediacy.

**A few more words about the bass...**

I’ve heard slightly tighter bass, but ask me if I care. There’s just no getting away from the fact that a sealed box, especially one built to such high standards as the Av..on Rad..an I/C, gets you tighter (but leaner) bass. The upside was the tremendous slam and richness of the Utopia’s nether regions. It always sounded pow-erful and organized, setting a rock-solid, pants-flapping foundation in classic full-range fashion. While it was occasionally a touch ripe — keep in mind issues surrounding room coupling — I’ve never heard bass that was more well developed. It was always so utterly harmonic and packed with information that to complain would be churlish.

That’s very, very important. But the problem with these low-efficiency designs is that you don’t get the micro-det.ail that exists in the music that has always been my obsession.

**Scull: What changed things?**

**Mahul:** Actually, JBL finally began to decrease efficiency, while trying to show it was possible to have high effi-ciency coupled with low coloration.

**Scull: You go your own way as you design your own drivers...**

**Mahul:** Yes, it can be said that we operate in an opposite way from one of our very fine competitors, Dyn-audio. I respect their philosophy of having very high power-handling.

**Scull: The problem being...?**

**Mahul:** Low efficiency. But the result is the same. If they need 500W to get the same level output as I do from 10W, then for me, in terms of efficiency, it is better to use a small amplifier.

Don’t forget that you need good quality high power to compensate for this loss of energy. I can say we do these things because we are always in search of coherence. When you make a big sys-tem, you might have a wonderful tweeter, a great midrange and bass, but what is the most difficult to achieve is total coherence at any distance from the speaker.

**Scull: So we can perhaps say that is what defines your company philosophy?**

**Mahul:** Yes, I would say so. That’s why our products work well with both valve and solid-state amplifiers. It’s a very important element that we worked on from the beginning — to be independent of the amplifier.

**Scull: Jacques, tell me: Do you prefer solid-state or tubes yourself?**

**Mahul:** Well, the advantage of tubes lies in the midrange and treble, we all know that.

**Scull: Mais oui...**

**Mahul:** Yes, the wonderful imaging and the possibility of reproducing very high dynamics at a high but reasonable volume. The problem is in the bass, of course. Myself, I must admit to preferring the sound of tubes. I like also the tube as an object.

**Kathleen Benveniste: Yes! It’s very sexy!**

**Mahul:** Yes, Kathleen, it’s sexy — funny but true. [laugh] And I like the illumination. When you listen in the dark and see only the light of the tubes, it’s quite erotic.

**Scull: Jacques, before we get carried away — the Utopias have only a single set of binding posts. Bi-wiring is not possible. Why is this?**

**Mahul:** Well, I consider bi-amplification useful only to compensate for some defect in the driver’s design.

**Scull: I see — no Band-Aids?**

**Mahul:** Yes, exactly. We don’t want to complicate the system. It should be as simple as possible.

**Scull: There are no grillecovers supplied with the Utopia-series speakers.**

**Mahul:** At JMLab we hate any type of covers, but sometimes there is a need. So why not cover the speaker in a way that makes it look like something other than what it is? A speaker with a foam or traditional grillecover immediately gives an idea of the function of the product. But with our design, when it’s covered up, all you see is a beautiful object. You don’t know exactly what function it has.

**Scull: And you supply a pair of wooden covers that snap into place over the drivers.**

**Mahul:** Yes, if you use a regular grille-cover, you wind up with something between the drivers and your ears, a sort of veil over the sound.

**Benveniste: Jon-a-ten, you haven’t asked Jacques anything about his manufacturing facility.**

**Mahul:** Ah, thank you, Kathleen! I’m proud to say that we make almost everything in our speakers. The cabinet, the drivers, our own wire... We do, I must admit, use SCR polypropylene capacitors, however.

**Scull: Being independent is an important consideration?**

**Mahul:** I think that in 10 years’ time, the only manufacturers still making loudspeakers will be those having total control of their drivers.

**Scull: Tell us something about Saint-Étienne, where your factory is located.**

**Mahul:** Yes, we are located in a small town of 200,000 people in the mountains near Lyon. It’s an area with many fine artisans and craftspeople working in small enterprises. It was very useful for me to begin JMLab/Focal there, because there were so many highly skilled people.

**Scull: How many people do you employ?**

**Mahul:** One hundred and fifty.

**Scull: And how many at JMLab wines?**

**Mahul:** [laughs] Actually, Jonathan, we do produce, each year, a JMLab wine.

**Scull: You see, I can be very intuitive.**

**Mahul:** [laughs] Yes. In fact, here is a bottle of JMLab Sauternes for you and Kathleen.

**Scull: Jacques, thank you very much.**

**Mahul:** Last year it was a cognac!

**Scull: Well, Jacques, I see I’m going to love this assignment!**

**Mahul:** [laughing] My pleasure, Jon-a-ten.
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Audio Technica Phono Cartridges

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Polk Audio RT5 loudspeaker

Y
cah, yeah, I know what you’re thinking: “Polk? You’re reviewing a $300 speaker from Polk? Get ready for the flames!”

The genesis of this review lies in a casual comment Larry Archibald made last summer. Larry travels a lot, and everywhere he goes, like the archetypal (archibaldical?) audiophile he is, he listens voraciously. After a trip to the east coast, he dropped by my office and laid a bomb on me.

“I heard a pair of inexpensive bookshelf speakers from Polk that really impressed me.”

“Um-hum,” I replied dubiously, waiting for the punchline.

Larry’s no fool; he knew what I was thinking. “You’re probably not the only audiophile who thinks that way. That means it would be newsworthy if true, right?”

Damn! Hoist by my own preconceptions again. Boy, do I hate when that happens.

It had been years since I’d heard any Polk loudspeaker other than the big SRT home-theater system they’ve been promoting at hi-fi shows (and one should never judge anything by the sound of a home-theater demo). I ceded Larry his point and set about obtaining a pair of RT5s.

Not just another guy with a table saw

Of course, when it comes to delivering the goods at an affordable price, huge companies have a distinct advantage over tiny ones—my experiences with B&W’s superb $250/pair DM-302 should have taught me that. The question remaining was, did Polk have enough fire in its corporate belly to want to deliver those goods?

This question was answered in the affirmative when I met Paul DiComo, a VP in charge of marketing. I wasn’t surprised to learn that Paul was a likeable guy—it goes with the territory—but I was to learn how serious he was about what he called Polk’s “mission.”

“I’m almost embarrassed by that word,” he said, “but our goal has always been to get the best possible sound—sound that approaches tweak audiophile sound—out to the masses. The RT5 is a good example of that. It sells for a reasonable price and I think it’s a really nifty speaker. It does the traditional Polk things very well.”

And those would be…?

“Imaging—that’s what put us on the map originally. We’ve always gotten nice, spacious imaging from box speakers that were easy to use and easy to afford. We’ve gone to some length to design the drivers and the box to have a nice, open, boxless type of sound.

Description: Two-way, stand-mounted, magnetically shielded, reflex-loaded loudspeaker. Drive-units: one 6.5" mineral-loaded polymer-cone woofer, one 1" polymer-dome tweeter. Frequency response: 54Hz–23kHz, ±3dB. Nominal impedance: “compatible with 8 ohm outputs.” Sensitivity: 89dB/2.83V/m. Amplifier requirements: 20–125W.

Dimensions: 14.5" (368mm) H by 8.5" (216mm) W by 9.75" (248mm) D.

Weight: 20 lbs (9.1kg) each.

Serial numbers of units reviewed: 34383, 34384.


Manufacturer: Polk Audio, 5601 Metro Drive, Baltimore, MD 21215.

Tel: (410) 358-3600. Fax: (410) 764-5266. Internet: www.polkaudio.com

Stereophile, April 1998
"We also look for a sense of excitement. We have the resources to design speakers down to the point where we've eliminated every vestige of personality from them—but speakers like that don't sound 'flat,' they sound bland. They have no personality to them; they're less than exciting. We value things like dynamic contrast and believable balance and a credible harmonic balance. We think it's important to really get in touch with the music, to sit down to listen and have your heart beat faster because you're really enjoying it.

We also value midrange clarity. If you go all the way back to our beginnings, we led the way to using smaller drivers. When most companies had accepted an 8" driver as standard in two-way systems, we began the trend toward the 6.5" platform. We found other ways to get bass response, but our focus was always on the quality of the midrange.

I was disarmed by Paul's enthusiasm—a contrast to the cynicism I encountered when I met a prominent European speaker designer back in the '70s. He was lamenting how sales of his new line had fallen when he'd tried to make his speakers more accurately reflect the signal they were fed. "You know," he lamented, "we should bring back the models from three years ago. They went plff up here." (lightly punching me in the stomach) "and sshh ff up here" (slapping my forehead), "but people really screamed to like them."

No such cynicism is apparent in the RT5's design. It's built out of ⅛" MDF, with a 1" front baffle. Rapping the cabinet produced a definite if somewhat resonant thump—I've heard dealer, but it's very solidly constructed. The rear panel sports a wall-mounting bracket and an input plate supporting a pair of plastic nutted binding posts on the exterior and the crossover on the inside.

That crossover is simple, consisting of a first-order low-pass filter for the woofer—essentially just a series ferrite-core coil. The tweeter's high-pass filter is second-order, using a shunt electrolytic cap bypassed by a Mylar cap. DiComo explained that Polk designed the drivers to require as little crossover compensation as possible. Speakers that use overly complex crossovers, he said, frequently lack excitement.

Polk manufactures both drivers employed in the RT5. The company's vertical integration, DiComo pointed out, is a crucial component in offering value—especially at the most affordable levels. "We can certainly build a far, far better driver at a given price than we could buy."

The woofer's 6.5" cone is a composite material—polymer with mineral filling added for stiffening. The cone is an estimated B-weighted figure of 91dB/2.83V/m. However, its impedance plot (fig.1) revealed that the speaker lingered around the 4 ohm mark in the midrange and high treble. The small "blip" just above 200Hz in the solid magnitude curve indicates the presence of some sort of resonance at that frequency, while the "saddle" in the same trace at 47Hz reveals the tuning of the twin reflex ports. Its high sensitivity and the overall even nature of its impedance curve will make the Polk a good candidate for single-ended triode amplification, as WP found.

Fig.2 shows the RT5's anechoic response, averaged across a 30° horizontal window on the tweeter axis and spliced to the nearfield responses of the woofer, the sum of the two ports, and the complex sum (amplitude and phase) of the response at 5° and 90° off-axis.

We value things like dynamic contrast and believable balance and a credible harmonic balance. It's important to get in touch with the music, to sit down to listen and have your heart beat faster because you're really enjoying it.
injection-molded, not vacuum-formed, which allows it to have a cross-section that's not uniform: it's thicker at the outside than it is toward the voice-coil. The surround is also injection-molded for the same reason; it, too, is thicker at the edges than in the middle. "This makes the surround absorb energy traveling through the cone better," claimed DiComo. "It becomes a shock absorber, if you will." The surround extends over the edge of the basket and is cemented to it. "Otherwise," DiComo said, "it would ring like a bell. But if you tap the basket with the surround in place, you just get a nice dull thump."

The tweeter's a fairly straightforward 1" polymer dome, but even so, Polk has designed in a few nice touches. The voice-coil former has been bent up to meet the dome, which gives "ten times more contact area between the two. We've found that to be very effective in reducing modal resonances in the tweeter," explained DiComo. The tweeter's faceplate has a gentle roll that, DiComo claims, controls dispersion.

There are two flared front-firing ports of different lengths. One is specifically intended to counteract the main internal cabinet resonance by reproducing that frequency in inverted phase. Polk calls this the "Acoustic Resonance Control" system.

A most auspicious beginning
When the RT5s arrived, I simply substituted them for the $8000 B&W Silver Signatures I'd been listening to in my reference system. The Polks were by far the least expensive component in the system — and that includes the speaker stands they perched upon. They sounded huge, beefy, and very, very musical. To say I was stunned would be an understatement.

"Musical"? What does that mean? Simply that, rather than hooking them up and leaving them playing to break in, I wound up playing several of my favorite songs from the pile of discs growing on top of my CD player, which made me late for work — again.

Later in the afternoon, first Larry Archibald and then John Atkinson "dropped by" to check out the Polks. Both of these sessions began with howts of laughter at the sight of $330 speakers attached to $15,000 Kimber Black Pearl speaker cables. They ended with all of us shaking our heads and saying, "These cost only $330?" A most auspicious beginning.

Over the course of my audition, I swapped the Polks in and out of a variety of systems. I did listen to them in the context of my reference system quite a bit — that's what reference systems are for, after all. But I also recognized how ridiculous it was to do so exclusively, so I used several "real world" integrated amplifiers, such as Krell's 150Wpc KAV-300i and Yamaha's 60Wpc MI-120. The RT5 was about as undemanding of an amplifier as any speaker I've used — it didn't change its essential character no matter which amplifier I connected it to.

Of course, like any reasonably high-resolution component, the RT5 must be used correctly. Despite the convenience of its wall-mounting bracket, it didn't sound good against the wall, but sounded congested and woofy. In fact, I found it benefited from coming well out into my room as much as 40" from the wall behind it. I was able to space the RT5s about 6' apart before the soundstage began to have a hole in the middle — this was good, but far

---

Fig.4 Polk RT5, horizontal response family at 50°, from back to front: response 90°−5° off-axis; response on tweeter axis; response 5°−90° off-axis.

Fig.5 Polk RT5, vertical response family at 50°, normalized to response on tweeter axis, from back to front: differences in response 45°−5° above-axis; reference response; differences in response 5°−45° below-axis.
from the best performance I've obtained from small monitors in my listening space. (The $2100/pair ProAc Response One SCs, for example, gave me an even bigger soundstage with an 8" spread.) The RT5 sounded best on-axis, pointed directly at my listening position.

Sturdy stands should not be considered optional with this speaker (or any small monitor). I used 24" concrete-filled Cliff Stone Foundation stands spiked firmly to my ceramic tile floor, and Blu-Tack to solidly couple the speakers to the stands. Am I just tweaky? Well, yeah, but late in the audition process, when I was comparing the Polks to the B&W DM-302s, I skipped the Blu-Tack in the process of switching speakers and wondered why the RT5s lost some fine definition. Retracing my steps, I found the eight little blue balls of putty and replaced them—with audible results.

One more point about stands: Don't use high ones with the RT5. If the tweeter is above ear level, the speaker sounds quite hollow.

First off, the Polk sounded open and spacious. Music had room to breathe. When I played Ruth Laredo's recent Beethoven Piano Sonatas CD (Connoisseur Society CD-4210), I was stunned at how little speaker I heard—I was listening to a piano in a big room (not mine). Bass response seemed generous for such a small box. I doubt that there's a lot happening below 60Hz, but, given its size, the RT5s did a wonderful job of portraying both the size and the power of a Yamaha CF III.

More important, the RT5 did a superb job of preserving Laredo's long, long melodic lines. What strikes me most about this disc is the way Laredo links together the phrases that constitute the grand architecture of sonatas like the "Appassionata," the "Tempest," and "Les Adieux." The RT5, which was articulate in terms of conveying dynamic change, preserved both phrase and line, keeping the power of Laredo's masterful readings.

Sor's Sonata in C for guitar, as performed by Eduardo Fernández (London 425 821-2), also benefited from the RT5's ability to convey power and sensitivity to dynamic change. What a rip-snorting performance—full of grandeur and delicacy. The RT5 did well by the grandeur, but I felt it added warmth to the delicacy; and that warmth, in turn, seemed to blunt some of the guitar's sparkling harmonic overtones.

Fact is, the RT5 was a warm-sounding loudspeaker. And this wasn't, I think, caused merely by midbass emphasis—Acoustic Response Control or no, the RT5 seemed quite generous around 60Hz. I won't say its HF response was down, but it did seem to lack the air and sparkle that the (much more expensive) ProAc Response One SC has, for example.

However, as flaws go, I'll take a polite inexpensive speaker over a shrill one any day of the week. The RT5's tendency toward warmth rarely intruded on my enjoyment of music in any substantial way, and it may be exactly what some listeners are look-

**Measurements**

little early to the side in the top two octaves, but note the very even spacing of the contour lines in this graph, something that correlates with well-defined stereo imaging. For interest's sake, fig.4 shows the actual responses measured to the speaker's sides; the suckout between 800Hz and 1kHz is evident on every axis. Perhaps it is this slight absence of upper-midrange energy that makes the RT5 sound rather dark.

We found that short stands worked better than high stands with the RT5. The speaker's plot of vertical dispersion (fig.5; again, just the changes are

![Fig 6 Polk RT5, step response on tweeter axis at 50° (5ms time window, 30kHz bandwidth).](image)

![Fig 7 Polk RT5, cumulative spectral-decay plot at 50° (0.15ms risetime).](image)

![Fig 8 Polk RT5, cumulative spectral-decay plot of accelerometer output fastened to cabinet side. (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz.)](image)
ing for to tame the raucous top ends of associated components.

The RT5 had good but not spectacularly even tonal presentation. It never sounded flat-out wrong, but, when listening to complex melodic lines such as Coltrane’s monstrously aggressive soloing on “Chasin’ the Trane” (Impressions, MCA MCA1-5887, CD). I became aware that certain notes within the flurries and clusters of that 16-minute tour-de-force were given an emphasis that I assume was not intended by Coltrane. Well, that piece is a heavy workout for any speaker, no matter the price tag, but potential purchasers should determine for themselves whether this uneven response is a problem. I found it noticeable because of my familiarity with the material, but it didn’t keep me from enjoying or understanding the piece.

Mr. Polk, are you trying to seduce me?

When paired with tube gear, the RT5 became downright seductive—especially with single-ended gear of limited output, such as the Cary 300SEI. What a voluptuous combination! I wallowed in it shamelessly. There are times, of course, when “flat” could be considered an over-rated concept, and listening to the Polks with the Cary was definitely one of them. The soundstage was so deep and solid. The timbres were so luscious. In one part of my brain I could hear myself objecting, “But Fernández’ guitar sounds crisper than that!” But it sounded so damn beautiful, I couldn’t resist.

And despite the 300SEI’s low output, I could listen to large-scale orchestral works, such as Kurt Masur/NYP’s Háry János Suite (Teldec 77547-2) at full-scale levels. If you have an older tube integrated around, or if you’ve wondered about the SE triode thing, the RT5 is an inexpensive solution to your speaker problems.

Against the Editors’ Choice

But it isn’t the only affordable option out there. B&W’s DM302, at $250/pair, is even cheaper. Since Stereophile awarded the B&W an “Editor’s Choice” award in 1997, it seemed incumbent upon me to compare the RT5 with the B&W in a level-matched joint audition. For the comparison, I used a system comprising the Mark Levinson No.39 CD player, the Conrad-Johnson ART preamp, and the Krell FPB 600 power amplifier. I connected everything with Kimber KCAG and Black Pearl speaker cable. Both pairs of speakers were Blu-Tacked to sturdy speaker stands spiked to the floor and leveled.

I enjoyed listening to both speakers enough that it was hard work to compare and contrast—I wanted to extend the listening window every time. We’re lucky to have two such choices at the entry level. If I had to choose just one, I’d go with the B&W—it had greater inner detail, especially when reproducing solo instruments or voice. On the Ruth Laredo disc, for instance, I heard more of the sound of the piano reacting with Tarrytown’s Music Hall—a much more of the high notes bouncing off the wall.

On the other hand, the Polk gave the piano more weight and warmth—less accurate, perhaps, but certainly not to be scoffed at.

Listening to Emmylou Harris’ Quarter Moon in a Ten Cent Town (Warner Bros. 3141-2), Harris sounded more controlled on the DM302—again, the Polk seemed to emphasize certain vocal notes more than others, which gave “Green Rolling Hills” a different delivery.

Yet, while the B&W may have been tonally more accurate, the Polk had its own truth to tell—Harris’ voice sounded less waffly through them and had more “throb” by which I mean more pure country emotion. Yes, this could be considered editorializing, but the best editors do make the material sound even more like the author.

Over the course of comparing the two monitors, I felt the B&W was leaner and more revealing of low-level detail than the Polk—but not by so much as to embarrass the latter. Some listeners might choose the other way, preferring the Polk’s warmth and musical amiability—qualities rare at any price, but who suspected they were available for $300?

A panegyric untainted by poppy

The Polk RT5 is a lot of speaker for the money. It never sounded bad—the slight tendency toward warmth and slight loss of HF sparkle were certainly not offensive traits, and could even work in the speaker’s favor when it’s teamed with inexpensive electronics. Such errors of omission I find far less egregious than such sins of commission as peaky, aggressive sound. Some listeners will be less forgiving than I was of the Polk’s slight unevenness in tonal response, but I consider this to be a relatively minor problem, considering how musically engaging the speaker was otherwise.

The entry level of high-end speaker sound has never been more accessible—B&W, PSB, and many other companies are raising the bar while lowering the price. Add the Polk RT5 to the list.

---

Associated Equipment

LP playback: Linn LP12 with Naim Armaggeddon power supply, Naim ARO tonearm, van den Hul Frog phonio cartridge, and Linn Linnsto phonio preamplifier.


Preamplifier: Conrad-Johnson ART.

Power amplifiers: Cary CAD 300SEI, Krell FPB 600 and KAV-300i, Myryad Mi-120.

Cables: Kimber KCAG and WireWorld GEI interconnects, Kimber Black Pearl and WireWorld GEI speaker cables.

Accessories: Audio Power Industries Power Wedge 112; Magro Stereo Display Stand; Cliff Stone Foundation 24” stands.

Room treatment: ASC Tube Traps, Studio Traps, Bass Traps; RPG Abuzzers; gongoozing furpiece.

— Wes Phillips
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224 Stereophile, April 1998
Adcom GFA-5802 power amplifier

Maybe there is something to that "All amplifiers sound the same" stuff...

Not really, but I had to come up with an opener to grab your attention. After all, powerful, affordable solid-state stereo amplifiers aren't that sexy or exciting. In fact, some might argue that they're not even needed anymore. High-powered multichannel home-theater amps built to a reasonable price point? Yes. After all, you do need five or six channels, and those cinematic explosions suck a lot of juice. But for stereo, the trend lines point toward higher-sensitivity speakers and lower-powered tube amplifiers or simple-circuited solid-state.

Yes, there'll always be a market for the expensive transistor behemoths— the Krells, Levinsons, and McIntoshes— just as there will always be large, demanding, expensive loudspeakers in need of all that clean power. But in today's marketplace, do we need to squeeze 300Wpc (into 8 ohms) or 450 Wpc (into 4 ohms) out of a stereo amplifier designed to sell for just $1750?

Apparently the folks at Adcom think so. Working with Nelson Pass, who provided the "fundamental" design (and who has consulted for Adcom for over a decade), Adcom has brought forth the GFA-5802. Built in California, it looks and feels far too lavish and substantial to sell for so little while offering so much power. No, the 5802 doesn't feature sexy meters or a thick, milled-aluminum fascia fitted with a little blue light, but it is well built and cosmetically appealing in an Adcom sort of way.

My first question to company spokesperson C. Victor Campos (who I once lampooned in a late-'70s radio sketch as C. Victor Coughous, along with Raymar Nose, Julian Hersheybar, Electric Larry Feldstein, and Henley Clause — but that's another story) was, "How can you possibly build something like this and sell it for so little?"

"We lose money on each one," he assured me, "but we make it up in volume." No, he didn't say that, but he did allow that, through careful parts selection and high-volume purchasing, costs could be kept down. And the parts include all metal-film resistors and film capacitors, which are also used to bypass electrolytics in the circuit. There's a large toroidal transformer for the output stage and 100,000µF of power-supply filtering— about what you'd expect for a high-current, high-power design like this. The very stiff power supply is intended to keep supply voltages close to constant no matter what's coming out of the wall.

Campos told me the "straightforward" circuit includes two power supplies: one for low-level signals (with its own transformers) and one for drivers and output. 88k of the filtering is for the output supply, the rest for the low-level circuitry. Voltage rails for the low-level stages are individually regulated. Driver devices are HEXFETs, and Campos claims the 16 matched MOSFETs in each channel's output stage give the amp a "tubelike" sound.

The "balanced" front-end uses JFETS, but the amplifier is not dual-differential from input to output. The "balanced" input is intended to cancel out preamp noise and the deleterious effects of long cable runs between preamp and amp, and has lower distortion, according to Campos. The amp's output stage runs in class-A at low levels and in A/B the rest of the way, so it runs warm to the touch even at idle. Nonglobal feedback is applied sparingly to particular stages. According to Campos, the 5802, which will have been in production almost a year by the time you read this, is "load-insensitive": It can perform to spec regardless of load, and "drive anything past, present, and future," Mr. Campos assured me.

**Description:** Solid-state stereo power amplifier. Output power: 300Wpc into 8 ohms (24.8dBW), 450Wpc into 4 ohms (23.5dBW). Frequency response: 10Hz–20kHz; +0, −0.25dB, at 1W into 8 ohms. THD: 0.02% at 1kHz. Input sensitivity: 1.7V for full output. Input impedance: 105k ohms unbalanced, 10k ohms balanced. Voltage gain: 29dB. Power consumption: 540VA idle, 1440VA max.

**Dimensions:** 13.5" W by 8" H by 17" D. Weight: 48 lbs.

**Serial number of unit reviewed:** A821D800104.

**Price:** $1750. Approximate number of dealers: 300.

**Manufacturer:** Adcom, 11 Elkins Road, East Brunswick, NJ 08816. Tel: (972) 390-1130. Fax: (972) 390-9152.
Learn why so many true audiophiles around the world are exalting the Adrenaline Planar Source System from Wisdom Audio as the Technological Reference for all other speakers to be judged regardless of price! After years of research, Tom Bohlender gives you his own

ADRENALINE.
Yes, but why?
I have no doubt that GFA-5802, with its high current capability and stable, brute-force power, can drive most any loudspeaker out there. The question remains: Who needs this kind of inexpensive power?

Owners of large full-range loudspeakers, that’s who. But how many folks buying megabuck speakers are going to want to drive them with a budget amplifier?

All of them, if the 5802 can perform like the giant Krells and Levinsons. And if the amp can come close to the sonic performance of those beasts for $1750, you can add in almost everyone else not interested in tubes.

After all, clipping, not clean power, is what fries drive-unit voice-coils — so when it’s this affordable, why not have abundant power? Makes sense, no?

The specs on this amp are dizzyingly good, with ultra-low IM distortion from 1W to 300W, and very low THD from 20Hz to 20kHz. Flat response, ultrawide power bandwidth — the graphs supplied with the amp are picture-perfect.

### Hookup
Basic and easy: You have a choice of unbalanced, gold-plated RCA jacks and balanced XLR inputs, switchable via a rear-mounted toggle switch. The GFA-5802 provides you with double sets of five-way binding posts for easy bi-wiring, and an IEC AC jack so you can play with power cords should you desire.

### Sound
Even though I had a 15’ run of interconnect between the amp and preamp, I heard no improvement driving the GFA-5802 from the balanced input. (That option was open to me, as I’m in the middle of reviewing the fully balanced Ayre K-3 preamp.) I ended up running unbalanced, using Yamamura 6000 interconnect, which costs more than the amp. But that’s my reference, so that’s what I used, along with Yamamura 6000 speaker cable.

My first encounter with the 5802 was unpleasant: it sounded bright and “tingy” in the upper midrange. I wasn’t surprised; the amplifier needed a break-in period. But after a week’s work it still sounded that way, so I switched speaker cable to (broken-in) Cardas Golden Cross and there was an immediate improvement. I don’t know why. (The Yamamura works brilliantly with the VTL 450s, the Conrad-Johnson Premier 12s, and the Muse One Hundred Sixty I reviewed in October ’97)

Once I used it with suitable cables, the 5802’s overall sonic performance reinforced my findings with the Muse: solid-state amplification, even budget-priced, need not sound “zingy,” threadbare, or hard. In fact, like the Muse, the 5802 had an overall sound that was on the plush, slightly soft side of neutral — and essentially free of grain and grit.

The amp stepped out of that character only on high-frequency transients like vocal sibilants (where it seemed to jump forward and get a bit edgy), and in a very narrow upper-midrange, lower-high-frequency “presence” band that added a slight touch of cool to female voices, for example — clearly heard on DCC Compact Classics’ superb new vinyl edition of Joni Mitchell’s Court and Spark (DCC LPZ 2044).

Otherwise, the GFA-5802 maintains its character from top to bottom, which means that everything sounds warm and slightly soft. And even though that...
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means that I didn’t get the taut bass, spectacular inner detailing, and crystalline highs I get with much higher-priced solid-state gear. I did get a reasonably coherent, essentially neutral presentation — something I consider far more important. The last thing you want is “fast” bass and softish highs, or vice versa: dichotomies the ear can’t reconcile. Better that everything’s traveling at the same speed and on the same track. I prefer more bite to brass, more ring to cymbals, more “edge definition” overall, and faster, tighter bass. But given a choice between the 5802’s smoothness and a hard, overetched, overly defined picture, I’ll choose the 5802. In the mix’n’match world of budget preamps, CD players, and speakers, the 5802’s smooth sound may be just what you need.

As you might expect from an amplifier with unlimited power reserves, the 5802 easily scales dynamic musical peaks presented by symphonic scores such as the new spectacular sounding Cisco Music King Super Analog edition of Star Wars/Close Encounters, with Zubin Mehta and the Los Angeles Philharmonic (KJC 9199). Still, compared to other, more expensive, lower-powered amplifiers, on low-level dynamics the 5802 does not convincingly convey the tiny gestures that give music a pulse and make it come alive. So on the Heifetz/CSO Tchaikovsky Violin Concerto (LSC-2125), while the violin’s midrange tone is pleasingly correct, small rhythmic gestures and bow scrapes are diminished in favor of a warm, soft glow.

I played many live albums, like Harry Belafonte at Carnegie Hall (RCA/Classic LSO-6006), Joan Baez In Concert (Vanguard 2122), and the Joe Ely Band’s exciting Live Shots (British MCA MCF-3064), and while the 5802 gives you a rich sounding, “wart-free” presentation, it doesn’t produce the crackle, spark, bloom, and air of the live event, all of which the much lower-powered, more expensive C-J Premier Twelves (and the equally powerful and far more expensive VTL M1450s) do do case.

The 5802 did a fine job of portraying the main events, such as Joan Baez’s voice and the sound of her fingers plucking the guitar. But the low-level details — the voice reflecting off the hall walls, the audience applause suggesting the space, the projection of air into the

In the mix’n’match world of budget preamps, CD players, and speakers, the GFA-5802’s smooth sound may be just what you need.

Fig.1 shows the GFA-5802’s frequency response into 8 ohms with both balanced and unbalanced input signals. With balanced drive, the response rolls off a little earlier in the highs, reaching a negligible ~0.2dB at 20kHz. Hard to see on this graph is the Adcom’s response into our simulated loudspeaker load — despite the variations in impedance, the amplifier’s output impedance is so low that there’s almost no change in the measured response. The restricted ultrasonic bandwidth is also reflected in the curved edges of the shape of a 10kHz squarewave into a resistive load (fig.2). The channel separation (not shown) was good, the crosstalk averaging around ~76–80dB depending on direction.

Measured with continuous tones, the Adcom appeared to be a low-distortion design. At low levels into higher impedances, the THD+Noise figure hovered just above the 0.01% mark (lower traces in fig.3), and was dominated by noise. There was a slight rise at high frequencies, the right channel being a little worse than the left in this respect, and a larger rise into low impedances (top trace). However, the distortion was heavily third-harmonic even at high output levels and into low impedances, as can be seen from figs.4 and 5. The latter shows the amplifier’s output spectrum while driving a 50Hz sinewave at 400W into 4 ohms. Even at this very high output level, the third harmonic is better than 70dB down (0.03%), with the fifth and seventh harmonics correspondingly lower. The even-order harmonics are all very much lower in level.

The graphs supplied with the review sample showed very low levels of intermodulation distortion; even with the amplifier just below clipping into 4 ohms with a punishing 1:1 mix of 19kHz and 20kHz tones, the first- and second-order difference components are all still below ~60dB (0.1%), as can be seen in fig.6.

The plot of the GFA-5802’s distortion against output power into 8, 4, and 2 ohms (fig.7), and Table 1, show that the Adcom is a powerhouse of an amplifier. It comfortably exceeds its specified power rating, and drives almost a kilowatt into 2 ohms without apparent distress! — John Atkinson

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Adcom GFA-5802 Clipping Levels 1% THD+noise (1kHz)</th>
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<tbody>
<tr>
<td></td>
<td>Both Channels Driven W(dBW)</td>
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<tr>
<td></td>
<td>(L) (R)</td>
</tr>
<tr>
<td>8 ohms</td>
<td>362 (25.6) 353 (25.5)</td>
</tr>
<tr>
<td>(line)</td>
<td>119V 119V</td>
</tr>
<tr>
<td>4 ohms</td>
<td>583 (24.6) 580 (24.6)</td>
</tr>
<tr>
<td>(line)</td>
<td>1175V 1177V</td>
</tr>
<tr>
<td>2 ohms</td>
<td>900 (23.5)</td>
</tr>
<tr>
<td>(line)</td>
<td>1175V (one channel driven)</td>
</tr>
</tbody>
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Fig.5 Adcom GFA-5802, spectrum of 50Hz sinewave, DC~1kHz, at 400W into 4 ohms (linear frequency scale).

Fig.6 Adcom GFA-5802, HF intermodulation spectrum, DC~22kHz, 19~20kHz at 30V into 4 ohms (linear frequency scale).

Fig.7 Adcom GFA-5802, distortion (%) vs output power into (from bottom to top): 8 ohms, 4 ohms, and 2 ohms.
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Stereophile, April 1998
listening room—all seemed to drop away compared to what I'm used to through the higher-priced spreads.

The amp's soundstaging, imaging, and overall spatial presentation are all very good, but not up to what you get from—fill in the blank—yes! the "far more expensive amplifiers!" The stage is appropriately wide but only moderately deep, as you might expect from my description of low-level detail dropout. Images are reasonably well focused and three-dimensional, but more so at the front of the stage. From there, the farther into the soundstage I listen, the more those images lose aural gravity and individual dimensionality.

By now, perhaps you're saying to yourself "What is this guy doing comparing an under-two-grand amplifier with $5000 and $6000 models? Well, I'm doing it for two reasons: first, because if specs are all that counts as some suggest, the 5802 (assuming the supplied numbers are correct) should sound similar in character to Levinsons, Krells, Rowlands and other expensive solid-state amps, and second because I think perspective purchasers lusting for all of that electronic horsepower should take a step back and think carefully before buying a budget-priced powerhouse amplifier.

Like the Muse 160, what the 5802 gives you, it gets essentially correct. Its sins are mostly of omission, the best kind to have. While I no longer had the Muse around to do a direct A/B comparison, I did have Carver's A-500X THX-certified amplifier, which is rated at 250W into 8 ohms and 400W into 4 ohms. I dropped it into the system and gave a listen.

Compared to either of the expensive tube amps I have on hand (or the big-buck solid-state amps I've heard), the Carver, like the Adcom, is better at "first-event" portrayal than at reproducing the small musical and spatial events that the best amplifiers are capable of rendering. It, too, is not only far better focused toward the front of the stage, but it also sacrifices the desirable attributes of transient speed and transparency for the good of reducing the grain and etchiness that often accompany them in "built to a price point" designs.

The Carver beats the Adcom in one respect, though: it renders a layer of secondary information behind the main event with greater clarity, focus, and "speed," and its sense of rhythm is tighter and more surefooted. But it isn't as coherent top-to-bottom. The extra layer of information it renders seems to hover in its own space in the picture behind the main musical event.

Two different high-powered, reasonably priced amplifiers with very good specs—two different sounds, two different sets of attributes and deficiencies. And there are two points to be made from this: One, don't buy an amplifier based on "specs," they only tell part of the story. And two, the more power you demand at a given price point, the more likely it is that some aspect of sonic performance will suffer. You don't get something for nothing. Don't go shopping for more power than you need.

**The more power you demand at a given price point, the more likely it is that some aspect of sonic performance will suffer.**

**Conclusion**

Clearly, Adcom's goal for the GFA-5802 was to produce a budget-priced, high-build-quality, high-performance two-channel amplifier—the last amp a budget-conscious music lover will ever need. In that, Adcom has succeeded. With its enormous power reserves and high current capability, the 5802 probably can drive any loudspeaker load it is presented. But that doesn't mean it's the ideal amplifier for every loudspeaker, nor does it mean you should choose it over a more expensive, lower-powered amp simply to get the extra wattage. For example, I tried the 5802 with the Aerial 8s I reviewed in January, and even though it had the requisite power to drive these speakers, its plush character and lack of rhythmic immediacy made it a bad match for the 8, which requires more of a methedrine-driven amplifier to come alive.

The Adcom 5802 is, overall, a consistently sweet sounding amplifier, from top to bottom. It exhibits a "tubelike" liquidity, especially in the midrange, and save for a slight "coolness" in the upper midrange, the best word to describe its overall character is "warm"—a positive attribute not often associated with budget solid-state gear. Its other strongest attribute is consistency—the musical presentation holds together; the amplifier's "seams" don't show. But somehow the tremendous power reserves don't add up to the kind of ultimate control, authority, and slam I expected. While it doesn't sound sluggish, the 5802 doesn't ripple with excitement.

In putting a magnifying glass (or, better, a hearing aid) to the sound of the 5802, I've exaggerated its basic character, emphasizing its weaknesses while trying not to play down its strengths. And I inserted it into a system that includes far more expensive and revealing components. No, the 5802 is neither a Levinson—nor a Krell-killer, and no one should expect it to be. But it's a tremendous value for $1750, and it deals a musically satisfying hand. What it can't deliver it holds back—which, to my way of thinking, is the smart way to go.

If you can do with less solid-state power, the field broadens considerably to include the $1900 Muse One Hundred Sixty, which, while more expensive and offering half the power, provides somewhat greater rhythmic thrust, transparency, and airiness. But if you must have megapower and you're on a tight budget, I'd be hard-pressed to think of another comparably priced amp that offers the Adcom GFA 5802's solid, musical performance.

**Associated Equipment**

**Analog front-end:** Lyra Parnassus D.C.T., Grado Reference, van den Hul MC-10 Special, Goldring Excel XV phonostage cartridges; Simon Yorke Designs turntable and tonearm, Graham 2.0 tonearm.

**Digital front-end:** Bow Technologies ZZ-8 HDCD CD player/transport.

**Preamplification:** Ayre K-3 preamplifier, Enlightened Audio DSP 9000 III HDCD processor.

**Power amplifiers:** Vacuum Tube Logic MB-450 and Conrad-Johnson Premier Twelve monoblocks.

**Loudspeakers:** Aerial 8, Sonus Faber Grand Piano, Audio Physic Virgo, Audio Physic Rhea (formerly Terra) subwoofer.

**Cables:** Yamamura Millennium 6000 interconnects and Quantum AC cords; Cardas Golden Cross interconnects and speaker cables; Electra-Glide AC cords (preamp and CD player).

**Accessories:** Yamamura "Cibatta" AC interfaces, Sounds of Silence Vibraplane, A.R.T. "Q" dampers, Walker Audio Valid Points, Symposium Acoustics boards, Shakti Stones.

—Michael Fremer
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Creek Audio OBH-12 remote-control passive preamplifier

For music lovers, nothing takes the work out of listening like remote control. It's one of the great inventions. Volume up! Volume down! Next selection, please! George Jetson never had it so good.

Convenient it may be, but a significant number of audiophiles still believe that remote control is the work of Satan. They are politely directed to turn elsewhere in this issue, where, without question, they'll find a glowing review of a good old-fashioned tube preamplifier sporting a good old-fashioned hand-cranked volume potentiometer. On the other hand, if you're tired of jumping out of your seat to tweak the volume for every tune, pay attention—I've got a product here designed to make your listening a whole lot easier.

The Creek OBH-12 is a remote-controlled passive volume pot in a small black box. Creek bills it as a "Remote Preamp" even though it lacks a balance control and other basic features. It's a simple design: two relay-switched line-level inputs, a tape loop, and a variable output. There's a big knob on the front for manual operation, but the inputs are switchable only by the hand-held remote.

The little gizmo is powered by a plug-in DC "wall wart" supply for the minimal electronics inside: two chips and a few transistors to operate three miniature relays, an IR receiver, three indicator LEDs, and a motor attached to a 20k stereo volume pot. The input and output jacks are soldered directly to a single circuit board, whose wide traces go directly to the relays and the volume pot itself.

The potentiometer looks like a generic resistive-carbon type. A small metal enclosure for the gearing is stamped "Soundwell," a brand name I've never encountered. I checked the pot for left-vs-right tracking accuracy by comparing input-to-wiper and wiper-to-output with a digital ohmmeter. The two sides were within 3% of each other throughout the pot's full range. No tracking discrepancies were apparent in use.

So how does it work? Simple. You can insert it in the tape loop of any non-remote-equipped receiver, preamp, or integrated amp. Turn the host unit's volume up to the 12 o'clock position, and control the volume with the Creek. Or you can use it as a stand-alone preamplifier by inserting it between CD player and power amplifier. (If you have a handkerchief to play vinyl, Creek has a similar-sized little add-on phono stage, the OBH-8, to let you do just that—see Michael Fremer's coverage in the August 1995 Stereophile.) Since the OBH-12 is purely passive, long output cables are not a good idea. Indeed, one of the big benefits of remote control is that you can keep your cables short. Duh!

Creek sound
How does the OBH-12 sound? Well... it doesn't sound like anything. Which is to say, it sounds like whatever it's hooked up to. It's transparent enough to reveal the characteristics of upstream and downstream devices and cables. Which is to be expected—all a passive volume control does is gradually take itself out of the circuit. Full-on, the source is effectively connected directly to the input of the device it feeds. I heard no objectionable artifacts using it either as a stand-alone preamp or a "passive buffer" between two different CD players and a Threshold T3i preamp. The characteristics of the cables I tried with it (Straight Wire Rhapsody, Transparent MusicLink Plus, Nordost SPM) were more apparent than anything the Creek contributed to the sound.

Creek conclusions
Creek's nifty little box works very well, allowing its user to make fine adjustments to the sound level from the comfort of the listening chair. It's a huge improvement over the cheesy variable-output controls found on most CD players. The $325 price tag seems a bit high, but the minimalist OBH-12 is all the preamp many music lovers will ever need.

---

Description: Passive control "pre-amplifier" with two line-level inputs and remote control of volume control and input switching.
Dimensions: 4" W by 2.5" H by 5.25" D. Weight: 2 lbs.
Serial number of unit reviewed: Not noted.
Price: $325. Approximate number of dealers: 60. Warranty: 2 years.
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Stereophile, April 1998
PolyCrystal Isolator Cones and Spikes

Stereophile, April 1998

Equipment Report
Jonathan Scull

PolyCrystal Isolator Cones and Spikes

Some footers are meant to couple a component to its support, others to decouple it. Bruce Bodlak's PolyCrystal™ Isolator Cones and Spikes fall somewhere in between, I'd say. According to Robert Stein at Ultra Systems, "PolyCrystal is a composite made up of numerous inert materials crushed to the size of their crystalline structures and embedded in a shaped resin matrix. The result is a very high-density substance whose many irregular boundaries between the interlaced crystals effectively dissipate energy."

The Isolator Cones are small, black, chubby little cones. Stein: "The PolyCrystal Cones use a carefully chosen geometry optimized for use under audio electronics." The Spikes are taller and slimmer, and taper smoothly to a sharpish point. "They're made of instrument-grade brass encased in a PolyCrystal shell, and include quarter-twenty (¼"-20) threaded shafts. You can have them in six other thread sizes or as self-tapping wood screws!" Stein added, still brimming with enthusiastic bonhomie.

System
Footers were placed under the YBA CD1 Blue Laser and hooked up to the Tape In hot-rod inputs of the YBA 6 Chassis preamplifier, wired throughout with TARA Labs The One interconnect and speaker cable. As with my earlier footer comparisons, I used Forsell's The Statement amplifier tethered to JMLab Utopia speakers. The CD1 was mounted on the top shelf of a small ClampRack, its separate power supply on another shelf up on three small AudioPoints.

Listening to the Spikes
Although the coated brass spikes are meant for speakers, they do, according to a note from Bodlak, "hold their own under equipment, so just unscrew the stud from the spike!" Eyeballing the Utopias' 275-lb thrust per side, I vowed to try them under speakers at another time. I brushed the Spikes quickly under the player section of the CD1 and sat down to listen.

The effect was hardly subtle. First, I noticed that they sounded a bit lighter overall—a result, no doubt, of the quick, lithe presentation. Listening to "Hey Sweet Man" from Madeleine Peyroux's Dreamland (Atlantic 82946-2), I noted highs that were beautifully open, clear, and lovely. The midrange seemed clarity itself, at the same time full of harmonic flavor and color. The bass was transparent, fast, acoustic, and natural. PolyCrystal Spikes showed a fine balance of initial-transient launch and follow-on bloom that suited the CD1 perfectly.

I experienced the overall sense of speed and pace quite differently from when I listened to music via the G-Flex dampers that I wrote about in March. I couldn't help noticing how fast these beautifully made Austrian footers sounded; there was no missing it. The PolyCrystal spike sounded quick too, but at a more natural level, smoothly blending in with the rest of the presentation; I didn't pick it up on it immediately. Listening to Peyroux's "Hey Sweet Man," plus "Tambourin" from Gunilla von Bahr and Diego Blanco's Music for Flute & Guitar (BIS CD1-90), I noted a presentation that sounded both natural and quick, with good leading-edge snap and an open, rich, slightly warm quality in the highs. The Spikes projected a softer floodlight onto the music than the G-Flexes—more air, but less transparency.

In terms of overall clarity, I found the PolyCrystal-coated brass Spike a touch darker-sounding than the Austrian footer. One might associate such a characterization with a slow, less revealing sound, but that was hardly the case. Listening to the BIS disc, I enjoyed the soaring, effortless sound of Gunilla von Bahr's flute, and a beautifully taut and acoustic tambour. Notes: "The sound 'mimics' in some way the construction of the cones—their inherent damping characteristic. There's clarity on tap, but its essential relationship to the sound is different from the sound via G-Flex. The space between notes, the air in the re-created soundstage, is somehow more glowing and present than the total transparency rendered by the spring-loaded dampers."

Listening to the Cones
Substituting the stubby cones for the spikes was an ear-opener. Notes: "Ahhhh, sweet music come to seduce in dulce tones. No question: These are the sweetest cones I've ever heard, hands down." Wondering if "sweet" would survive a high-decibel onslaught, I spun the custom attenuators on the 6 Chassis. The music, albeit louder, retained its form and charm. Notes: "Sweet remains sweet. My jaws are officially agape at the beauty of it all—deadly attractive. Peyroux sounds a sultry knockout, the heartfelt and bluesy guitar accompaniment riveting my imagination, the trumpet airy and soaring, beautifully redolent."

The midrange? Velvety, sultry, textured like I've never heard before, drawing me in with that special harmonic rightness that makes an audiophile kvell. The juicy acoustic hit my resonance point, and I fell directly into the music. Notes: "The midrange on Dreamland is gushing with texture and detail, I love it. The mid-to lower bass is just fine; not the best I ever heard, but 'merely' very good."

The Isolators sound like what they are, in fact: irregular crystal junctions within the resin matrix that absorb waveband resonances. The clarity and richness of sound is, I believe, due to the absence of resonance-induced coloration. Whatever, it was sexy and engaging—it made me feel young again.

Conclusion
"Robert, I heard Bodlak has unspecified 'other' audio accessories fabricated with PolyCrystal…?"

"Yup. Using specially designed molds, PolyCrystal can be cast into various shapes or applied to other materials as a coating. Bruce has a line of racks and stands, and he's doing an upgrade line of shelves. And PolyCrystal-coated drivers and 'Crystal-cast speaker cabinets for OEMs. All of it coming up—did I tell you he was getting married this weekend? But don't worry—the amp stands will arrive in a few days!"

Description: Vibration-absorbing footers.
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**Mission 731i loudspeaker**

In my highly favorable review of the $299/pair Mission 731i loudspeaker (November 1996), I did not hesitate to point out the loudspeaker’s shortcomings: “a veiling of the sound at very low volume levels, with a lack of bloom until the volume is cranked a bit,” and “a truncation of much of the top octave, which reduces the shimmer of upper partials on strings, piano, and percussion.” Hell, what do you want for 250 bucks?

Well, never inclined to sit on their bums, the Mission boys decided to replace the composite laminated metal-dome tweeter with a silk dome derived from the one used on their upscale 75-series speakers.

The result? An order-of-magnitude improvement in high-frequency extension, delicacy, air, and transparency. On Janis Ian’s *Breaking Silence* (Analogue Productions CAPP 027), the vocal and guitar presentation was less opaque compared with the earlier version of the speaker, with more apparent detail on guitar transients and vocal sibilants. A layer of gauze seemed to have been removed from the sound, and the speaker no longer sounded shy in the top octave.

Transients on well-produced classic-al recordings further highlighted the improvements. On Kohjiba’s *Migration of the Soul*, from Stereophile’s *Festival C1* (STPH007-2), the marimba attacks had more of a plink than the thunk presented by the older design, and the rosin on the bows of the strings was much more apparent.

The new version of the 731i has the same model number, box, and price as the old. How to identify this latest edition? The review begins at serial no. 310,119,000. Current stock in dealers’ showrooms should be the new one.

I recommend the revised 731i over the older design, but I’d go further than that. I think the improvement is significant enough that owners of the older speaker should purchase the revision and give the old ones to a needy brother-in-law. Moreover, any owner of speakers costing $10,000/pair or more should, just for the hell of it, purchase a pair of these babies to learn what remarkable feats today’s speaker crafters are capable of.

At this price, how do they make any money?

---

**Focus Model 88 loudspeaker**

When John Atkinson reviewed the three-way floorstanding Focus Model 88 loudspeaker last June (Vol.20 No.6), he was impressed with their, ah, focus, excellent stereo imaging, dynamics, and superb bass extension. Indeed, at least in his modestly sized, rather damped room, they verged on being overgenerous down below.

I was interested in hearing the speakers in my own room, which is larger and livelier than JA’s, and asked Focus if they’d mind leaving the 88s in Santa Fe until I could audition them myself. They were willing, but mentioned that they’d made some changes to the design that went to the heart of JA’s misgivings. By changing the value of some parts in the crossovers, Focus felt they had tamed the “overgenerous” bottom end while maintaining the speaker’s exemplary extension. Perhaps, they inquired, I’d rather hear the new version? How could I refuse?

The first thing I noticed about the Focus was how nifty it looked in its black piano-lacquer finish — the speaker has a formal, elegant mien quite out of keeping with practically everything else in my living room. However, the two of them blended in about as well as big speakers can.

From the start, the 88 sounded impressively clean and uncolored. It did not romanticize, editorialize, or glide, but had a crisp articulation that revealed everything that lurked within a mix, no matter how densely layered. And, lest you’re wondering, it had deep, taut, fast, tuneful bass, and lots of it — but no more than seemed to be in the source material to begin with.

If power corrupts, what does bass do? Well, it tends to junkify me. I pulled out disc after disc with booty-juicin’ stuff blooshing up from down below. On Kip Hanrahan’s *Conjure: Music for the Texts of Ishmael Reed* (Pangea PAND-42135, CD), the song ‘Jes’ Grew’ rollicks along on a bedrock established by not one but two of the most distinctive jazz electric bassists: Steve Swallow and Jamaaladeen Tacuma. The Focus 88’s bass was deep, physical even, but extremely revealing of tone and nuance. It separated the lines of the two bassists so that each part was distinct and unblurred, and readily differentiated between Swallow’s round, organic-sounding Gibson hollow-body and Tacuma’s ringing, punchy, upper fretwork on his Steinberger.

The 88 also did a marvelous job of portraying Billy Hart’s precise timekeeping on *trampset*, while deftly sorting out (and keeping in proportion) Puntilla Orlando Rios’ percussion. Taj Mahal’s vocals were given the weight and heft appropriate to such a big man, and saxophonist David Murray let rip a searing...
Wonderous Wilson

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—Dominic Baker, HI-FI WORLD. (December 1996)
tenor solo that practically rent the very fabric of space and time — and the Focus 88 wasn't fazed a bit, sorting everything out and reporting on it honestly.1

In recording after recording, I had much the same reaction: this speaker was unflappable. Throw big, complex music at it and it sorted it out and played it back honestly. Play a small, simple ensemble and it reflected that too. The Foci's soundstaging was holographic and detailed. And I couldn't overload them — at least, I wouldn't want to be in the same room with them anywhere close to their limit.

But I must say that I found the Focus 88's presentation somewhat on the forward side. It wasn't bright, and it sure wasn't etched or bleached — just closer than I prefer. Of course, "voicing" is the most intensely personal kind of predilection; many listeners will find the Focus 88 just right in this regard.

While at CES '98, I met Dutch recording engineer Jos van de Broek. One of his recordings, the Yuri Honing Trio's Star Tracks (Jazz in Motion 9920102), has become the newest denizen of my "most-played pile." Their version of Sting's "Walking on the Moon" personified the Focus 88's strengths. The speakers' soundstage is spacious and absolutely life-size. Out of black silence, a tattoo on the drums rings out. Silence again. The bass sounds a heartbeat — lubdub, lubdub, lubdub... its sound hitting the studio wall. Another crackle of rimshots. Then, deep and rich and huge, the bass sounds the E string, DUM dumdedummmm... Then the sax joins in, all pinched, brassy tone. With just three instruments, an entire world is created... and it's perfect for as long as the song lasts.

Focus is to be congratulated. While preserving oodles and oodles of bass power and extension, the new Model 88 does not suffer from the excess of it that JA experienced in his audition. But they've managed to preserve the accuracy, soundstaging precision, and uncolored honesty he admired. This bespeaks a consistency in engineering and vision that is altogether rare. I'm glad I got to spend time with this speaker. — Wes Phillips

---

1 I was present at Eurosound Studios in 1983 when Murray recorded that shattering solo. He nailed it first time out, but was convinced he could do better. Producer Kip Hanrahan was down to only a few blank tracks left on the tape, so Murray suggested he re-record on the same track.

Fifteen takes later, Murray conceded defeat: "We should have kept that first one."

Hanrahan grinned. "I never threw it away — it was too perfect. I dumped a doubled track. After all, if you'd come up with a better solo, it would have been worth it."

That was the night I discovered what a producer does to earn his paycheck.
**HeadRoom Pop Quiz**

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**Stereophile Reviewers Speak about portable headphone stuff:**

**About the Etymotic ER4S:**
"For recording engineers, I think the ER-4Ses would be an indispensable tool—Isolation plus accuracy make a difficult combination to top. For travelers, I can't recommend anything more highly. They help me arrive more rested—through the reduction of rumble—and in a great mood, since I've amused myself on my journey."


**About the Supreme:**
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The Supreme has appeared twice as an Amplification Component of the Year Runner-Up: 1994 and 1996. It is currently rated Class B on the Recommended Components List.

---

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About the HeadRoom Audio Image Processor:
"From disc to disc I always found the processed signal an improvement, even where the effect on the imaging was vanishingly slight. But the true worth of the HeadRoom circuit will be revealed with extended listening—I don't want to underestimate its importance by stressing the subtle nature of the change. It's a cumulative benefit, reducing listening fatigue by a substantial margin. In fact, I suspect that subtlety is one of the most reliable indicators of the correctness of the processing...I could listen for hour after hour, with noticeably less effort."

About the Sennheiser 580:
"Ultra-smooth, ultra-detailed open-back dynamic headphones with full, extended low frequencies...JA's dynamic headphone reference."
Recommended Components List, Class "B", Vol. 19 No.10, Oct 1996

About the Max:
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Recently I’ve gotten a bit blue about the blues. First, I received an e-mail from a publicist at a Chicago blues label informing me that, because I dislike the blues so much, he was cutting me off their promo list. Just for the record, I’ve always assumed that a love for the blues is standard equipment for anyone with an affection for popular music, much of which owes its very existence to Robert Johnson, Muddy Waters, and the rest. I’ve said in print and will say again: First, that blues-by-rote bands, of which there are entirely too many, bore me to tears. Second, because the Fifties generation of blues players is now dying off, there is a crying need for new talent to keep the blues from becoming a reissue-only museum piece.

But lest the picture look too dark, there are still cool new—as opposed to reissued—blues discs out there by artists like Anson Funderburk and Sam Myers (Black Top), Ronnie Earl (Verve), Long John Hunter (Alligator), Duke Robillard (Bullseye), and T-Model Ford (Fat Possum), to name some recent releases. It’s in the younger age group—sorry, Jonny Lang doesn’t count—where the talent shortage is most critical.

The second and infinitely more depressing reason to be blue about three chords and twelve bars is the space of recent blues deaths that in a few months’ time has nearly cut in half the number of older bluesman left alive and performing. The first to go, on December 19, was Jimmy Rogers. Born in Ruleville, Mississippi in 1924, Rogers attained his greatest fame in the early ’50s, when he played in his cousin Muddy Waters’ band along with Willie Dixon, Little Walter, and Otis Spann. Although he released a number of solo albums during his lifetime, including a 1994 audiophile disc titled Bluebird (Analogue Productions/JVC JVCXR-0015-2) and the newly reissued Complete Chess Recordings (Chess 9372), his most essential (and utterly smokin’) solo album is Ludella, a combination live and studio set recorded in 1990 for the Antone’s label.

On January 15, the man who at age 16 replaced Little Walter in Muddy Waters’ band, Junior Wells, passed on in Chicago. Wells (Amos Blackmore) was a dynamo best known for the nearly 20 years he spent playing with Buddy Guy. A talent too big for just the blues, Wells could get funky and soulful, a point his wonderfully overt fashion sense—bright scarves, broad-brimmed hats—always made abundantly clear. Wells appeared last year on the Grammys with Tracy Chapman, and can be seen for the last time in the new film, Blues Brothers 2000. While his most recent discs on Telarc are fine, my favorite is still a toss-up: Buddy Guy and Junior Wells Play the Blues (Rhino R2 70299) includes Eric Clapton, Dr. John, and the J. Geils Band as guests, but the title of Drinkin’ TNT and Smokin’ Dynamite (Blind Pig 1182) says it all.

Less famous than Rogers or Wells, David “Junior” Kimbrough, who died on January 17, found his measure of fame thanks to the late Robert Palmer’s 1992 film Deep Blues and its soundtrack. A raw-edged performer whose guitar playing attained a hypnotic, repetitive groove, Kimbrough’s three albums are all on the Fat Possum label. Do The Rump!, a collection of early recordings, was recently issued on HMG/Hightone 6503.

One final belated obit: As a huge swamp-pop fan, I was particularly saddened by the September 23 death of Huey Peter “Cookie” Thierry of Cookie and the Cupcakes. Thierry co-wrote and sang the archetypal swamp-pop single, “Mathilda.”

New York stories
A recent New York trip yielded a number of tidbits:

• While there are more sopranos out there than any reasonable person can keep track of, keep one name in mind: Natalie Dessay. She is, in a word, exquisite.

• In jazz, watch for up-and-coming trumpeter Russell Gunn.

• When pondering the health of the classical music business, consider that the Titanic soundtrack looks like it’s going to be the biggest-selling disc ever released by a classical label in the US, period. So much for dah-dah-dah-dun.

• If Techno’s going to take over as the fabled “next big thing”—as one of my dearest friends in the world (not to mention the music business) fervently believes — then I find it strange that it’s not yet on the radio, even in New York.

• Anyone interested in the ongoing debate about what’s ailing the music biz should hop online (or, for the cyber-challenged, head down to the library) and check out Neil Strauss’ Restless Music Fans Hungry for the New (New York Times, January 26, 1998).

In 1960, 1970, and 1980, no debut album reached the top slot of the Billboard chart; while last year, four debuts hit No.1. Meanwhile, discs by the Rolling Stones, U2, Oasis, En Vogue, and others died relatively ugly deaths. Strauss explores the reasons for this, and his final equation goes something this: Because kids have tons of entertainment choices, demand instant gratification, and seem to have the attention spans of gnats, the one-hit wonder is now the norm. Kids want a little bit of this before moving on to a little bit of that. Record collecting is out, fickleness is in. The industry has reacted by becoming song-rather than artist-driven, which makes it impossible to build artist loyalty, which in turn makes selling more than a debut album very problematic.

In Strauss’ view, the big multi-nationals who own the record labels also get a share of blame: they, too, want instant gratification in the form of a fat bottom line. Upcoming albums by Alanis Morissette, Nine Inch Nails, and Hole are all seen as crucial test cases of this theory. The most telling detail was the assertion that, in today’s record market, an artist like Bruce Springsteen—who didn’t break big until his third album—would have been dropped because his first two albums did not produce a hit single.

While the piece made a number of good points, I found it curious that Strauss never mentioned the fact that there’s currently a startling lack of talent out there, and so a lot of lazy, half-baked albums on the racks. If you hated the first record, why go back for more?

Seems to me I remember Beatles singles selling Beatles albums that were classics, not clunkers.
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**Dr. John**

Mac Rebennack has led many lives since his birth in 1941 in New Orleans: sideman, artist, radical, revivalist, junkie, scholar. There’s the white kid who grew up in the middle-class Third Ward and attended a Jesuit high school. Then there’s the music hound who came of age in the impoverished Ninth Ward, learning to play piano from such legends as Professor Longhair and James Booker, plus long-forgotten ghosts like Chief Jolley and WuWu. At one point in the late ’50s, Rebennack was the only white musician in AFO, a black artists’ cooperative.

To track his 40-year career is to track a century of New Orleans tradition, including the birth of rock’n’roll, the later ascent of psychedelic rock, and the preservation of jazz, pop, and R&B standards. Originally a guitar player who doubled on keyboards, Rebennack spent the late ’50s and early ’60s writing songs and playing with Huey Piano Smith, Frankie Ford, and Joe Tex. A subsequent move to California led to session work with Phil Spector and a stint as tour pianist for Sonny and Cher. During a break from the latter, Rebennack reinvented himself as Dr. John the Night Tripper, an outsized persona melding ancient voodoo mysticism with late-’60s psychedelics, and crafting a distinct sound still sampled by musicians from P.M. Dawn to Beck.

Unfortunately, the Doctor’s first four albums—GRIS-Gris (1968), Babylon (1969), Remedies (1970), and The Sun Moon & Herbs (1971)—are all out of print, as is most of his late-’70s work (GRIS-Gris has recently been reissued on the Repertoire label). What is available varies greatly, from truly sublime (Gumbo, In the Right Place, Goin’ Back to New Orleans) to utterly inconsequential. Both as a sideman and as a recording artist, he’s worked with a startling range of musicians, including Johny Adams, Eddy Bo, the Wild Magnolias, the Band, Aretha Franklin, Van Morrison, Art Blakey, David “Fathead” Newman, Hank Crawford, B.B. King, Buddy Guy, and the British rock band Spiritualized.

In between, he’s paid the bills with jingle work for fast-food franchises, plus soundtrack recordings, from Sleepless in Seattle to a version of “Take Me Out to the Ballgame” for Ken Burns’ Baseball. Though at least 100 albums bear his imprint as player or producer, there are about 20 CDs with him as the star performer. Because they fall into loose categories, it makes sense to take them by style instead of chronologically.

**Compilations**

For a detailed overview of Dr. John’s career, head first to Mos’ Socious (two CDs, Rhino R2 71450). The packaging is up to Rhino’s usual standards—including a booklet with Mac’s annotated descriptions of all 39 tracks—but musically it feels incomplete. It opens with five unremarkable rock/R&B numbers from the late ’50s and early ’60s, then flashes forward to Rebennack’s 1967 debut as Dr. John Creaux with the spooky, minimal “Gris-Gris Gumbo Ya Ya.” It’s a remarkable transformation, with no indication on the CD of where it came from.

According to Jeff Hannusch’s excellent liner notes, The Night Tripper persona and sound can be traced to an unreleased 1962 recording by Prince La La, the brother of Rebennack’s guitar teacher, Walter “Papoose” Nelson. It’s a shame we don’t get to hear this earlier song, which Rebennack probably worked on as a session player, but Mos’ Socious does offer six tracks each from Dr. John’s two undisputed classics, 1972’s Gumbo and 1973’s In the Right Place. Since both are worth owning in their entirety (more on them in a minute), the real value of this box can be found in the 14 tracks culled from out-of-print albums, including 1968’s GRIS-Gris and 1974’s Desirably Bonnie. Especially compelling are the creepy voodoo charm of “I Walk on Guilded Splinters” and the ’70s soul vib of “What Comes Around (Goes Around).” But Mos’ Socious ends as blandly as it begins, with three songs from Rebennack’s 1989 album of overblown pop standards, In a Sentimental Mood—a particularly unfortunate stopping point because, so far, Rebennack has recorded three better albums in the ’90s.

A more concise summary of Rebennack’s career can be found on two single-CD collections: The Very Best of Dr. John (Rhino R2 71924) and The Ultimate Dr. John (Warner Special Products 27612-2). Both are good, but I prefer the Rhino title for its slightly better sound quality and a couple of extra tracks (16 vs 14). At half the price of Mos’ Socious, The Very Best hits many of the Doctor’s high points without bogging down at beginning or end.

*Stereophile*, April 1998
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Stereophile, April 1998
Early '70s essentials

By the time record executive Jerry Wexler convinced Rebennack to record *Gumbo* (Atco 7006-2) in 1972, he was well on his way back to musical obscurity. Though his debut, *GRIS-GRIS*, was a cult hit, each of his next three albums cost more and sold less, with 1971's *The Sun Moons & Herbs* notable only for its superstar guests (Eric Clapton, Mick Jagger) and studio bloat. *Gumbo* is a tightly focused return to Rebennack's roots. Though the album was recorded in Los Angeles, the band is full of Louisiana legends (Harold Battiste, Lee Allen), plus lesser-known but equally important N'awlins heroes: Ronnie Barron, Alvin Robinson, and a wonderful trombonist known simply as Streamline. Together they rage through a dozen New Orleans classics—not only Professor Longhair and Huey Smith, but also Earl King and Ray Charles, who lived in the Crescent City while leading the house band at the Dew Drop Inn. Though many of these songs are closely associated with the '50s, *Gumbo* never sounds forced or nostalgic; it's great work from start to finish.

Gumbo, a tightly focused return to Dr. John's roots, never sounds forced or nostalgic; it's great work from start to finish.

Pre-Dr. John recordings

Dr. John and His New Orleans Congregation (Ace 2020) is a misnomer—all 18 of its tracks were recorded before Rebennack adopted his trippy physician persona. The tracks date from the late '50s and early '60s, when Rebennack worked as a talent scout and session player for Ace Records. He's the star attraction on only one cut—a Bo Diddley–beat instrumental ("Storm Warning") with the future doctor on lead guitar. Once you get past the obvious cheat of the title, this collection does yield some solid vintage r&b, thanks more to obscure performers like Curly Moore and Big Boy Myles rather than better-known artists such as Huey P. Smith and Benny Spellman, represented here by marginal work. But while it's a kick to hear young Joe Tex mimic Little Richard, it's more useful to listen as others sing songs Rebennack would later revive on *Gumbo*: "Junko Partner" (done here by Roland Stone as "Down the Road"), "Let the Good Times Roll" (Scotty McKay), and "Iko Iko" (Sugar Boy Crawford's weird mambo version of "Jockamo").

Cut Me While I'm Hot (Magnum America MACD 017) and Crawfish Soirée (AIM A4 CD) focus on Rebennack's early '60s attempts to find his own voice as a singer and songwriter. Since Cut Me contains almost all of Soirée and eight songs more, it's the better value. Still, it's hard to recommend either title without some reservation. Many of these recordings are demos and sound it: the piano sounds like a saloon upright in desperate need of tuning, the band has trouble finding a groove, and Rebennack's voice slips in and out of key. You can hear him learning to flip words in clever ways on "The Ear is On Strike," and watch him slip from genre to genre: gospel ("A Little Close to My Home"), blues ("Make Your Own"), even some lame attempts at country ("Just Like a Mirror," "Mean Cheatin' Woman"). Cut Me picks up considerably in the second half, when the sound quality improves and Rebennack adds some N'awlins spice to the mix. Especially good are "Woman is the Root of All Evil," "Shoo Ra," and a cover of Professor Longhair's "Ballhead" with enough room for a full Dixieland band and a steel guitar. Sounds strange, works beautifully.

Solo piano

By the first half of the '80s, Rebennack was in demand mostly as a session player and ad-jingle writer, but he cut a pair of back-to-back solo piano albums that proved he was still capable of great work. *Dr. John Plays Mac Rebennack* (Clean Cuts CCUT-705) ranges widely from joyous tributes ("Memories of Professor Longhair," "Pinetop") and slow, graceful blues ("New Island Blues," "Saints") to graceful standards such as "Dance à la Negres" and "Wade in the Water." However, with the exception of a gentle version of "The Nearness of You" and a disconcertingly peppy take on "Silent Night," *Dr. John Plays* is all instrumental, which may test the patience of less-than-rabid fans of solo piano music.

Its followup, *The Brightest Smile in Town* (Clean Cuts CCUT-707), presents a more balanced mix of vocal and instrumental tracks. While it's fun to hear Rebennack romp through "Box Car Boogie" and patiently tread the twilight blues of "Pretty Libby," I prefer the unexpected vocal treats: a heartstopping version of Jimmy Rodgers' "Waiting for a Train"; a Doc Pomus cover, "Average Kind of Guy," that sounds like Randy Newman on a particularly good day; and "Marie La Veau," a highly syncopated bow to one of New Orleans' many voodoo queens. By the time he ends *Brightest Smile* with two gorgeous instrumentals—a lovely take on Harold Arlen's "Come Rain or Come Shine" and "Suite Home New Orleans"—you're reminded just how encyclopedic Rebennack's knowledge of American music is.

Big-band standards & recent work

Rebennack's long commercial drought finally ended in the late '80s with *In a Sentimental Mood* (Warner Bros. 25889-2), an album of pop standards bearing almost no connection to New Orleans or his r&b roots. His album-opening duet with Rickie Lee Jones, "Making' Whoopee," was a big hit after it was included on the *Sleepless in Seattle* soundtrack, and it's easy to understand why Harry Connick, Jr. fans who'd bought *When Harry Met Sally...* were seduced by this coy come-on. Still, it's odd to hear Rebennack's scruffy baritone in service to such lush, sweeping orchestration.
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(and to hear him sing a line like “I’ve got a sweet tooth for your sweet heart”). The Doctor lends a nice bluesy feel to a Satchmo favorite, “My Buddy,” and to Charlie Brown’s classic “Black Night.” Longtime Ray Charles arranger Marty Parch is responsible for both the best (“My Buddy”) and the worst (“Candy”) horn-and-string arrangements on this album. While the “More Than You Know” included here is a small miracle of understatement, the Mission: Impossible strings on Cole Porter’s “Love For Sale” sound suited only for an elevator headed to the basement.

But it’s hard to be too critical of Rebennack for In a Sentimental Mood; its success gave him the clout to record his most ambitious—and, in some ways, most satisfying—album ever, Goin’ Back to New Orleans ( Warner Bros. 26940-2). Essentially a map of the musical terrain leading up to Gumbo, Goin’ Back examines a century of musical history, starting in the mid-19th century with Louis Moreau Gottschalk, a classical composer influenced by the African chants and slave dances he witnessed in New Orleans’ Congo Square. With support from some of the city’s most prominent ancestors—from Danny Barker and Pete Fountain to Al Hirt and the Neville Brothers—Goin’ Back to New Orleans breathes new life into the work of Jelly Roll Morton, Louis Armstrong, James Booker, Professor Longhair, Fats Domino, Smiley Lewis, and Huey Piano Smith. From early jazz to junkie blues, Goin’ Back covers it all, ranging from well-trod standards (“Basin Street Blues,” “Careless Love”) to otherwise forgotten jewels (“I Thought I Heard Buddy Bolden Say,” “How Come My Dog Don’t Bark”). What’s most remarkable is how alive it all sounds—as if the 20s and 40s had happened last night.

Perhaps to prove that he isn’t only an archivist, Dr. John followed up Goin’ Back to New Orleans with Television (MCA/GRP MGD-4024), his only wrong-headed detour of the ’90s. The album is supposed to be hip and sleek, but already it feels as dated as a rerun of Charlie’s Angels. The band, featuring such long-time colleagues as Red Tyler and Ronnie Cuber, plus session vets Hugh McCracken and Randy Brecker, isn’t bad. But the songwriting is weak, and the lyrics, containing gratuitous references to MTV, VH1, and BET, are almost uniformly stupid. The lowest point is “Shut D Fonk Up,” a lazy tribute to 70s R&B with Anthony Kiedis of the Red Hot Chili Peppers providing a stiff white-boy rap. On the CD cover, Rebennack is photographed sitting in profile, about to click the remote control he’s holding. Take his cue and change the channel.

Dr. John reunited with producer LiPuma for 1995’s Afterglow (Blue Thumb BTD-7000), only this time they got it right. The unifying idea is similar to that of In a Sentimental Mood: have Rebennack sing and play songs made popular by Nat “King” Cole, Louis Jordan, and Duke Ellington. But instead of swinging wildly from Tin Pan Alley standards to supper-club blues, Afterglow mostly recaputures the late ’40s and early ’50s, when jazz, blues, and pop intersected with sophisticated ease. LiPuma’s production is still slick, but not nearly as obtrusive as on their earlier album together. Virtually every song works here, but “Ain’t I Been Good to You,” “Just a Lucky So and So,” and the stark reading of “I’m Confessin’” (first made popular by Louis Armstrong) are particularly effective. And on Rebennack’s original, “I Still Believe in You,” he proves just how influenced he is by West Coast blues legend Charles Brown, who spent the mid-’50s recording at Cosimo Matassa’s studio, where the Doc got his start. A lovely, effective album; only the version of Irving Berlin’s “Blue Skies” sounds slightly out of step with everything else.

Live recordings

For a musician who learned his craft in nightclubs, the Doctor’s track record with concert recordings is decidedly spotty. 1975’s Hollywood Be Thy Name (One Way 72438 18562 22) is a ragged document recorded at Willie Purple’s in Los Angeles, though producer Bob Ezrin inserts a few studio tracks without apology or explanation. For every solid New Orleans number such as “New Island Soirée” there are two misfires, including a bombastic cover of “Yesterday” and a proto-metal stomp misleadingly titled “Reggae Doctor.” The sound quality is poor throughout; the tape hiss on “Babylon” is louder than the opening tom-tom beats. Splashed in every way, Hollywood Be Thy Name sounds like a drug-induced meltdown.

On a Mardi Gras Day (Great Southern GS 11024) is much better, though still not good enough to qualify as essential. Recorded in 1983 with British jazz trombonist Chris Barber, the material is generally solid but predictable, with a few pleasant surprises like the lovely funeral blues of “The Wicked Shall Cease.” Unfortunately, Rebennack’s voice sounds shot, and Barber’s orchestra, a trad-jazz outfit featuring clarinet, muted trumpet, and banjo, drifts toward straw- hat hokum at times. Also, given that this London gig was tied to a club-sponsored Mardi Gras party, it’s hard to understand why the drag-assy moan of “Down in San Antone” is inserted two-thirds of the way through.

By comparison, 1997’s Trippin’ Live (Surefire 60150-13047-2) is an absolute marvel. Recorded during eight days of shows in London, the sound quality is crisp, and Rebennack’s eight-man band, including such long-time colleagues as saxists Tyler and Cuber, swings with remarkable ease. Naturally, they tackle “Tipitina,” “Such a Night,” and “Right Place Wrong Time,” but the real revelations come from lesser-known material: the loose, joyous funk of “Wild Honey”; a touching version of “My Buddy,” liberated from the string-dominated schmaltz of In a Sentimental Mood; and an unlikely but effective “spiritual medley” that opens with a Mardi Gras parade version of “Down by the Riverside” and closes on the black gospel jive of “I Shall Not Be Moved,” with fascinating side trips in between. Satisfying from its first note to eleventh-song finish, Trippin’ Live proves that Rebennack can still summon the musical magic of a city as strange and wonderful as any voodoo spirit.

Stereophile, April 1998
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STEREOPHILE, APRIL 1998
Bill Frisell is a soulful jazz minimalist with a sophisticated sense of harmony, a daring rhythmic approach, and an instantly recognizable, personal sound—as if Carl Perkins and Duane Eddy took on Otis Rush and Bill Evans in a bridge tournament. Every note is carefully sculpted, imbued with a bluesy, lightly Echoplexed halo, and elongated like taffy in a manner suggestive of the enigmatic Peter Green. Upon occasion, Bill will transmogrify into an 800-lb gorilla with a touch of distortion, but more often than not this affable galoot is content to make bricks with straw—a remarkable melodist who can transmute single notes into sapphire tears.

For those more impressed with the meat than the motion, Frisell's floor routine may seem simplistic. Besides, why would someone who can play bebop so fascinated with bells that jingle—jangle—jingle? So while I doubt that jazzman Bill Frisell is really dead, long live Cowboy Bill.

While Frisell's fellow improvisers have immersed themselves in the sophisticated harmonic cycles of The Real Book, our post-modernist Slowhand has seemingly retreated to Mel Bay's Guitar Method, Level One. One can visualize Mel himself in his inner sanctum, auditioning Bill's brilliant new trio recording Gone, Just Like A Train and hoisting tankard after tankard of pale ale in praise of this most unlikely of guitar heroes, tears rolling down his cheeks as he cries between hiccups, "G Major, D Major, E Minor—God bless you, Bill!"

In the tradition of Nashville, last year's acclaimed string-band recording (Nonesuch 79415), Frisell's sparkling new Gone, Just Like A Train is a cultural whistletop tour of folk sources that conveys this land's epic rhythmic dynamism, regional diversity, and backwaters of mystery and quiet wonder. It's as if the Modern Jazz Quartet had interpolated Cream. Together with his remarkable collaborators, bassist Viktor Krauss and drummer Jim Keltner, Frisell successfully plunges a variety of simple expressive forms within the razing seas of intellectual complexity that have traditionally defined the domain of the modern jazzman.

For Stereophile readers, Gone, Just Like A Train is a guaranteed five-star dog-yummy for your sound system. Frisell, producer Lee Townsend, and engineer Judy Clapp have done a remarkable job. Few things are more revealing than a trio recording, and each instrument here is rendered with remarkable depth, clarity, and detail. The soundstage is immense and airy, and the mix is notable for the manner in which each tune achieves subtle changes in placement, presence, and perspective while maintaining a consistent sonic viewpoint.

Every tune on Gone, Just Like A Train is a lyric jewel. For the free formalists among you, there's the extended blowing on "Lookout for Hope," with its intimations of six against four, as Krauss holds down the groove with heroic restraint and a resounding bottom, and Keltner and Frisell engage in bluesy, airborne dialog—as loose and swinging an interpretation of the backbeat as I've ever heard. Then there's the epic quietude and resonant splendor of "Lonesome," as Frisell evokes a rich tapestry of southwestern imagery with his ringing two- and three-note chords and Johnny Smith-like touch. On "Godson Song" he plunges the depths of silence with steel-guitar-like swells as Keltner essays broken abstractions of the pulse, while "Pleased to Meet You" and "Girl Asks Boy" are all wide-eyed folkish innocence. And "Sherlock Jr." and the title tune range freely between country and astral before settling just south of the border.

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Stereophile, April 1998
A few several fruitless listening sessions, I realized that the principal problem with this recording is its program. Just who is this disc for, anyway? Boston Camerata director Joel Cohen and his colleagues have assembled a collection of pieces, all of which refer in some way to angels—activities, characteristics, personalities—and have packaged them as, in Cohen’s words, “a musical fantasy.” But on hearing this odd treatment of Gregorian chant, early American hymns, and Shaker songs—subjected to varying degrees of “sampling, overdubbing, computer synthesis, and sound processing”—we must wonder what we’ve gained from this clever experiment.

The liner notes describe the program as a “guided tour of the angel realms,” with the addition of synthesized sound (courtesy of MIT Media Lab denizen Tod Machover) to “underline both the contemporaneity and the timelessness of these angelic visions” and to “enhance...the dramatic experience.” If you’ve heard the Boston Camerata’s excellent Simple Gifts recording, you’ll wonder why any of these wonderful Shaker melodies need “enhancement.” And how much more “popularizing” can Gregorian chant take before it loses all connection with its inherent simplicity and beauty? Indeed, there are some beautiful tunes, chants, and hymns here, stylishly performed, but listeners interested in such music will likely look for interpretations without the electronic augmentation. And those interested in digital sound processing will find much more interesting examples in countless pop and new age recordings.

Are we to listen to the program straight through? The more or less continuous conceptual flow from track to track—and the continuity of key and pitch relationships—seem to suggest this approach. But how many times will anyone actually listen in this manner? Even less likely is the idea of listening to only a portion of the program. Most of the selections are less than two minutes long, and are woven into an aural context that doesn’t allow individual tracks to stand alone very well.

The problem is not that Cohen and Machover chose to place ancient music in a different context—this practice has occurred for centuries, by composers from Bach to Britten—but that they presume that swathing old music in synthesized sound will somehow allow today’s audiences to recognize it and accept it as contemporary. The irony is that Machover does not listen even to his own stated belief that “the only magic that can really touch us is that which is rooted in the simplest, most common human experience.” For some reason, these collaborators have chosen to take some of the world’s most expressively simple and simply expressive music and make it more complicated.

Here’s a case that defies the two-category rating system. If there were a rating for “concept,” even one star would be generous. Of course, under different conditions—almost any other of the Boston Camerata’s recording projects—Cohen’s ensemble exhibits the highest standard of musicianship and musical-logical authority. How do you explain this? Commercial interest, certainly. But I suspect an even more disturbing reason: boys with toys.

—David Vernier

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—David Vernier
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Stereophile, April 1998
Shelley Taylor are equally excellent. Of course, Bimbetti is not your average Baroque ensemble. They are not the only performers to bring a feminist perspective or hip sensibility to early music, but they are definitely unique in how far they are willing to push the envelope. This could get the girls in trouble, mind you; anytime you add street theater or sound effects to a classical performance (live or recorded), you are in danger of becoming a novelty. La Bimbetti avoid this by always respecting the music. In fact, they respect all kinds of music: there is a killer a cappella performance of Toni Amos’ “Leather” on the CD. This will probably put a lot of people off, but it’s the only approach I’ve heard recently that would appear to actually appeal to its target audience. Maybe I’m pushing the envelope a bit myself in recommending this disc to any Stereophile reader who enjoys Baroque performance, but I can live with it.

— Les Berkley

MAHLER

_Symphony 8, “Symphony of a Thousand”_

Alessandra Marc, Magna Peccatrix; Sharon Sweet, Una poenitentium; Elizabeth Norberg-Schulz, Mater gloriosa; Vesselina Kasarova, Muler Samara;va; Ning Liang, Maria Aegyptiaca; Ben Heppner, Doctor Marianus; Sergei Leiferkus, Pater ecstaticus; René Pape, Pater profundus; Berlin Radio Chorus; Südfunk Chorus, Stuttgart; Tirol Boys’ Choir; Bavarian Radio Chorus & Orchestra; Colin Davis RCA 685482 (2 CDs). 1997. Wolfram Graul, prod.; Wolfgang Karreth, eng. DDD. TT: 83:09 Performance **** Sonics ****

Not too long ago, the Mahler Eighth was considered nearly impossible to mount, much less record. The requirements of the work—eight soloists with huge chorus and orchestra—worked against it, along with its sheer length.

Now we have many fine Eighths, but it comes as a surprise to see this one from Colin Davis, whom (despite a recent Fourth) we don’t associate with Mahler. The performance, taken from concerts on July 7 and 8, 1996 in Munich, shows Davis to be a persuasive interpreter of Mahler’s wide emotional range. The first movement, a grand setting of the hymn “Veni Creator Spiritus,” often sounds segmented, but Davis maintains a good sweep from beginning to end. In particular the section from the recap through the fugato to the conclusion is thrilling. The long second movement, with text from the conclusion of _Finst_, also coheres well, despite a few quite broad tempos. All this is enough to make me want more Mahler from this conductor.

Davis’ fine vision of the piece is, however, compromised by uneven work from his soloists. Sopranos Alessandra Marc and Sharon Sweet sound like Valkyrie wannabes: big, 18-wheeler voices that swoop too much and never become soft, even when Mahler asks. Among the other women, Veslina Kasarova is fine, as is Elizabeth Norberg-Schulz (though a studio could have tidied her a bit). Ning Liang is passable as Mary, the Egyptian.

The men are all first-rate, particularly baritone Sergei Leiferkus, who sounds splendid. Ben Heppner tempers his stentorian tenor with musicality and makes a memorable Doctor Marianus. Bass René Pape lacks a little of the others’ authority, but in truth all the men are credits. The three choruses plus the Tirol Boys’ Choir are likewise well up to the demands of the piece (and Davis has always done good choral work). The orchestral playing is equally fine, including some lovely woodwinds beginning the second movement.

More than elsewhere, sonics play a key role in this work. For a long time I used the opening of the Eighth to show off new equipment, and even now it’s hard to beat. This recording is remarkably good for a concert job. The level of detail is about right, the choruses have great impact, and the spaciousness of the hall is well conveyed. The organ, though, is a bit light, and, more seriously, all the soloists are miked too closely. (In this regard, it sounds a lot like a studio recording.)

A good effort, then, but not one to erase the competition. Solti (London 414 493-2) still has the best team of soloists, but he drives the dramatic side awfully hard. Tennstedt (EMI 47625 2) is more sensitive to the half-shades, and his soloists are consistently good (though the organ is now too loud).

— Paul L. Althouse

**Record Reviews**

**MOZART**

_Don Giovanni_

Byn Terfel, Don Giovanni; Renée Fleming, Donna Anna; Ann Murray, Donna Elvira; Michele Pertusi, Leporello; Herbert Lippert, Don Ottavio; Monica Groop, Zerlina; Roberto Sciallitti, Masetto; Mario Luperi, Il Commendatore; London Voices, London Philharmonic Orchestra, Sir Georg Solti


This performance strikes me, after initial and several subsequent listenings, as a severe miscalculation. Both Mozart and his librettist, Lorenzo da Ponte, referred to _Don Giovanni_ as a “dramma giocosa,” and, oxymoronic though it may sound, it is an indisputably accurate description. Moments of true lightness as well as a darker comedic tone run through the opera, whose subject matter—the punish—

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ment of a sinner—is, indeed, serious. But the late Sir Georg Solti opted to forget (or overlook, or disregard, or de-emphasize—take your pick) any of the work’s humor, and the result is a rather angry lead balloon. The orchestra plays handily for him throughout, however, and I like the way the inner voices are emphasized. For a “big” reading, there’s great clarity.

From Leporello’s opening words—delivered in a cranky bark by Michele Pertusi—we realize that we’re in a dark world, and the impression never leaves us. Bryn Terfel’s Don is as empty of suavity and mirth as Pertusi’s Leporello is of light and raunch; when he laughs, as at the end of “Finch’an del vivo,” it’s a cruel, joyless snarl. Donna Anna and Don Ottavio are suitably grave—there’s never been much joy in them, their situation, or relationship—but rarely have I encountered a Zerlina and Masetto of such pretentiously sourness and charmlessness. And so it goes—the tender moments are rarely tender but rather too busy, coming as they do here after periods of upsetting aggression.

And considering the “epic” drama with which Solti and the in-your-face engineers have presented us, we aren’t really left with a great sense of this opera’s drama—we just feel bullied. But enough about that.

Tempo’s, in the long run, are reasonable, with an exception or two: “Mi tradi” is outstandingly slow, taxing the vivid and alert mezzo Ann Murray almost to her limit (and since all of her conness has been excised, she’s merely a harpy); “Dalla sua pace” is oddly quick, but still makes Herbert Lippert uncomfortable—the fairly paced “Il mio tesoro” leaves him positively breathless, and us wondering what he’s doing in a major production. The vocally stunning, intelligent Renée Fleming imbues Donna Anna with everything except charisma—we’re left not caring about her. Monica Groop is a fine mezzo, but she’s too hoity-toity for Zerlina, and is simply miscast.

The low-voiced men have uniformly superb voices: Leperti’s Commendatore is truly authoritative, Scaltriti offers us a fine-grained baritone—almost too fine-grained for Masetto—and Pertusi is a superb singer who simply strong-arms the role. And what can one say about Terfel’s Don? He’s brutally macho rather than seductive, and he favors wild dynamic variations: I suspect that only a microphone would correctly capture his whispering in the Serenade, and the fluctuations seem, eventually, like an effect rather than an outgrowth of the character. (Unless, of course, he sees the Don as a manic-depressive…)

But there’s so much wonderful voice! I hope he’ll get another chance to record the role, perhaps with a conductor who can see the Don’s joy, abandon, and sex appeal. The sonics, as suggested, are not subtle, but are remarkable if one takes into account that this was recorded live. It’s a good thing the audience had nothing to laugh about.

I’m being particularly harsh about this because, were I a newcomer to this opera, I might buy this set either accidentally or because of its stellar contemporary cast and practically legendary conductor. What would I get? A joyless reprise of an excess in the subject of good and evil, that’s what. I can’t believe that Mozart and da Ponte had anything of the sort in mind.

—Robert Levine

WAGNER

Orchestral Music


James Levine, The MET Orchestra


Performance #*#*#1/2

Sonics #*#*#1/2

This generous collection of newly recorded excerpts, all but one from Wagner’s later operas, presents concise, convincing evidence of James Levine’s strengths and weaknesses as a Wagner conductor. The strengths are gorgeous sound, a slow pace, and Levine’s ability to shape a work’s long, long line; the weaknesses are gorgeous sound, a slow pace, and a lack of dramatic or formal substance. Clearly, it all depends on the mood he’s in.

“The Ride of the Valkyries” is all legato brass, humorless sonority, and a rhythmic recitve puzzlingly at odds with the syncopation scored. Attacks are diffuse, the brass oddly muted; there’s no punch, bite, immediacy, or gallop.

“Forest Murmurs” sets a conductor a stiff challenge—it is, of all Wagner excerpts, the least able to stand on its own. Levine rises to it in the way he knows best, creating a gorgeous exercise, however empty, of orchestral color and sonority. It’s all very beautiful, but even those familiar with this music’s context in Siegfried will be hard-pressed to make of it any more than a loose string of ineluctably murmurous episodes.

Then things improve. In the Lohengrin Act I Prelude, Levine indulges to his heart’s content his penchant for lingering over Wagner’s drifting clouds of silvery harmonies, and the result has real stature. This Prelude probably cannot be played too slowly, and Levine is in his element—the music fairly floats, serene, spiritual, and sensuous all at once.

Levine has chosen the rarely played but preferable version of the Götterdämmerung Funeral Music that includes the orchestral accompaniment to Siegfried’s final peroration to the absent Brünnhilde. This gives the piece something to work up to, and makes it more of a self-contained whole. Levine succeeds in conveying the overwhelming mixture of crashing grief and towering triumph that seems unique to this music, and makes good dramatic sense of Wagner’s concert ending.

The Prelude and Liebestod from Tristan are a triumph. Levine generates what seems like true passion as he takes full advantage of his trademark slow pace, building to a shattering climax that sounds as tragic as it is inevitable. Virtually the same is true of the Act III Prelude from Meistersinger. The conductor brings out here all the flavors of Lohengrin, Parsifal, and particularly Tristan that this bittersweet music does—or can be made to—contain; the burnished MET brass and winds soar in their autumnal chorales. After all that, however, the disc-closing “Good Friday Spell” from Parsifal itself sounds almost superficially sunny, not nearly as deeply felt.

The entire disc is nothing if not beautiful, however skin-shallow that beauty might occasionally prove on inspection by the probing heart. It’s interesting that Levine does best here in music from Wagner operas he has not yet recorded. Perhaps he feels he has the most to prove there.

The MET plays flawlessly, and the sound is almost larger-than-life—a common trait of recordings made in New York’s over-reverberant Manhattan Center. The mix creates the illusion of a vertical wall of sound, all instrumental voices brought to the fore; however vivid and beautiful the individual voices, the whole is hardly accurate.

All in all, Orchestral Music works best as a preview of interesting, committed recordings still, perhaps, to come from James Levine—I suspect that Lohengrin and Tristan und Isolde, and perhaps even Meistersinger, are better suited to his talents than the Wagner he’s already done. The excerpts from those three operas alone make this disc worth the price of admission.

—Richard Lehneet
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Does the presence of stockbrokers and other upstanding citizens — as opposed to pierced, tattooed denizens of the skatepunk underworld — at Metallica shows mean that this once-unassailable, create-its-own-rules band has finally lost its edge? The answer depends on the way you feel about the band's last two new albums: 1991’s *Metallica* ("The Black Album") and 1996’s *Reload*, both of which had tunes — "Enter Sandman" and "Ain't My Bitch," respectively — that by any other name are pop tunes: heavy, yes, but still built around accessible chord changes and very defined verse-chorus-verse structures.

For fans of the band's earlier, more thunderous work, these newer albums were a betrayal of their incorruptible, stand-and-deliver rep. On the other side are legions of new fans (enter stockbrokers) for whom "Enter Sandman" is hard rock with a friendly anemic face. These geeks — I mean, these *vulnerable consumers* — can now be seen at Metallica shows pumping their fists, wiggling their white posteriors, and dreaming of the *Billion Dollar Babies* of days gone by.

That disgustingly image aside, as Hetfield and his mates have aged, their playing and songwriting have grown less jammy and more complex. Perhaps now the most appealing thing about this band for older fans (age 16 and up) is that Hetfield has shown himself to be too much the restless artist to ever find a formula and stick with it. If you don’t like his new direction, he doesn’t much care because a) he’s filthy rich, and b) it’s part of the plan. There’s a reason why a tune like "The Unforgiven II," which is the softest thing *Metallica* has ever attempted (and the tune they played on the *American Music Awards*), is on *Reload*. While I’d never say that this band hasn’t earned its enormous success and unusual integrity, I’m also convinced that *Metallica* has cannily built its image and fan base over time in a very methodical way.

*Reload* is another, ahem, brick in that wall. It rocks, yet there’s more evidence that the band members are aging both musically and upstairs. The opener ("Fuel") and the closer ("Fixxer") are the kind of big-beat, big-guitar tunes that turn the band's arena shows into singalongs, anthem—after-anthem moshfests. But there's also the aforementioned "The Unforgiven Part II," and the astounding presence of Marianne Faithfull singing "The Memory Remains." Bringing Faithfull aboard proves again that Hetfield, Ulrich, & Co. have larger aspirations than simply banging heads.

Much of *Reload* was originally meant for release on *Load*, but was shelved when that project was cut to a single disc. Although it sounds a bit rushed and incomplete compared with their two previous discs — which, remember, had five years between them — *Reload* is exactly that: a second, less compelling blast of *Load*.

Sonically, the band’s most recent album has been a revelation. The bass impact has been lowered considerably, bringing out previously unheard details everywhere else. While depth is still a problem, there is decent space between the instruments, and the voices never disappear into the mix.

— Robert Baird

**BOZ SCAGGS**


Columbia/Legacy 2XK 65208 (2 CDs). 1997 Various prod.; Al Quaglieri, compilation project dir. AAD? TT: 2:33:10

Performance *** Sonics ****

Smitted as a teenager by blues singers Jimmy Reed and Ray Charles, Boz Scaggs became something of an accidental pop star in the mid-70s. A refined layering of sleek urban grooves atop his innate love of Southern roots music gave him the ammunition to become a ubiquitous presence on the airwaves throughout *Silk Degree's* two-year chart run, during which the album rang up sales of nearly five million copies. Not bad for a white boy trying to safely navigate the heartless disco icebergs of the day.

In the liner notes to this comprehensive but overdue Scaggs retrospective, the guitarist-turned-singer-turned-suave-ladies'-man says, "The black voice in America is the most beautiful voice I know. Those inflections, that feeling is where my heart is." You gotta believe he means it. The oldest (1969) and newest (1997) songs on this 33-song collection are testimonials to his ability to express the anguish of being lowdown and dirty. Though Scaggs didn’t write "Loan Me a Dime" from his self-titled first album (his only release on Atlantic), the song reveals the singer pleading for a 10-cent piece so he can phone his wayward used-to-be, and features wenching, rocking Duane Allman guitarwork throughout its 13 thrilling, pain-soaked, slow-building minutes. Scaggs’ debut album, recorded after a celebrated stint with the early Steve Miller Band, was co-produced by Rolling Stone publisher Jann Wenner in Muscle Shoals. It wasn’t much of a commercial success, but it’s widely held that its epic “Loan Me a Dime” was a career highlight not only for Scaggs but also for "Skyldog" Allman. It’s clearly the most powerful track on this new collection.

Scaggs moved to Columbia Records in 1970 and refined his songwriting and singing. His best songs from the early 70s are filled with splashes of Memphis, New Orleans, and Motown, and it was a perfect fit to have Motown producer Johnny Bristol on board for 1974’s *Slow Dancer*, represented here by four cuts. On the follow-up, *Silk Degrees*, Scaggs perfected his formula of juxtaposing funky upbeat confections ("Lowdown," "Lido Shuffle") with big ballads ("We’re All Alone," soon to bescaling the charts by Rita Coolidge). *Silk Degrees* became his signature album, both as a songwriter and as a singer.

After that, Scaggs pretty much stayed true to himself, not to the whims of the day, and his seductive voice continued to improve. The hits kept on coming, too, for a while: "Breakdown Dead Ahead" from 1979’s *Middle Man* is snap-
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py and infectious, while “Look What You’ve Done to Me,” from the Urban Cowboy soundtrack, is romantic prosciutto that Scaggs pulls off because he’s such a convincing singer.

After an eight-year recording hiatus, Scaggs returned in 1988, but without the consistent material of earlier days. Only one of the three most notable tracks here from the past decade is a Scaggs composition, the others being a smoky cover of Joe Simon’s 1972 hit “Drowning in a Sea of Love”—a highlight of the New York Rock and Soul Revue’s 1991 get-together—and “As the Years Go Passing By,” a potent sit-in with Booker T and the MG’s. The other recent highlight is the piano-blues original “Goodnight Louise,” taken from 1997’s Come On Home, a Virgin Records release that’s essentially an R&B album paying homage to the likes of Sonny Boy Williamson, T-Bone Walker, and Jimmy Reed. With the singer bidding farewell to an old flame, it’s a gorgeous way to close the anthology, and proof that, when he puts his heart and soul into it, Boz is still boss.

—David Sokol

SIMON & GARFUNKEL

Old Friends


Performance ****

Sonics *****

A fter the false starts of 1990’s poorly mastered Collected Works and the pitiful excuse of 1964–1993 (released as a solo Paul Simon set), sonically discerning Simon & Garfunkel fans finally have a project they can write home about. Old Friends is the best thing to happen to the enduring pop duo’s modest catalog since they released Bridge Over Troubled Water back in 1970. It’s not picture-perfect, but it does possess some enticing features for both casual fans and collectors.

Along with the brace of expected S&G hits scattered throughout these discs—from 1964’s “The Sound of Silence” to 1975’s “My Little Town”—the set also contains a full 15 previously unreleased tracks. Among those of interest to serious fans include a demo of “Bleecker Street” recorded in 1964 by Jerry Landis (an early Simon pseudonym) and Art Garfunkel (sic): “The Blues Run the Game,” an outtake from the Sounds of Silence album; “Comfort and Joy”; and “Star Carol,” two never-before-heard Christmas songs; and “Fcolel-O,” a brief, interludelike outtake from Troubled Water.

There are also 10 never-before-issued live tracks recorded at three different venues. The first batch of five, the earliest known recording of S&G live, hails from a 1967 Lincoln Center show and includes Simon’s own “Red Rubber Ball” (originally recorded by The Cyrkle) and the fine “A Church is Burning.” There are also three tracks from a 68 Burlington, Vermont show—“A Most Peculiar Man,” the Everlys’ “Bye Bye Love,” and “Overs”—as well as two tracks recorded the next year at Carnegie Hall: a nifty, spontaneous “Hey Schoolgirl”/“Black Socks” medley, and Gene Autry’s “That Silver-Haired Daddy of Mine.”

What’s most astonishing about this set is its impeccable mastering. Of the five original albums, only the fourth and fifth—Bookends and Troubled Water—had usable two-track stereo masters to work from. So it was up to producer Bob Irwin and mastering engineer Vic Anesini to mix down the raw instrumental tracks of the first three S&G recordings to come up with new two-track masters. Having done so successfully, and having discovered the brilliantly recorded live material, they’ve significantly upgraded the warmth and clarity of the S&G oeuvre.

Less astonishing is Paul Simon the songwriter laid bare. Scrutiny of this large a dose of the Manhattan folksinger reveals a melodist of vibrant, memorable gifts. But as a lyricist Simon is considerably less talented. Much of his early material ranks as nothing more than fedora-and-peacoat Greenwich Village folk poetry—self-consciously arty, embarrassingly transparent, littered with anachronisms and literary pretensions that, beneath the pretty harmonies, offer little in the way of actual insight.

Aside from his abundant Dylanisms and Phil Ochs affinities, Simon’s coffeehouse sketchbook included some downright clunkers. In “He Was My Brother,” Simon writes: “They shot my brother dead because he hated what was wrong — / He was my brother and he died so his brothers could be free.” From “Sparrow”: “From dust were ye made and dusty ye shall be.” In his treatment of the Christmas classic “Silent Night” Simon tries to add irony by juxtaposing the song with a violent newscast. And “Dangling Conversation” is Simon’s most self-conscious stab at describing a failed relationship: “And we sit and drink our coffee / couched in our indifference / like shells upon the shore;

and later, “Like a poem poorly written / we are verses out of rhythm, / couplets out of rhyme / in syncopated time.”

The man was clearly struggling. Simon’s models/mentors, Dylan and the Beatles, would have known better than to make art this squimy and self-conscious.

Fortunately, Art Garfunkel’s beautiful alto harmonies soften Simon’s blushing naïveté, making the musical byproduct rather than the faux poetic abstractions the sole focus. And that, of course, is their legacy. Simon & Garfunkel remain one of pop’s most enduring duos. —Bob Gulla

short takes

TED HAWKINS: The Final Tour


Performance ****1/2

Sonics ***

For Hawks fans and fanatics, The Final Tour is another indispensable part of the late troubadour’s legacy—20 cuts taken from concerts at McCabe’s in Santa Monica, the University of Wisconsin, and a club in Wenatchee, Washington. Soundwise, three locales usually means variances in quality, and this HDCD is no exception. The 16 tracks from the McCabe’s show were recorded on standard cassette, and while they’ve been improved, they still have limited range. —RB

jazz

PAUL DESMOND

The Complete RCA Victor Recordings featuring Jim Hall


Performance ****

Sonics ****

Skylark


Performance ***1/2

Sonics ***1/2

One of the defining sounds of ’60s jazz is Paul Desmond’s pure, enchanting, seductive alto sax. When it comes to shaping and refining an instrumental tone, the kind that’s instantly recognizable no matter what they’re playing, Desmond stands alongside Miles Davis and a handful of
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Desmond proves that he had no problems staying afloat in swifter streams. On Easy Living, for example, it's Desmond's "Blues for Fun" that dips along at a moderately fast pace, Hall and Desmond contributing gorgeously constructed solos. Not surprisingly, Desmond's concept of tone and pace made his stab at the bossa nova a natural success. Obviously inspired by the possibilities the Brazilian musical form offered, Desmond composed five of Bossa Antigua's eight tunes, the most originals to appear on any of these discs.

All five of these pianoless albums (per an agreement Desmond had with Brubeck) feature stellar sidemen: both members of the Modern Jazz Quartet's rhythm section, bassist Percy Heath and drummer Connie Kay, as well as Desmond's former Brubeck mate, bassist Eugene Wright. Recorded at Webster Hall (aka RCA Studio A), the sessions were originally produced by George Avakian and engineered by Joe Lopes. Given that kind of quality, it's no surprise that John Syder's remastering is superb, with a deep soundstage, huge separation between instruments, and bright, lively presence.

If there's a flaw in this set, it's that five CDs is almost too much of a good thing. Because Desmond didn't vary the tempos much even in the Brazilian-themed material, all of this at one sitting is overwhelming. But to dip in and out, especially late at night, is exquisite. Collectors should be aware that there's nothing in this set that didn't appear on Mosaic's The Complete Recordings of the Paul Desmond Quartet with Jim Hall. Given the presence of the typically superlative Mosaic set, perhaps RCA could have been better off making this box really "complete" by including Desmond's work on RCA with Gerry Mulligan. Otherwise, this is a stunning and—here comes the Desmond adjective I've saved for last—very cool-feeling offering from one of the alto's true masters.

Ten years after his RCA discs, Desmond fell into the clutches of Creed Taylor (and his arranger Don Sebesky) and the CTI label, where, like all of Taylor's artists, Desmond got the infamous CTI production treatment. If there's a love-'em-or-hate-'em attitude out there about Desmond's playing, it's dwarfed by the feelings that Creed Taylor's legacy generates. Without diving into the controversy too deeply, Taylor's overt commercialism, wrongheaded arranging ideas, and poor choices in material often marred the CTI records of such genuine talents as George Benson, Joe Farrell, Freddie Hubbard, and, yes, unfortunately, Paul Desmond.

Recorded in 1973, Skylark is a typical CTI disc—great players wasted on second-rate material, and one of the more odious production styles in jazz history. The supporting cast includes bassist Ron Carter and drummer Jack DeJohnette, which is a good thing, and Bob James on electric piano, which is a bad thing. Scattered among sprightly if unambitious jazzified pop numbers like Paul Simon's "Was a Sunny Day" are Sebesky-inspired crimes against humanity like an ill-considered, unwieldy version of Henry Purcell's (yes, that Purcell) "Music for a While." With overcrowded, confused arrangements like these, it's no surprise that, while listenable by '70s standards, Skylark now sounds flat and clotted. In general, there's not enough Desmond here, and what there is suffers from the surroundings. His tone is not as distinct, and the parts he's asked to play are often ludicrous. Overall, Skylark is one for the Desmond library and nothing more.

—Robert Baird

**MOONDOG**

**Sax Pax for a Sax**

Louis Hardin, bass drum, percussion, vocals; various artists, including the London Saxophon, saxophones; Nicola Meechem, piano; Danny Thompson, bass; Peter Hammill, Andrew Davis, vocals Atlantic 83069-2 (CD). 1997. David Lord, prod., eng.; Glenn Tommey, prod.; Will Gregory, eng. DDD? TT: 54:05 Performance ****1/2 Sonics ****1/2

The last time eccentric American composer Moondog, aka Louis Hardin, released a new album in his homeland, Richard Nixon was in his first term as President, the Vietnam War was still raging, and Moondog was hanging out on 6th Avenue between 52nd and 56th streets in New York City, dressed in a Viking outfit and performing his idiosyncratic compositions for passersby. The year was 1971 and the LP, Moondog 2 on Columbia Masterworks, proved to be Hardin's last...
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**Accutronics**

domestic recorded appearance for over two and a half decades.

In 1974 Moondog moved to Germany, where he continued to compose, record, and perform his odd and entrancing music. (Blind since the age of 17, Moondog writes in Braille.) Even though both Columbia and Prestige reissued Moondog albums (in 1989 and 1991, respectively), little has been heard of the iconoclastic composer in recent years. That changes with the Stateside release of Sax Pax for a Sax (originally issued in Europe in 1994 on the Kopf/Root imprint). The CD, an extraordinary jazz-meets-classical multi-saxophone orchestral outing celebrating the centennial of Adolphe Sax's death, is one of the most fascinating and thoroughly entertaining releases of 1997.

Classically conceived and fueled with a rich jazz harmonic sensibility (the saxes range from trilling and darting sopranos to visceral bass), Sax Pax brims with indelibly beautiful and rapturously captivating music. Moondog calls his distinctive style ZAJAZ—jazz that looks to the past as well as to an evolutionary future—and refers to the undulating rhythms of his mesmerizing pieces as “snaketime.” Most of the tunes here are written in canon form, with melodic phrases repeated by several saxophones—from a quartet of saxes in the short gem “Single Foot” to a 10-sax ensemble in “Shakespeare City,” which also features a 12-man choir singing Moondog’s whimsical lyrics. For much of the set, Moondog beats his bass drum in an unaccented boom-boom rhythm while his “sax packs” (the London Saxophone) soar, walt, swirl, and helix above.

The more classically oriented pieces include the beautiful yet gripping “Dog Trot” for nine saxes, the reflective, Baroque-ish “Sandalwood” for seven saxes, and two compelling three-move ment suites: Tout Suite No.1 for seven saxes, and Novette No.1 in D-Flat Minor for nine. The jazz-oriented numbers with solo improvised sections include “Bird’s Lament,” a short, melancholic ode to Charlie Parker (seven saxes), and the swinging salute to Lester Young, “Present for the Prez” (six saxes, two pianos).

Moondog also offers three songs, all paying honor to cities, with humorous lyrics sung by large all-male choirs. The best is the ebullient “Paris,” a melodic cabaret-like ditty with spirited nine-sax support and the schmaltzy line, “When I’m walking down the avenue / I’m as high as Eiffel is to you.”

Halfway through the disc the saxophones are given a rest and pianist Nicola Meecham, a teacher at London’s Royal Academy of Music, gives solo renderings of “Sea Horse” and “Fiesta.” Other guests include bassist Danny Thompson (formerly of British folk group Pentangle), saxophonist John Harle (whose Apollo Saxophone Quartet forms the core of the sax orchestra), and vocalists Peter Hammill (Van Der Graaf Generator) and Andrew Davis (Stackridge). Hardin, who turned 81 this year, made his recording debut in 1950 on a Brunswick 78. In subsequent years he released albums for Folkways, Prestige, Epic, Angel, MGM, Columbia, and Musical Heritage Society. He was admired not only by Leonard Bernstein, Arturo Toscanini, and Duke Ellington, but has also been cited as an influence by an array of artists including Tom Waits, Philip Glass, Steve Reich, John Zorn, Elvis Costello, and Beck. However, for most American music buffs, Moondog has largely been invisible for the last 25 years. Relegated to ancient-history status in the fast-changing popular music world, the legendary gray-bearded composer shows he’s still in top-notch form with the remarkable Sax Pax for a Sax.

—Dan Ouellette

**TRISTANO, KONITZ, & MARSH**

The Complete Atlantic Recordings of Lennie Tristano, Lee Konitz, & Warne Marsh

Lennie Tristano, piano; Lee Konitz, alto & tenor sax; Warne Marsh, tenor sax; with: Don Ferrara, trumpet; Billy Bauer, guitar; Sal Mosca, Jimmy Rowles, Ronnie Ball, piano; Gene Ramey, Peter Ind, Arnold Fishkind, Leroy Vinnegar, Oscar Pettiford, Paul Chambers, bass; Art Taylor, Jeff Morton, Dick Scott, Shelly Manne, Kenny Clarke, Philly Joe Jones, Paul Motian, drums; others.


Performance ****1/2

Sonic ***

In the mid-'50s, when the LP recording format was being introduced as an alternative to the 78rpm listening experience, and after the bebop thrill had begun to lose its revolutionary luster, jazz was mutating into new stylistic substrata. One of the foremost of the new jazz conceptualists at the time was pianist Lennie Tristano, who sought to push the envelope by seeking ways to make improvisation less predictable and more adventurously open-ended, as well as less ecstatically emotional and more coolly invigorating.

Though inspired by the speed and technical virtuosity of bop, Tristano also urged taking full advantage of prebop melodies, as delivered by the likes of Lester Young and Billie Holiday. In essence, the innovative pianist and his many disciples swung to a different beat—in Lennie’s case, sometimes radically so, as evidenced by his classic multitracked piece “Turkish Mambo,” which shifts time from 7/8 to 7/4, 5/8 to 5/4, and 3/8 to 4/4. Many critics derided Tristano’s music for its dispassionate intellectual feel.

Two of Tristano’s most famous students were alto saxophonist Lee Konitz, who first started working with him in the mid-'40s, and tenor saxophonist Warne Marsh, who became his pupil in 1948. The pair joined the leader in his pioneering sextet, which recorded for Capitol in 1949 (Intuition, recently reissued). From 1955 to 1958 the threesome recorded together and separately for Nesuhi Ertegun’s fledgling Atlantic label. Those sessions—none of which, unfortunately, features all three performing together—have been compiled into a superb 6-CD boxed set. It’s an ambitiously compiled yet sonically uneven
Jazz Reissues: Disques Vogue

CLIFFORD BROWN: The Complete Paris Sessions, Vol. 1
Performance ****1/2
Sonics **

JIMMY RANEY: Visits Paris, Vol. 1
Performance ***
Sonics **

DUKE JORDAN: New York
BUD POWELL: Paris
Performance ****1/2
Sonics ****

OSCAR PETTIFORD: Sextet
Performance ****
Sonics ****

All above: Daniel Baumgarten, reissue prod. AAD?

Disques Vogue was founded in France in 1948 by Charles Delaunay, a jazz critic and discographer. The Vogue vaults contain mostly early-'50s bop recorded by Americans passing through Paris. The production values of these first four releases in the series are undistinguished, and the liner notes (in grotesque English translations) are inane and uninformative. But the music is like opening a trunk in a dusty attic and finding treasure.

Clifford Brown was one of the most gifted musicians who ever played jazz, but he left only a small body of recorded work. The new Original Vogue Masters reissue series from RCA Victor restores a lost fragment of a precious legacy. The loss of Brown in 1956 at the age of 25 has always seemed especially cruel and senseless because, unlike so many of his jazz peers who died young, he did not use alcohol or drugs, but died in a car crash on the Pennsylvania Turnpike. As Karl Shapiro wrote in "Auto Wreck," "This…cancels our physics with a sneer, / And spatters all we knew of denouement / Across the expedient and wicked stones."

The current generation of jazz fans have read about Brown more than they have heard him. The sonic quality of The Complete Paris Sessions is just good enough to allow us to encounter a legend come to life. The golden extravagance of Brown’s trumpet tone contains all of poignance within its affirmation. This CD preserves two sessions recorded in Paris in 1953 while Brown was on tour with the Lionel Hampton Orchestra. There is a big band led by alto saxophonist Gigi Gryce, and a sextet featuring Gryce and Brown. On the two takes of "Brown Skins" by the big band, the power and the glory of that trumpet rivet you right to your chair. Whenever Brown solos, the elegantly shaped phrases flow from wellsprings of inspired logic that sound inexhaustible.

Guitarist Jimmy Raney, who died in 1995, is an elusive figure in the history of jazz. His extreme shyness led him to take frequent sabbaticals from the hectic jazz life to return to his home in Louisville, Kentucky. But his influence as a translator of the bop vocabulary to the guitar was enormous.

Raney was just 26 when these sessions were recorded in Paris. On standards like "Pennies from Heaven" and "Yesterdays," the themes are quickly referenced so that Raney can proceed to the long, impeccably articulated melodic variations that are his signature. His muse is cool, but passionate creative intensity drives the dance of his lightly skipping lines. The percussive earthiness of pianist Sonny Clark works beautifully here against Raney's subtlety. On the three takes of "Stella By Starlight," the solos of bassist Red Mitchell toll like somber summations.

The Duke Jordan/Bud Powell disc contains one and a half Vogue LPs: Jordan’s first recording under his own name in 1954, and half of a Paris concert featuring the Bud Powell Trio from 1960. Jordan was a transitional figure whose work was a bridge from Teddy Wilson and Art Tatum to bop. His music here reflects the primary influence of Bud Powell in his staggered left-hand chordal attacks and brittle touch.

By 1960, Bud Powell’s mental health and creative powers were in severe decline, but on the four tracks here he sounds interested and energized. He receives flawless support from the strongest rhythm section then residing in Europe—Kenny Clarke and Pierre Michelot. There are scattered disconnections in Powell’s improvisations, and his lines occasionally dead-end. But it’s fun to hear some of the sources of Thelonious Monk in the clanging (dis)chords and pregnant hesitations of “Sweet and Lovely.”

Oscar Pettiford was important as a bassist (he was the first to play bop on the instrument) and bandleader (his groups featured fresh thinking in arrangements and instrumentation). He emigrated to Europe in 1958 and died in Copenhagen in 1960 at age 37. Sextet presents a world-class ensemble that never toured. (Pettiford was a difficult personality who could never hold a band together for long.) The front line is Al Cohn (tenor sax), Kai Winding (trombone), and Tal Farlow (guitar). The drummer is Max Roach himself.

Gerry Mulligan’s “E-Lag” swings with quiet fury around a graceful solo by Farlow. “Ondine,” written by session producer Leonard Feather, reminds us of how relaxed jazz could feel in the Eisenhower era. Cohn, Winding, Farlow, Vogue house pianist Henri Renaud, and Pettiford all take little half-chorus solos, translucent and nostalgic as cameo engravings. But the best piece is the only standard—Pettiford intones "Stardust" like a requiem over Farlow’s glistening out-of-time chords.

— Thomas Conrad
6½ hours of some of the most exciting and refreshing jazz of the '50s. Four decades later, the rhymically propelled, lyrically fluent music still sounds ear-opening and vital. And for jazz neophytes ready to graduate beyond the Charlie Parker/Dizzy Gillespie era, this set could prove a startling revelation.

Much of the material has been out of print for quite a while, and some, especially the Tristano tracks, has never been released on CD. Included in the box are Konitz's excellent 1956–57 LPs Lee Konitz Inside Hi-Fi (on which he explores the tenor sax) and The Real Konitz, plus Worthwhile Konitz, previously issued only in Japan. Marsh's fine self-titled 1957 album, produced by his mentor, is also included. But for my ears, most of the best music of this exceptional release comes early in the going.

The first two CDs feature the astonishing five-set live date Tristano performed in The Sing Sing Room at the Confucius Restaurant in New York City on June 11, 1955, with quartet mates Konitz, bassist Gene Ramey, and drummer Art Taylor. Most of the tunes were originally issued on Tristano (1956) and The Lennie Tristano Quartet (1981). But three previously unissued takes are included here, and the 21 tracks appear in performance order for the first time. Even though Larry Kart points out in the liner notes that Konitz and Tristano eventually parted paths because the former stretched musically beyond the latter's jazz philosophy, here they are fully and sympathetically in tune with each other. It's a swinging date, smooth as cream and exhilarating as a roller-coaster ride. Konitz and Tristano engage in sax/piano glee throughout, especially on Kern and Hammerstein's "All the Things You Are" and the leader's wow-inspiring "Lennie-Bird." The solos, brisk and clear, are long-lined and fully bloomed.

Disc 3 is sonically inferior to the rest of the set because all its tunes were recorded in Tristano's home studio, where, in one of the two sessions included here, he experimented with piano overdubbing—a rarity at the time, and another strike against him in the eyes of jazz purists. But musically this CD stands out as the high point of the box. While two numbers feature the pianist dancing with fire in a trio setting (bassist Peter Ind and drummer Jeff Morton), and in one the leader is accompanied only by Morton on hi-hat ("Turkish Mambo," with its ominous, tumbling left-hand bass motifs), the rest of the tracks feature Tristano performing solo. The most unusual of the batch is another studio concoction, "Requiem," a dense and haunting blues in honor of the late Charlie Parker. Other highlights, all originals, include the compelling "C-Minor Complex," the epic "Scene and Variations: Carol/Tania/Bud," and the gently flowing "Love Lines."

Another notable Atlantic session included here was the label's first school-of-Tristano release, The Lee Konitz & Warren Mars Project (1955). The cool-toned sax pair offer bursts of enthusiasm and feeling without resorting to brash, honking accents. It's a fascinating set; Konitz and Marsh swing like mad, blurring their saxophone lines together as they spiral up with rhythmic push. With tension-and-release beauty they fly through Bird's "Donna Lee" and take a soft but lively dash through Tristano's "Two Not One," one of the box's highlights. They also deliver Marsh's surging "Background Music."

That last piece works as a metaphor for the entire collection. Sure, these CDs can be played as hip dinner jazz because of the music's smooth, subtle tones, but they also beg to be paid attention to. The music, which helped to open the floodgates for West Coast cool as well as uninhibited free jazz, is so compelling and inventive that you're forced to wake up and smell the delicious brew.

—Dan Ouellette

short takes

**THE HEATH BROTHERS:**
**As We Were Saying...**


Performance **** Sonics ****

Among them, this brotherly trio has over 200 years of experience in jazz, and is still counting. Here they're joined by eight slightly younger hands—like pianist Sir Roland Hanna, trombonist Slide Hampton, and trumpeter Jon Faddis—for a set of originals (most by tenor player Jimmy) and choice covers of Fats Navarro ("Nostalgia"), and the gorgeous Mertz/Dorsey number "I'm Glad There Is You," which makes up in élan what it lacks in ambition. Still, there are spots here where a rhythm section with a quicker pulse might have helped add just a spark or two. Sound is just okay.

—RB

**NUSRAT FATEH ALI KHAN & PARTY**

*The Supreme Collection, Vol. 1*


Performance **** 1/2

Sonics ****

On the surface at least, the late Pakistani *qawwals* singer Nusrat Fateh Ali Khan was an unlikely candidate for crossover stardom. Khan, who died last August at age 48, performed Islamic devotional music exclusively, drawing from a thousand-year-old tradition of Sufi poetry and song. But, like Ravi Shankar 30 years earlier, he struck a universal chord, attracting wildly enthusiastic Western audiences and inspiring modern rockers like Eddie Vedder and Joan Osborne.

"Qawwals" appeal to the MTV generation is not so far-fetched as it might seem. The music is intended to produce a state of ecstatic love—strictly spiritual, of course—and a *qawwals* performing group is called a "party."

*The Supreme Collection, Vol. 1,* the last of Khan's albums released in the US before his death, is actually an older recording, culled from sessions laid down at the EMI studios in England in 1988. Untainted by Western influences, Khan and his party of family members crank out grooves as intense as any dance-floor electronica, and a lot more soulful. Through two maximum-length CDs comprising tracks averaging nearly 20 minutes each (cut down from the two hours each selection normally lasts in Pakistan), there's never a dull moment, although the tunes repeat over and over with no conventional harmony.

Instead, Khan, backed by harmonium, tabla, handclaps, and choir, turns every phrase into a dazzling pyrotechnic display, combining the power of an operatic tenor with the relaxed phrasing of a jazz singer, the rhythmic acumen of a Cuban *sonero,* and the raw emotion of a bluesman. The winding melodies sound Indian or Arabic, with Western-style hooks that anchor the vocal flights in something hunnable. The rhythms are more basic than those of classical ragas, providing a propulsive force that builds irresistible momentum by the end of each number. Even if you can't understand the lyrics, many of which use carnal metaphors to speak of divine love, the music will lead you to nirvana a lot quicker than... well, never mind.

—Larry Birnbaum

Stereophile, April 1998

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An Open Door To Your Dreams
QR Design Statmat

Editor:
First, I would like to thank Sam Tellig for the coverage given in Stereophile for our latest product, the Statmat [in December '97, Vol.20 No.12, p.57]. I am delighted that, all around the world, this innovative product is receiving excellent reviews. The other good news is that there are more such products in the pipeline.

Finally, I would like to thank John Atkinson for replying, on my behalf, to Roy Hall's question in his "Manufacturers' Comments" letter: "Since when has the timing of notes not been crucial to the experience of music?" His reply, that "it is the lack of correct timing that distinguishes music from hi-fi," could not have been expressed more succinctly, although it might perhaps have been better to have ended with "distinguishes hi-fi from music!"

J.D.M. Rogers
QR Design, Essex, England

Cary CAD 300SE Signature

Editor:
I have certainly enjoyed reading "Sam's Space" in this issue. Sam's writings on the CAD 300SE Signature have once again put cheer in my heart and a smile on my face.

As most Stereophile readers are now aware, I have been the guy on the front line for the last eight years, extolling the merits of single-ended triode vacuum tube amplifiers on a worldwide basis. If I may, I would like to give your readers a few of my thoughts on single-ended triode amplifiers.

Music lovers who have trusted their ears rather than the conventional wisdom on audio technology no longer need to make excuses. The value and beauty of tube circuits are now well understood and appreciated. But just as you thought you could lean back and relax, the next revolution in tube amplifier aesthetics is emerging, and it is based on the classic and venerated genuine 100% American triode output tube created by Western Electric in the 1930s. The Western Electric 300B vacuum tube is now once again in full production today in the United States.

My love affair with the 300B started in the late 1950s, when I was a budding teenage audio designer. I was ridiculed by my friends, who were building amazingly powerful 25W and 50W amps using 6L6s, EL34s, and 6550s. Even with the speakers of the time, I could hear the difference between the lower-powered but harmonically correct 300B output tube design. I have kept a 41-year commitment to bring the beauty of this unique circuit to music lovers. I am not in any way criticizing the masters of tube audio circuits who broke new ground each year with their latest designs, but I have always believed that there are unique qualities to single-ended 300B triode amplifiers that no other type of circuit can replicate.

I will say without hesitation or reservation that single-ended-triode class-A amplifiers present music with dimensional and transparent soundstaging with absolutely no veiling or opaqueness. The single-ended amplifier design, although having less power output, has four critically important advantages. First is linearity and gain stabilization. Second is virtual elimination of odd-order harmonic distortions. Third is an unaltered waveform within the amplifier (no phase inverter). Without any question, the fourth and most advantageous design parameter is in the "non-use" of any loop negative feedback (zero feedback).

The use of feedback is an age-old dispute among engineers and technicians. To settle the dispute once and for all, one has only to keep in mind that feedback is always "after the fact." In other words, the signal has already been amplified once before the feedback circuit detects and corrects it at the earlier stages. If you have heard an audio system where all the singers in the music seem to have a lisp with an exaggeration of the s's and a gravelly sound riding along, this is good old feedback at its worst!

It never ceases to amaze me how some of the golden classical designs of the 1930s were actually more advanced in their sonic presentation than some of our more current hi-fi designs. Maybe we don't really have a clue to what hi-fi of today is live music is all about—that is, until we listen to some of the more simplistic (in terms of component count) audio circuits from brilliant minds of years ago in comparison to live performance.

As I believe you are now aware, I am truly excited and devoted to single-ended triode 300B amplifiers. I wish to thank Sam Tellig and all the folks at Stereophile magazine for allowing my amplifiers and my voice to be heard.

Dennis J. Had
President, Cary Audio Design

Camelot Dragon Pro2 & Uther V2.0

Editor:
All of us at Camelot Technology are supremely pleased that Stereophile concurs that we have succeeded in providing digital audio excellence through both our Dragon Pro2 Jitter Reducer and Resolution Enhancer and Uther V2.0 D/A converter. Our customers' responses to these components have similarly acclaimed their sonic performance as well as how superbly each has, both functionally and cosmetically, complemented their audio/video systems.

Stereophile readers will, I am sure, find one of our latest product developments of additional interest. This is our current development of the "Ector" A/D Converter, which will provide state-of-the-art A/D Conversion for four high-level sources, enabling owners of the Uther V2.0 to utilize its superb volume control to drive their power amplifiers directly even when using analog sources. We plan for the Ector to be available in July, with a projected MSRP of $799. Camelot Technology has always committed itself to providing affordable digital audio and video excellence in all of our products, and we look forward to further honoring this pledge in the future.

Mel Schilling
President, Camelot Technology

JMlab Utopia

Editor:
First and foremost, I would like to thank Jonathan Scull for his thorough review of the JMlab Utopia. It is in his final comment where I feel he really summarizes the Utopia's sonic behavior: "... there exist today a very few products that fuse the analytic with the musical. Into this category I dub thee, Utopia." True enough, almost every product
leans one way or the other. A designer once said to me that some products were like a chocolate cake with icing. Nothing wrong with icing, he said — it’s sweet and it tastes good — but if there is too much, you can no longer tell if the chocolate is pure and refined, or packaged chocolate from the grocery store. In audio, you often find products that tend to sound very romantic and musical, but in an almost surreal and unnatural way that is palpably in every recording you play. On the other side of the coin are products that are very revealing to the nth degree — like looking at a painting with your nose 3" away from the canvas. Sure, you can see the brush marks and the different layers of paint, but even the artist must step back to admire the true impact of his work. Achieving a perfect balance is very tricky. Whether in life or in industry, this is always much easier to say than to do. The very few products that do achieve this balance will stand the test of time.

Another real triumph of the Utopia is its value. Albeit an expensive loudspeaker, it offers a level of performance previously unattainable at or even near its $30k cost. This is possible only because of the previous efforts spent developing the Grande Utopia. With the Grande, the Focal and JMLab team broke the bounds of conventional drivers and enclosure limitations to truly pioneer acoustical loudspeaker development. New driver materials were used, and new magnets, new coils, new cabling, new cabinet materials, and assembly techniques that consumed three years and produced 11 prototypes. Without this preliminary work on its larger sibling, the Utopia would have surely been almost double the price due to the nature of development and manufacturing economics.

Daniel Jacques
President, Audio Plus Services

Immedia on Discovery

Editor:
As a manufacturer, I feel it is inappropriate to voice my opinion on another manufacturer’s design approach. However, when I read wrong information used to defend a product, as in the Clearaudio/Souther importer’s response (February ’98, Vol.21 No.2, p.195), it becomes a problem that attacks the roots of my livelihood. This becomes even more evident from the generally confused and under-informed public reaction (“Letters,” February ’98, p.21) to Michael Fremmer’s accurate but condemning technical description of the product in his November review (Vol.20 No.11, p.177).

I have seen that, even as the number of experienced analog consumers diminishes, many audiophiles are experiencing the pleasures of analog and buying their first analog playback system. For these people it is unfortunate that it is harder to find experts on turntables, and the principles are difficult to grasp
Stereophile is unique in having a reviewer who had more than “done his homework” on this product, and was able to inform its readers of technical issues rather than just a simple description of his sonic impressions. Even though it may seem that the setup and design of record-playing equipment is becoming a “lost art,” the scientific principles behind it are far from lost.

Mr. De Phillips’ letter regarding damping, tracking, and cartridge design is incorrect, unsupported, and laced with emotional content. Because the technical rationale behind damping was correctly described by MF and others previously in Stereophile, I feel it is not necessary to repeat them here. However, to put this in historical perspective, I would like to mention that the effects and validity of tonearm damping were well stated with technical backup by William Bachman in his AES paper in 1951, and have been verified by others many times since. It is no coincidence that most modern tonearms aiming at state-of-the-art performance employ damping, including the Airtangent, Eminent Technology 2, Graham, Rockport, SME, Townshend, VPI, Wheaton/Tiptralan, and my own RPM arm, to list a few. Consumers should understand, as MF described, that in addition to improving tracking for sonic benefits, damping is protecting their cartridge.

Next I would like to question the claim that “the Clearaudio has almost no mass, save for the weight of the cartridge, as the armtube is made from titaniu.” The fact that titanium is a [low-mass] metal is meaningless by itself. We are not told how much the armtube weighs, and the weight of the bearing-carriage system connected to it is ignored. The cartridge, armtube, and bearing-carriage system in total make up the effective arm mass. Since this is not a motor-driven arm, the way the mass is moved across the record is like this: As the record turns, the groove builds up force on the stylus; this is transferred through the cartridge suspension until it overcomes the friction and mass of the moving parts and pushes them sideways. That means all the moving parts, not just the cartridge and armtube. As a former owner of the Souther arm with titanium armtube, I can tell you this constitutes a high effective mass. As a cartridge importer, I can tell you our records show high-mass, undamped, linear-tracking arms to be a common source of suspension failure. To assist tracking, it is suggested that the user slant the arm toward the spindle to gain the benefit of gravity. There are several possible reasons [why] the Clearaudio/Souther benefits from this arrangement: excessive mass, excessive bearing resistance, or a combination of both. Slanting the arm, however, is not a solution; as is usual in design work, partial fixes result in several new problems.

As the arm moves downward toward the spindle, the bearing carriage gets closer to the record, which lowers VTA and moves the stylus forward of the appropriate tracking line. This would increase tracking distortion, and can change the tonal balance considerably. I would consider this a serious compromise. In practice, due to record eccentricity and groove spacing, it is inappropriate to use a constant acceleration, which gravity is, to compensate for an unpredictably changing force. I would assume that this is why the recommended slant is described as “ever so slightly” rather than as an exact measurement or a specific angle that could be built into the arm. What Mr. De Phillips describes as the Clearaudio cartridge cantilever, coil, and magnet construction would simply not work. Without any moving parts, there can be no current produced.

The second aspect of this affair I would like to comment on is the reader response. First of all, it is a treat to see readers look into the technical details of a product and do some analysis of their own. If we, as consumers, did more of this we would all benefit from better products. On the other hand, I believe that a comment such as “Frankly, I don’t care how a component is built or what pseudoscientific principles it violates; I just want to know how well it reproduces music,” is the most banal defense for ignorance in this industry, and it has been worn out by readers and reviewers alike. Imagine a comment in Car & Driver that read, “I drove the car with and without seatbelts and air bags and it handled the same, and since I all care about is how the car handles, I don’t want those apparently useless features.”

Some things that matter are not always apparent. So let me repeat what others have said: On anything other than a perfect record, an undamped tonearm with a high horizontal mass stresses the cartridge’s cantilever and suspension system and causes the coils to spend a good amount of time outside the linear part of their magnetic gap.

On the subject of protecting equipment, there seems to be a similar misunderstanding regarding antiskate. Skating force is an inward pressure caused by the offset angle of the headshell on
pivoted tonearms. The effect of skating force is not usually audible in an A/B listening test, but it is measurable with test equipment. What skating force does is increase wear and distortion on highly modulated grooves. You can often hear this type of wear on records with highly dynamic orchestral passages, for example. Therefore, the purpose of antiskate is not for an apparent sonic improvement. What the antiskate mechanism does is apply a counterforce to prevent the stylus from wearing the edges off these groove areas.

I'm grateful to Stereophile and other publications that provide open forums, such as “Letters” and “Manufacturers’ Comments,” that allow and encourage independent thinking and intelligent debate. I hope we all use them to those ends, rather than as means to try to reverse an unsatisfying review or to justify personal purchases. Allen Perkins

Immedia

Rockport on Discovery

Editor:
I read with great interest the “Manufacturer’s Comment” (Vol.20 No.11, p.227) written by Joe De Phillips in response to Michael Fremer’s November ’97 Clearaudio/Souther review. While I was tempted to write concerning several technical errors in Mr. De Phillips’ response, I decided that it would be better to stand aside and let MF and JDP work it out themselves. However, in February Mr. De Phillips again responded to MF, and his comments included some fairly alarming technical remarks about various fundamental tonearm design issues, as well as incorrect assertions concerning the use of silicone fluid to damp unwanted tonearm motion in phonograph systems.

First, MF’s argument about dissimilar horizontal and vertical effective masses in a linear tonearm design are correct. The effective mass (or inertia) of a linear tonearm can be viewed as a pivoted system in the vertical plane only, where its polar moment of inertia is defined by the simplified equation \( I = mr^2 \), where \( I \) represents inertia, \( m \) represents mass, and \( r \) is the location of that mass relative to the axis of rotation. In a distributed-mass system, the location of any mass in the system \( r \) is very significant to its contribution to the polar moment of inertia in that system, since \( r \) is a squared function. Because of this fact, the cartridge makes the greatest contribution to the inertia of a pivoted system, since the product of its mass and its radius from the pivot point \( r \) define its contribution to the system’s polar moment of inertia. Simply put, when the mass is relative to the pivot point has a lot more influence on the polar moment of inertia in a pivoted system than how much mass there is. In the same way, the counterweight plays a large role in defining the inertia of the pivoted system.

However, the inertia of a linear-tracking tonearm in the horizontal plane cannot be viewed as a pivoted system, and thus all of the distributed mass elements of the system contribute directly to its inertia in the horizontal plane. In fact, for a given amount of mass, the moment of inertia of the system in the horizontal plane will be identical irrespective of its shape—a very different situation from the aforementioned polar inertia. For this reason, it is extremely important to design the tonearm in such a way as to minimize the actual mass of these components—even the ones close to the axis of rotation—so that they will all add directly to the moment of inertia in the horizontal plane.

But please, enough about inertia—who cares anyway? Well, remember the days when, every time you opened up an audio magazine, there was an ad for a new cartridge with all of its design attributes clearly displayed, among them a range of suggested tonearm effective masses with which the cartridge would be compatible? That’s because the tonearm/cartridge combination is essentially a mass/spring system whose fundamental resonant frequency is of utmost importance. All tonearm/cartridge systems exhibit a fundamental tonearm resonance in both the vertical and horizontal planes. The system resonant frequency is defined by the effective mass, or inertia (in the specific plane of interest) of the tonearm/cartridge combination working in conjunction with the cartridge’s cantilever-suspension compliance. In the good old days, everybody knew about cartridge compliance and effective tonearm mass, and analog devotees were extremely careful to match arms and cartridges to arrive at vertical and horizontal resonant frequencies of approximately 10Hz (above the frequency of warp phenomena but well below the audio band). This task is considerably easier when discussing a pivoted arm because its vertical and horizontal moment of inertia are very similar, but becomes more complicated when discussing nonservo, linear-tracking tonearms.

If the problem did not involve the inherent behavior of the arm/cartridge system as a mass spring system with its...
attendant fundamental resonant frequencies, then the design goal would be to minimize inertia in both planes to the vanishing point so that the cartridge could follow the ever-moving groove, and the tonearm’s inertia would impart the least amount of unwanted deflection to the stylus/cantilever relative to the cartridge body. After all, it’s this relative deflection that creates the output signal of the cartridge. The large deflections caused by the fundamental tonearm resonance or excessive inertia (where the arm simply refuses to move freely with warps or eccentricity so that the stylus/cantilever takes the hit) create unwanted signals and a whole host of other woes that are not within the scope of this letter. In fact, anything other than groove modulation creating this deflection is a nasty, nasty thing. Again, this reduction in inertia is where the very short-arm design really shines—but at what cost?

In a nonideal world where resonant mass/spring systems lurk, there is a price to pay. An extremely short linear-track- ing tonearm does have the advantage of having relatively low horizontal inertia for a linear arm (mostly due to the counterweight’s reduction in size), but its vertical polar moment of inertia is so low (because of the extremely short pivot distance) that the fundamental resonant frequency of the arm/cartridge system is well into the audio band (a very bad thing), even with the most compliant cartridge. Our own tonearm has a 775” pivot distance (a standard pivoted arm has a 9” pivot distance), yet it was difficult to achieve an acceptable (read: high enough) polar movement of inertia in the vertical plane to reduce the fundamental resonant frequency to the 10–121Hz range with a wide range of cartridges. The other daunting task for the linear-arm designer is to keep horizontal mass as low as possible so that the fundamental resonant frequency of the arm/cartridge system in the horizontal plane does not get so low that it can be easily excited by warp and eccentricity phenomena.

Now let’s talk about warp/wow. First of all, warp/wow is not the phenomenon of the stylus/cantilever being deflected, because the inertia of the tonearm is too high to freely move with vertical record/surface irregularities or groove eccentricity. That’s called improper cartridge/tonearm matching, or, in extreme cases, just plain bad tonearm design. JP’s remarks in his first comment, concerning the dangers of long, pivoted arms placing tremendous forces on the cantilever/cartridge combo, are meant to address the situation of excessive polar moments of inertia (especially with very long tonearms) and their influence on the cantilever system, not warp/wow.

Warp/wow is very well described by Mr. Rauchwerger in the February issue’s “Letters” (p.21). [Mr. Popov included two diagrams to help explain the nature of tonearm geometry relative to this problem, but space does not permit their publication. —Ed] A model of a 2”-long tonearm whose pivot point is 0.75” above the record surface exhibits a lateral translation of 0.024” for a vertical displacement of only 1/2”. A similar model of a tonearm with a pivot length of 775” and whose bearing is coplanar to the record surface exhibits a lateral translation of only 0.00025” for the same vertical displacement.

Besides this being one very good example of the value of vacuum holddown, it also serves as a good example of how tonearm geometry design is not a black art full of uncertainty. Yes, it would be difficult to design the tonearm to place the bearing pivot in exactly the right spot, given the differences in cartridge heights, VTA settings, etc. But you can be sure that it’s more difficult to achieve proper tangency and place the bearing pivot in the plane of the record with a 2”-long tonearm — unless, of course, the record is 3” in diameter. In any case, it should be obvious that, the higher the bearing pivot is placed above the record surface and the shorter the stylus-to-pivot distance, the greater the warp/wow problem becomes.

Last of all, I’d like to mention tonearm damping. As is hopefully evident by now, all tonearm/cartridge systems can be modeled as mass/spring systems with their attendant resonant frequencies, both vertical and horizontal. This resonant frequency should be “tuned” by proper tonearm design and cartridge selection to fall in the region of 10Hz. Excessive tonearm inertia or cartridge compliance will drive the fundamental resonant frequency too low, and it can be excited by warp phenomena. If the tonearm’s moment of inertia is too low or the cartridge too stiff, the fundamental resonant frequency of the combination will be dangerously close to the audio range, and in severe cases will be smack in the middle of the bass. As Martha Stewart would have it, “a very, very, not good thing.” The big problem is that, even when the fundamental resonant frequency is in the correct range, it is accompanied by a large cantilever excursion at resonance, thus creating a host of unwanted sidebands: FM distortion as the stylus scrubs back and forth in the groove the entire time it’s playing, modulation of the VTA, SRA, vertical track-
ing force, and a truly ugly bunch of generator nonlinearities that MF alluded to. Not exactly trivial stuff. So what now?

Damping. Prudent damping. Analog playback is all about stability. Through proper use of viscous damping, the amplification of this resonance can be virtually eliminated. At the same time, the viscous properties allow free movement of the tonearm to follow eccentricities in the record pressing or vertical irregularities due to warp, etc. The viscous damped tonearm's motion is essentially unimpeded by the very low frequency of pressing eccentricity or warps, in the same way it is easy to move your hand slowly underwater. Yet the viscous damped tonearm resists motion as frequency increases, in the same way that it would be quite difficult to move your hand back and forth at a rate of 10 cycles per second underwater, thus greatly reducing the amplitude of the fundamental tonearm resonance.

But, as with most things, moderation is the key. An overdamped tonearm/cantilever combination will sound dead, and there will be very little bloom to the sound. If the arm is excessively overdamped, the stylus will actually skip in the groove because the arm will not be free enough to follow the eccentricities in the record—or the cantilever will deflect in the same manner, as in the case of the arm with excessive inertia. Conversely, an undamped or underdamped tonearm/cantilever combination will sound splashy in the high frequencies, uncontrolled in the bass, and there will be a deterioration of image solidity. Basically, it will exhibit the whole list of evil analog artifacts mentioned above. In severe cases, where the inertia is very high and the system is left undamped, excessive cantilever excursion at resonance can ruin cartridges.

So why does the Southern arm sound good? Because, under the right circumstances, with the right source material, with the right bass content and a good flat record, its inherent low-inertia design benefits become predominant. However, the fact that it is necessary to create a "down-by-the-spindle" bias in the tonearm travel in order to get it to track leaves me a bit puzzled. Especially since this obviously will modify the VTA during play, and doesn't make much allowance for groove eccentricity being a cyclical event; it, we're trying to track an oscillating groove, not cut a thread in a perfectly true rotating surface.

In closing, I think it's great that people have so many diverse ways of expressing a solution to a problem. Unfortunately, as the problems become more complex, the solutions must address the entire problem, not merely part of it.

Andrew Payor
President, Rockport Technologies

Scan-Tech on Clearaudio

Editor:

Although we hesitate to comment in public on a competitor's product and his US representative's statements (Joseph De Phillips of Discovery Cable's "Manufacturer's Comment," February '98, p.195), we think that it is a great disservice to the audio industry as a whole if technically wrong, erroneous statements pass uncorrected.

We have conversed with the senior Mr. Suchy, the originator of the Clearaudio brand and also the original inventor of the Clearaudio cartridge design, seen the original patent papers, and discussed the design in detail with the inventor. In our opinion, the Clearaudio is truly one of the more interesting and clever phono-cantilever designs that exist today.

However, Mr. De Phillips' statement that the Clearaudio cartridge does not have a suspension, and that its coils as well as its magnets are embedded in epoxy resin (surrounded by, perhaps, but definitely not embedded), flies in the face of logic and is a great disservice not only to the senior and junior Suchys, but also to the craftsmen who make the cartridge, and finally to its conceptual designer.

Electromagnetic generator design (which encompasses both moving-magnet and moving-coil phono cartridges) demands that there must be relative movement of a coil to a magnetic field, otherwise nothing will be generated. Either the coil or the magnetic field must move.

In moving-coil phono-cantilever designs, the coils (as well as the diamond stylus) are secured to the cantilever and form a single assembly. This assembly must be able to move relative to a magnetic field in order to generate any output. In cartridge terminology, the pivot point around which the cantilever assembly moves is commonly referred to as the suspension point. Mr. De Phillips' claim that the Clearaudio cartridges' cantilevers have no suspensions implies that they cannot move, and therefore are incapable of doing anything, save perhaps gouging the record grooves badly.

Whether a cartridge uses damping rubber as part of its suspension or not is a different issue. Even if a certain cartridge design does not use damping rubber, it nevertheless will have a suspension by the above definition. Many car-
tridges use a combination of rubber and wire, while others use only one of these elements. In any event, the cantilever has to be pivoted or flexible somewhere to enable it to move.

One other obvious point regarding Mr. De Phillips's statements: although a short arm has certain advantages over longer arms, any kind of record warp will cause a much more severe VTA/SRA shift than a long arm will. This suggests that a tonearm with a short arm is an incomplete design unless it is paired with vacuum or peripheral clamping for the LP itself.

Any more detailed technical information on the Clearaudio cartridge family is best left to the Suchys. Our intention is simply to correct the spread of erroneous information that could discredit the high-end audio industry, and to raise the level of knowledge regarding cartridges and analog audio in general. Indeed, the current technical ignorance regarding phono cartridges among some members of the press, and apparently now even among distributors, is creating other problems as well. For example, despite their lack of technical knowledge about cartridges, it would seem that some distributors still use the aforementioned ignorance factor to justify inflated pricing that likely bears little relation to the actual manufacturing cost of a high-end phono cartridge.

Being a high-end cartridge manufacturer ourselves, it might seem strange for us to make such comments, seemingly sawing off the very branch we are sitting on. However, while we are confident that our level of technology and materials is high or higher than that of anyone else in the cartridge industry, we honestly would have a hard time devising a phono cartridge that truly justifies a price tag of $4000 or higher. (Note that we are discussing the technical content and manufacturing costs relative to the retail price, not whether or not the sound justifies the price.) In many cases, cartridge prices seem to be completely marketing-driven, including built-in markups for high trade-in values on customers' old cartridges, and/or "prepaid insurance" for the customer's accidental damage of his new cartridge during the first months of use.

Finally, we would like to take this opportunity to applaud Michael FREMER's informative and enthusiastic reviewing of analog products. He is a real asset not only to Stereophile, but to the entire analog community. We especially appreciate his uncanny ability to identify BS for what it is. We hope he will continue his journalistic efforts to tell the readers what equipment represents true value, whether the price tag is low or high.

Stig I. BJÖRGE
Jonathan CARR
Scan-Tech Co., Ltd. (Lyra brand)
Tokyo, Japan

Wadia on filter design
Editor:
We were pleased to read some recent favorable comments in Stereophile that give credit to phase-accurate digital filter design. Specifically, I am referring to the "Industry Update" articles by Markus Sauer (Germany) in the January issue (p.45), and by Peter van Willenswaard (UK) in the March issue (p.39). Both articles pointed out the obvious sonic advantages of time-domain linearity and proper impulse response compared to the "brick-wall" filter designs used by 99% of the industry.

As you are aware, we have been adamant in our belief that phase accuracy is critical to the reproduction of music. One of the reasons for starting Wadia in the first place was this belief, and it's just nice to see it in black and white in Stereophile. I am sure that your readers would be interested to know that we have held a patent on this type of design since 1989.

Wadia owners all over the world have been brought closer to the music for years by our belief and expertise in this area. Thanks for reporting on this important technology.

Happy listening. Steve Huntley
National Sales Manager, Wadia Digital

Bright Star Audio
Editor:
We are very honored to have two of our products—the Air Mass 3 and the Ultimate TNT Isolation System—nominated for Stereophile's "Accessory of the Year," and we are glad to see the trend continuing! In addition, The Absolute Sound voted our products "Best of 1996," "Editor's Choice," and "Best Buy," Soundstage! listed our Ultimate Isolation System as "Standout Product of 1996," the Academy Advancing High-End Audio and Video nominated us for the 1995 "Golden Note" award, and we have received the 1996, 1994, and 1993 "Component of Merit" awards from Bound for Sound. Bright Star products optimize the performance of all components—analog and digital. Correct vibration control is crucial for achieving the finest musical experience from audio systems. We manufacture models in various sizes and configurations to suit every need.

Barry KOHAN
President, Bright Star Audio
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WATT/PUPPY 5.1, purchased in December, $12,000. OhBoy. Phone: (702) 361-1014, will call back. Ed.

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ADCOM GFP-565 PREAMP; $370; GPA-545 II amp, $240; GCI-575 CD player, $280; Audio Alchemy 1D/E-Vio, $200; Power Station One, $25; Clear Stream cable, $40; Pioneer CL-31A laserdisc, $325. Everything mint with boxes and low usage. Split shipping. Reference 1 and Reference 600 package, save $1000. Contact Tim, (573) 686-4800.

LNN LPZ/LINGO/EKOS with Lyra Panaross cartridge, new, guaranteed, ($960) $4995, OHIO. (706) 638-6877.

ACCUPHASE 1975 CD player, perfect, ($10,000) $6000. Kelly, (303) 592-1650, (303) 751-1990, cond@by@envisionet.net.

AUDIO RESEARCH REFERENCE 1 preamp, ($8500) $5000; Audio Research Reference 600, ($30,000) $15,000; Legacy Coda 220W amp, ($1800) $750; Krell KHR-3, ($7000) $4200; Meridian 565 with newest upgrade, DTS AC-3, and modulator, ($6000) $4200. All mint with boxes and low usage. Split shipping. Reference 1 and Reference 600 package, save $1000. Contact Tim, (573) 686-4800.

FOR SALE: PRE-RECORDED reel-to-reel tapes, 7", and 10", $5 each. Jerry Menzies, 730 112th St SW, Everett, WA 98204, (425) 745-4969, menzes@MSNN.com.

RECORDS FOR SALE: Hundreds of classical titles, including many LP seal, TAS recommended, "hot," and otherwise highly collectible audiophile LP's. Write or call for free list: First Chair Records, P.O. Box 629, Wallingford, MO 21793, USA. Tel: (301) 845-8997.

CURRENT TITLES ON LP AND 45. Thousands of rare quality used. We stock all premium vinyl. Mail order worldwide. Visa/MC/AmEx accepted. Eide's CDs, Clifton Country Mall, Clifton Park, NY 10605. Open 7 days. (518) 373-9089.

HIGHEST PRICES PAID for classical LPs, mono and stereo. Will travel for large collections. Call Lorraine O'Toole, P.O. Box 138, Benetvueh, NY 12409, tel/fax (914) 678-6307.

WANTED: QUALITY USEFUL CLASSICAL LPs. Randall Goldman, Box 1, Roselle Minneta, CA 92270. Tel/fax (888) 872-6929.

MOBILE FIDELITY SOUND LAB: new, sealed, out-of-print CDs. SASE to Schultz, 5049 Biker St, #76, East Lansing, MI 48823.

**Wanted**

**WANTED:** TUBE HI-FI AND SPEAKERS, tube theater amps, corner speakers, horn drivers, coaxial/atrial speakers, crossovers, tubes. Altec, ElectroVoice, JBL, Jensen, McIntosh, Quad, Dynaco, Scott, Lowther, Fisher, Heath, Eico, RCA, Tamony, Leak, Marantz, Western Electric, etc. Also high-end ARC, Conrad-Johnson, Linn speakers, etc. Also old guitars and guitar amplifiers. Sonny Goldman, 1412 Magnolia Lane, Midwest City, OK 73110 (405) 837-7332, (405) 837-7335.

**WANTED:** VACUUM TUBE HI-FI COMPONENTS and large speakers by Western Electric (tubes, amps, speakers), Marantz, McIntosh, Brook, Fisher, REL FM tuners, Fairchild, Altec, Leak, Quad, ElectroVoice, Jensen, JBL, Tamony, and others. Also, Tubes: Western Electric 252A, 308B, and KT66, KT77, KT88. Richard Sandberg, P.O. Box 521, Benton, MA 01228. (413) 487-5784, (413) 487-6592 fax.

**WANTED:** AUDIO RESEARCH and MARANTZ tube equipment, Sequestra tuners. Top prices paid. (818) 241-3344, (818) 242-4433 fax.

**WANTED:** HAFLER 110 AMPLIFIERS, long interconnects, cable. Gary (519) 944-6335.

**WANTED:** FIDELITY RESEARCH TONEARM and/or accessories. (760) 770-0905.

**WANTED:** NAIME EQUIPMENT. (516) 899-6557, (518) 899-7366 fax.


**COLLECTOR BUYING** (working or not, mono/stereo): Tamory, JBL, Altec, old tube Marantz, McIntosh, Leak, Putnam, Quad, REL, Fisher, Altec speakers, Sequestra tuners, Krell, Cello/Levinson, ARC, ribbon/arms, etc. Also, used turntables: Robert, Audemars, Omega, Radio, etc. (used parts and tools). Traveling often, midwest and east coast. Travel welcome. (718) 387-7316.

**WANTED:** INEXPENSIVE KRELL KHX crossover, (415) 733-1676, drehmond@aol.com.

**WANTED:** MOBILE FIDELITY LPs. Must be sealed or in mint condition. Tel. (44) 01623-6465-43, (44) 01623-623-87 (England).

**Employment**

**WANTED:** EXPERIENCE! HIGH-END! Audio/ Home Theater/Home Automation salesperson to work in one of the leading retail stores in the country. Must have good organizational skills, people skills, and understand the importance of business. Fax résumé to (801) 486-6972.

Audio Mart Order Form

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Audio Mart, April 1998
I'm a big volleyball fan (used to be a player), and was delighted to run into the country's number two college team on a recent flight from San Jose to Los Angeles. It was Pepperdine, returning home from victories over Stanford and San Jose.

I knew they were volleyball players when I saw them at the check-in counter. Most obviously, they were tall, but not as tall as basketball players would have been — only two to six inches taller than my own 6'3". Almost as obviously, all but one were Caucasian. Almost without exception, this country's great African-American tall jumpers play basketball, not volleyball. (Two sports require the same physical skills.)

Which puts American volleyball players at a big disadvantage when they play the rest of the world. Most of our best tall jumpers are competing on the basketball court, while our second-in-liners try to beat the world's best in volleyball. We prevailed in the '80s, but Brazil, Italy, The Netherlands, and Cuba have taken over in the '90s.

It's not hard to figure out why the country's best athletes choose basketball: even average NBA players pull down $2 million, and the great talents earn double-digit millions a year. Sometimes a remarkably talented individual will gravitate toward volleyball, a sport where salaries peak at $1.5 million, but over the long term the draw of more money is simply irresistible.

I recently attended a fabulous computer-related conference (TED, for Technology-Entertainment-Design) and came away feeling that high-end audio and home theater are the volleyball equivalent when it comes to high-tech talent. Most of the brightest people end up working on computers, drawn by the billions in venture capital headed that way.

I've been to TED four times over the past five years, and every time I come away amazed by what these people have done over the past year. Of course, the processors have almost doubled their speeds over that time, but the big advances come in software, where changes of an order of magnitude can readily be observed, especially in specialized programs. (Operating systems and word processors don't seem to have progressed much since the Mac was introduced in 1984.)

It may take five years, but video technology will be more than doubling its capabilities soon. But where else in our field will we see that kind of change?

We in high-end audio are involved in an entirely different kind of effort, a finite quest that is almost impossible to accomplish; to reproduce the concert-hall experience right in our own homes. Compared to the systems with which sound reproduction started out at the beginning of our soon-to-end century, we've accomplished marvelously things. Compared to the systems of 10 years ago, we've maybe shaved away the remainder of our task by a third (and excellent sound is now available for radically less money than it used to be). But shaving off a third over a period of a decade doesn't remind me of the computer industry.

Our scope is so different. Computers are still used by a small minority of people in this country, and a tiny fraction worldwide. Music, movies, and television are part of almost all people's lives. Small improvements affect billions of people.

And the great achievers are so different. After reading his interview last month, you'd never imagine Jim Thiel working for, say, Harman International, much less Microsoft. Or Richard Vandersteen, who I just visited. Richard actively manages his company to keep it small, while working intensely to make his speakers better. We really shouldn't wonder that the growth of the high-end audio industry is modest.

One of the speakers at TED was Larry Ellison, CEO and founder of Oracle, the database company. He argued anew the need for Network Computers — cheap things that sit on top of your TV and allow you to communicate with everything. You never buy software, just use it as provided over the Net.

In so arguing, Ellison made a great point: Who really needs a processor more powerful than a 200MHz Pentium — now available for $800 with RAM, a big hard disk, and a blazing video board? Most people's computing needs could be satisfied with far less than a plodding 486, particularly if software were efficient.

I picked up on an interesting fact lately: high-tech companies have a market capitalization that is roughly their earnings times their growth rate. So, if Intel's earnings growth slows from 40% to 20%, all the stock-incentivized executives who run Intel become worth a little more than half as much as they used to be.

Because business doesn't really need processors faster than 200MHz, to whom will new processors be sold? I think they'll be sold to the billions worldwide who listen to music and watch movies and television. There will be very fast microprocessors in your entertainment life whether you want them or not — just as a fact of economic life. Intel has to grow somewhere. I look forward to that future with curiosity and some trepidation.

Finally, I have a burning need to sound off about some recent deficits in our national life, knowing that doing so will incur your wrath. It's simply wrong that a prosecutor should sit around to receive evidence, legally gathered or not, on anyone with respect to an alleged crime of which the prosecutor had no prior knowledge — a personal prosecutor, so to speak. It's 100% un-American, whether the object of the hunt is president of the United States or the cashier of your local credit union. Make that 200%.

And it's a disgrace when respected newspapers report rumors just so they can scoop The National Enquirer — and then, when their so-called sources couldn't source a milliamp, made mealy-mouthed, halfhearted apologies. As much as I miss him, I'm glad my late father-in-law, John Chancellor, didn't live to see it.

You may hate the observations Stereophile has about hi-fi equipment, but we were really there observing. Our reviewers report what they actually heard, not what a friend told them they heard (or recorded a "friend" saying).
Technology alone does not ensure musical performance. In the Wadia 850 we have refined our technical innovations using a deep appreciation for music as our guide. The result is sound so vivid and compelling, you will find yourself captivated by the Wadia 850 – and even more, by the passion and power of music.
It's so hard to discuss only two AudioQuest cables. We make such a wide range, from inexpensive on up, from speaker cables to interconnects for audio, video and digital. Actually, they're all inexpensive. In an appropriate system they all make the most difference for the least money. Here are two extremely sophisticated, yet highly affordable examples of what we are all about.

**Type 6 SST Hyperlitz Speaker Cable**

AudioQuest's fine tuned technology is on display in Type 6. Our classic Hyperlitz construction employs a circle of solid Long Grain Copper (LGC) conductors, a regular fixed geometry which provides significant magnetic isolation between the conductors. All conductors are solid in order to avoid strand interaction, the single greatest source of cable distortion. Spread Spectrum Technology (SST) is evidenced by the use of three different sizes of conductors. SST defocuses the sonic signature of any single size of conductor, providing a much greater sense of power and transparency than ever before. The cable just plain gets out of the way, which is all any good cable ever should do. In addition to being an ideal full range cable, Type 6 is also biwire friendly. Different preparation techniques allow it to be used as an ideal single-biwire cable for high or low crossover speakers.

**Topaz Audio Interconnect**

Low level cables don't have to transfer the large magnetic fields that cause so many of the problems in speaker cables. Interconnect cables don't carry power, they carry information, delicate information which would also be damaged by strand interaction or inferior materials. Topaz employs Double-Balanced construction. Unlike normal cables, the positive and negative conductors are identical. The 100% coverage shield is only connected at one end, insuring that it will not be used as an inferior conducting path. All metal conductors are actually made of pieces called "grains". Normal high-purity copper has 1,500 such grains lengthwise in a single foot of conductor. OFHC copper has 400 grains per foot. Topaz's exceptional FPC copper has single grains which are 700 feet long. What you hear is far cleaner, more realistic and less fatiguing. Properly plated connectors and the finest solder are a couple more reasons why Topaz provides such extraordinarily high performance. These are just two of the many AudioQuest cables which will help your system deliver its best one-two combination.