HOT NEWS FROM LAS VEGAS

MARTIN COLLOMS ON ANALOG REPLY
KEVIN VOECKS ON LOUDSPEAKERS
SIR THOMAS BEECHAM ON RECORD
LOUDSPEAKER REVIEWS
SNEILL, POLK, MONITOR AUDIO
CAMBRIDGE SOUNDWORKS
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MARCH 1990 VOL. 13 NO. 3
COMING ATTRACTIONS

April is, of course, one of the months when we publish *Stereophile's "Recommended Components"* listing, distilling the essence of the last six years or so of equipment reports into one easily accessible feature. Fully updated to include our review team's most recent experiences with more than 360 products, "Recommended Components" will occupy pride of place in the April issue of the magazine.

Equipment reports next month will include the $12,000 tubed D/A converter from Stax; CD players from California Audio Labs, JVC, Harman/Kardon, and Meridian; the Tice Titan and Powerblock AC conditioning system; Dahlquist's new DQ12 loudspeaker; and cartridges from Clearaudio; while the Audio Anarchist falls in love with a 15W integrated amplifier.

That's right—15W!

On the music side, in addition to our regular record-review section, Barbara Jahn will be listening to Shostakovich's Symphony 11 for "Building a Library," and musicologist Denis Stevens offers an essay on the subject of "Do Musicophiles Enjoy Audio?" Plus reviews of new albums by Rickie Lee Jones, Eric Clapton, the ever-unpopular Frank Zappa, and at least one new Wagner release.

And don't forget the High End Hi-Fi Show, due to be held at the end of April at the Penta Hotel in downtown Manhattan. The show runs from Friday 27 to Sunday 29; advance tickets, good for all three days, cost $20—see the advertisement in this issue for full details.

We'll see you there!

—JA

**Errata**

On p.227 of the January 1990 issue, a line of ms. copy was inadvertently left out of Mort Frank's review of the Raphael Ensemble's recording of Brahms's String Sextets 1 and 2. The passage, which begins 13 lines up from the bottom of the review's final paragraph, should have read as follows: "But of greatest importance, the Raphael, while honoring the soaring lyricism and harmonic boldness of these works, reminds us that Brahms was always a staunch Classicist. When such perception is fused . . ." Our apologies.

—RL

And our apologies, too, to retailer Omni Sound, of 19020 Preston Road, Dallas, TX 75252. We inadvertently printed an incorrect telephone number in the Omni Sound advertisement in our January issue (p.285). The correct number is (214) 964-6664. Again, we apologize to Omni Sound and their customers for any confusion our mistake may have caused.

—JA

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©Stereophile — Vol. 13 No. 3, March 1990, Issue Number 122. *Stereophile* (ISSN 0585-2544) is published monthly, $35 per year for US residents by Stereophile, 206 Delgado, Santa Fe, NM 87501. Second-class postage paid at Santa Fe, NM and at additional mailing offices. POSTMASTER: send address changes to Stereophile, PO. Box 364, Mount Morris, IL 61054.

**Subscriptions**

FAX: (505) 989-8791

US residents (800) 435-0715,
(800) 982-0753 (Illinois),
Canada residents (815) 734-8309
From outside US call (505) 982-2366.
Stuck out here in the desert depths of the Southwest, we look forward to visits from out-of-towners. So when David Wilson, one-time audio reviewer but now full-time high-end manufacturer, called to say he was going to be in Santa Fe, there was a flurry of activity. David had agreed to an interview, so I started going through back issues of The Absolute Sound and Stereophile for background. Vol.6 No.2 of Stereophile, with its front-cover photograph of David and Sheryl Lee Wilson with their WAMM speaker system, seemed a good place to start—except that nothing inside the magazine corresponded to the cover picture. It was the next issue that had featured Larry Archibald's write-up on the WAMM, and once I opened its pages, I got trapped into reading the entire issue.

J. Gordon Holt's "As We See It" involved an intriguing LaserVision disc. An orchestral recording, it had been balanced in a manner that, had it been a sound-only disc, would have destined it for the circular filing bin. As each instrument took a solo, the sound engineer had boosted its level so that it dominated the mix. However, the video disc revealed the aural spotlighting to coincide with close-up shots of the respective performers, and the venerable JGH (in whose ears we trust) felt that, owing to the dominance of sight over the other senses, such a distortion of the soundstage was subjectively acceptable. It was only in the absence of the visual sense, he argued, that listeners become critical of flaws in soundstage reproduction, the solidity of the sonic-only experience being destroyed by a heavy hand at the mixing console.

Which brings me to a number of letters this month concerning the reproduction of the recorded soundstage. A Mr. L. A. Whitcher accuses me of muddled terminology when I recently referred to a "possibly three-dimensional space" being created between and behind the loudspeakers. "If it’s not three-dimensional, it’s mid-fi, no matter how much you paid for it," guffaws Mr. Whitcher, obviously thinking that I hardly know which way is up.

What we have here is dimensional confusion. Many people think that the three dimensions that define a reproduced soundstage are "Left," "Right," and "Back," in which case any system that throws image depth would be "three dimensional." This is incorrect, however. The three classical dimensions, each defining motion at a 90° angle to the other two, are "Length" (left-right), "Width" or "Depth" (front-back), and "Height" (up-down). A system that reproduced a stereo image with impressive depth would therefore be reproducing a two-dimensional stage. If its image had no depth, then it would be one-dimensional. (A one-dimensional object is a line, having length but no depth/width or height.) This is the context in which I had referred to a "possibly three-dimensional" soundstage last November, not one which could possibly have depth—which I understand to be Mr. Whitcher's interpretation—but one which possibly gave a faithful sense of image height.

Although many audiophiles would insist that their systems do reproduce a sense of height, when I have experienced image height, it has nearly always turned out to be spurious, due to system flaws. The fundamental problem is, you see, that nearly all the microphone techniques recording engineers use to record music are incapable of capturing any height information.

A common philosophical trap fallen into by audiophiles is to assume that any LP or CD inherently contains within it the information necessary to recreate the live illusion. This just isn't correct. Even the finest system will not create a soundstage with an accurate sense of height unless care was taken to ensure that the appropriate height information was captured at the recording session. I am not saying that it is impossible for a stereo system to throw a sense of height—the new Chesky Test CD that I mention in my loudspeaker reviews this month contains tracks where the signal can reproduce as being above the plane of the loudspeakers—but that conventional stereo microphone techniques do not capture the aural clues that allow the ultimate listener to perceive height.

There is one possible exception to this blanket dismissal: the tiny fraction of recordings
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where the engineer has used a single-point stereo technique. As implied in the addendum to Professor Peter Fellgett’s letter, if early reflections of the direct sounds of instruments are captured by a stereo mike technique without any lateral spatial distortion—ie, all the components of the reverberant field come from the correct lateral positions between the loudspeakers—this “ambience-labeling” will contribute to a feeling of solidity and depth to the reproduced soundstage. And as the reflections of the direct sounds from the floor and ceiling of the recording venue will also come from their correct lateral positions, it can and has been argued that this will lead to an accurate reproduction of image height.

This general philosophical confusion also applies to the width of the soundstage, a topic examined in three letters from Singapore reader Yip Mang Meng. Some writers have naïvely expounded that if the live orchestral image extends from wall to wall, then so should that experienced from a hi-fi system. As with image height, however, the ability to throw a soundstage that extends beyond the speaker positions is not primarily a system characteristic but one that is fundamentally dependent on the information encoded in the recording. It is misleading, therefore, to imply that a perfect system will inherently reproduce images beyond the speaker edges, as nearly all stereo microphone techniques again completely fail to encode the information necessary to reproduce such a soundstage. A single microphone may pick up sounds from many directions, but when a single-channel recording of its output is played back, all the soundsources will appear to come from the speaker position. Soundsources that were further away from the mike will have a larger proportion of reverberation captured, thus their images will appear to be further away—it has been known since the dawn of recording that monaural recordings can still reproduce the depth dimension. Lateral imaging, by definition, is a function of the relationships between the signals in two or more reproduction channels, and conventional multi- and widely-spaced-mike techniques produce images that must by definition fall at or between the speaker positions. Consider a spaced-mike technique, that used for Mercury “Living Presence” and Telarc recordings. All sources to the sides of the mike positions will be captured with a somewhat different ratio of amplitudes between the two recording channels, but with a constant time delay. When that recording is played back over two loudspeakers, those side images can’t help but be localized in the speaker positions owing to that time delay. The soundstage thus remains bounded by the speakers.

However, while I was thinking about the abilities of the various mike techniques to reproduce height information, it struck me that perhaps the classic Blumlein pair of figure-8 microphones, vertically coincident and angled at 90°, should capture the information necessary to reproduce image positions beyond the speakers. Soundsources in the angle subtended by the mikes will produce in-phase signals in the two microphone outputs that differ in amplitude: this mechanism defines all the traditional image positions between the loudspeakers. But consider a source to the left-hand side of the microphone array outside this angle. It produces identical amplitudes in the two mike outputs, but whereas that in the left-pointing mike will have positive polarity, that in the right mike will have the opposite polarity. When the two-channel recording is played back over loudspeakers, therefore, such a soundsource will produce out-of-phase information in the speakers with the phase-lead to the left loudspeaker. This is exactly the interchannel information relationship required to produce an image beyond the left-hand loudspeaker position.

To test this hypothesis, when we recorded the music for the second Stereophile album—see “The Final Word,” p.226—I also used a Blumlein pair of figure-8 mikes to record Larry Archibald mapping out the soundstage from way beyond the mike position on the left side of the church all the way to the right-hand wall of the church. (The “traditional” soundstage covered by the mikes occupied the center third of the church.) When the tape was played back over a pair of Thiel CS5 loudspeakers—these superb speakers create one of the best-defined soundstages I have heard—Larry’s voice and handclaps could be heard way beyond the speaker positions, just as predicted. Now as far as I know, no one records instruments and voices outside the “traditional” pick-up area of a Blumlein pair. Their images should therefore stay within the bounds of the speaker positions. But the ambience and reverberation recorded in such a manner should extend beyond the speakers, adding to the sense of realism and image solidity.
Stereophile and Nelson & Associates present the New York City High End Hi-Fi Show.

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APRIL 28
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APRIL 29
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Mail to Hi End Hi-Fi Show, P.O. Box 5529, Santa Fe, NM 87502 (505) 986-1466. Tickets will
be mailed to you in March, 1990. See you at the High End Hi-Fi Show, 1990.
Jaded beyond repair?
Editor:
You should fire as jaded beyond repair any reviewer who does not believe (see "As We All See It," November '89) that it is a miracle—"magic"—that little squiggles on a piece of plastic can produce music realistic enough to thrill a music lover and simulate a live musical event.

Marc Richman
Washington, DC

A fine job
Editor:
I’ve read with continuing interest the discussion in these pages regarding “The Acoustical Standard.” (Gee, abbreviated, that’s “TAS” . . . could be Freudian. Or subliminal advertising? Oh no, not in our magazine! Toto, tell me it’s not so!) Anyway, I think that in the end Mark Block (“Letters,” September ’89, p.11) is on to something. Yer toes tappin’ or no? Shoes. That’s the answer, of course. Let’s see, Hush Puppies have a tendency to . . .

I continue to be amazed by those who write in complaining their equipment either:
1) Has never been mentioned/reviewed,
2) Has been reviewed a babbling idiot, or
3) Is no longer on the recommended list.

Take some advice from that rock immortal (? Elvis Costello and get happy. If it sounds good to you, great. Don’t sweat the small stuff.

Y’all have got to give poor Julian a break. Jeez, like beating a dead horse, no? PS: Wanna bet Julian wears wing tips? (Sorry, I just had to. No offense meant to you pedestrians out there.)

JGH seems to be getting slightly annoyed with it all—particularly you “rockers.” I’m glad to be reading his letters, tho’. Can’t wait till he’s got his room in tune. [Me either.—Ed.]

All in all, a fine job, mates.

About Sam advertisin’ his Russian tour— whoa, folks. Take a Demmy or somethin’. And all because he didn’t like those Sequels. Can you guys hire Lars?

Hmmm, sweet-spot, what happened to my damn sweet-spot . . . which reminds me of an admittedly old joke, something about Helen Keller and rearranging the furniture, but fortunately I’ve got a wife. Well, time to shuffle off and toe-in that speaker a bit.

Dave Beegle
Smyrna, GA

Please don’t!
Editor:
Please don’t
- don’t
- don’t
- don’t dark your typeface.

There seems to be a fad just now of oppressive blackness in graphic design. Not only is it heavy and depressing, but in a few years it’ll be heavy, depressing, and passé.

Hilary Paprocki
Rochester, NY

A concerto is a concerto . .
Editor:
Harumph!


A mistake (not a typo) buried in text may be excusable, but in a title, NEVER. For absolute shame!

Twice harumph!

Whoever thought up your idea of using “(in whose ears we trust)” after mentioning J. Gordon Holt’s name or initials? For me, who has known J. Gordon as a personal friend for longer than anyone else currently on this Earth, I am so thoroughly disgusted that I want to throw up. I’ll bet he is hopping mad. Besides being a cheap shot and double entendre, it is a cutesy attempt at out—“Baileying” Rumpole’s quip about his wife Hilda.

That’s two strikes in the January 1990 issue. One more and you’re out. (I possess every issue of Stereophile.)

William G. Phillips
Phoenix, AZ

My final task before each issue of Stereophile goes to the printer is to proof every page for
exactly the kind of error noticed by Mr. Phillips. I have no excuse, therefore, for our substitution of the word "symphony" for "concerto" in the heading to Barbara Jahn's "Building a Library" feature in January. Sorry. As for the iconography concerning JGH, the "in whose ears we trust" appendix is literally correct. As I came to know very soon after meeting JGH for the first time, Gordon has the unnerving ability to be consistently correct in his value judgments on sound quality. Even when his exposure to the product is limited. Even when that value judgment flies in the face of every other published comment on the product (as was the case with his review of the original Audio Research SP9 preamp). This is not surprising, of course. JGH was judging hi-fi components on the basis of how they sound when Harry Pearson, Larry Archibald, J. Peter Moncrieff, and I were all still practicing English composition in high school. As with Rumpole's "She who must be obeyed," the phrase carries a deep affection and respect; for Mr. Phillips to judge it a "cheap shot and double entendre" betrays an inappropriate cynicism.

—JA

Anal-retentive minutiae?

Editor:

A comment made in last October's "Recommended Components" made me wonder where some of your common sense goes from time to time. How can you feature such lucid, intelligent articles by Harley, Atkinson, Galo, and Olsher and at the same time print anal-retentive minutiae like "The best, although original steel locking collet, now replaced by brass, gave rise to neurosis" in reference to the WBT RGA plugs.

If the steel in those plugs gave rise to neurosis, what do the steel pins of all of your tubes in your Audio Research, Counterpoint, VTL, and Quicksilver amps and preamps do? Induce vomiting? I would like nothing better than a steel-free audio path, but worrying about a locking collet when your signal is already passing through a dozen or more steel pins is a little silly. I have heard for myself the tremendous openness and transparency of nonmagnetic-construction components, but unfortunately nothing acts as a better EMI shield than steel. The more magnetic (actually, the more ferrous), the better the shielding. Ask Mr. Manley what he uses for the chassis of his wonderful VTL amps and preamps. I can assure you it isn't OFC, or even LSD or STP.

Aside from this criticism, your magazine is very informative to me and has helped me make many purchasing decisions. Keep up the digital reporting!

Corey Greenberg
KBBM-FM, Austin, TX

Pretty silly?

Editor:

JAs comparison of an ESL-63 to a Porsche 911 (December '89, p.115) is really pretty silly. Where performance counts and experts drive, the latter hasn't been competitive for more than a decade. The Datsun 510s that dominated the TransAm series 18 years ago, when fully honed for racing, were not as fast as a production two-liter 911S, but the 911S, honed for racing, notwithstanding couldn't keep up with them, and won nothing in the series at all. Did you ever see a 911 win a motorcross event on British TV? When has a Porsche ever won the RAC rally? Ford Escorts, albeit honed and modified, have a far finer record of endurance and performance in such events. The 911 is more comparable to impressive antiques, like a JBL Hartsfield, for instance, a loudspeaker rather more for show and noise than great refinement of high-fidelity music reproduction.

Stereophile seems to me to suffer from what also has perhaps overtaken HFN/RR. The articles devoted to recordings are excellent and trustworthy, whereas those given to equipment seem more largely to be childish, featuring puerile adoration of high prices, illusory values, and pseudotchy or quasi-musical—sound product names. For the record reviews, I imagine you enjoy some mature readership. But I find it hard to imagine anyone but a closet nose-picker peeling off a fiver for your equipment reviews—more than once, anyway. This, even though the body of JA's loudspeaker reviews seems almost temperate and sober compared with the other pieces on equipment.

I know for absolute certain that all this stereophilian jive keeps many more potential high-fidelity customers away from specialty shops than it attracts to them, and sends them to where they can buy adequate audio, without absurd mouth-music, instead. You see practically nothing but oriental readymades now (or well-aged, pre-Sondekery, Pukka high-fidelity gear, with add-on cassette machines and CD players) in refined homes with lots of

Stereophile, March 1990
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John Witheries
Dripping Springs, TX

A clear understanding
Editor:
I was doing some research on some Adcom components and read some articles from Stereophile. I finished each article with a hands-on feeling, and a clear understanding of what the reviewer was saying. 

Leonard James
Olympia, WA

JGH did it different?
Editor:
I’ve been a subscriber since the bad old days when Stereophile was putting out more of a pamphlet than a magazine, and more and more I wish he still was. Back then, Stereophile was a hobbyist’s magazine. JGH took the time to open the enclosures and tell us about what he found inside. He spent pages on the whys and hows of the product’s performance. He wasn’t terribly technical about all of that, but he was at least leaning in that direction. And most important, the magazine progressed. There seemed to be the assumption that the readership was getting more knowledgeable.

Not so with the current offerings. It seems that we keep going over the same ground, but with new products, over and over again. And it seems as though you don’t expect that the subscribers are any smarter than they were the last time. This posture probably makes sense with the large audience that you are serving, but it effectively removes you from being an advance of the cause. Olsher’s Dahlia article in Vol.9 No.1 was really the high point of your last few years’ efforts. You don’t have to build speakers to appreciate such an article; it provided insight into how things work. If your readers don’t want that, they should be reading Consumer Reports. Or maybe they should be reading The Audio Amateur.

Thanks for many years of entertainment.

Les Winter
New York, NY

A shock!
Editor:
For many years I have been a reader of Stereo Review and Audio. I have followed high fidelity since the late ’60s, purchasing equipment such as Kenwood, Pioneer, Sony, Technics, Yamaha, etc. Never being quite satisfied in the sound I got, I always had an idea of the type of sound I wanted, but was never able to achieve it in home equipment. Then the people at Q Audio, Cambridge, MA, recommended an issue of Stereophile (Vol.12 No.4).

What a shock your magazine was. For the first time I read equipment reviews that gave me a sense of how the equipment actually sounded. Words like “soundstage,” “image depth,” “high resolution,” and “dark” substituted for meaningless expressions like 0.01% THD, and 20Hz to 20kHz ± 3dB. It’s fun to read page after page of how something sounds rather than page after page of charts, graphs, and specs. Not only that, but I come from your articles with a real sense of just how a piece of equipment might sound if I added it to my system. I never got that from any other magazine.

A review that really surprised me was Larry Archibald’s report on the Altec Lansing Bias 550s. He trashed them!! Quote: “I don’t find the Altecs worth their asking price of $12,000 . . . I couldn’t recommend buying them at $500.” Never in the years of reading Stereo Review or Audio had I read a reviewer so openly criticize any product. Have you ever noticed how Stereo Review seems to like every product they review? Or, if they don’t, it certainly is difficult to tell; you must read between the lines, I guess. If a reviewer thinks a product stinks, I’d like him to write “I think this product stinks!” Your reviewers certainly do a good job of that; keep up the candid remarks. We purchasers like to read your honest, unequivocal comments, even if we disagree.

So what is the result of all this? Well, my Technics receiver, ADC equalizer, and Denon direct-drive turntable, with all their 10,000 ways of adjusting frequency response, flashing lights, bouncing balls, and bad sound, have turned into a PS Audio 4.6 preamp (What?! No tone controls?!), a B&K ST-140 power amp (Where are the big spl meters?!), and a SOTA Star Sapphire turntable with an SME tonearm! (Didn’t belt-drive go out when direct-drive appeared?) What a fantastic difference in sound quality! And no 1969 light show while listening to Mozart. The proverbial “hole in the middle” is gone, the room fills with music, I can locate individual instruments in the orchestra, the
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Your publication has turned me away from the overly hyped mass-marketed low-fidelity junk that seems to be today's standard. As far as I am concerned, all of you do a fantastic job.

Stephen C. Baker
Arlington, MA

The case for negativity
Editor:
I'd like to comment on "Accentuate the Positive?" in the December '89 issue. I feel very strongly that negative reviews are, and should be, a very important part of Stereophile. It's the negative reviews that give your magazine credibility. This shows us that you are trying to protect us, the consumers, from poor-quality or second-rate equipment; that you have our interests at heart, not the manufacturers'. It's the lack of this that makes a magazine like Stereo Review so pernicious. They have clearly put the interests of their advertisers above all else. They publish what they pretend are "reviews," when actually all they are is more ad copy. Not only is this dishonest and misleading, but it shows a total lack of regard for the reader. Magazines like this couldn't care less about quality or consumer satisfaction. They function like an ad agency, interested only in selling the product, whatever it is.

Like an ad agency, they take in most of their revenues from advertisers, not readers. The real key to Stereo Review's popularity is simply that it's cheap. I can get a whole year's subscription to SR for slightly more than the cover price of one issue of Stereophile. However, there's more useful information in one issue of your magazine than in a decade's worth of SR.

There's a powerful temptation for the editor of any magazine to be more influenced by a few powerful, wealthy advertisers than by a horde of faceless readers. Any magazine, at any time, can succumb to this. The negative reviews prove to us that this hasn't happened. You haven't sold out; you're still on our side. Don't abandon us; we need you! Keep up the negative reviews!

Lawrence Dworin
Royal Oak, MI

Encouragement, not criticism
Editor:
I generally agree with the arguments advanced in "Accentuate The Positive" (Vol.12 No.12). I also feel that they lack proper equilibrium. It is possible that JA may have misunderstood David Carpe's comments in The Audiophile Network. I know Dave well enough to know that he was not advocating that mediocrity should be encouraged, that the less than good should be called good by reviewers, or that the awful should be called wonderful from any misguided expression of "heart," as JA suggested rather facetiously.

Many audio designers who work from garages and basements (you know more of them than I) are, in a very real sense, creative artists. They approach their work with integrity, strive for excellence, and attempt to express their own tastes and even something of their personalities in what they produce. Naturally, they wish to move their merchandise. Love for their work notwithstanding, how else can most continue in a business from which few get rich or do more than break even? The average "garage audio artist" could make out far better were he to forsake this crazy business and go into some other (dis)honest line of work. But he is one of those ultimate romantics who attempts to create the uncreateable, that Absolute you-know-what, while we are romantics who spend our cold cash and warm Sunday afternoons listening with bated ears, hoping that he has succeeded. And some of us also write for audio magazines.

Case in point: Calvin Clutz loves music, has a technical background, and hates his present job. As he happens to own a garage, he decides to use it to build the best preamp possible at a given price point. He sinks a lot of money into design and production, and when he creates something of which he's very proud, he proceeds to submit it to Such and Such Mag for review. Then disaster strikes. The response to his efforts is horridous. Whether the result of overzealous honesty, lack of thought, or simple malice, Clutz is unceremoniously out of audio manufacturing before he was really in. Does he get drunk and shoot himself? Probably not. More likely, he gets drunk and later becomes a brain surgeon, politician, or audio retailer. But we (even you) are the ultimate losers because Clutz was the guy, it so happens, who, with a little encouragement instead of scorn, would one day have produced a preamp which sounds exactly like live music (almost).

While high-end audio design may well be a
“For once, an add-on subwoofer actually delivers true subwoofer bass with high quality and high quantity at the same time.”

Larry Greenhill

Velodyne is one of the hottest names in today’s audio/video industry. Why? Because whether you’re upgrading a current system or building a new one, there is no other single component that can boost a system’s overall performance like a Velodyne subwoofer.

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Larry Greenhill
Stereophile, Vol. 12. No. 10

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Larry Greenhill
Stereophile, Vol. 12. No. 10

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business best reserved for the rich and fearless, you might consider Gertrude Stein's suggestion that "No artist needs criticism, he only needs encouragement..." When equipment reviewers temper just criticism with informed appreciation of honest effort, they are constructive rather than destructive forces and, therefore, the best kinds of advocates for both the consumer and the industry.

Leonard G. Birnbaum
Plainfield, NJ

Mr. Birnbaum's point is well-made: one of the dangers of the critic's profession is that someone who otherwise may emerge as being truly talented as he or she develops within their chosen career can be discouraged by adverse comments to the point where they never do develop. But look at it from the critic's point of view: Should be or she operate a double standard whereby products from large, tough, mature corporations are subjected to the full light of scrutiny, while those from the Calvin Clutzes of this world are accorded a more gentlemanly, consultative approach? Or should the critic truly reflect what happens in the dealer's showroom, whereby Mr. Clutz's child goes up against the best in the world and is judged accordingly, on its absolute merit. Particularly as it takes an audiophile just as long to earn the dollars to pay for a Clutz preamp as it does for an Audio Research or Krell.

The fundamental point is, who pays for Mr. Clutz's education as a high-end designer? If the first Clutz product is flawed, is it ethically responsible for the critic nevertheless to recommend it because the good Calvin may one day produce a product truly worthy of a high-end appellation? Is it justifiable to ask the first thousand or so of a new company's customers to accept poor sound in return for subsidizing that company's growth to the point where it can make a good product? Would either Mr. Birnbaum or Mr. Carpe accept a flawed product in return for their money if they knew that this would encourage the product's tyro designer? I think not.

This reminds me of an argument I had with a rabidly pro-CD critic back in 1983. I asked him if, in view of his forceful recommendations in print of what was then a new medium, he was going to purchase a CD player? "Of course not. They sound terrible!" was the reply. So why did he recommend his readers to buy CD players and CDs as soon as they could? "Because without that money flowing back to both the player and disc manufacturers, how else will the medium develop to its full potential?" Did he not think this behavior unethical? "No, because although I am currently recommending poor-sounding CD players, it is on the grounds of the medium's potential quality and is therefore justifiable."

In other words, this critic felt it acceptable to keep his criticisms of CD sound private so that early customers could subsidize the medium's development to an acceptable level of quality.

That, I'm sure you don't need to be reminded, is not what this magazine is about. The only way an equipment reviewer can develop value judgments worth publishing is to assess by bow little or by bow much the component in question affects the sound, and to ask him self whether he would spend his own money on it. If the reviewer wouldn't reach into his own pocket for the product being reviewed (assuming that he could afford it), then no matter bow nice a guy Calvin Clutz is and no matter bow pure his heart and no matter bow talented he may turn out to be in the future, it is fundamentally hypocritical for the reviewer to recommend the current Clutz product to his readers.

I must add that I believe the marketplace, of which published reviews are only a part, actually does an efficient job at allowing talented designers to emerge despite the uphill struggle they face both as engineers and as small businesses. It's all too easy to forget that the engineers behind today's dominant multimillion dollar companies like Krell, Magnepan, Audio Research, Counterpoint, Mark Levinson, Thiel, and Vandersteen all started off in the same garage as Calvin Clutz. Not all their products performed equally well; not all the reviews they received were favorable. But there was enough of a hint of greatness in even their earliest designs that success, while it didn't come easy, did eventually come their way. That's what's important—that the critic recognize the spark of greatness in a new product from a new company, not that he lower his definition of greatness to accommodate mediocrity from the well-meaning but ultimately untalented.

—JA

A different approach

Editor:
I would like to suggest that Stereophile con-
WE’LL CHANGE YOUR IDEAS

B&W’s Model 801 — the recording industry’s Reference Standard Monitor — was the inspiration for innovation. Dramatic developments in technology and enclosure design have lit the fuse. B&W’s Matrix 801 Series 2 personifies the state-of-the-art ten years on. This magnificent successor sets the new standard for professional and home user alike. With no commercial compromise. Rich in Matrix technology, 801 Series 2 registers accurately even beyond audibility. Phenomenal sound. Clean and utterly uncoloured. Outstanding imagers with tight unbooming bass. An instrument destined to occupy a special place in world esteem.
sider a different approach to handling reviews of products that are not recommended. The present policy of presenting lengthy reviews of components found to be unsatisfactory and unrecommendable seems to me a great waste of space and of little benefit to readers except, possibly, as a warning. Take, as a current example, the case of the Waveform speakers, which received a thorough 10-page review in the November issue, the bottom line being that LA could not recommend them. Now seven full editorial pages of the December issue have been filled up with an otiose and confused letter from the manufacturer. Thus a total of 17 pages of editorial space have been wasted on a product which Stereophile does not recommend to its readers.

Possibly it could be argued that the manufacturers of unsatisfactory products benefit from Stereophile's careful analysis and assessment of same, but why should subscribers subsidize this process? I would suggest as an alternative that all products reviewed but not recommended be treated in a monthly column edited down from reviewers' reports to the length of a single paragraph. It might be titled "Also Rans," or some such; a brief indication of the reviewers' reasons for finding the component unsatisfactory and unrecommendable should be sufficient. This would free a great deal of space in which Stereophile could cover products that are recommendable—which surely are the ones readers are interested in.

Steven Paradis
New York, NY

Would that such a summary system were feasible, Mr. Paradis, but the assumption upon which your argument is based is false: i.e., that it takes less effort and time to review a poor-sounding product than it does a good one. The unfortunate fact remains that to responsibly review a product that turns out to be poor takes just as much work and time as to review one that merits a recommendation. It can even take longer, as the reviewer has to take extra care to ensure both that the poor sound be or she experiences is not due to system or room interactions, and that there isn't some area of performance where the component finally does allow the music to come bursting through. (The physical writing of the review actually takes up only a small portion of this time.) Were we not to publish the full review if it were negative, with the current number of review staff employed by Stereophile, this would not allow space to be freed up for more reviews of recommendable components; rather, it would just result in fewer reviews published. Period.

And to be honest, even if a product like the Waveform turns out to be significantly flawed, isn't there something to be learned by bringing the faults into view in the full review? You can make a case that the reader is better able to increase his or her knowledge about what makes a product tick when the review is negative than otherwise.

My aim is to publish about 50 pages of equipment reports (it actually varies between 35 and 70) in each issue of the magazine; considerably more than any of our competitors currently publish and more than Stereophile used to publish before 1986. Some of those reviews will be negative, of course, but I feel we still cover a significant portion of the components that are worth recommending.

Regarding my publication of the long Öttös letter in the December issue, we offer manufacturers the right to reply to reviews as a matter of courtesy; I therefore feel obliged to publish their responses even if, as in the case of Mr. Öttös, he took advantage of our good manners. The "Manufacturers' Comments" section of the magazine, however, does not represent "wasted" pages that replace equipment reports or whatever. Rather, they are additional pages that are tacked on at the very end of an issue's production cycle.

—JA

Mr. Sax & Mr. Harley are on the side of the angels

Editor:

It is comforting to know that there are at least two other people in the world who listen to their ears instead of to all the hype about "digital" (even to "digitally remastered analog," which logically must have all the faults that may be fundamental to the analog medium plus all the faults fundamental to digital!). A recent experience was a demonstration at which we were using high-quality material in both digital and analog form. We found that whenever the digital stopped playing there was a sense of relief, of a pressure being released, rather like when a noisy ventilation system, which one has ceased to notice consciously, is suddenly switched off; none of the analog media gave this effect. Doug Sax is absolutely right that
To begin with, forget any comparison to ordinary passive line-stage controls. The active LS1 goes far beyond them—in musicality, in technical innovation, in quality of manufacture. Its pedigree, in other words, is pure Audio Research. But far from being an expensive, limited-audience assault on an esoteric ideal, the LS1 costs $300 less than our popularly priced SP9 Mark II preamplifier. And, it includes Audio Research's famous hybrid tube/solid-state circuit technology, unstinting parts and manufacture, and service backed by 20 solid years of leadership in audio.

The LS1 offers owners the exceptional convenience of seven inputs, including the new Direct Gain Path, which bypasses all major controls except Gain—and provides a degree of resolution that challenges the best preamps in the world.

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If you've forsaken vinyl records, if you collect only tapes or digital source material, audition an LS1 at your nearest Audio Research dealer today. It may seem too good to be true, but we promise: the LS1 will make a believer out of you.
"digital is analog" in the sense that we cannot hear digits, and everything depends on the analog accuracy at both ends. I reserve judgment on whether digital with 16-bit words and <50kHz sampling can ever be good enough for high-quality audio, but certainly no existing system I have heard is satisfactory; oversampling has helped a lot, but still not enough. Of course, the more bits the better; and the limit of this is an infinite number, giving a continuous representation of the signal (instead of a staircase), which after all is what "analog" is anyway.

It is clear that both Mr. Sax and Mr. Harley are "on the side of the angels," but a few remarks disturbed me. The acoustic "size" of an instrument or ensemble is not a matter of the angle between stereo images. Surely we learned this lesson in the early days of stereo, when record companies ran double inventories; ie, the same performance would be issued separately in stereo and in "conventional" mono format (many mono cartridges would not track stereo in those days), and some people supposed that it would suffice to issue solo performances such as voice in mono only. Of course it was soon found that this was wrong. The extra information and pleasure given by stereo is not directionality of the shoot-the-pianist kind, but is much more subtle.

Every performance happens in a definite acoustic place and space. The size and scale of an instrument or orchestra are heard in relation to this acoustic space. Anything which distorts this space distorts the performance. Loudness is an essential part of it. If a recording gives a good reproduction of space, place, and scale, then there is a correct level of replay which can be found subjectively within less than a decibel; listening to such recordings ought never to leave the listener open to astonishment at the actual level of sound at a live performance.

The reproduction of these nuances, which are really at the heart of hearing music correctly, requires the fewest possible number of microphones to be used; certainly not more than two, and I would say preferably only one (omnidirectional or soundfield), with none (live performance) being best of all. Unfortunately, much modern recording called "stereo" is really pan-potted multi-mono with added stereo. Such material tries to make up for what it lacks by use of pinpoint imaging, unnatural equality of "balance" between musical elements, and (worst of all) unnatural loudness. Such recordings try to attract our attention by bludgeoning their way in, and thereby dull still further our ability to perceive and respond to the subtleties we ought to be hearing, and which we need to hear if we are to be able to say that we truly hear the music.

Peter Fellgett
Cornwall, England

PS: The importance of early reflections in giving the sense of space and ambience-labeling can hardly be overstated. Ambience-labeling can enable the spatial distribution of instruments to be heard even in mono.

The Singapore Connection #1
Editor:
I am puzzled by the inconsistent stand taken by Stereophile's audio writers on the soundstage phenomenon. Please refer to your reply to my question in Vol.11 No.8 (August 1988) and compare that with what JGH said on p.198 of Vol.12 No.12 about the trains and the wall-to-wall sonic panorama he heard on the "West Mountain Inn" track, and then further refer to Brad Miller's comments on p.217 of Vol.11 No.6 (June 1988). At least HP of TAS is consistent about what he hears: wall-to-wall orchestral image, though we have our doubts about that as a sonic possibility.

Yip Mang Meng
Singapore

The Singapore Connection #2
Editor:
May 1, through your "Letters" column, urge all audio reviewers to drop the use of the words "soundstage," "soundspace," "soundfield," or "stereo image," as they are, I feel, vague terms, and instead use more precise terms like orchestral image, vocal and instrumental image, stage ambience, and hall or studio ambience, to describe the stereo effects that they hear during evaluation of an audio component. Why? It is because of the tendency of late among audio reviewers to say that they hear "wall-to-wall soundstage" in their systems without stating whether it's hall ambience that they mean or that they really perceive focused images of violins and celli stretching from their speakers to the sidewalls, which may be from 2' to 8' from their speakers. If (as Quad's Ross Walker hinted) there were really such great audible differences among the electronic equipment of today and those of yore, then we should all be perceiv-
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ing 30'-wide orchestral images in our own rooms rather than the 6-8'-wide virtual images; and that even a "cloth-ear" should be able to pick out correctly a Krell, Levinson, etc. from a Japanese receiver in any double-blind trial just by noting the vast difference in (for want of more precise terms) what the audio reviewers called "soundstaging" among these categories of audio components.

Yip Mang Meng
Singapore

The Singapore Connection #3

Editor:
Re. my earlier letter requesting reviewers to drop or minimize the use of the term soundstage; what I really meant was soundstage dimensions. An example — HP (74S, Issue 56, p.54) said: "I gave up on him after dropping a note or two about achieving stage width beyond the outer edges of properly imaging speakers." Stage width. Does he mean a virtual orchestral image width or the width of a stage-reflection ambience shell or the hall ambience shell? I would rather that reviewers state and differentiate clearly the dimensions (ie, height, width, and depth) of the orchestral image from those of the stage shell and the hall ambience shell, instead of lumping all these different aspects of the stereo image under such umbrella terms as "soundstage," "soundfield," "soundspace," or "sound picture" (the last being a fairly popular term in the '50s).

It's time we get a little more precise in our definitions and in our descriptions of our aural experience in this golden era of audio equipment.

Yip Mang Meng
Singapore

The dimensional soundstage

Editor:
JA's reply to Dr. Cannonito in the November 1989 Stereophile not only confuses soundstage and imaging, it also wastes a golden opportunity to explain to a neophyte what we are all about.

"Possibly three-dimensional space"? C'mon, John. If it's not three-dimensional, it's mid-fi, no matter how much you paid for it. What is stereo, anyway? Drums on the left, guitar on the right? If that's all you're getting out of your system, you're getting cheated. You're listening to double mono, not stereo.

The whole point of having two channels is not to be able to make recordings of ping-pong games, but to be able to throw out a soundfield with height, width, and depth.

"Soundfield": I like that word better than "soundstage," but I'm afraid we're stuck with the latter. As for imaging, you can use the term any way you want to, but I think it's best when it refers to individual points within the soundstage. Thus, when we say that "this system images well," we mean that it places instruments and voices at discrete points in space, and keeps them in place.

We demand clarity from our components. If we are ever to explain what we are up to, much less understand where we are going, clarity in our language is no less important.

L. A. Whitcher
Bethlehem, PA

For comments on the points raised in these letters, see 'As We See It" on p.5.

—JA

A vituperative letter

Editor:
Thank you for the excellent review of Music of Gabrieli by the Empire Brass (Telarc CD-80204) in Vol.12 No.9. Mr. Schneider supports our feeling that the Empire Brass is the most exciting brass group in its field.

We are, however, confused by the letter from Mr. Rohr in your December '89 issue (p.15). Why he chooses to write such a vituperative letter escapes us. His accusations have no basis in fact. Mr. Rohr need only check with his friends who play on this recording to verify that there are three recording areas at the Berkshire Performing Arts Center, and that Studio 'A' is literally a fieldhouse containing two full basketball courts with a very long reverberation period. Absolutely no reverb was added to this recording, nor was it processed in any other way. This is the way the acoustic space sounded when these performances were recorded. Our usual disclaimer concerning no processing was omitted in error when we reformatted the last page to include a discography and an invitation to receive our free newsletter, Quarter Notes. As to his erroneous assertion that we spot-mike the bass drums, your own Peter W. Mitchell covered that in the November '89 issue. We have never used a spot-mike on a bass drum in any of our recordings.

As for Mr. Rohr's dislike of any of the brass groups that are currently popular, he is free to
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support whom he desires. So are we. Fortunately, the majority of the music-buying public agrees with us.

And finally, a word about Mr. Rohr's attitude. He seems to feel that we are conducting covert activities and intentionally misleading the public regarding our recording methods. We simply have no inclination or need to act in this way. Telarc has always believed in the intelligence of the consumer and has produced realistic recordings for their enjoyment. And we don't feel Mr. Rohr should eat his mouth-piece. We do wish he would check his facts before committing himself in writing. Music is for enjoyment and beauty, and should not be sullied by Salierian bitterness.

William C. Baxter, Elaine Martone, Glynn Wilson
Telarc International

Yes they do!
Editor:
Did I read your ad correctly? Flutes and pianos?
- Purist miking?
- Analog?
- All tube?
- Musical truth?
- American Express?
And all this for only 2¢ less than $18!
Delivered to my very own postbox by my very own postman (or hidden in the yard, who knows where, if by UPS).
No overpriced CDs for me!
Wow! Donald Bisbee
Columbus, OH

PS: Do they play any music?

Modest endowments?
Editor:
Your new effort, in producing a superior LP, has resulted, in my view, in a landmark achievement. Stereophile's Poem provides the finest sound and the most nearly flawless surfaces I have heard on an LP recording. From this happy beginning, I now eagerly await the 1-step, 190gm version of this LP, which I have already requested.

The only negative reaction I had on hearing this remarkable recording was to wonder why, in heaven's name, you chose music of composers of such modest endowments and musical significance.

One cannot but wonder how compact discs might have fared had LP manufacturers really tried for the perfection Stereophile has shown so dramatically to be possible. I hope Poem will be but the first of a series of such recordings from Stereophile.

John C. Guenther
Stuart, FL

We hope to release our next recording in June.
—JA

A model of incompetence?
Editor:
I would like to comment on Robert Harley's review of the TDL Reference speaker system in the December 1989 issue. First of all, it was a model of incompetence! What exactly are Mr. Harley's qualifications as an audio reviewer? He is listed on your masthead as the technical editor. May I be so bold as to suggest that you confine Mr. Harley's future endeavors with Stereophile to exactly that—technical editing?

Before I get into the areas of his review that I take exception with, please allow me to digress a bit. I have been in and around the high-end audio scene for over 20 years. I have owned almost every major high-end speaker that this planet has produced. Those that I haven't owned (IRS, WAMMs, etc.) I have auditioned at various shows (hardly the proper venue, but better than nothing). If I were to give you a complete list of every high-end speaker I have owned over the past 20 years I would, besides boring you, lead you to one of the following conclusions about myself: 1) you won't believe me, 2) you do believe me, 3) you do believe me, but you think this guy's elevator doesn't stop at the top floor (my wife, after reading this letter, assures me it is 3!). Having said this, I will give you a brief list of speakers I have used in the past two years: Infinity RS1B (series II), Nelson-Reed 804, Snell A/III, Infinity Kappa 9, Merlin 4, Duntech Crown Prince and Princessa, Martin-Logan Monolith, Sequel II, CLS1 and 2 (with Sumo and Nelson-Reed subs), Mirage M1, and finally, Apogee Duetta Signature and Diva . . . From this diverse group of speakers, the ones that I found to be musically honest and eminently satisfying are the CLS2 (with subwoofers), the Diva, and the Duntechs. To this select list I will now add the TDL Reference Monitors. In many ways they offer a combination of virtues that none of the above have. However, now let me get back to the heart of the matter, Mr. Harley's review.

Mr. Harley's review has numerous areas in which his inexperience is clearly self-evident.
HEARING AID

Your ears are acute enough to hear the ultimate reproduction that your system is capable of delivering. But does your system deliver? It won’t if you overlook one of its most important components, the interconnects.

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Did he really think he had the correct amplification to properly drive the TDLs? Of the two tube amps he used, I am only familiar with the VTLs. The VTLs may indeed sound wonderful on his Reference Vortex Screens or the Sequel IIs, but does it necessarily follow that they will do likewise on the TDLs? Any experienced audiophile will tell you that, in order to elicit the most out of a given pair of speakers, one must partner the speaker with the correct amplifier. J. Gordon Holt has written on this topic on numerous occasions. Perhaps you should ask Mr. Harley to read one of Mr. Holt's essays on this subject. To be more specific, it is a known fact that, under some conditions, a coupling of a tube amp to a moving-coil speaker can elicit some of the perceived colorations that Harley heard; ie, brightness in the upper midrange/low treble, commonly known as "glare." Yes, tubes certainly can sound very smooth on various electrostats (such as Harley's Sequels), but the phenomenon of tube "glare" is not a new one. It is impossible to predict when this problem will occur.

The next perceived problem area that Harley "exposes" is a midbass/upper-midrange problem. To quote from the review in question: "I noticed an unnatural huskiness in her voice." Farther on in the review he adds, "this peak was also audible on piano as a wooof sound." Now, this is a new descriptive term for a perceived coloration. What exactly does this mean? Perhaps this is the sound his dog makes when it hears the gross distortions coming from the TDL when it is trying to replicate the sound of a piano... He finishes with the statement that "Joe Farrell's sax had an unnaturally bloated lower register." Gee guys, any possibility that the tube amps used were contributing to, if not actually causing, the problem?! The last and, I gather, the most vexing coloration that Harley discusses is that of transparency, or in the case of the TDL, the lack of it. Here I can not fault the tube amps used, as it is common knowledge that well-designed tube amps are very transparent. So wherein lies the problem? I believe the problem, as it relates to Mr. Harley's experience, is twofold. One is his listening room, the other (purely a guess on my part) is the "aging" or break-in process of the speaker. In order for these speakers to properly "open up" and "bloom," they require a room somewhat larger than the one Mr. Harley uses. The problem dimension in his room is the width, which, per his supplied information, is only 14'. The TDLs need to be a minimum of 3' from the side walls, 4 to 5' out from the rear wall, and a good 8 to 10' apart. This suggested room placement would preclude any room less than 18' in width.

Finally, these speakers require many hours of "breaking in," something on the order of 100 hours. Unless Mr. Harley had these speakers several months prior to "authoring" his review, it is unlikely he heard them at their best, which is considerable.

Quite frankly, I am shocked you published this review, given the rave review that the TDLs received from Ken Kessler in HFN/RR (July '88), and from John Borwick in Gramophone. Did you not think that perhaps something might be amiss?

In closing, when the TDLs are properly set up in a suitable room, and connected to a quality solid-state amplifier (the Krell KSA-200 or Levinson No.23 work quite well), they provide a level of listening satisfaction that is second to none!

Thomas S. Campagna
Spring Valley, CA

Obviously Mr. Campagna likes the sound of his TDL Reference Standards, and I agree that there are a number of fine aspects to their sound (the truly extended LF response, in particular). This doesn't mean, however, that his specific criticisms of Robert Harley's review have any substance. In fact, in my experience, when a loudspeaker—or any component—is excessively intolerant of components with which it will be used, this is a pointer that it has one or more flaws that are on the very edge of acceptability. Only when an ancillary component has a compensating nature will the product's good points stand unobscured.

To examine Mr. Campagna's points in detail, the review pair were run-in, having spent time before the formal review period in both Lewis Lipnick's and J. Gordon Holt's listening rooms. (LL, who uses a Mark Levinson No.23, and JGH, who uses VTL 300W monos, subsequently declined to review the speakers.) I also used the TDLs for a short while in my listening room, driving them with Mark Levinson No.20.5s, while Robert Harley used the solid-state Muse 150 monoblocks in addition to the tube VTLs for his listening tests. These three models, in my opinion, cover almost the entire range of amplifier character—from typical tube midrange and highs,
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through rather laid-back but authoritative solid-state, to a typically HF-forward MOS-FET sound—and as the same basic sonic signature could be perceived with each, it would seem appropriate to ascribe it to the TDLs. (In addition, the speakers sounded no different in my 20'-wide room than they did in Bob's room.) In particular, the lower-midrange "busyness" noted was most probably due to a resonance in the transmission line and has nothing to do with the somewhat flabby bass produced by tube amps. (In fact, the VTls have rather a tighter LF signature than many other tube amps.)

With respect to the two much more positive reviews that these speakers have received elsewhere, I have no opinion as to why Mr. Kesler and Mr. Borwick were so much more impressed by the TDLs than the various members of Stereophile's team who heard them. But from my own auditioning of the Reference Standards, I am happy that RH correctly described their basic tonal signature. —JA

**Worth listening to**

Editor:

It seems that a CD of the Slavynka Chorus of San Francisco has found its way into the hands of J. Gordon Holt (see his review of the Lexicon CP-2 surround-sound processor in Vol.12 No.12, p.115). I am the recording engineer of that disc. Having been a reader and subscriber since the days of his stewardship as publisher and editor, I was more than a little surprised to find out about his inability to reach anyone who knew about the recording. On the last page of the CD brochure is a list of 30 chorus members living in the San Francisco Bay area, along with the address of the president of the chorus. I have enclosed a CD with its attendant brochure for your edification. No telephone numbers were listed, but the information operator assures me he is ready, willing, and able to assist. Naturally, when all else fails, a short note to the aforementioned address would have produced Mr. Holt's desired results.

To the recording: I did not use any type of surround encoding process in the recording. I did use a Blumlein pair of coincident crossed-figure-8 microphones personally selected by Dr. Schoeps at his factory in Karlsruhe, West Germany. The efforts to capture the "church-like" sound of liturgical music necessitated some method to reproduce the am-

bience of St. Vincent's; hence the figure-eights. I did use Dolby SR for noise reduction, but, as you know, that is not a surround-sound item. If any recording of mine is to be used as an example, I would like it to be used accurately. Many of us in the Bay area do live recordings of many events in order to give us a frame of reference with which to evaluate reproducing equipment. This recording is an attempt to transfer the church acoustic in an analog venue to the CD medium and still capture the dynamics of a chorus. The ability to reproduce accurate dimensionality on the part of CDs is difficult at best. Therefore, I created a CD the source of which I could control and use to monitor the reproduction systems I would listen to.

It seems that recording techniques have a substantial influence on the outcome of the sound of the disc. It raises the question for me of how reviewers evaluate equipment without addressing this problem. How linear are the microphones? Do they emphasize the low end? Are they good voice mikes or instrument mikes? Were the capsules matched? Are the mikes in phase? Are they too close to the instrument (ever listen to some old multi-miked Columbias and the buzz-saw celli)?

Jack W. Kenny
San Anselmo, CA

**Having listened to the Slavynaka album, I feel Mr. Kenny has truly captured a delicious sense of “being there,” to the benefit of the music. But track 8 unfortunately seems overmodulated, as there seem to be bursts of clipping distortion, particularly noticeable at 1:30 into the piece.**

—JA

**Error counting**

Editor:

Error detection and correction are very interesting to me. After reading Peter Mitchell's article in the June '89 issue, I would like to add an error-counting circuit to a Philips-type CD player (used ones should be available for a reasonable price).

I would like to know which pins on the Philips chip set signal the occurrence of either 1) successful error-correction, or 2) interpolation in the bit stream.

John S. Phillips
Raleigh, NC

**Counting the number of interpolated errors with the current Philips chip set is relatively**
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easy, assuming you have a frequency meter with a counter function. Hook the input of the counter to pin 36 (labeled "EFAB") of the 40-pin SAA7210 decoder chip—you may need to buffer it with a couple of inverter gates—making the ground connection at pin 20 or at any convenient nearby point. Pin 36 goes high (from 0V to +5V) when there has been a gap in the data that has exceeded the error-correction abilities (up to 4000 successive erroneous bits) of the intrinsic data interleaving on the disc and the Cross-Interleaved Reed-Solomon algorithm, thus flagging the SAA7220/B digital filter chip that it needs to perform an interpolation (up to 8 data words) between samples that are correct. Checking for fully corrected errors is less simple, as there isn’t a flag that is set to indicate this condition. However, I understand that looking at the state of the "1IFD" (High-Frequency Detect) pin on the SAA7210 chip (pin 26) will reliably indicate an error condition that needs correction. As both pins 26 and 36 go high, indicating apparent errors, while the laser is searching and the audio output is muted, a simple AND operation with the normally high "MUSB" pin of the SAA7220 filter chip (pin 23), or the "MUTE" pin of the SAA7210 (pin 11) if the filter chip is not used, ensures that only legitimate errors will be counted.

A warning: Stereophile cannot be held responsible for readers who destroy their CD players or themselves while checking for these error syndromes.

—JA

Good service
Editor:
After deciding to modify my lowly Magnavox 2040 CD player, I wrote Soloist Audio for their parts information. After ordering and receiving the parts (op-amps, DC servo module, and analog-section power supplies), I installed all of them (a fairly easy job, with excellent phone support by Michael Garces) and was amazed at the sonic improvement. An A/B comparison of this modified Magnavox showed that it clearly outclassed the CAL Aria, C-J, and Nak players in terms of inner detail, speed, sweetness, bass, you name it! The only player that surpassed it was the latest version of the Tempest.

A few weeks later, Michael Garces wrote me a letter suggesting a further improvement to the Magnavox digital circuits, and even enclosed two parts so I could do the mod myself. This kind of customer service is very rare in the audio industry; this guy really wants his customers to hear the best!

Soloist Audio provided fast service, incredible sonics, and excellent phone support. I feel they deserve continued growth and recognition.

Greg Ewing
El Toro, CA

Kudos
Editor:
It is refreshing to find people today who love their work and are actually helpful and polite about doing it. Too often we hear only about the negative experiences in audio. Kudos to Joe Grado and Galen Carol Audio for service above and beyond the call of duty. Also deserving honorable mention are Randall Smith of Mesa Engineering and Art Ferris of Audible Illusions. All of the above manufacturers and dealer have provided excellent help and direction in my quest for the “absolute sound.”

Dan Galazzen, aka Ray Daniels
Duluth, MN

Where is Beveridge?
Editor:
Please help me find the Beveridge company, or someone who knows and works on these loudspeakers.

Randy Canada
Atlanta, GA

The original Beveridge company is no longer in existence, though I was pleased to see Harold Beveridge looking hale and hearty at Stereophile’s WCES party in January. The Beveridge electrostatic loudspeakers were manufactured from 1986 to 1989 by a company called California Audio Technology, first of 8141 East Second Street, Suite 510, Downey, CA 90241, then of 14747 Artesia Blvd., Unit 3A, La Mirada, CA 90638. The most recent telephone number we had on file was (714) 670-7638, but this number has been disconnected. Apparently CAT has ceased trading, and the speaker tooling is tied up in litigation. Roger Modjeski, of Music Reference and RAM Labs (Tel: (805) 687-4536) was a close associate of Mr. Beveridge’s and may know of someone who can service Beveridge electronics. But in the meantime, if anyone knows of someone who can repair the Beveridge speakers, please let me know.

—JA
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INDUSTRY

US: Larry Archibald

Other Stereophile reporters comment elsewhere on the many new and refined products on display for diligent reporters and dealers at the recently-ended WCES. I would like to comment on the apparent financial state of the high-end industry. You may think this of tangential interest, but, believe me, companies which go out of business contribute little in the way of better sound! Not only that, they erode the consumer confidence which allows healthy companies to invest substantial sums in new-product development. I will include information gleaned also from not-strictly-high-end companies: the Denons, Onkyos, and Carvers, all companies which make at least some products targeted at the high end. Even more important, your high-end dealer's ability to sell products from these companies to an audience much larger than the high end is most likely what allows that dealer to stay in business.

Throughout 1989, Stereophile's various ears on the high-end business world were hearing about calamity. Either the dealers who were doing well weren't talking—or there weren't any! High-end manufacturers reflected the dismal retail situation, though there were significant pockets of optimism, mostly from companies whose products were so new and special that the market hadn't yet had time to surfeit itself, or from companies whose products are such an inherent good deal that people buy them regardless of market conditions.

The prospects for a successful Winter CES were thus dim; many manufacturers and reporters wondered who would show up. A significant number of companies elected not to officially exhibit, including ever-faithful-to-CES Thiel as well as Adcom, Aragon, B&K,
A World Of Difference!

There is indeed a world of difference between conventional D/A processors and the Decoding Computers by Wadia.

The difference begins with four high-speed AT&T DSP chips operating in parallel at 36 Megahz in a powerful CPU that provides 72 million instructions per second capability — equivalent to 100 PCs!

But this is just the beginning . . .

Wadia's revolutionary DigiMaster™ software is augmented by the Spline — the only decoding polynomial known that regenerates the slope of the original signal as it moves through the sample points. It is optimized in the time-domain — therefore, the impulse response is clean, the inter transient silence is absolute. It is the decoding software preferred by professionals — and it is available only from Wadia.

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The Wadia enclosures are machined from solid aluminum and heavy metal plate. The integrity and homogeneity of the enclosure is a subtle but important factor in performance. Any cross section of an electronic enclosure is a complex maze of eddy current, ground current and thermodynamic flows.

A World of Difference? A prominent recording engineer said it all — "With the Wadia, CDs have the musicality of the best analog sound, but with the added punch and impact, wide dynamic range, extended bass response, and freedom from noise that makes digital recording so attractive."
Bryston, Krell, Madrigal, Magnepan, Naim, Quad, and Spectral. Reasons cited were the hotel used (the Sahara was widely ridiculed in 1986 when it had also been the center for high-end exhibits), poor market conditions, expected low attendance, and even the presence of Adult Video exhibits in the same hotel! This latter factor shouldn’t be counted too heavily: the “Space Center” in which Adult Video was housed is situated completely on the other side of the Sahara Hotel— which in any Las Vegas hotel is a long way. You had to make a special effort to stumble across it; I know, because I did. Wow, if you think the high-end exhibits were dead on the last day of the Show, you should have tried Adult Video. A more depressing, lonely group of people I’ve rarely seen. Titillation was not exactly evident. (On the other hand, some of the people you ran into in the Sahara restaurant and waiting for a cab just couldn’t have been involved in high-end audio; it definitely added interest, if not spice.)

Nevertheless, attendance was good, particularly on the first two days of the Show. CES has, over the last few years, undergone an identity shift with respect to attendance. In the past, announced Show attendance ranged from 85,000 (Las Vegas) to 120,000 (Chicago), and CES was widely heralded as the largest trade show in the US; in addition, year-to-year attendance never dropped, even though all exhibitors noted that there were down years mixed in with the up years. Thus, CES attendance had all the credibility of the government’s figures on the budget deficit. Two years ago, CES decided to get real, with the inevitable result that announced attendance dropped precipitously. Ironically, this coincided with an actual attendance drop (subjectively assessed), but, due to the different methods used to establish attendance, it’s impossible to tell by how much. The announced attendance at this Show, at a shade under 71,000, was very marginally up (less than 1%), which, given market conditions, seemed quite a victory. From an exhibitor’s standpoint (Stereophile has been an exhibitor at all CESes since the summer of ’86 on), attendance was excellent the first two days, moderate the third day, absent the fourth day. This is a typical experience for the last three CESes.

Moreover, the expected depression among attendees was little in evidence. In reality, all talk of attendance in multi–tens of thousands is a canard. There can’t be more than 1000 outlets for high-end equipment in the US, and the number of those who sell significant quantities is much smaller. Add to that the fact that no more than 60 to 70% of dealers come to any Show, and you see that the real number of people who make a difference to high end can’t be more than two or three thousand (figuring up to four representatives per store).

What does make a big difference is which people come, and their mood; I thought the dealer mood in Las Vegas was quite upbeat. Nobody I spoke to was raving about business in 1989, but a number of people related stories of modest sales increases. Besides, if they’d been truly broke they wouldn’t have been able to come, n’est-ce pas? All dealers appeared avidly interested in the new products, virtually all of which represented significant refinements rather than dramatic innovations. (Refinement is much more likely to yield great sound than innovation, in my opinion. However, today’s innovation is tomorrow’s food for refinement.)

Manufacturers also put on a good face. As mentioned before, some companies are so busy they can’t keep up with demand. This is partially the same old high-end story: either you can’t sell it or you can’t get it. But I talked to a number of manufacturers who’ve put lots of money into expanding production who still can’t meet demand. Overall, though, the market has been flat, but with more manufacturers reporting somewhat down years than those reporting somewhat or dramatically up years. The predominantly mid-fi sector was surprisingly healthy in sales, though my suspicion is that this had been achieved only through tremendous effort and a significant amount of cost-cutting (which is good for you, the consumer). In fact, no one in mid-fi that I spoke to talked of anything but struggle. I also was unable to assess what percentage of this volume was achieved through specialist retailers (the good guys—not to be confused with “The Good Guys”) and what through move-boxes–out-the-door mass retailers and department stores (the bad guys); I suspect there was an increase in the latter at the expense of the former.

One area of high-end manufacture is in significant trouble: turntables. In many stores turntable sales have all but ceased. For many turntable companies, US sales are dramatically down (even though their export business remains relatively buoyant, particularly in the

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Digital Audio Tape (DAT) made its official debut in the United States. Whether this date will become famous or infamous remains to be seen: The format's introduction is surrounded by controversy and doubt about its acceptance by the mass market. In addition, DAT faces challenges from other technologies competing for a slice of the consumer's dollar.

Now that the RIAA (Recording Industry Association of America) and the Japanese hardware manufacturers have reached an agreement on importing DAT machines into this country, the pending legislation regulating DAT machines is likely to sail through Congress. To the consumer, this means DAT decks on store shelves relatively soon. The compromise requires DAT machines to be equipped with SCMS (Serial Code Copy Management System), a scheme that permits digital-to-digital copying of CDs, but prohibits second-generation DAT copies (see Peter Mitchell's "Industry Update" essay in Vol.12 No.11).

Most of the major Japanese companies had DAT machines on display at CES, including Sony, JVC, Denon, Pioneer, Technics, Teac, and Esoteric. Although the majority of the models shown were prototypes, it appears that the DAT floodgates are about to open on the American marketplace. Quoted prices ranged from $1095 to $7000 (not including the Nakamichi 1000, already available at $11,000). According to one source, pricing could drop to as low as $800 by the end of the year, possibly reaching $400 by 1992.

By far the most bullish proponent of DAT is Sony Corporation, one of the inventors of the format. At a press conference, Sony announced an ambitious marketing program for DAT. In fact, Sony representatives said the DAT promotional effort will equal the marketing blitz given the CD at its introduction. Sony's stated goal is the totally digital home audio system. Although DAT growth is not expected to be anywhere near as phenomenal as CD's explosive rise, Sony sees DAT as the inevitable successor to the analog cassette format.

As part of the DAT push, Sony announced the formation of a new record label called Sony Classical, headed by Günther Breest, formerly Executive Vice President for A&R with Deutsche Grammophon. The release of new recordings and selections from its extensive catalog (CBS Masterworks) on DAT is clearly designed to support the hardware side of the DAT equation.

US: Robert Harley
The January 1990 Winter Consumer Electronics Show will be remembered as the year

Stereophile, March 1990
Every once in a great while a product comes along that offers performance which rises above the current variety of clever designs and marketing hype. When this occurs the new level of performance achieved can be readily heard by both the ardent audiophile and the novice listener.

Paradigm is a breakthrough loudspeaker that provides a level of musical truth that simply must be heard.

Oh yes, the price for such glorious performance? Well... that's even more remarkable.
The first Sony Classical DAT releases will include recordings by pianists Vladimir Horowitz, Murray Perahia, and Katia and Marielle Labeque; singers Dietrich Fischer-Dieskau and Plácido Domingo; and conductors Carlos Kleiber, Claudio Abbado, and Zubin Mehta. Sony Classical also acquired the rights to performances by Herbert von Karajan, videotaped for the home market. The 45 performances will be released on 12" LaserVision videodiscs beginning in the second quarter of 1990. The entire collection is expected to be issued within the next three years.

Sony certainly has the clout to launch a new format. Despite its huge marketing budget, it controls virtually every stage of DAT production. In addition to making consumer DAT machines, Sony owns an enormous music library (CBS Records), a CD manufacturing plant now gearing up for DAT duplication (Digital Audio Disc Corporation), manufactures DAT duplication equipment, and even makes professional recording equipment. They control the entire music chain from artist to home playback. Ultimately, however, the power to decide the fate of any format lies with the consumer.

One major stumbling block to DAT will be the expected high price for prerecorded product ($25–$30 per title, according to a Sony source). This price reflects the great expense of the DAT shell and real-time duplication methods currently in use. Furthermore, DAT may soon face competition from recordable CD. Sony executives maintained, however, that CD, DAT, and future recordable optical media can coexist.

As a playback-only medium (prerecorded tapes), DAT has no advantages over CD. In fact, CD is vastly superior, with no wear, faster access, and no worry of physical degradation over time. The only advantage DAT has over CD, the record button, is not exploited by prerecorded product. Moreover, blank DAT cassettes are very expensive ($12 each for 90 minutes), and are likely to stay that way due to the DAT shell's complex mechanism.

**Dolby S-Type**

In addition to the challenge presented by recordable CD, DAT faces another contender in the form of, ironically, the analog cassette. Dolby Labs announced at the CES a new consumer noise-reduction circuit that, according to Dolby, will give the analog cassette a shot in the arm as it prepares for battle with DAT in the 1990s. The new system, called S-Type, is based on Dolby's hugely successful "SR" (Spectral Recording) professional noise-reduction system. Both professional and consumer systems operate on the same principle, but the consumer version is about half as complicated as its professional counterpart. Tapes encoded with S-Type can be decoded by Dolby B circuitry in existing decks.

In addition to licensing the technology to cassette-deck manufacturers, Dolby Labs is also insisting that machines with S-Type adhere to a strict azimuth standard. Azimuth error (the perpendicularity of tape to head) is a major source of sonic degradation in the cassette format. Dolby hopes the improvements offered by S-Type and correct azimuth alignment will keep the cassette format attractive despite the introduction of DAT. The statistics certainly bode well for Dolby: over 1 billion cassette decks have been built, with over 275 million of them incorporating Dolby noise reduction. In addition, prerecorded cassettes account for over half the market, outselling CDs and LPs combined. Dolby is counting on this huge base of players and entrenchedness of the format, combined with improved fidelity, to keep the analog cassette viable in the coming decade. According to Dolby Labs' Vice President Ed Schummer, "When incorporated in a high-quality machine using today's best tape formulations, Dolby S-Type provides analog cassette performance subjectively equivalent to digital media under home listening conditions."

A demonstration of the new technology, using B&W Matrix 801s, was presented at a Dolby press conference. A three-head Pioneer cassette deck was fed a signal from a CD player, and the output was switched between "source" (the CD), and "tape" (the just-recorded signal read from the playback head). A wide variety of music was demonstrated, including selections containing

---

1 Sony's Digital Audio Disc Corporation (DADC), in Terre Haute, Indiana, has recently installed a major videodisc manufacturing division, where the von Karajan videodiscs will presumably be manufactured.

2 At this price point and given the reluctance of the typical record retailer to stock a fourth inventory of titles, particularly as prerecorded DAT offers no sonic or convenience advantages over CD and wears out, the DAT medium in my opinion is a nonstarter. The whole business is typical of the kind of lunacy evidenced by over-large corporations which start to think that their reality is the same as that of the marketplace. See RCA's enthusiastic launch of a grooved, contact-type, mono-source videodisc a decade ago, which resulted in the company losing its financial shirt. —JA

3 In the three years since SR's introduction, over 30,000 channels have been sold to professional users, a staggering number.
Line protection - you can pay a little for it now, or you can pay a lot for it later.  
—Ken Pohlman, AUDIO, November 1987.

Regardless of how sophisticated your stereo and video system is, it may never achieve its full potential if plugged directly into an AC outlet. Raw and unprocessed AC power can severely diminish the clarity of audio signals and reduce the resolution of your video picture. Harmful high-voltage spikes and surges can also damage your valuable equipment.

The ADCOM ACE-515 AC Enhancer significantly improves the performance capabilities of your system by filtering and processing raw AC power, unveiling a pure, noise-free power source. And, it protects your components from harmful line voltage disturbances.

Listen To The Critics

"Electronic equipment (especially digital audio gear) is vulnerable to both annoying and catastrophic power-line problems. Your stereo gear should have line spike and surge protection, with hash filters thrown in too."
—Ken Pohlman, AUDIO, November 1987.

"...the effective suppression of AC 'RF hash' by the ACE-515 improved clarity and lowered noise in all three CD players...the significant improvements in instrumental and vocal harmonic retrieval and hall ambience are superb...it simply appears to allow musical information to be passed through to the listener with less veil and electronic 'haze.'"
—Lewis Lipnick, Stereophile, Vol. 11 No. 4, April 1988.
Recommended accessory in Stereophile, Vol. 12 No. 4, April 1989.

For a modest investment, the ADCOM ACE-515 enhances both audio and video clarity while protecting your equipment. Once again, ADCOM lives up to its reputation of offering superior performance at a reasonable cost. For complete technical data, please visit your Adcom dealer. You'll discover the ACE-515 is more than an accessory. It's a necessity.
high-level, high-frequency transients, a torture test for any noise-reduction system. The results were impressive. The S-Type system virtually eliminated tape hiss and appeared free from dynamic artifacts such as “pumping” (rapid shifts in the noise floor).

Several manufacturers displayed prototype decks with S-Type noise reduction, including Esoteric—a new upscale line of electronics and cassette decks manufactured by Teac. *Stereophile* is on their list to get a review sample of the flagship V1000 recorder for review, one of the first machines to incorporate Dolby S-Type noise reduction. Incidentally, Esoteric makes the CD transport Arnis Balgalvis raved about in his review of the Wadia 2000 in Vol.13 No.1.

Although this isn’t an official show report, that being covered by colleagues DO, TJJ, and GL, I will conclude with my vote for best sound at the 1990 WCES. In my opinion, the most musical sound came from the Apogee suite. The system consisted of Apogee’s new Stage 1 speaker driven by an Aragon 4004, fed by an Audio Research LS-1 line-stage amplifier and a California Audio Labs Aria CD player. At $2000, the Stage 1 redefines what can be expected from a speaker in this price range. I spent an hour and a half with these diminutive beauties and was totally enchanted. If you’re in the market for loudspeakers, I recommend that the Stage 1 be auditioned. *Stereophile* plans a full review as soon as they become available.

**UK: Ken Kessler**

Both a year and a decade are ending as I write. It was the decade which unleashed CD upon us, and a year in which CDs finally passed LPs in UK unit sales. It was the decade in which the high end went over the top (turntables costing as much as a Mercedes, speakers as dear as a Porsche), and the year in which DAT was “legalized.”

As far as the UK is concerned, it was a decade which began at the height of Linn-Naim mania and ended with the two companies going their separate ways. The various magazines had name changes, folded, reappeared, changed formats, swapped editors, and most of them ended the year/decade in a state of disarray.

Empires were formed (Goodmans/Tannoy/Epos/Mordaunt-Short/Creek; KEF-plus-Meridian), names disappeared, new ones emerged. With a calendar point such as this signaling where one can best reminisce and tidy up loose ends, I’ve decided to devote this month’s column more to nostalgia than to news. So, from a country which has more hi-fi awards programs than any other, here are Ken Kessler’s personal, wholly subjective British Hi-Fi Awards for the past 10 years:

**Feistiest UK Hi-Fi Manufacturer:**

**Musical Fidelity**

Whatever anyone thinks of Antony Michaelson or the products which bear the Musical Fidelity nameplate, his company showed lightning-fast growth and more ingenuity, bravery, and sheer tenacity than any other. How big it is in financial terms I neither know nor care, but I will suggest that Musical Fidelity comes closer to satisfying both a specialist clientele and a non-magazine-reading clientele than any other maker. From out of nowhere, the company has managed to produce worthy items at both the bottom and top of the hi-fi spread, electronics from under £200 ($320) to over £5000 ($8000), and for that it must be admired. Whatever the current controversy over the new BI integrated amplifier, Musical Fidelity is one of the very few British companies prepared to play in every sector and with much effectiveness, and I have to suggest that they wave the Union Jack with greater ferocity than any other company.¹

**Most Irrational UK Hi-Fi Manufacturer:**

**Croft**

A second make which first appeared in the 1980s is Croft, a product of the Third Great Tube Revival. Run by an unheralded genius who has absolutely no concern whatever for commerce, Croft produces sensational products which no one can buy. An all-tube, dual-mono preamp for under £200 ($320), an output-transformerless stereo power amp for around a thousand smashers ($1600)—Croft should be the Dynaco of the 1990s. Instead, it will probably remain a cottage-industry won-

---

¹ Except in the US where, despite considerable success in their home market, their distribution has been patchy. It was announced immediately following the January 1990 WCES that Musical Fidelity had terminated its relationship with its current importers, Music and Sound, of Huntingdon Valley, PA.

—JA
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* Reprinted from HIFI Heretic, Summer 1989
Saddest Losses of the 1980s

Even if I tried to recount them all, I'm certain I'd forget some of the British hi-fi luminaries who passed away during the last decade. James Moir, Harold Leak, Donald Chave, John Bowers, and others left us for that Sound Room in the Sky, but the one which affected me on a personal level was the loss of Charles Trayhorn. Unlike such company founders as Harold Leak, Charlie was an employee and therefore known only within the UK industry rather than to the public at large. He worked for many years for the UK's Thorens distributor and became an expert on the make, the Swiss and German parent actually taking heed of Charlie's advice. His tweaks led to the TD-160S (and the accompanying update kit), he was instrumental in the early design of the current "leafspring"-style Thorenses, and he was the man to see if you wanted to restore a vintage Thorens. Right to the end, when a long and eventually terminal illness made even basic mobility a painful task, Charlie continued to attend hi-fi shows, allowing audiophiles to pick his brains about the most arcane Thorens matters. I wish all of you could have known him.

Comeback of the Decade: Radford

It's rare to find classic makes resurrected, especially as most end up becoming just another Japanese brandname, like Fisher. The reappearance which gave me the greatest joy was that of Radford, doyen of the Golden Age of British tube-amp manufacturers. Radford entered the 1980s with the odd tube product in its catalog (the TT100, for example), plus a line of fine but under-appreciated transmission-line speakers, some solid-state electronics, and a range of test equipment. With the tube revival of the early 1980s in full swing, one-time Radford employee John Widgery approached Arthur Radford with the idea of licensing the tube designs to his company, Woodside Electronics. Before you could say "thermionic," the company had produced a modernized version of the much-sought-after STA25, dubbed the Mk.IV Renaissance, which was followed by all-new tube preamps and power amps, the decade ending with a Radford-made CD player. With luck, I'll be writing a similar piece for the March 2000 issue for Leak or Armstrong or Avantici or Jason...

Publishing Event of the Decade: Private Eye-Fi

Forget that I write for the above-named magazine. My contributions have little or nothing to do with its true worth. What Editor/Publisher Jon Vizor did by producing Private Eye-Fi is achieve what no publisher could do before: he created a trade magazine which members of the trade actually read. Strip away its gossipy or jokey columns and you still have the best organ yet for disseminating trade news, and few would care to be without its comprehensive directory of UK hi-fi phone and Fax numbers. Now in its third year, Private Eye-Fi has emerged as the best form of communication among the trade, including manufacturers, distributors, retailers, and the press. Here's hoping a libel suit doesn't kill it.

Distributor of the Decade: Absolute Sounds

Not that there was any question. Those with memories which go back further than a fortnight will recall that at the beginning of the 1980s Absolute Sounds was regarded as a loony-tunes outfit and every Koetsu sold involved as much effort as pulling a tooth. But founder Ricardo Franassovici—who can't take "No" for an answer—persevered in the most hostile, xenophobic hi-fi market in the developed world. Because of his tenacity, British audiophiles were made aware of the high end, their horizons raised above the mid-fi which was the standard of the day. And whether they care to admit it or not, the British manufacturers benefited, too, because they were forced to reappraise their own standards.

Survivor of the Decade: The Great British Turntable

Whether I'll be able to write this again in the year 2000 seems unlikely, but for the time being there is no greater tale of survival than that of the British turntable. No one can argue that it was the British, especially Linn, who showed just how important the sound of a turntable, rather than the arm or cartridge, is
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to the overall sound of an LP-based system. The appearance of CD seemed to suggest the demise of the turntable through natural causes, but the makers kept on fighting. Still in action in the UK are Linn, Rega, Roksan, Revolver, Pink Triangle, Michell, Ariston, Manticore, Moth, Voyd, Zarathustra, Oxford Acoustics, Heybrook, Alphanson, Townshend, Omega Point, Systemdek, and others, along with numerous tonearm and cartridge manufacturers—a list longer than any other country can muster. When those of you in foreign lands bemoan the disappearance of the LP, remember that the British were the ones who held the fort.

Controversy of the Decade: Belt-ism

There are no tweekers like the British, for the simple reason that diabolical pay levels drive the impoverished music lover into discovering cost-effective tuning tips. The latter half of the 1980s will be remembered for a range of tweaks developed by one Peter Belt and publicized, fueled, and exploited by Hi-Fi Answers magazine. Although the decade is ending with Belt being regarded as little more than an aberration, his impact for a good two years at least was such that no gathering of audiophiles was complete without discussion of the latest accessory or operation. Parking one's car in the same spot and facing in the same direction, drinking polarized water, wrapping solder around one's water pipes, ensuring that the books in your room had even numbers of pages, that the CDs' labels were all turned right-side up, etc. etc.—all in the interest of better sound (!), these and more ensured that at least one magazine never ran short of copy. As for Peter Belt himself, well, I haven't heard anything about him in months; could he be preparing something new for the 1990s?

The above acknowledgements are but a few of which I could write. I chose them on a strictly personal basis; there were no readers' votes to suggest who deserved a mention. What I hope this succeeds in doing is to portray the UK as one of the most fascinating places to be if hi-fi is (still) among your favored pastimes. And however depersonalizing the digital technology of the future decade may prove to be, I reckon that the British will still find something loopy with which to entertain us. The sun may have set on the British Empire, but it's still High Noon for the beloved, eccentric British audiophile.

US: Jack Hannold

It would be hard to exaggerate the importance of the Harry Fox Agency in the American music industry. It's not a talent agency, as its name suggests, but a music-licensing agency like ASCAP, BMI, or SESAC. But unlike those three, the Harry Fox Agency doesn't license music for public performances. Instead, it represents over 6000 publishers in their dealings with record companies, film and video producers, advertising agencies, background-music services, and even toy and music-box manufacturers. The HFA handles the mechanical and synchronization rights for an estimated 75% of all music recorded in any form in the US. Every time you hear a recorded rendition of a copyrighted composition—even if it's a song you hardly notice in the background on a movie soundtrack, or one you're trying to ignore in an elevator—the odds are three to one that the Harry Fox Agency got at least a little piece of the action.

Of course, the HFA's principal source of income is the straight 4.5% commission it receives on all the mechanical royalties it collects on commercial recordings. For that reason, the agency is always eager to license its clients' music for release on CDs, LPs, prerecorded cassettes, and even prerecorded open-reel tapes—but not, it seems, on prerecorded DAT cassettes, despite the loss in potential royalties that policy entails.

That isn't too surprising, though, because the HFA is a wholly-owned subsidiary of the National Music Publishers' Association. You may remember the NMPCA as a member of the alliance of showbiz interests that tried to foist the discredited CBS Copycode system on us a couple of years ago. Now they're part of a smaller group opposing the Athens agreement on DAT and holding out for royalty taxes. Meanwhile, they'll do anything they can, no matter how petty, to thwart the growth of the format.

Toward that end, an HFA official recently told Bob Sellman, of Direct-to-Tape Recording, that the agency isn't authorized to license its catalog.
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for release on DAT. She advised him to try negotiating directly with the various publishers involved. According to a Home Recording Rights Coalition spokesman, no other cases have been reported to their office, though rumors of such things have been circulating for months. (If you know of another case, please call the HRRC at (800) 282-7APE. Or better yet, try to get the people involved to call them.) Because of the HFA’s nearly monopolistic position in the music business, this policy may be a violation of the antitrust laws. Unless the publishers relent, it will be tested in court sooner or later.

But that brings us back to the question of why DTR was singled out (if, indeed, it was). Those given to conspiracy theories will think Bob Sellman was targeted because he was one of the first gray-market DAT dealers in the US, but that’s probably not the case. I think they chose him because his recording business, while perfectly legitimate, is nevertheless one of the smallest in the field, even by audiophile-label standards. He doesn’t have the resources to fight a protracted legal battle, and a victory over him would afford the publishers a valuable legal precedent when they go after some of the larger independents issuing prerecorded DATs.

As of this writing (Jan.5), it’s too early to tell how this imbroglio will be resolved. But don’t count Bob Sellman out yet. He’s not about to give up easily. And don’t worry, Stereophile will keep you informed.

US: John Atkinson

CES is traditionally the time when mergers and takeovers in the audio industry seem to take place, and the 1990 WCES was no exception. The biggest piece of business news involved veteran loudspeaker company Acoustic Research (AR). Founded by Edgar Villchur in 1954, AR has been a subsidiary of conglomerate Teledyne since 1967, but it has been no secret in the industry that the relationship between AR and its parent has not been all roses. It was announced at the WCES that AR had been bought by International Jensen at the end of December ’89 for an undisclosed sum. Jensen, which also owns that other New England loudspeaker company with a Henry Kloss connection, Advent, as well as Phase Linear, bought itself out from the Beta-trice food company a year or so ago. Just before the show, it had been announced that Acoustic Research’s UK manufacturing facility—which had been active since the early ’70s—had been closed, all AR production being concentrated at their Canton, MA, HQ. (I often used to drive past AR’s original Houghton Regis factory long before I joined the staff of HFN/IR, and was always mightily impressed by the huge “Acoustic Research” logo emblazoned across the building’s wall.)

It was also announced at the WCES that the privately owned British drive-unit manufacturer ELAC—which makes complete systems under the TDL brandname—had been bought by the automotive speaker division of Harman International. Harman already owns JBL, Infinity, and French drive-unit manufacturer Audax, so it might be thought that another speaker company would be icing on the cake. However, I gather that the strategy behind the takeover was that Harman could now offer the Ford Motor Company a single worldwide drive-unit supplier for its forthcoming “world car.” ELAC is one of the largest manufacturers of OEM automotive drive-units in the UK and already has, I understand, a relationship with Ford Europe. (As this issue goes to press, I hear that Goodmans in the UK has been awarded the “world car” contract.)

While on the subject of British loudspeakers, a merger between TGI North America Inc., the Canada-based distributor of Tannoy loudspeakers, and Teamco Inc., the Denver, CO, distributor of Goodmans and Mordaunt-Short loudspeakers, was announced in December. TGI, which manufactures products sold under the Tannoy, Goodmans, Mordaunt-Short, Epos, and Creek brands, is one of Europe’s largest and fastest-growing publicly traded consumer electronics companies, with annual speaker sales “in excess of $100m,” and it makes good economic sense to integrate its US distribution as much as possible. I was told that the Creek and Epos products, however, will continue to be imported by Music Hall.

The CE Shows are sponsored, produced, and managed by the Consumer Electronics Group of the Electronic Industries Association (EIA). It has puzzled me for some time why the high-end branch of the industry, which consists primarily of US-based manufacturers, has been given short shrift by the CES organizers when it comes to being provided with suitable
display and demonstration facilities. A glance at the membership list of this trade organization, published in the WCES handbook, proved interesting: of 125 member companies, just 10—Audio Research, BBE, Boston Acoustics, Finial Technology, International Jensen, JBL, Madrigal, Magnepan, Polk, and Shure—are bona fide American manufacturers of separate audio components for use in the home, the rest being US subsidiaries of foreign companies, US companies who mainly import foreign-made items (such as Dynascan or Tandy), and US manufacturers of non-audio products (Apple and DEC, for example). I draw no conclusion, but it is food for thought, nevertheless.

Finally, JVC of America has announced its sponsorship of John Sunier's "Audiophile Audition" syndicated radio program. "Audiophile Audition," which celebrates its tenth anniversary this year, is broadcast by about 200 FM stations nationwide, mainly at 2pm EST.

**US: Peter W. Mitchell**

At Consumer Electronics Shows, it is sometimes difficult to tell where genuine product announcements leave off and flights of marketing fancy begin. While idly perusing press kits on the second day of the show, I stumbled across a G.E. announcement of plans to market a recordable-CD deck next winter using magneto-optical technology from Thomson, the French company that owns G.E. and RCA (electronics; the German BMG company owns the RCA record company). Like the similar Sony machine seen at the Japan Audio Fair last fall, it would play regular CDs but its recordings would not play on existing laser-pickup equipment. (The machine is real, no doubt, but does G.E. or RCA know how to sell such a specialized high-performance product?)

My reading was interrupted by the arrival of two well-known writers discussing a press conference where plans had been announced for a new video service involving the all-digital VCRs now being developed in Japan. Feature films would be transmitted to homes in digitally encrypted and compressed form (a 2-hour movie in 20 minutes) via satellite or fiber-optic phone cable. The movie could be viewed twice; the recorded signal would be progressively erased or rescrambled during the second play unless the full purchase fee had been paid by entering a credit-card code. Premature plan or total fantasy?

If there were an award for the most puzzling product announcement at the Las Vegas CES, it would go to Isosonics Corp. for the PCM 44.1, a $1500 American-made "digital tape recorder"—actually a black box whose announced purpose is to copy the digital code from CDs onto VHS videocassettes. At any time during the past four years, when the marketing of Japanese DAT recorders was caught in a stranglehold, this might have been an interesting idea. But Sony made headlines on the first day of CES by announcing its intent to start selling DAT decks to US consumers in July, even if the proposed SCMS law has not passed Congress by then, and Technics and other DAT manufacturers immediately announced similar plans. Hitherto the standard line from all Japanese suppliers was that they would not act until the copy-control compromise became law; there even were rumors that Japan's ministry of trade had embargoed consumer DAT exports until then.

Sony's decision does not imply any waffling on the terms of last summer's compromise; new DAT machines will contain the SCMS copy-control circuit. The announcement is essentially an expression of Sony's devotion to all things digital—an enthusiasm that also produced the promise of a mid-spring series of "Sony Classics," prerecorded DATs drawn from the Sony-owned classical division of CBS Records. And while Sony has also been working closely with Dolby Labs to develop Dolby-S noise-reduction ICs for high-performance analog cassette recorders, the company apparently has decided not to produce a Dolby-S machine this year, preferring instead to promote DAT as the audiophile tape medium of choice. (Sony's chips are likely to be found, possibly with the name scrubbed off, in the first-generation Dolby-S decks from Pioneer, Denon, et al.)

With Japanese DAT decks about to arrive in local hi-fi shops offering CD- copying ability in a much smaller and more convenient form, you might suppose that Isosonics would cancel its plan for a VCR-based digital copier. But president Philip Greenspun seemed undaunted by the prospect; he pointed to the potential
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economy of the VHS extra-long-play mode (six hours of digital audio on a $3 tape, versus DAT’s two hours per $12 tape). And unlike large companies whose dealer-based servicing arrangements often leave customers unsatisfied, Isosonics plans an unconditional five-year warranty with a guaranteed five-day turnaround time on any repair.

Other drawbacks may limit the appeal of the PCM 44.1: 1) if you want to make your own digital recordings from analog sources (FM, LP, or microphone), you’ll need a separate $500 input module containing controls, meters, and A/D converters; 2) the Isosonics is incompatible with the thousands of VCR-based, EIAJ-format digital recording systems (Sony PCM-F1, 501, etc.) that have been in general use for the past nine years. Evidently this choice was dictated by the need for better error-correction to ensure reliable operation in the six-hour VHS mode; 3) without the sales volume of Japan Inc., Isosonics probably won’t be able to shrink everything into a handful of integrated circuits and cut prices to $800 next year, as DAT makers may do.

Over at the Convention Center (exhibit home for larger companies), the most talked–about new audio product was AKG’s K-1000 “reference listening system,” a fancy name for a dynamic headphone with an equally fancy price tag ($850). It uses a ventilated linear dynamic magnet system that doesn’t obstruct the diaphragm’s back wave. The transducers pivot at the front; when swung in close to the ears they provide the same in-the-head imaging as other headphones, with centered soloists appearing to reside near the back of the cranium. When swung out to a 45° angle, they produce plane-wave soundfields that allow the outer ears (pinnae) to operate normally. This yields smoother highs and should help to get the image outside the head; in fact, while the imaging did move decisively forward within the cranium, it still remained inside for me and for other listeners I spoke with.

Unfortunately the tonal balance was also strongly dependent on transducer position—warm and full when close to the ears but too thin when swung all the way out. When the transducers were against the ears the bass extended clean to as low as 25Hz, with a broad hump in the 60–80Hz range. An intermediate angle of about 30° provided a useful compromise between adequate bass and attractively forward-imaged sound. I was tempted to swing the transducers fully out for best imaging and add electrical bass boost, but that works only to a limited degree; the transducers distorted when I drove them hard in the low bass.

The AKG K-1000 is definitely worth a listen, not only for its smooth sound and forward imaging, but also for its unusual comfort. There is no cushion or seal around the ears, so there is no pressure on the pinnae and none of the sweating and other discomforts of using headphones. The system is suspended on a headband with three pads; it took a few minutes to get used to it, but after a while I forgot that I was wearing anything.

Next month, I will report on the sounds of a number of the loudspeakers that I auditioned in Las Vegas. Meanwhile, the time is long overdue for high-end manufacturers to get out from under the thumb of CES management and set up their own mini-show in parallel with CES, on the same dates but in a better hotel with larger, more acoustically appropriate rooms.

It would be hard to imagine a worse environment than the Sahara’s bi-level annex with its mirrored walls and cramped alcoves, not forgetting the loud construction noise right outside the window.

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Descending at night into Las Vegas by car from the East, you see spread out just above the car's hood the shimmering of thousands and thousands of lights. The effect gives one a visual impression of a golden mirage. As you get closer to the city, large forms begin to take shape ahead and to the left of the windshield, dominating the surrounding skyline. These hotels/casinos, outlined with lights and aircraft warning lights, seem out of place here. They are too large, too ostentatious for what is still a desert town. As you get even closer to the Strip, the lights of the casinos overpower everything else in their attempt to attract the unwary. They shine brightly in many colors, seeming to follow the dance of some unseen choreographer. On this, my first visit to the Winter Consumer Electronics Show, I felt I was entering a land of fantasy and make-believe, totally incongruous with the surrounding terrain. Where do all these people come from?

The Winter CES is held here annually amid all the glitter and excess. For four days manufacturers from around the world ply their wares to domestic and international buyers. It is the
biggest electronics show anywhere, with annual attendance exceeding 70,000. This year, official figures placed the figure at 70,837, and I believe them. I have never seen so many people in one place at one time pursuing a shared interest.

My brief from JA was to report on the new electronic components to be seen and heard at the show. Saturday, the first day, exploded with a frenzy of movement toward the Convention Center. This venue is normally the hub of the exhibition, special-interest groups locating their displays elsewhere. Very little high-end audio was to be found here, although Infinity, Acoustar, and Hafler had set up display rooms. Carver also exhibited here, with the Silver Seven monoblock amps proudly displayed. The forest of tubes, however, was not glowing. High-end audio was, almost without exception, found at the Sahara Hotel (a long walk from the Convention Center but a short one, fortunately, from my hotel room).

I say high-end audio was "found" at the Sahara. Let me explain. I have rarely seen so many supposedly intelligent adults so hopelessly lost so much of the time. Even with printed floorplans of the hotel and "guides" to strategic places, I had a lot of trouble finding my way. I often found myself deliriously chasing my own tail, so confusing was the layout of the rooms. Having the exhibitor's name on the door of the room is a good idea—if the door remains shut! However, when the door is open (and it is most of the time) it is hard to see the name while rushing through the halls. Consequently, it was difficult to plan a productive "attack" on the Sahara, and much time was wasted in traipsing back and forth, up and down through the dark, narrow corridors. I apologize to those exhibitors whom I fail to mention. Lack of inclusion in this overview is not to be construed as malice on my part, just my inability to find you! Some exhibitors took the initiative and hung out their names on signs perpendicular to the door, which were visible from both ends of the hall. This effort was commendable, but came a little late. Surely there must be a better way or better place to show the world all the latest and greatest in high-end audio!

Conspicuous by their (official) absence were the following companies: Accuphase, Adcom, Aragon, Arcam, Audible Illusions, Audiolab, Audire, BGW, B&K, Bryston, Cello, Creek, Electrocompaniet, Goldmund, Jadis, Klyne, Krell, Madrigal, Magnepan, McIntosh, Mirror Image, Music Reference, Naim, PSE, Spectral, and Thiels. I don't know why these companies failed to show up—WCES represents an opportunity for these manufacturers to receive an unprecedented level of international exposure. It might be interesting to find out what their reasons were for not exhibiting.

**Atma-Sphere Music Systems** introduced their $5600 Music Preamplifier, an all-differential, balanced-line, vacuum-tube unit which they say was designed to complement their balanced-line power amplifier, the MA-1 ($5400). **Audio Research** showed their LSI Stereo Line Stage Amplifier, a unit dedicated to line-level source material. It appears to be the SP9 Mk.11 sans the phono section, costs $300 less ($1495), and features what Audio Research calls "Direct Gain Path," a seventh pair of inputs which feeds the signal directly to the level control. The LSI supposedly offers an unprecedented level of resolution, though I couldn't tell because Audio Research, like several exhibitors at WCES, preferred a "passive" display for their "official" presentation. (They also shared a room at the Golden Nugget downtown, where the LSI was being used in a system featuring the Infinity IRS V.)

**British Built Audiophile Products** showed an integrated (line-stage only) amp designed and built by Bill Beard. A dual-mono design, for $2000 you get 50W of tube—woops! I should say *value*—power. It was seen but not heard. I liked the appearance of the unit and would welcome the opportunity to hook it up to a pair of Spica TC-50s and audition it. Whiz kid David Berning showed his latest jewel, the EA-2101 Audio Amplifier. Priced at $3500, it ain't cheap, but offers 100Wpc of triode vacuum-tube power. It is a completely balanced design, with XLR and conventional input connections. What makes me lust for it, though, is the red see-through window in the front panel which gives you a clear view of the bevy of tubes glowing within. The sound I heard in this room with the Berning electronics and Nelson-Reed speakers was among the best I heard at the show. **Boulder Amplifiers, Inc.** displayed their new L3AE preamp, a line-level controller listing at only $1295. In line with the modular approach at Boulder, a full Solid State Balanced Option is available for $299. High-level phono is available for $695 (MC cartridge.

*Stereophile, March 1990*
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Bruce Ball of Panther Enterprises

users will have to buy the SSMC option at an additional $489). Hmm! That adds up to $2778 for a full-blown preamp. I sure hope it sounds good—there's a lot of competition out there at that price, including some classic designs. Couldn't tell how it sounded, though—another "passive" exhibitor.

From England, Cambridge Audio was talking about (no prototype or photos) their new CD transport, the CD3-M and the DAC-3 D/A converter. Suggested price is said to be $2100 for the pair. Sounded interesting; I hope to have an update as soon as possible. Carver unveiled eight new products this year: five cassette decks, two CD players, and an integrated amplifier were shown. At $699, the TLM-3600 CD changer offers a 10-CD pop-in magazine with 18-bit/8x-oversampling. For those who like to play one disc at a time, there is the TL-3220 at $529, which is basically the TLM-3600 without the magazine. The CM-1090 integrated amp delivers 100Wpc, along with other "unique" Carver features, for a modest $559. If Carver's Transfer Function Modification works as Carver says it does, watch out! Imagine being able to recreate the sonic signature of the Silver Seven for so little money. From Canada, Classé Audio showed their new DR-6 preamplifier. It sells for $2995 and features, among other things, balanced outputs. The DR-6 is a dual-chassis, full-feature preamp, smartly styled with highly legible white lettering on the charcoal-colored faceplate. Can't tell you how it sounded, though—another "passive" display. Construction seems first-rate; I'd be surprised if its sonics disappointed.

The Conrad-Johnson room overflowed with visitors and new products. Consistent with the trend among high-end electronics companies, no music was playing here. It's just as well, though, for it would have been hard to hear with the high level of noise and chatter present. New for 1990 were the Evolution 20 preamp, the MF200 MOSFET stereo amplifier, the PF1 FET preamplifier, the MS1001 and MS2001 amps, and the MC 10 preamp (these last three products from the Motif line). The Evolution 20 preamp ($4995), an all-tube, single-chassis affair with traditional Conrad-Johnson styling and finish, is a "compact" version of the Premier Seven. Gone are the mono controls of its two-piece sibling, those being replaced by stereo controls. This unit is introduced as a companion to the hybrid 200Wpc Evolution 2000 amp (which has acquired another two tubes in its front-panel window since last June) previewed at last Summer's Chicago CES. At $1995 the MF200 MOSFET amp offers 200Wpc and is essentially a larger version of the MF80. Complementing it is the PF1 ($1295), a basic preamp offering both MM and MC cartridge capability. Both units shine in thick, champagne-gold aluminum panels with matching machined aluminum knobs. New in the Motif line are the MS1001 and MS2001 stereo power amplifiers, delivering 100Wpc and 200Wpc respectively. Projected retail prices are $2995 for the MS1001, $3995 for the MS2001. The MC10 preamp is an all-new FET design which will replace the MC8 and will sell for $2300.

Counterpoint Electronic Systems launched their attack on the state of the art with their SA-5000 Hybrid Tube Preamplifier. It costs $3295 and promises a lot, what with its hybrid pedigree and audio circuitry isolation (due to "floating" subchassis mounting). The sound in the Counterpoint room, though, disap-
Meridian 208 CD player/preamplifier features Philips "Bitstream" DACs used in a differential arrangement. The difference between the 208 and the conventional 16-bit, 4x-oversampling digital filter and DACs in Meridian's active D600 loudspeakers was "not subtle," thought JA, listening to one of his own recordings. The 208 was definitely nearer LP in overall musicality.

pointed me. The speakers—IRS lookalikes, see TJN's comments later in this piece—unfortunately did nothing to convince me the electronics were anything other than OK. Also, the type of music I heard seemed better suited to a health-food market than an international high-end audio fair. I'd like to get the SA-5000 in my listening room to wring it out with some of my favorite recordings.

From Switzerland came some of the priciest hi-fi I have ever encountered: the Resolution Series, manufactured by FM Acoustics, Ltd. Sitting alone on a solid table was the Resolution Series 811 power amplifier. It sells for a cool $26,500, and is available on special order only. It is pure class-A, and can throw 1250Wpc into 2 ohm loads. Talk about high current, this amp's output current is unlimited, being throttled only by the available AC from the wall socket. The specs say this amp is capable of maintaining 60A RMS and repetitive peak current of 400A (!). It is said to be able to drive any known speaker without limiting or compression. It also comes with an on-board computer which protects load and amp against error situations. The display was "passive" but awe-inspiring. Is there no end to the development of high-end audio? While in the realm of the unreal, let me mention the appearance in this country of the Gryphon preamplifier, made in Denmark and selling for $7200, and distributed by Paul Heath Marketing. The Gryphon, which has gotten rave reviews in England, Japan, and Hong Kong, is a dual-mono configuration all the way down to separate AC power cords. It is stunning in appearance, especially the exotic wood control knobs (of which there are only two per channel). The unit is modular in design, being available in line-only, MM (with the RIAA circuitry of the Gryphon phono stage), and MC (with RIAA circuitry and the MC stage of the Gryphon Head Amp) versions. If you have to ask how much these modules add to the cost of the preamp, you probably can't
afford them or this line of electronics. I can hear you asking, "Was the exhibit 'passive'?
You betcha! Thought you'd hear real music at the WCES? Guess again.

The Hafler exhibit at the Convention Center represented the polar opposite of some of the obscenely expensive components I saw at the Sahara. Hafler introduced, via "active" demonstrations, a new line of affordable separates. The SE 100 preamp at $349, the SE 130 AM/FM Tuner at $299, the SE 150 CD Player at $549, and the SE 120 (60Wpc) and SE 240 (120Wpc) power amps at $325 and $499, respectively. These five components provided quite decent sound, especially when you consider their cost. It's nice to know that people with limited budgets for home entertainment can enjoy music in the home which begins to resemble the real thing. Incidentally, for those of you who own the Hafler Iris preamp and/or tuner, the Iris CD player is now available. It's a 16-bit/4x-oversampling machine with full integration of the Iris system controls, and costs $599.

Kinergetics Research showed two new additions to their Platinum Series components (to which the KCD-40 CD player belongs). The KDP-100 digital preamp incorporates the same processor used in their KCD-40 CD player to convert the digital inputs (there are two) to analog. Analog inputs (there are four) are handled by a "hybrid" solid-state, line-level preamp. In addition to its dual-mono design, the KDP-100 features a remote power supply with dual toroidal transformers, class-A circuitry, and a signal path free of capacitors. It sells for $1795. In the KPA-2 line preamp you give up the KCD-40 processor but gain true balanced output and remote turn-on/turn-off capabilities. For those who still play records, an optional, add-on phono stage with MC and MM inputs is available (no price stated). You also save $800. The system was mute when I visited, but they were using Martin-Logan CLS speakers (always a good sign) with subwoofer towers flanking each speaker. I would have liked to have heard that system going full-tilt, but was unable to because of time restraints. (Believe it or not, in four days of continuous hurry, it's possible to forget to pay a second visit to exhibitors. In fact, it's quite possible to not even get to pay a first visit to some.)

Another US debut of a Canadian product, Integra Audio, was seen and heard in the dBRITTON Audio Systems, Ltd. room. The gear, ultra-minimalist in design and execution and featuring hard wiring throughout, looked industrial but sounded fine through the Celestion 600 speakers. The components are not cheap, but construction quality of this caliber never is. The line starts with the $8000 Reference preamp, true dual-mono all the way, with two tubes per channel and three separate, externally housed power supplies per channel. The modestly priced ($2800) dispensers with the dual-mono concept and packs its punch in only two units (the Reference consists of four). Complementing the preamps are the MF120 monoblock amps ($2800/pair). They put out a maximum of 120W into 8 ohms. The literature I was handed was essentially devoid of measurement specifications. It's obvious Integra Audio intends its products to be evaluated empirically through listening sessions. I concur with their approach. After all, how could I not appreciate a demonstration which included as part of the listening my favorite Roy Orbison record on the original Monument label? I felt transported to the recording venue, with Roy standing but a few feet away singing directly to me. Wow! I sensed something special here. Perhaps dBRITTON Audio Systems, Ltd. will send their products to Santa Fe for review...

Mission Electronics was installed at the Mirage hotel/casino in a large room filled with speakers and electronics. They had no new products to introduce at this time, however, though their flagship 767 loudspeaker, which uses an active woofer section and was previewed at the '89 SCES, is now available in the US. MSB Technology Corporation showed their new Platinum CD player ($6500), their Silver 630 CD player ($1695), and their Active Crossover ($2995). I was unfamiliar with the company before the show, but was impressed with the sincerity and professionalism displayed by the salesman in the room. The products looked promising, and I regret not being able to spend more time there. Muse Electronics, Inc. showed their new Model One preamp ($1500). It appeared to be a "straight-wire with gain" design for the budget-conscious among us, and offered both active and passive operational mode with absolute polarity switching in the active mode. A 23lb power supply is housed separately with a 12' umbilical cord. These guys want no hum to
interfere with the music, that’s for sure!

For those counting their digits, Museatex of Canada showed two additions to their Melior line of components. The Melior CD Deck ($1695) is a front-loading CD transport featuring full-function remote control and fiber-optic output connection to a digital processor. The Melior Digital Center ($2250), a D/A conversion and switching component which accepts up to four digital sources, automatically selecting the correct sampling frequency, is, naturally, the digital processor of choice here. A MIDI terminal is standard on this unit. Development of this component was done by Ed Meitner, based on a proprietary high-resolution, 19-bit, 8x-oversampling scheme derived from a utilization of dual 18-bit DACs for each channel. Volume and balance functions are provided for and controlled through an infra-red remote control, as are input selection, input to record, and absolute phase. I can see Bob Harley anxiously waiting to get his hands on this one!

Perreaux, after a three-year hiatus on any new product announcement, is back with a Southern California distributor and a new marketing strategy. They seem determined to get their share of the US electronics market with the showing of their E Series components. Available now, the line includes the E1 class-A/AB power amplifier delivering 100Wpc into 8 ohms for $999, and the E2 class-A/AB amp, which doubles the power for $1499. The EP preamplifier will sell for $799 and features virtually wireless circuit design, with volume and balance controls attached directly to a sub-board. Also available is an AM/FM quartz-locked tuner, the ET ($699). Scheduled for March delivery are the Reference Series components. Three high-power class-A/AB MOS-FET amps will be available: the R2 at 200Wpc, the R4 at 400Wpc, and the R6 at 600Wpc. Accompanying these will be a pure class-A preamp, the RP; an AM/FM tuner, the RT; and a CD player. Stay tuned for further developments and possible reviews. The gear I saw was consistent with Perreaux’s past attention to detail, both internally and externally.

Philips was sequestered in a remote area of the Sahara, where they had a stylish room full of impressive big-screen TVs, IDTVs, and mid-fi audio gear. What wasn’t mid-fi, though, was the LHH500 single-chassis, Bit Stream CD player. Finished in the same champagne color as the two-piece LHH1000, it costs half as much ($2000). No technical info was available, so you’ll have to be content just knowing it exists.

PS Audio has dropped the 200cx amp and the 5.5 preamp from their line. The 100c amp has been replaced with the 100 Delta ($1195), which delivers 130Wpc. A new logo and some cosmetic changes are the only signs something is different. The big news in their room was the introduction of the Digital Link ($799). This fully upgradable digital signal processor, featuring 8x-oversampling and a full 18 bits of resolution, incorporates Burr Brown’s 18-bit PCM 61P DACs and completely passive phase-linear filtering. Other design highlights are 10 separate voltage-regulation stages, a fully complementary class-A FET direct-coupled analog output stage, and a remote power supply. Unassuming in appearance, it promised and delivered good sound once Paul McGowan worked out the problems with the Amrita loudspeakers he was using.

In the Quicksilver Audio room, word had
Tired of commercial recordings that stubbornly refused to deliver accurate sound quality and soundstaging, Stereophile's editors commissioned Water Lily Acoustics' Kavi Alexander to capture the sound of flute and piano with accuracy, honesty, and integrity. (See Stereophile, September 1989, Vol.12 No.9, p.66, for the full story.)

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it that the 8417 monoblock will reappear toward the end of February. This time the 8417 tubes will be sourced from General Electric. The amp will be referred to as the 8417G Mono Block and sell for $1575/pair. The only sound coming from this room, though, was that of curious show attendees, as Quicksilver Audio was yet another of the exhibitors preferring a “passive” presentation. Jeff Rowland was also content to let his line of electronics speak for themselves. His products were displayed on a large, stunning, custom-made, solid “wine-rack” type of assembly. Sitting in the rack were some of the most attractive components I saw at the show. New this year are three preamps, the Consummate and the Consonance. The Consummate is a two-piece affair selling for $5500, the Consonance a single piece at $2950. Both feature remote control of all front-panel functions (optional on the Consonance). Both have balanced outputs, with both RCA and XLR connectors provided. The Consummate has three balanced inputs but no phono section (it’s still in the works). I wish I could have heard these components. If they sound as good as they look, we may be entering a new era in the recreation of the musical experience in the home.

Scientific Fidelity’s Trillium monoblock amps ($7500/pair) were unlike anything I had ever seen before. Imagine low-profile stainless-steel triangular bases onto which are placed the various tubes, transformers, etc., and you may get an idea of what these things looked like—arrowheads. They deliver 60W into 8 ohms. The dual-mono solid-state Aurora preamp ($5000) is a cylinder made of a combination of stainless steel and glass or plastic with rotating ends for controlling preamp functions. Lights within the ends change colors depending on function and level. The sound heard through Sci-Fi’s own Tesla speakers, however, was not pleasing. I found it extremely cold and lacking body. Visually attractive, though.

Michael Custer of Sumo advised me of two components which will be available this April. One is a line-stage-only preamp, code name Athena Basic, which is expected to sell for $600. Complementing it is a new amp called the Ulysses. It is a MOSFET design, will put out 60Wpc into 8 ohms, and sell for $550. Sumo was fortunate in that they had a good-sized exhibit room with an attached suite which offered my colleagues and me a welcome sanctuary from the hustle and bustle in the halls. (Thanks for the good conversation and refreshments, Bill.) I spent several minutes in Sumo’s room enjoying the music I heard through their system, which featured the Aria planar loudspeakers. The setting was relaxing and unpretentious, an environment I wish was created by more exhibitors. Too often the rooms were jammed with visitors and, if music was played at all, it was generally some sonic “blockbuster” which left me cold. It might have been effective in luring people into the room from other areas (some of the demos could be heard several doors away on the same or on another floor!), but I found it annoying. A little courtesy here would go a long way.

Finally, from the labs of the tube mavens at VTL comes a neat, line-only preamplifier which was shown strapped in place on a Compact Stereo 50 amp. The preamp, called the Integrator, lists for a modest $450, features three line inputs, separate balance controls, and a stereo volume control, and will drive many solid-state amps in addition to those offered by VTL. I must say it caught my eye and imagination. For those who want to sample tube sound on a realistic budget, this may be the way. $1600 gets you the Integrator pre- and 50/50 power amp.

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AKG's K1000 headphones.

Briefly noted:
• In the convention center on the first day, amidst all the noise and confusion (it reminded me of the possible effect of turning on a fan in a roomful of feathers), I found the AKG room and closed the door to try out their new K-1000 headphones. The effect on my nerves was immediate and positive. Selling for $895, they were the most comfortable I had ever worn, and sounded excellent.
• Visiting the Shahinian room at the Sahara and entering a true temple of music. Richard Shahinian is a lover of music, a great storyteller, and a man who knows how to design finesounding loudspeakers. I consider the sound in his room to be the best I heard at the show. With Bedini electronics and an Analogue Research CD player providing the signal, the music I heard coming from Shahinian's Diapason loudspeakers was emotionally stirring. I have rarely heard the heft and weight of a full symphony orchestra reproduced as well. There was something special about this exhibit and those speakers. Of course, if you have any questions to ask about musical performances, they will be answered, with flair, by this man. He is a font of information.
• My being stopped in the hall by a reader from Victoria, BC to discuss the show and a recent review of mine. We had a pleasant conversation outside in the sun, where he told me how much he enjoyed Stereophile. He left and I returned to my work with a good feeling for being a part of all this.
• Westlake Audio: Entering their room was what I imagine a return to the womb would be like — a quiet, cozy, dark place with acoustic treatment all around (including the ceiling). The single listening seat was situated in front of the loudspeakers in the sweet spot, and I heard fine sound coming from them (especially depth reproduction). The large BBM-15 three-way system features a large, horn-shaped driver made of wood. It reminded me of a giant pair of lips. The sound was incredibly detailed and clear, with extended bass and treble — just what a monitor speaker should be.
• TARA Labs, Inc.: In addition to seeing, first hand, the new Temporal Continuum speaker cable (hint! — it's much larger than it looks in photos), I was shown samples of the new electronic line which includes a tube amp (via VTL) and preamp. Looked promising; I hope to have more details later.
• Well-Tempered Lab: In the company of Bill Firebaugh (what a laid-back guy), his turntables and the Grasshoppers and Crickets from van den Hul, I met Harvey Gilman of Rediscoveries. If you collect RCAs or Mercurys, this is the man to contact. He buys and sells and has several of each in the room. Prices were not for those on a budget, but the condition of the records I saw was exceptional. I was tempted by the János Starker set of Bach Cello Suites on Mercury, but the $300 asking price was a little too rich for my blood.
• Joseph Grado: A legend and a persuasive salesman. While I was in the Jeff Rowland room, Joe handed me a pair of headphones and said, "Listen!" Who could refuse? I put them on and did as instructed. Within a few seconds I knew I'd have to have a pair. It turns out they are the Grado Signature (what else?) Headphones and will retail for $500. The sound I heard while wearing them was unlike anything I had heard in the past. Air, clarity, soundstaging, ambience, imaging — in short, all those properties and characteristics of good sound were there in abundance. Mr. Grado was in a hurry, though, and I reluctantly returned the 'phones to him.

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• The *Mirage* exhibit at the (where else?) Mirage Hotel. In a quiet room I listened to the M-1 speakers with Classé Audio electronics. The sound I heard did not disappoint me. It sounded close to the real thing, and did not draw attention to itself. I could, in this room, forget about the means and concentrate on the end result, which was music. It was here.

• **Record Surplus** (the store), where J. Gordon Holt and I browsed among the vinyl on our way out of town. I left with a bag of records. Gordon didn’t. He had forgotten his checkbook.

Being a part of the WCES was an experience I will never forget. It consumed me and left me dizzy. It also left me somewhat disappointed—had I expected to hear more good-sounding music at the show than I did. It seemed that the emphasis was on *showing* the world the latest and greatest high-end audio, and not letting the world *listen* to it. If WCES were a component under review, I would give it high marks for image, extension, balance, depth, and timbral accuracy. It would not get high marks for cosmetics or user-friendly design. Most of all, I would not recommend it, for it failed to excite me to the world of music, which is, after all, the whole point of all this, isn’t it? But would I go again, if invited? You betcha!!!

**Thomas J. Norton**

*My timing had been perfect as I joined the *Stereophile* contingent at the “traditional” pre-CES breakfast at 9am on the first day of the show. It would be a long first day—what with getting up before 5am (a record which would be broken by an even earlier wake-up required by my departure the following Wednesday)—but I was looking forward to it. As at the last winter show, I was scheduled to cover loudspeakers, and eagerly looked forward to a survey of a product category which seems to inspire the most creativity, occasionally bizarre though it may be. Following a healthy breakfast (in my case a yummy combination of OJ, oatmeal, and unbuttered English muffin as mandated by a low-fat diet, combined with the vicarious pleasure of watching everyone else scarf down mounds of eggs, hash browns, bacon, and sausages) punctuated by the usual round of “who’s here, who’s not, and what’s hot,” we scattered in various directions to begin our task of ferreting out information on the latest and greatest in new audio gear.*

*Las Vegas is undergoing a mega building boom. The population of Clark County, currently about 700,000, is increasing by 40,000 a year. Yes, people actually live there. An old joke has it that tourists think that the resort employees commute from Los Angeles. They don’t, but if they did, there would be enough new hotel space to accommodate them all. With all these new hotel rooms, perhaps by next year the sponsors of the show might find a decent spot for high-end audio. A number of manufacturers were at the new Mirage Hotel (including, appropriately, Mirage). A few others exhibited “unofficially” in other hotels, not specifically sponsored by the CES organizers. But most of the audio activity this year took place at the Sahara. This was, in my judgment, nowhere near as good a location as the Riviera hotel, the site of the ’87–’89 Winter CESes. The*

1 Indeed, much of the buzz at CES was about the Mirage Hotel, the newest 5000-room, $650-million casinoresort on the Strip. With its indoor atrium, zillion outdoor palm trees, cascading waterfalls, huge aquarium behind the check-in desk, glassed-in habitat for observing three huge, rare, white tigers between their performances (they’re part of the act of illusionists Siegfried and Roy), and (future) dolphin pool, it sounds like the ultimate in Las Vegas tackiness. But it isn’t. It actually comes off as a class act—except possibly for that manmade, gas-driven volcano out front that erupts every 15 minutes or so.
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rooms were small (though slightly larger than those at recent June CESes in Chicago), the walls were alive with the sound of music from other rooms, the noise of construction equipment on Monday and Tuesday (the last days of the show) from nearby crews—digging, no doubt, for a better Las Vegas—obliterated low-level detail in at least a third of the rooms, and a grand time was had by all trying to figure out the Sahara's Byzantine room-numbering scheme. But, as usual, most exhibitors managed to cope—a few even succeeded in impressing the jaded. Conditions could have been worse; the last time this affair was held in the Sahara, a few years back, bed platforms (sans mattresses) had covered a large portion of the available floor space. Thankfully, these had been removed this year.

Before I got to the Sahara, however, I began my search, as I generally do, at the main convention center—the "zoo"—where the sound and fury of hyperactive reps and buyers wheeling and dealing over boom boxes, digital watches, car stereos, video, and occasionally an item or two of audio interest, gets the juices flowing. More important, it provides some perspective and a greater appreciation for the relative civility of the specialty audio exhibits at other locations. With each show it seems that I spend less and less time in this menagerie. This year about three hours sufficed. The pre-show press coverage (at least the Los Angeles Times article that I saw) had the industry bemoaning the likelihood that no "breakthrough" products would be exhibited. And none materialized—at least not for the mass market. DAT for the home, as far as I could determine, remains very low-key. Although at least two manufacturers (Technics and Sony) announced plans for release of DAT recorders sometime this year, most seem to be waiting for the release of noticeable numbers of pre-recorded DATs before coming out with hardware in any quantity—the old chicken and egg game. The imminent appearance of Dolby S for cassettes, which is perceived by the mass merchants to be sonically "nearly indistinguishable with DAT" (which means good enough for John Q. Public), is another factor working against the digital tape format for home use, as is the probable development of a recordable CD. But my DAT search was a cursory one. Bob Harley, who probed the subject more deeply at this CES, I am sure has more enlightening news in his "Update" piece elsewhere in this issue.

There was also little worth reporting on the HDTV front—with the notable exception of another stunning demonstration by Barco and Fosgate (the latter using the occasion to introduce their new Digital Servo Logic surround-sound decoder) of the full-bore, non-NTSC-compatible NHK system. And the much-rumored home THX system, now under development in cooperation with Lucasfilm, failed to make an appearance. But reports indicate considerable activity in that camp. Home video theater fans stay tuned.

Only two items caught my eye at the "zoo," none of them of real audio interest, but both worth mentioning as indications of where mass-market consumer electronics are headed. Technics announced the CQ-ID90 car stereo ($799), which stores in its internal memory information on over 4500 AM and 4900 FM stations from more than 5100 US cities (nearly all cities with a population of over 10,000). It also stores each station's programming format. The user can tell the unit to tune in to rock, classical, jazz, easy listening, country and western, or all-talk; the ID logic will lock onto the six strongest stations in the chosen format, wherever you might be located. Great for the traveling salesman. And Pioneer introduced the CT-M6R cassette recorder ($450), which can load up to six cassettes at a time for sequential (not simultaneous) recording. It can select and play up to 15 tracks in any random sequence, forward or back, and can also link up with an upcoming 6-disc CD changer for—you guessed it—CD dubbing. Whole CDs may be dubbed onto cassette one-to-one, or individual tracks programmed to be played and dubbed in any sequence. Should help the RIAA to sleep nights.

There may not have been any revolutionary developments at the "zoo" this year, but everyone at the Sahara was talking about the Téléeque full-range cold-plasma loudspeaker from the French firm AHI (Aciéries du Haut-Languedoc). This is a full-range, ionic-drive loudspeaker, broadly similar to the ionic tweeters which have sprung up from time to time—
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most recently in the Magnat tweeter (never, to my knowledge, made available in this country) and the tweeter in the Hill Plasmatronics loudspeaker of the late '70s. And it works—sort of. As presently constituted, however, the Tolèque has five serious limitations. First, size. Each loudspeaker weighs 660 pounds (fortunately they had a downstairs room) and is roughly 8' H by 4.75' W by 0.65' D (stands excepted). The pair on display nearly filled the largest wall of the modestly sized hotel room. Second, sensitivity. The power output meters of a 500Wpc McIntosh MC2500 indicated a near-clipping condition at background music levels I would estimate at under 75dB. One of the Tolèque's handlers indicated that they had a sensitivity "problem." Third, noise. A low-level hiss, apparently originating in the loudspeakers themselves, was constantly audible. Fourth, any loudspeaker operating on this principle generates ozone, a noxious air pollutant. THL apparently surrounds the generating elements with a plastic bag to contain the ozone. But doesn't that bag act as a potential source of coloration? And what happens if (more likely, when) the bag leaks? I didn't smell any ozone during my visit on the first day, but later observers did. And fifth, cost. Projected price for the THL loudspeaker is $80,000/pair.

It was difficult to evaluate the sound of the Tolèques. As far as could be judged, they seemed reasonably transparent. But the pair could not be placed in the small room in a fashion which permitted decent soundstaging, and the low listening levels and high intrinsic noise rendered any attempted assessment of their true low-frequency capabilities meaningless.

Still, the developers must be admired for even attempting to build such a device. I have serious doubts about its practicality, but the fact that it works at all must be judged as an admirable accomplishment. An interesting side trip in the search for the perfect loudspeaker, but, in my opinion, not a bold, new, commercially viable direction.

**Avalon Acoustics** introduced the latest version of their flagship model, the Ascent Mk.II. The major change from the Mark I appears to be the replacement of the soft-dome midrange with a metal-dome. A brief audition of these loudspeakers (driven by the new Berning triode, 100Wpc EA2101 tube amplifier, $3500) revealed superb soundstaging capability and an exceptionally open, sweet, detailed high end. Incidentally, Avalon has produced an excellent owner's manual for the Ascent, with several useful pages on room acoustics and a detailed, quite interesting, and unhyped discussion of the parameters Avalon Acoustics thinks to be important in loudspeaker design.

**Nestorovic Labs** was on hand with their latest top-of-the-line loudspeaker, the 16A Mk.III. It consists basically of a pair of the updated, three-way, pyramid-shaped Type 4a satellites mounted atop one another hourglass fashion, with a pair of Type 8 adjustable-damping subwoofers. Driven, of course, by Nestorovic's own NA-1 tube monoblock amplifiers. A very open, transparent sound resulted, although the program material did not push the subwoofers. At $10,800/pair it's a bit pricey, but a very similar balance (less the LF extension and power handling of the 16) should be available in the latest 4A satellite ($3400), which may be used full-range. The latest Type 5AS Mark IV ($3850) was on view, but not under demonstration when I visited the room.

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4 Henceforth I'll delete the /pair. Assume the price is for a pair unless otherwise noted.
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**Highwood Audio** of Canada is the manufacturer of the unique Aria planar dynamic loudspeaker marketed by Sumo. Highwood has recently been acquired by **Museatex Audio**, also of Canada. While the Aria will continue to be marketed by Sumo, a new line of planar loudspeakers is to be released under the Museatex banner. The Melior One ($2250), considerably smaller than the Aria, is the first. A $1500 model is expected soon. Also introduced was the Melior CD deck ($1695) and separate Digital Center (a D/A conversion and switching unit, $2250). Museatex has also set up a separate subsidiary to market its products in the US—Museatex California, Ltd.

It's been a year since I first heard Richard Vandersteen hint of its existence, but the **Vandersteen 3 ($2395)** is at last a reality. It looks like a stretched 2Ci; the width and depth are the same but it's taller and doesn't require stands. The woofer complement is similar to that in the 2Ci, but extends deeper with the larger cabinet; the midrange and tweeter are all new. The former is the same proprietary, basketless midrange used in the Vandersteen 4, the tweeter is a metal-dome unit. Definitely one of the exhibits at the show worth spending more time in than I had to spare. Availability is scheduled for March.

When I walked into the **Duntech** room I was confronted by what initially appeared to be a pair of Sovereigns. They weren't, but instead were a pair of new loudspeakers from Duntech, the Black Knight PCL-400s. Although from the front they appeared to be as large as the Sovereigns (they're just 2" shorter), they're substantially shallower and less than half the weight. But, like their big brother, they employ a symmetrical driver arrangement—two woofers, two midranges, and one tweeter, lacking only the upper-midrange domes of Duntech's flagship—but have a considerably less complex cabinet configuration. And, fans of the Sovereign sound might find the $3500 Black Knights more approachable. A number of other new or updated loudspeakers are on the way from Duntech, including a Mark III version of the Sovereign ($17,000) and, in 1991, the $49,000 Consommate One.

And while we're on the subject of large loudspeakers, perhaps the biggest of all, the **Infinity** IRS V, was on display in the Infinity suite, driven by Audio Research Electronics and a California Audio Laboratories Aria III. (Neither Infinity nor Duntech was at the Sahara, but rather chose large rooms at the "unofficial" Golden Nugget.) This was easily the best sound I have yet heard out of the IRSes (also the best room I have heard them in)—their sometimes bright high end and overdone low end were nicely tamed. The VS' imaging still was decidedly overlarge for solo voices and small groups, though impressive for larger forces. In other Infinity news, the Modulus, a promising satellite/subwoofer system previewed at the '89 Summer CES in Chicago, should be available by the time you read this report.

Although their demonstration facilities (a large, rather crowded side-room in the main convention center) were not conducive to serious listening, **Acoustat** introduced three new models, all variations or updates of existing designs. The Spectra 2200 ($2250) and Spectra 3300 ($2600) replace the Spectra 22 and 33, respectively. The Spectra 1100, hinted at in my recent review of the Spectra 11 (I referred to it as the 11+), will be available in the spring ($1499). The 11 will remain available. The new model adds updated cosmetics, a redesigned woofer, 5" shorter overall height (to correct for the overly high listening axis of the 11), switch-selectable high-frequency contouring, bi-wire capability, and spiked feet.

**Sound-Lab** had two rooms at the show. In one, the A-5 was producing a very open, uncolored sound—although the room setup required what was, for me, an uncomfortably close listening position. Driving amplification here was a pair of **Boulder** 500AEs. In the other, the several other models of the Sound-Lab line shared space with a PCM digital recorder from a new Cambridge, MA—based company called **Isotronics**—the PCM 44.1, designed to be used with a VHS (or other format) video recorder. This is, to my knowledge, the first such new device to make an appearance since the "introduction" of DAT. It operates at the same sampling frequency as CD (obvious from its name), and only in the digital domain for direct digital-digital copying (no A/D converter is included); $1500, with an onboard A/D converter ($500) to be made available at a later date.

**Eton** is a German manufacturer of advanced, quite expensive loudspeaker drivers—that 11" woofer is used in the Avalon Acoustics Ascent II (dyed black there for cosmetic reasons). They had their own room at the show, as did a num-

*Stereophile, March 1990*
ber of other driver manufacturers and suppliers. One of the loudspeakers on demo here, the Aura ($1995), from a small Bakersfield, CA manufacturer called Spectrum Dynamics (not to be confused with Spectrum), is a two-way design using Eton drivers in an offset, truncated, pyramid-shaped cabinet — left and right cabinets built as mirror-image pairs. Its sound was promising, though interference from that outside construction made serious evaluation impossible. The amplifier and cables used were also attention-getting: the former was the Mesa-Boogie tube design,\(^5\) the latter a new high-end cable from Apature which, at $10/ft for a bi-wire pair, seriously undercut other high-end loudspeaker cables and looks to be worth investigating. The same wire is also available configured as an interconnect ($100/meter pair).

A large contingent of new subwoofers made its appearance at the show. Wilson Audio introduced the Puppy — about the same size as their Gibraltar stands and, like the Gibraltar, dedicated for use with the WATT. Two 8" woofers per channel cross over (by means of a passive network) to the WATTs. The controlled demonstration was very brief, and the program material didn't really challenge the woofers. Dave Wilson also indicated that the room setup chosen slightly compromised the soundstage in the "sweet spot" in order to provide an improved soundstage in the "cheap seats." That's what I observed: the image from the WATT/Puppy was less precise than I have heard from the WATT alone in the past.\(^6\)

The setup in the SimplyPhysics room consisted of Martin-Logan CLS IIs on custom stands combined with another new subwoofer — the daSalvo ($3000) — from a Houston-based company called Musical Design Technologies. Two other manufacturers used CLSIs in their rooms; this was the best sound that I heard from them, although the midbass was noticeably lean. Driving amplification was provided by the Prodigy Audio Labs MAX FET 100Wpc monoblocks ($1695/pair). The da Salvo woofer is a transmission-line using the ancient KEF B139 woofer; the bass from this $3000 woofer was tight and clean. This room also showcased the Anodyne tube D/A converter ($2295). Anodyne was formerly Analogic; the name change was required by some sort of trade-name conflict with another (non-audio) company. According to my Webster's, Anodyne means anything which soothes or lessens pain. Certainly a reassuring name for a company concentrating on digital products. Anodyne also makes an upsacle equalizer for the B&W 801 and has promised to send one along for evaluation. Watch this space.

SOTA showed their BEM (bass-extension module, $1595), designed to be used with the Panorama loudspeakers. The Panoramas sit atop the BEMs, no stands are necessary. My attention in the SOTA room, however, was directed primarily to the cutaway of their Cosmos turntable — grist for my upcoming review of same.

Kinergetics introduced a new IRS Beta-like (tall tower configuration) subwoofer, the SW-800 Platinum Series ($3995). A pair was set up along with CLS IIs in a "mini-Statement" configuration. The sound here was disappointingly bright — I suspect either program material or setup problems. Later reports from other observers were much more favorable. This was a big change for the folks from Kinergetics; their previous demo system of Spicas with subwoofers had become something of a fixture at previous shows, consistently producing fine sound. They also showed off some striking new cosmetics which will be used on their full line of CD players and electronics, a big improvement on the previous design.

And yet another subwoofer — the Acoustitune from B&W. It's a version of the now familiar "totally enclosed driver tuned to the outside world via a port" theme produced by a number of companies with their own individual variations and names. B&W's wrinkle is a series of ducts which may be interchanged by the user to passively vary the efficiency (and, unfortunately, also the low-frequency extension — B&W's own curves show a considerably smoother low end at the lowest efficiency setting). It may thus be matched to a

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5 An obscure amplifier (at least in audiophile circles) from the same Petaluma guitar-amplifier company (MESA Engineering Inc.) as one which was favorably reviewed by The Audio Critic a few issues back.

6 The WATTs & Puppies were also being used by Theta Digital in their room at the Golden Nugget. Listening to my and Robert Harley's recordings on a test pressing of the Stereophile Test CD convinced me that the Wilson system in this room was quite the most accurate-sounding that I heard at the show, particularly in the way in which the spatial characteristics of the recordings were preserved. Despite the breathtaking nature of the sound produced by the IRS V in the suite next door, the WATTs/Puppies were actually closer in the musical reality, in this humble listener's opinion. —JA
wide variety of satellite loudspeakers. This does not appear to be aimed at the high end (there are two internal 6.5” woofers), but rather at the mid-fi market. It might prove useful, however, in a small video system. Unfortunately, I only got to see it, not hear it.

NHT, a company that I admittedly haven’t followed all that closely up to now, also had a new subwoofer, the SW2. I was probably more impressed by this subwoofer than by the more expensive units discussed above. A pair of them driven passively in conjunction with a pair of NHT model 1s as satellites, had a deep, tight low end (a 22Hz cutoff is claimed) that belied the $350/each price. The internal crossover, optimized for the Model 1, may be bypassed if bi-amping is desired. NHT also introduced two other new products—the Model 1.3 two-way ($449) and the Model 100 three-way—but their subwoofer impressed me the most.

Musical Concepts does not manufacture loudspeakers, but their D-140 power amplifier was doing an excellent job driving a pair of Taddeo Domestic Monitor Ones, reviewed by JA in a recent issue. I was very impressed by these loudspeakers in an all-too-brief audition. Possibly because of the smaller (than JA’s) listening room, their away-from-the-wall placement provided both tight, reasonably deep bass and very respectable soundstaging. Musical Concepts showcased their Epic CD player ($1195), based on the new Philips CD 50. Apparently the new series of Philips CD players is, cosmetically at any rate, very different from the older Magnavox designs. And, in this reporter’s opinion, much less cheap-looking.

I had an interesting conversation with Keith Johnson of Precise Acoustic Laboratories on their upcoming Beta line of loudspeakers. The top of the line, the 600BL ($1400), is very similar to the Monitor 10 with respect to drivers and crossover, but designed for a broader visual appeal. Along with the smaller 400BL, it’s quite striking in appearance. The prototypes on display had not been fine-tuned sonically, but Keith expects to be able to come very close to, if not equal, the sound of the 10, in much more domestically acceptable design. He is also investigating some unique schemes to minimize diffraction in a conventional cabinet.

I noticed some strange-looking black boxes in the Precise room; they turned out to be tuned cavity resonators from a company called Henning Moller Acoustic Design of Newburyport, MA and Los Angeles, CA. At $295 each, they look like large bookshelf loudspeakers, but in actuality are designed for acoustic room treatment. Though it was impossible to judge, under show conditions, how well these devices work, they were being used in a number of rooms. If you haven’t heard of Henning Moller, he was, at one time, an acoustic specialist for Brue & Kjaer and has authored a large number of papers on acoustic measurements. His Acoustic Boxes are another new addition to an audio growth area: products designed to improve the sound of a given system through acoustic treatment of the listening room.

And while we’re on the subject of acoustic treatment, Brian Cheney of VMPS demonstrated his Tower II Special Edition on the last day of the show (earlier he had had the top-of-the-line Super Towers on display) in a reasonable facsimile of a live-end/dead-end room. His new Tower IIs greatly improve on the driver layout and cosmetics of the original design, but they were positioned too tightly into the room corners (and near the side walls, despite the wall damping), in my judgment, for the soundstage to blossom properly. The low end was powerful—the placement undoubtedly contributed, but my prior experience with
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VMPS products would lead me to expect potent bass in any event—and dynamics were impressive. Brian had both the Theta DS Pro and lower-priced DS Pro Basic D/A converters on hand, but was using the less expensive unit—which he said he preferred (although he admitted that his DS Pro was six months old!).

It’s tough enough for the intrepid audio reporter to keep track of new products at a CES, but what to do when interesting new products disappear during a CES? On the first day of the show I auditioned a new loudspeaker in the Counterpoint room, at that time designated the Counterpoint Cadence Standard Model I. It consisted of 6’-tall ribbon panels vaguely reminiscent of miniature IRSes, combined with two shorter subwoofers. At a projected price of $3500 they appeared to be a promising design, but I had some reservations about the sound so I stopped back on the last day for another listen. The Cadences were gone, replaced by Snell CIIIs. New Counterpoint sales manager John Fermin indicated that there had been some sort of royalty disagreement, and the designer of the Cadence had decided to take his business elsewhere. Rumor had it that he was talking with Quicksilver, but the story remains open.

I didn’t stay to listen to the Snell CIIIs ($1995) in the Counterpoint room, as I had already heard them in Snell Acoustics’ own demo. Snell invariably puts on one of the most effective CES demonstrations, and this year was no exception. While I hope to get the chance to audition the new CIIIs under more familiar conditions, they do seem to be a real improvement over the CIIIs. The biggest change is the incorporation of a metal-dome tweeter, but there are also improvements to the midrange unit and crossover. Owners of the CIIIs may have their loudspeakers factory-updated for $720 plus shipping. The same metal-dome tweeter is also used in the Snell B, also on demo. The latest iteration of this design is a considerable change from that shown at the ’89 WCES. Cosmetics are dramatically improved, and it is now a three-way (instead of four-way)
design. Final tweaking remains to be done, but the B retains its exceptional promise. Don’t expect availability before late spring or summer. Projected price is $3495.

Snell also demonstrated their CARA computer-aided room analysis program. Feed in the room dimensions and it calculates not only the major room modes, but also gives recommendations as to speaker locations for best low-frequency response in that room. Six recommendations are given for each dimension (long wall, short wall, and floor to ceiling), graded as good, better, and best; this permits the user to choose a position which will strike a reasonable compromise between bass and soundstaging. The analysis will be made available through Snell dealers—free of charge to Snell owners, and at a nominal charge for others. Its main limitation at present is its inability to handle odd room shapes (ie, the L-shaped room). The results are also less accurate for rooms with sloped or cathedral ceilings.

Ryan Acoustics, the small Riverside, CA manufacturer, introduced the three-way, floor-standing MCL-3 ($1250). The sound was clean and open, with notably good control of the normally rising high-frequency response of a Focal tweeter. Only a thorough test will decide if this is another worthy competitor in a fiercely competitive price range. The design is an ambitious leap for a young company (less than three years old) from its only other model to date—the modest two-way MCL-1, which has been well received.

When I first saw photographs of the new Celestion ribbon-tweeter loudspeakers, they struck me as perhaps the handsomest loudspeakers I had ever seen. B&O, eat your hearts out. The Celestion 5000 demonstrated at the Sahara did nothing to dispel that impression. I did have some reservations about the sound, quite possibly due to the near-wall positioning which Celestion used and recommends for these loudspeakers. To be more specific, the sensation of depth was limited, and some midrange colorations were noted. As I write this, a pair of the new Celestions are undergoing JA’s probing microscope in Santa Fe; I await the results as anxiously as do (I hope) our readers.

Every CES introduces us to new manufacturers, some of which we never hear of again. In the case of at least two companies showing this year for the first time, that would be a shame. You don’t normally think of Spain as a hotbed of audio activity, but the Vieta line of loudspeakers from Barcelona, Spain–based manufacturer Acutres just might force a minor reassessment. Acutres has been in business for 25 years and manufactures all of its own drivers. I listened briefly to L’Orfeo ($777), a slender, black-laquered, pyramid-shaped, floor-standing system with two small woofers (they appeared to be about 5") and a soft-dome tweeter. A surprisingly open, transparent, uncolored sound was produced by these unusual-looking loudspeakers (I suspect that their elegant appearance will have a high WAF)—an observation I heard repeated by two other entirely independent observers. They would, however, appear to be candidates for use with good subwoofers.

From its name, the Makoto, and manufacturer, Morishita and Associates Limited, one would expect the next “find” to be from Japan. It is not. The Makoto loudspeaker (makoto is the Japanese word for truth and sincerity) is an elegant, black-laquered loudspeaker from Canada which I didn’t run across until the last day of the show. It is a bipolar design, with identical 6.5” woofers and 1” metal-dome tweeters firing fore and aft. The six-sided, triple-laminated, heavily braced cabinet is designed to minimize diffraction and cabinet colorations. With the Makotos driven by Accuphase electronics, I heard a very open, spacious, transparent sound with a particularly extended, airy top end. The totally sealed design did, however, appear to lack low-frequency extension. The last cut of Defos was missing its customary punch. And the $5000 asking price was more than daunting. In my judgment, it severely restricts the potential market impact of an intriguing new design from an interesting new company.

While we’re on the subject of bipolar loudspeakers, Mirage introduced (but did not demonstrate, at least on my visit) the M-3 ($3000), a slightly scaled-down version of the M-1. A single 10” woofer replaces the front and rear 8-inches of the M-1; mids and tweeters similar to those in the M-1 fire front and back to provide bipolar response above 400Hz.

It isn’t often that interesting new high-end headphones are introduced at a CES, much less at a CES with Stax not in attendance. But two promising new dynamic designs were un-
veiled. AKG showed their new K1000 ($895), with open-air construction supporting the transducers against the head only at the tip of the earpieces, minimizing the reflections normally found in typical earpads and maximizing the natural effect of the outer-ear structure, or pinna. And although Grado Labs never displays formally at a CES, none other than Joe Grado himself was reported to be dropping in at various exhibits showing off his new Signature headphones. I recall a telephone conversation with Joe about a year ago in which he mentioned these, and also ongoing development of some dynamite (paraphrasing his description) loudspeakers which have yet to make an appearance. Like other cartridge manufacturers, Grado is obviously looking to broaden his product base.

Dahlquist was on hand with what is now a whole series of DQ loudspeakers, the new, two-way DQ-8 ($850) joining the DQ-12 and updated DQ-20i. The DQ-8 was the featured attraction. But the best sound I heard from Dahlquist loudspeakers at the show was produced in the Cary Audio Design room, where a pair of DQ-20iS was being driven by Cary 100W tube monoblock amplifiers.

I'm always uncomfortable with attempts to pick the best sound at the show—there are too many variables, and all sonic comments in this report should be viewed in the light of the mediocre listening conditions endemic to shows of this nature. Do I pick the IRS Vs, which sounded better balanced than I have ever heard them, but still sounded too "big" on most program material? Or the Shahinian Diapasons, which embarrassed almost everything else in sight in their ability to unravel and clarify masses of choral and orchestral textures, and which had a "goosebump" quotient second to none? Or the Sound-Lab A-5, which sounded exceedingly natural, uncolored, and transparent? Or the Snell B—still a work in progress? In lieu of such an all-encompassing award, let me offer, in true Rose Parade fashion, my personal nominees for "Gordon" awards in several categories:

**Courageous Manufacturer Award:** Multiple tie. All those who introduced new turntables, from the $800 SOTA Jewel to the $3750 Basis "Ovation" and points between; tonearms—Manticore Systems’ Musician ($600) and Musician S ($850), distributed by Panther Enterprises; and cartridges—the only relatively new cartridge seen was the Dynavector XX-1L ($1000), a low-output version of the XX-1.

**My Technology is Better Than Your Technology Award:** To Unity Audio’s Signature Model 1, a relatively small four-piece system (separate satellites and subwoofers—electronic crossover included) with good quality but three conventional drivers per side, in finely finished cabinets of Nevamar, a plastic-ceramic resin material similar to that used in the Wilson WATT. Claimed to be designed with the aid of a Cray supercomputer. Good, well-balanced sound? Yes. What did I think of the $15,000 asking price? Don’t ask. And further kudos to Unity for introducing us to the concept of the Class A (?) loudspeaker.

**Heavy Metal Award:** Tie. Between Monitor Audio and their Studio 10 with 6.5” sandwich metal-cone woofer ($2800 + $750 for stands), and Acoustic Energy, with their three-way, all-metal diaphragm, AE-3 system ($3990 with stands).

**The Say-What? Award:** To ATC for arguing that most reviewers listen at too low a level. Shortly into the demonstration of ATC’s new two-way SCM-20 ($3200) Studio Monitor, this reviewer asked for the volume to be turned down. Considerably.

**Analog Die-hard Award:** Shared by those (very) few exhibitors demonstrating exclusively with analog LPs. Most manufacturers had both CD and LP; a significant minority had only CD.

**Loss Leader Award:** Tie. To Spica, with their new SC-30 ($369) loudspeaker—a departure for this company in that it looks like a real, honest-to-goodness, rectangular box. And to the aforementioned NHT for their new Model 1.3, which doesn’t.

**Sheer Gall Award:** To, of course, AHL for their Plasma loudspeaker.

**Honey, I Shrunk the Versa Award:** To 47 Labs (a virtually unknown label) for their miniature turntable-like CD transport ($6000–$7000). You put the CD on the platter face-up and the laser tracks across the top of the disc just like a little straightline-tracking turntable.
Introducing the new metal cone 3-way speaker from Acoustic Energy

The same well proven metal cone technology used in the AE-1 & AE-2
47 Labs showed this parallel-tracking CD transport.

Old Wine in New Bottles Award: To Rowen Loudspeakers, a Swiss manufacturer which uses AR drivers (the company prez is the Swiss AR distributor), including some said to be identical to those from the old AR-3a and AR-LST, in a whole new line of loudspeakers, including the floor-standing, decidedly non-AR sounding R-S ($5995), which was demonstrated.

Why Didn't I Think of That? Award: To Cardas Audio for repackaging Magnepan MG-3 drivers in a rigid, custom frame to minimize resonances. Unfortunately, it's one of a kind and not for sale.9

Most Interesting New Product from a Non-Exhibitor Award: Tie. To Grado Labs for their Signature headphones, and to Klyne Audio Arts for their upcoming 7PX dedicated outboard RIAA phono preamplifier ($2495). I ran into Stan Klyne in the halls of the Sahara and he slipped me some literature.

Most Conspicuous No-Shows Award: Missing (and missed) were Rogers, Mod Squad, ProAc, Fried, Magnepan, Stax, Kindel, and Klyne (but see above). Other prominent manufacturers—VPI, Spectral, Krell, for example—weren't there either, but these typically do not attend the Winter CES, concentrating their efforts on the summer show in Chicago.

Isn't This Supposed to be About Music? Award: Musical selections in most booths ranged from limited to abysmal. Two exceptions: Richard Shahinian, as usual, brought cases full of superb classical CDs, and the pre-programmed demo material (mostly pop) in the Snell rooms was excellent.

Ones I Missed Award: KEF (with the R105/3), Apogee (demoing the Stage at an unofficial hotel), and Martin-Logan (a new version of the Monolith). And Finial. Yes, Virginia, there will be (sound of trumpets) a Finial laser turntable. The Harold Stassen of turntables may soon be

9 Actually I did think of it, about four years ago, when I read of a rigid, custom frame being manufactured for the LS3/5a by The Comflakr Shop, a British audio dealer. I also thought, in the mid '70s, that someone ought to issue premium pressings of selected LPs. Enter Mobile Fidelity, stage right. Exit Fame and Fortune, stage left. Sigh.
"The MG-2.5/R wins my sound-per-dollar prize...

...for the (1987 Summer CES), providing a real high-end listening experience for $1,550 pr."

High Fidelity
September, 1987

"...in the U.S., its dollar price makes it something of a bargain!"

Hi-Fi News &
Record Review
December, 1987

"...the musical performance is definitely superior to that of direct competitors... speed and precision are strong points of these new speakers."

Suono
December, 1987
Wildest New Product Award: To Monster Cable, for their Monster Cable auto jumper cables. $100/12' pair, including "designer case." I think the clamps were gold-plated, but was so stupefied by the concept that I didn't check all that closely.

And last, but not least, the Best CES Trade News Daily Headline Award: "B.I.C. Booms With Venturi Venting."

I won't even attempt to comment on that. Or to top it.

Dick Olsher

Las Vegas is best appreciated at night. Megawatts of neon lights transform the Strip's drab reality into a gaudy, splendidly fantasyland. "Glitter Gulch," the hub of downtown Vegas, is so brightly lit that it's difficult to tell high noon from midnight. No wonder, Hoover Dam Hydro being nearby!

At least Mother Nature was most cooperative. Temperatures were consistently in the high 50s—just the right complement for an, element for low humidity conditions. I wish I could say the same for the CES organizers and their choice of locating most of the high-end exhibits at the Sahara Hotel's Bi-Level complex. For starters, many of the rooms were extremely small, on the order of 13' by 15'. Interior walls and floors were rickety. And available AC power was in a brown-out situation. With dozens of power amps loading down the distribution system, line voltage dipped to 108V or so. Not exactly an ideal show environment. But despite the adverse conditions, it was my impression that the average level of sound quality had crept up from last year's show. That's not to say that the average was dramatically musical. It was not. There were plenty of dogs—it was just that there were more suites than usual where the sound quality was quite listenable.

My strategy this year was to take a leisurely pace and focus on products that interested me or were truly innovative. Rather than cover the Show comprehensively, A to Z, and relate a monotony of new product introductions, I wandered down the halls with my ears and eyes open for good sound or an interesting story. I found the room-numbering scheme within the Bi-Level Complex quite baffling, and it was only on the next to last show day that
conrad-johnson is Musicality.

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our own JGH deciphered it for me. So instead of seeking out particular suites, my approach was simply to start on the east side of the second level and work my way down to the other end. At which point I descended to the lower level and reversed directions. I never made it over to the Convention Center or Main Zoo. There was really no good reason for me to do so, but I was curious about one thing. You see, I had this nightmare that someone introduced a new product category—a CD receiver—or CDeceiver for short. They didn’t, did they?!

**Digital tweakery**: Back in 1982, I don’t think anyone imagined that things digital would be amenable to tweakery. Technofreaks who scoffed at the seemingly endless procession of analog tweaks audiophiles shelled out hard cash for pointed with pride to the CD player. No alignment gauges or stylus cleaners. No cleaning or buffing. No clamps or vacuum hold-downs. No VTA, SRA, or azimuth adjustments. No acoustic breakthrough or susceptibility to structural vibration. Just “perfect sound forever,” as the ads implied. Of course, all of that has changed recently. In fact, having been bombarded with ads for all kinds of CD tweaks, I believe that we are seeing the dawning of a new age—an age of digital voodoo. You’ve seen them. There are CD cleaners, damper pads, magic fluids, and the ubiquitous CD SoundRing. And how about buffing your CDs with Armor All? Our own Uncle Sam (Tel-lig), who may have discovered this treatment, was extolling its virtues ad nauseam during a recent visit to Santa Fe (see his “Audio Anarchist” column in the February issue). Sam was dead serious, and had already buffed close to a thousand of his CDs with this stuff. And no, he does not own any Armor All stock (not yet, anyway). He even went so far as to leave a bottle of the stuff in my listening room. I have not tried it yet (and probably never will), but LA and RH, who have, claim to have found an improvement.

So imagine my surprise when I saw Mark Brasfield (MSB Technology Corporation) zap a CD with a Zerostat Gun before inserting it into his new Platinum CD player ($6500 list). I told him about Tellig’s Armor All technique, and he just shook his head, yes, yes, it all had to do with reducing static buildup on the disc. According to Mark, he has observed that static spots on the disc attract the lightweight servo arm that the laser pickup rides on, and cause the large servo motor to activate more often. He postulates that electromagnetic interference (EMI) from the motor modulates with the microvolt analog signals coming off the DAC. Mark claims that EMI is an important phenomenon in CD-player design, and that he now routinely shields the DACs in his players. He’s waiting for someone to market a “CD Gun” à la the Zero-stat for destaticizing CDs. And would you believe it, Transparent Audio Marketing introduced a fluid at the Show called Finyl for just such a purpose (much more expensive than Armor All).

At this point I was still skeptical, but a bit more receptive. So when the folks at Clear Image Audio invited me to a demonstration of the Audio Prism CD Stoplight, I at least managed to keep a straight face. In a nutshell, this is an edge coating for CDs. Yes, I’m talking about coating the 1.5mm-thick periphery of a CD. The Audio Prism Stoplight is an applicator that dispenses a fast-drying acrylic paint and allows you to coat the edge of a CD by running the tip of the applicator along the periphery of the disc. The idea, according to Bill Rasnake, one of Clear Image’s principals, is to keep light reflections and optical standing-wave patterns from interfering with the player’s optical pickup. That this is an optical phenomenon is highlighted by Clear Image Audio’s research finding that other paint colors (eg, black) do not work as well as green.

The demonstration involved playing identical tracks on both treated and untreated discs. This was not a double- or even a single-blind test, but the differences were so dramatic that I’m sure almost no one would have any difficulty identifying such differences under scientifically rigorous testing conditions. Sibilants and treble transients were much better behaved on the treated disc; and low-level information was much more readily resolvable; as if a layer of fuzz had been lifted away from the soundstage.

Any nagging worries I might have had about turning into an Enid Lumley vanished when I mentioned the CD Stoplight to Craig Dory and Brian Levine at Dorian Recordings. They had already heard about it, but, lacking a sample of the real stuff, had used a green Magic Marker instead. Believe it or not, they heard a major difference in favor of the treated disc. According to Craig Dory, Dorian will be working with
Critical music listeners agree that Forté components furnish a level of performance competitive to state-of-the-art systems.

The Forté Model 2 preamplifier provides gain for either moving coil or moving magnet cartridges.

Model 3 amplifier
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Write or call for a brochure and the name of your nearest dealer.
JVC to research the mechanism underlying the edge coating. The rumor is that some pressing plants are already applying an edge coating.

Discussions I had with RH during and after the show failed to pin down a plausible explanation for the effect of the edge coating. The error rate is not affected, and it is not clear how digital jitter would be produced or reduced by eliminating light reflections. So why the edge coating works still has to be regarded as a theoretical puzzle.

Just to make sure, I asked for and received a pre-production sample of the CD Stoplight, with the expressed purpose of trying it in the comfort of home. This I did as soon as I got home. Two copies of Greensleeves, a collection of English lute songs (Dorian CD DOR-90126), with soprano Julianne Baird and Ronn McFarlane on lute, were used in the evaluation. The digital output from a Kinergetics KCD-30 was used to feed my Theta DS Pre. The analog signal from the Theta's tape out was amplified by the Threshold FET-10 line stage. The rest of the chain consisted of Celestion SL600s driven by the Air Tight ATM tube power amplifier. Both the edge-coated and uncoated discs were destaticised prior to playing with a Zerostat. I then compared tracks 9, 10, and 11 on the untreated disc with the identical tracks on the treated disc. After getting a fix on these tracks, I went to the treated disc. The improvement was astonishing. On track 9, the title track, Julianne's voice was much better focused than before, to the extent that her chest or diaphragm and vocal tract were now clearly discernible. Her sibilants were more naturally reproduced than before, and hall reverbs were easier to follow down to a lower level of decay. The general impression was that the soundstage was more transparent. It was easier to see into the Troy Savings Bank Music Hall, as though layers of fuzz had been lifted away. Much of the same was evident on track 10. Even on track 11, the lute solo, it was obvious that more information was being retrieved in the case of the treated disc. McFarlane's finger work was simply more clearly resolved. To borrow Peter McGrath's notion of "Digital Death," the edge coating killed less low-level detail than the untreated disc would have. The improvement was on the order of switching from a mass-market to an audiophile-edition CD player.

The CD Stoplight will be available in March at a cost of $14.95. Be sure to give it a try. And if you can not restrain yourself till then, you may want to experiment in the interim with a green Magic Marker or some green slime. Isn't that great—slime your CDs!

You can understand that by the time I ran into Arcell's Ray Shab on the last day of the show, I had no trouble at all relating to his Laserbase. This is a "unique suspension device for CD players...guaranteed to make your player sound better than one costing twice as much...absorbs internal resonances while isolating player from external vibrations." Mmm, sounds like analog talk. The Laserbase is actually a cute and well-thought-out device that I'm going to be living with in the near future. It will support players weighing up to 27 pounds, and retails at $125.

While I'm thinking digital, I'd like to mention a newcomer to the digital-processor field. Musik System is a startup company from San Diego run by a couple of expatriate Swedes. Their design is "based on listening tests and sound engineering principles." Amen. A brief listen to their processor in the Sound-Lab suite (The Weavers at Carnegie Hall) impressed me with its imaging and resolution capabilities. At a projected retail price of under $2000, this one may turn out to be a giant killer.

Analog news: Here I'm specifically referring to the phono front end: 'tables, arms, and cartridges. There really wasn't much new on the analog front. My general impression was that phono-system development is undergoing a process of consolidation. Most manufacturers are apparently focusing on the affordable rather than trying to scale new frontiers. This emphasis on value and affordability should be welcome news for most of us.

Panther Enterprises, the folks who distribute the Benz-Micro line of cartridges in the US, did an excellent promotional job. Most of the suites that I stopped by, which necessarily means that the sound therein was quite listenable, touted a Benz-Micro cartridge. The MC-3 ($1500 retail), which our own TJN likes very much (and reviews elsewhere in this issue), would appear to be the current leader in the low-output MC sweepstakes. Panther now imports the Manticore Mantra 'table and Musician line of arms from the UK. A Mantra 'table with a Musician 2 arm is set to retail for a mere $1395.
SimplyPhysics' Darkstar Phono System has been upgraded to a Series III level. The chasis is now laminated with high-epoxy-content multi-density fiberboard, and the Aviator II arm features a new dual air pump and an adjustable air-flow valve.

There really is a Bob Graham, and a Graham Engineering Model I tonearm. I ran into both at the Panther suite, where I did a quick and not too scientific comparison of his arm and Basis 'table vs the new Benz-Micro 'table (actually a modified Revox 'table). For the record, the Basis/Graham combo won hands down. The Model I is a thing of beauty and a technical tour de force. The arm tube is very well damped; the arm wand is interchangeable—additional arm wands are available for $287; micrometer adjustments are possible for overhang, VTA, tracking force, and azimuth; and wait till you see the cartridge-alignment fixture. At a truly American price of $1776, it's cheaper than any of its real competition. Bob tells me that the arm is finally in a production mode.

Kudos is in order to Mile Nestorovic and George Merrill, and for three reasons. First, the Nestorovic/Merrill Audio suite was the only one that I visited at the show without a CD player. Just like in the good old days. Second, here was the only open-reel tape deck I saw—a Nagra T. Finally, with the Nestorovic System 16A Mk. III loudspeakers and the Merrill 'table and Stable Table front end, the sound here was among the best at the show: excellent imaging, clean and detailed bass, and a gutsy tonal balance the likes of which I have not enjoyed in years.

Loudspeakers: After the staff breakfast on Saturday, I made a beeline to the AHL suite to see and hear their full-range cold-plasma loudspeaker. Unfortunately I saw more than I heard. The Toltèque is indeed a full-range loudspeaker operating on a corona discharge principle. As I told the designer, Mr. Jean-Claude Fourrier, I never thought that I would witness such a technological breakthrough in my own lifetime. The principle of operation has been known since 1956. But leave it to the French to advance the art of the "massless" transducer. Unlike the Ionovac tweeter, in which RF energy is used to break down the air, a high-strength static electrical field is used here to ionize a volume of air. The field is made so strong that the outer electrons of air molecules are stripped

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Stereophile, March 1990
away, leaving behind a conductive fluid or cold plasma made up of free electrons and positive ions. The audio signal voltage can then be made to squeeze and expand the ionized air volume, thus directly vibrating the air medium. The traditional problems of this type of transducer have been and still are low efficiency, reliability, and the health hazard of ozone production. Its virtues are exceptional transient speed; the ionized air mass of the Toltèque is claimed to be 0.04 gram—at least two orders of magnitude lower than the moving mass of the best electrostatic; and phase coherency without the disadvantage of mechanical resonances and their attendant colorations. AHL vanquished the efficiency issue by resorting to size. These are big speakers. Each panel incorporates five corona discharge cells for a total of 10 cells per side. A polarizing voltage, nominally 12,000V DC, is applied to a filament wire. The wire is coated to prevent oxidation. A sheath of air surrounding the wire is ionized. The audio signal is stepped up to about 5000V and applied in a push-pull fashion to grids in front and in back of the filament wire. The resultant radiation pattern is, of course, that of a dipole. AHL's specifications for the Toltèque do not give a sensitivity figure. However, the maximum SPL is listed as 100dB at 1 meter—presumably over the entire bandwidth of 20Hz–20kHz. The problem here is that such a maximum SPL is just adequate in a small room, but these are large dipole radiators and will sound their best in a large room.

I never got to hear the Toltèques at average SPLs above, I would guesstimate, about 75dB. The low line voltage at the Sahara meant that only a polarizing voltage of 7000V could be achieved. In addition, AHL's McIntosh MC2500 amp clipped on all peaks above a whisper. There's a nasty input impedance presented by these speakers which dips to an ohm at times; a problem, I'm told, that will be rectified with a new step-up transformer. What I heard sounded pure and focused. There's certainly plenty of potential here; but a convincing demonstration of power and bass extension this was not.

And what about ozone production? There is nothing in the AHL literature to suggest that ozone is even a byproduct of this loudspeaker. Ozone is produced when oxygen is ionized, and is a severe lung irritant. Its threshold-limit concentration is a very low 0.1ppm. The good news is that you can detect ozone below this value: if you can smell it, it is still below the danger level. Remember Nelson Pass's corona speaker of several years ago? It had a big problem with ozone production that almost put Nelson in the hospital after several days' exposure. When questioned about ozone, AHL told me that the electrodes were enclosed in a thin Mylar bag which serves to contain the ozone. Apparently AHL does not include the moving mass of this bag, through which the sound must pass, in its calculations of moving mass. The Mylar bag is only 3μm thick. Mylar so thin normally contains lots of pinholes through which some ozone must leak out into the room. AHL itself did not seem sure of the efficacy of this approach, and I heard talk of using argon instead of air as the ionization medium inside the bag. I couldn't smell any ozone in the AHL suite, but Tim de Paravicini claimed he could.

Finally, the price. When I asked, I was told 480,000 French francs. Not being familiar with the exchange rate, I was unmoved at first. But hey, these are not pesos—at 6 francs to the dollar, we're talking $80,000!
Brian Cheney and the VMPS Super Tower 11s (§4795/pair assembled, $3895/pair kit) were right down the hall. These speakers use more drivers than I have hairs on my head, but somehow they blend together quite well. The bass overwhelmed the small room, but despite the room, imaging was reasonably precise. The 11s had an effortless, dynamic quality about them without the sacrifice in resolution of low-level detail of the typical big, dumb box speaker.

Here's where I met Alan Hill of Plasmatronics. He's still building lasers, but itches to get back into audio with a reasonably priced line of helium-plasma hybrids. If all goes well, look for the return of Plasmatronics in about a year.

Rounding the corner again, I bumped into Tim de Paravicini of EAR, who was on his knees talking intense Japanese with Mr. Miura of A&M Limited. The first thing Tim did was show me a picture of his kids—sweet-looking youngsters. Then Tim and Kavi Alexander of Water Lily Acoustics escorted me to the Hales Audio suite where a pair of Tim's EAR 200 monoblocks, driven by a new preamp, was eliciting very pleasant sound from the Hales System Two Signature ($4850/pair).

Art Manzano and Edge Marketing have latched on to some exciting products. First, there is the Air Tight line of electronics from A&M Limited in Japan. Yes, Japanese tube electronics with an incredibly sensuous look and build quality. The ATM-2 stereo amp, for example, promises to be a fantastic performer. Then you have the Swiss-made Rowen loudspeakers. Designer Tony Aebischer is in love with paper cones, specifically some of the classic AR drivers. For example, the top-of-the-line R-S ($5995/pair) uses the AR-3A midrange cone. The R-S strikes a pretty conventional profile, being ostensibly a 5'-tall floor-standing column with a moderate footprint. But, in fact, it is far from conventional. The sound radiation pattern is fully bipolar, with the front and back baffles radiating over the entire audible bandwidth. Despite the small room and near-wall placement, the sound of the R-S was extremely likeable, cohesive, and detailed, and totally non-fatiguing.

Nelson-Reed almost did not make it to the show. I found them in the Berning/Millbert suite. In fact, they almost did not make it at all. They were severely victimized by the great
earthquake of October 1989, to the point where the company's continued existence was seriously in question. All is well now, and production is slowly returning to normal. But Ron Nelson related the nightmarish aftermath of the quake, seeing cabinets piled upon drivers, and inventory and parts trashed on the floor. Bill Reed was at the factory when the quake hit. He tells me that the advice about crawling under a table just did not work. He was thrown against the wall, and could only regain control when the shock wave passed.

The Velodyne subwoofer/Quad ESL demonstration was a disaster. Not only did the sound of the Quads fail to integrate with that of the subwoofer, but the bass quality of the subwoofer was thumpy and all wet; just that—a single-note, undifferentiated, soggy bass blast. The annoying Velodyne thump seemed to follow me wherever I went in the Bi-Level Complex. I'm at a loss to understand LG's recent enthusiastic embracing of the Velodyne or this company's brisk sales. Guys, if it's real bass you're after, you should have stepped next door to hear the Nestorovic System 16, or over to the next building to catch a glimpse of the new Kinertetics SW-800 subwoofer system.

Kinertetics pulled off what I consider to be a near miracle. They successfully integrated a subwoofer with the twitchy Martin-Logan CLSes. There were no transitional discontinuities, and the tonal balance through the lower octaves was just right. The deep bass and midbass were tight and well-detailed. Unfortunately, the CLSes need not only a subwoofer, but also a woofer. Thus, on loud passages, the CLSes, crossed over at 100Hz with first-order slopes, congested and distorted. The SW-800 System, at $4000 retail, includes two woofer towers, each with five 10″ drivers, two 200W bass amps, and a crossover incorporating, among other things, the Compusound circuitry: everything you need to get into the subwoofing business. The crossover is quite versatile. Not only is the frequency selectable at 60, 80, 100, and 120Hz, but a variety of high- and low-pass filters may be selected to tailor the system to a particular satellite.

Westlake Audio displayed some of their reference monitor systems in an attempt to penetrate the noncommercial market. The room and the setup were far from ideal, but I still managed to enjoy the effortless, dynamics, and gutsy balance of the BBSM-12VF Monitors ($5000/pair). The entire line is competently designed and built, and deserves serious attention from the audiophile in search of tonal-balance accuracy and dynamic-range capability.

What (or rather, WATT) is a Puppy? Well, according to Wilson Audio, it is a compact woofer with built-in passive crossover designed to complement the WATT monitors. Dave Wilson's demo of the WATT/Puppy combo, bad room and all that jazz, highlighted the superb capabilities of this system in the areas of imaging specificity, soundstage dimensionality, and preservation of timbral accuracy. The combo sounded very much like a loudspeaker worthy of a $10,000 price tag; clearly one of the best sounds at this or any other Show I can think of.

TARA Labs is now importing what may be New Zealand's finest domestic line of speakers: Gary Lambert's Timekeepers. Matthew Bond has dubbed the line the Space & Time Timekeepers, which is quite a mouthful. I had a long conversation with designer Gary Lambert, who is quite a charming fellow. His philosophy is to build an honest product starting with the best drivers he can either build or find. The cabinetry is well-thought-out, and first-order crossovers complete the design. I've got my sights set on the baby Timekeeper, a minimonitor really ($1800/pair), for a full review.

A surprise awaited me in the Maston Audio suite. The Maston Satellite uses the same driver complement as the DIY kit project I'm hard at work on for Stereophile: an MB Electronics 1″ titanium-dome tweeter and the new Dynaudio 17W75-XL 7″ bass/midrange. One of Don Maston's design goals was to integrate the drivers while maintaining a fairly flat system group delay. The result is a minimonitor that images superbly, but, like many minimonitors before it, is also deficient in the deep bass.

Speaking of kits, both Madisound and Just Speakers market excellent speaker kits. Madisound offers the complete line of Dynaudio kits. The Dynaudio "Twynn" consists of a D'Appolito-configured pair of 17W75 woofer/mids flanking a D28 AF tweeter. At $500/pair per kit w/o cabinets, or at $800/pair with, this looks like a great value.

Just Speakers' Signature line of kits has been enhanced with the addition of the Joseph D'Appolito Model 717. The semi-kit (w/o cabinets) will cost you a mere $600/pair. Fully

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The biggest sonic disappointment for me at the show proved to be the new Celestion Ribbon hybrid. The model 5000 was partnered with Audio Research electronics and a Cambridge Audio CD player. After all the hype, the exquisitely crafted Celestion promotional literature, and most of all Ken Kessler’s rave review in HFN/RR, my expectations were naturally primed. Yes, I do agree with JA that the ribbon is seamlessly crossed over to the woofer, but that matters little when the sound of the ribbon is excruciatingly etched and sizzly, and with tubed electronics no less. Neither was I happy with the balance around the lower mids, but it was those razor-sharp treble transients that drove me away from the room with red streaks down my cheeks. How can a company that gave us the SL600 and SL700 go off the deep end like this?

It is fair to say that Apogee has mastered ribbon technology. But my first impression is that Speakerlab has done pretty well with the Auricle ribbon ($500 each). Of course, you’ll need to provide a baffle and a woofer to extend the response below 150Hz. And Clear Image Audio has done all that with gratifying results.

Two inexpensive speakers caught my attention. First, the Spica SC-30, at $369/pair, should eat up the competition at its price point when it comes to soundstage transparency and imaging excellence. A 1.5″ cone tweeter is matched to an 8″ woofer with a comput er-optimized third-order crossover network. But be careful to mate the SC-30 with electronics that counteract a slight treble glare.

The Ohm FRS 7, at $650/pair, is part of a new line from Ohm dubbed the Full Room Stereo. The tweeter is mounted in the corner of the cabinet so that its primary axis is pointed upward and inward toward the opposite speaker at a 45° angle. This is claimed to achieve a smooth direct-sound response with a wide stereo image, while dissipating the remaining treble energy via wall and ceiling reflections. This helps preserve a correct diffuse-field tonal balance while increasing ambience. The response of the 6.5″ woofer is augmented with a 10″ passive radiator. There are some other tricks used here, and I look for great things from this design.

On the last day, just as the Show was officially closing, I set out to find Apogee Acous-
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Number Eleven (p.50)

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The copper goes on getting purer. Left is the grain structure of 4N OFC; right is that of stressfree 6N.

tics. Because they were not officially part of the Show, they were not bound by established show hours. Meandering around the Sands Hotel, I ran into RH, who had just left the Apogee suite. An hour and a half he had spent with Jason Bloom, listening to Jason's hand-picked CDs. "Best sound at the Show." "Better than the Infinity IRS V." What speaker was Jason showing off this time? The Stage. Bob tells me with a wide grin—a mere $1995/pair! I could not wait to get in there. And yes, the Stage provided quite a show. It was driven by reasonably inexpensive electronics: an Aragon power amp, an ARC line-stage preamp, and a CAL CD player at the head of the chain. Soundstage transparency was astounding at any price. Low-level detail was superbly delineated. Transients were quick and well-behaved. But the overriding wonder was the level of cohesiveness this speaker achieves. Bass, midrange, and treble information were driven home without any audible time lag. And the tonal balance was convincing, with good body and heft through the lower mids and upper-bass registers. You should hear a double bass or cello through the Stage—no minimonitor I know of comes close in capturing the authentic weight of these instruments. I'm not trying to suggest, however, that the sound was perfect. The voicing of the Stage was a bit on the cool side, lacking the sunshine of good ESLs. And the soundstage did congest on very loud passages, while some edgy distortion crept in—but this may be a function of the amplifier running out of juice. They're cute to boot, and at their asking

One of the best sounds at the show, according to Robert Harley and Dick Olsher, the Apogee Stage, seen here with Apogee's Jason Bloom.
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See full review: The Absolute Sound, May/June 1989

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price the Stages may very well make the competition obsolete in the $2–$3k price range. Together with the Wilson Audio Watt/Puppy and the Nestorovic System 16, this trio, in my opinion, clearly scaled the pedestal of best sound at the Show.

Cable news: NIMIC Inc., a division of Nippon Mining Corp., was trying to generate interest in 6N-purity copper. This is ultra-high-purity copper to the tune of six nines: 99.99997%. Both conventional copper (Tough Pitch Copper) and the so-called Oxygen-Free Copper (OFC) are only 4N pure—a mere 99.99%—although OFC has much-reduced oxygen impurities. The 6N copper has even lower oxygen impurity than OFC, but is also much lower in iron and sulphur content. As a result, its electrical conductivity is about 0.5% higher than that of OFC. The Nippon “Stressfree 6N” wire is heat-treated to preserve its long grain structure and minimal crystalline dislocations. The claim is also made that the 6N is sonically superior to any 4N wire, including the OFC type. And Nippon is looking for interested cable and coil manufacturers to increase wire sales. I’m told that AudioQuest is already using 6N copper in the new Lapis interconnect.

To prove their point, NIMIC set up a wire comparison at the Show. About 8’ of solid-core wire was used between speaker and amp. A remotely controlled switch box was used to switch between TPC, OFC, and 6N wires. The only variable under test was copper purity. The test setup was clumsy, and program material was played via a nondescript mass-market CD player, but the sonic difference between the 6N and the TPC was very obvious, even under these conditions. I asked for a sample of the 6N wire for some homebrew experiments, so stay tuned.

Amplifiers: Tubes are stronger and healthier than ever before—a great start for the ’90s. There’s a slew of exciting tube amplifiers on my horizon. I’ve already mentioned the Air Tight ATM-2. The Berning EA-2101 ($3500 retail) is an inventive amp; you’d expect nothing less from the whiz kid. A triode output stage with 100Wpc into several matching impedances is no mean feat.

The Melos Triode 200 Stereo amp ($2995) does even better in the power-output department by using a European EL519 horizontal-sweep TV tube operated in a triode configuration with an inventive driver stage.

Cary Audio’s Dennis Had, coming as he does from an extensive RF-engineering background, is no stranger to tubes. And the 100W Mono Blocks ($2995/pair) show a genuine flair for tube design. The KT88 output stage is not unusual—except that these KT88s are operated as true triodes, for a change, with no ultralinear nonsense. However, the dual toroidal output transformers do represent an interesting and worthwhile design twist on an old formula. Construction quality is very high, external appearances to the contrary; an honest product for an honest price.

I also got my first glimpse of the Atmosphere MA-1 OTL amp ($5400/pair). Ralph Karsten has apparently outmaneuvered Futterman. How about an all-triode output stage with zero negative feedback, and class-A operation in a fully differential circuit? And the amp is stable. With an oven mitt in his hand, Ralph proceeded to extract one of the output tubes while the amp was happily making music. Not much happened. The amp continued merrily on its way. I’ve got to have a pair of these!
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Since he joined Snell Acoustics in the mid-'80s, Kevin Voecks, their chief designer, has been involved in the design or redesign of the entire Snell line, from the minor revision of the Type A/III (incorporation of a new tweeter), to the complete redesign of the Type C (now the CIII). Snell Acoustics is located in Massachusetts, and although Kevin spends a good deal of his time there or at the measurement and analysis facilities of the Canadian National Research Council in Ottawa, he does a great deal of his conceptual and preliminary design work, as well as his listening, in Los Angeles, where he makes his home. I visited him there last summer to gather a little insight into his background and loudspeaker design philosophy. I started by asking Kevin when had he first become interested in loudspeaker design...
Kevin Voecks: I had a hi-fi store in the Boston area, and it was really obvious that the big problem in hi-fi was the speakers. We had all the esoteric models and brands, but they all sounded completely different from each other—all of them had obvious problems that related to the speakers, that clearly weren’t somewhere else in the system.

Thomas J. Norton: You started actually working on the designs of speakers when you were operating the store?

KV: Exactly. Then I sold the store in order to do speaker research full time. I spent a year just doing basic research, so every time I would get going again in some direction, it would be obvious that the assumptions that everything was based on were wrong. The more you look at it the more you’d realize that everybody was following assumptions that were often not right.

TJN: The first loudspeakers you designed included the original Symdex Sigma?

KV: That wasn’t the first speaker. The first one was a big speaker that never saw the light of day. We went to a CES [with it], but that was about it. In the meantime I’d come up with the Sigma. That was an era when a little, high-quality speaker was very attractive and very popular. The LS3/5as were out, and everyone liked those. About that time the Tangent loudspeakers came out, which were also popular.

TJN: Was it shortly after that that you went from Symdex to Mirage? I know Symdex went through a period when they virtually disappeared.

KV: What had happened was that there was a company in Canada, called Inception Audio at that time, importing Tangent from England. They had done a really great job of importing, to the extent that Tangent couldn’t keep up production, got in over its head, and was about ready to go out of business due both to their success, ironically, in the Canadian market, and to poor management. About that time KEF suddenly went out of the OEM driver market1 and [Tangent] had been using KEF drivers. Suddenly [Inception] couldn’t get product. . . . So in a crash design situation—in about a month—we did the whole [original Mirage] line, with available Audax drivers that were quite similar, actually, to the KEFs.

TJN: Were you involved in the design of the Mirage 750?

KV: I did all the Mirages, from the beginning. The 750 wasn’t done during the “crash” period—it was done at a more sane rate.

TJN: And then you began working with Snell?

KV: About four and a half to five years ago. What happened was that Peter Snell had died. Everyone was, of course, terribly shocked by that, because there was no indication that was going to happen. Ironically, he had just been dealing with the people who were about to really finance the company for the first time, after it had struggled along for years after its formation in 1976. My store was the only Snell dealer for the first couple of years of production, and we had an exclusive as long as we sold all of them that were made.

To digress, Peter Snell had come into the store with the prototype Type As. When you have a store, people are always coming in with some terrible home-brew speaker they want you to listen to. So we listened to the As, kind of condescending the whole time, having all these esoteric things all around. But after listening to it, we said “You’re right, this is the world’s best speaker”—and suddenly started acting a little nicer. I was a good friend of Peter’s for many years and knew how incredibly dedicated he was to the company and to the ideals of good sound. He had this concept that everyone in the world ought to be able to buy a Snell speaker.

At the beginning Mirage was nice enough to let me work part-time for them and part-time for Snell—so there was a transition period for them, and also so that Snell could afford me at that point in time.

TJN: Since you joined Snell, you’ve designed, or redesigned, most of their line.

KV: The only exception being the Type A/III—it’s only had a very minor update.

TJN: The A’s the longest-running model in the line now?

KV: That’s right. It’s gone through various versions. It’s interesting that, in my Mirage days, IAs a supplier of raw drivers to other loudspeaker system manufacturers.

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we would always look for a reference speaker—we were trying to design the best thing for the money, we weren't trying to design the most expensive, world's best speaker—and we kept going back to Type As. We actually owned every version of the Type A along the line because we kept believing that it was the right choice. So when I went to work for Snell, I didn't have to change my sonic viewpoint in the least.

**TJN:** You started the design for the Mirage M-1, which was finished up by Ian Paisley, I believe. You envisioned the original concept, and they polished it, though it has been considerably changed.

**KV:** I would say far more than polished. There were some very significant questions that related to how a bidirectional speaker ought to perform, whether it's dipole or dipole, and I don't think they had been carefully addressed by any company in the past. So they spent a huge amount of time in the anechoic chamber at the National Research Council solving those problems.

**TJN:** People don't realize how long a gestation period it can take for a loudspeaker to get into production from the time it's originally conceived. The M-1's gestation may be longer than typical, though—we're talking five years here?

**KV:** That's way longer than typical. Certainly it could have been faster than that, but it does take quite a bit of time. The tools that have come along to speed it up have also made it possible to make a much better product.

**TJN:** I guess every designer approaches it differently, but when you originally conceive a new loudspeaker design, where do you generally start your process—how does your conceptual process work?

**KV:** The conceptual process is the part I like—by far—the most, because it's the really creative part, and comes pretty easily. You usually say that you need a speaker in a certain price range—that's usually the direction that you start in—then you start to think about what kind of things could be done for that price. For instance—at $2000 for the CIII, what can we do to make it demonstrably better and worth twice the price from our model below it, the Type E? You would think about what things you could optimize—more dynamic range, lower extension in the bass, refined midrange, particularly the off-axis midrange response and power response, so that pretty much defines that it has got to be a three-way system with a woofer bigger than 8" so that you can get some low end and some power-handling capability. When you're at that point, you start looking at potential drivers and designing woofers.

**TJN:** You're not particularly tied to any one concept of woofer enclosure—I notice some of your designs are sealed and some are ported.

**KV:** I definitely don't believe that one is inherently superior. With our small speakers a bass-reflex alignment wouldn't make sense. Given the amount of money you're going to spend on the woofer magnet, the size of the cabinet, and all of that, it becomes very clear when you do the simulations that it needs to be a sealed enclosure.

**TJN:** Most of your larger designs do tend to be ported, though, except for the A. I'd like to pursue your concept of crossover design. There's always been a difference of opinion between designers as to slow-slope vs fast-slope. You tend to go more for faster rollofs on your slopes, generally.

**KV:** That's true. Actually, if you wouldn't mind, I'll go back a step and discuss something that I think is really important about the way we look at the whole design process. That is, we look at it in an objective, methodical sort of way. For instance, let's say some manufacturer comes out with a new loudspeaker that has a new x factor, and that they have done everything they can to optimize that, often at the expense of other characteristics—believing it [the x factor] is important. Maybe the speaker sounds good, and gets a good review, and the reviewer concludes, somewhat logically, "It's the x factor in the speaker that has made it sound good, so that must be an important characteristic." Other high-end manufacturers, usually pretty small companies, look at that and say, "Wow, these guys have come up with this new thing that makes a difference." And they may start designing toward that end, again failing to optimize other parameters that are not in vogue at the moment.

At Snell, we intend to completely avoid that situation. We look at everything, whether it be parts quality—for crossover components, say, iron-core vs air-core inductors, mylar vs electrolytic capacitors—or whether it's something like a high-order filter vs a low-order filter, and try and determine what is optimum without having assumptions beforehand, which is
really the way to go. In terms of the high-order filters, back in my Mirage days, we used first-order filters on the original line, believing that improving phase response must improve the sound. I had done some crude experiments (where unfortunately I had had to alter more than one parameter at a time) that seemed to indicate that, yes indeed, this made an improvement. Of course, when you hear a difference you usually believe that it’s an improvement, when you want it to be.

Then Stanley Lipshitz, at the University of Waterloo, wrote a paper saying that he had developed a device that would allow you to alter phase without altering amplitude—usually in minimum-phase speakers the two are linked together. In this paper he said—to paraphrase generally—that in a room with music used as a program source, phase really wasn’t very audible. When it was, it was basically in the midbass—and then it was hard to say which was “better.” That sounded like heresy to me, so Stanley was kind enough to let us use the test equipment that he had developed. We reproduced the test, using Type A’s and also using electrostatic speakers and state-of-the-art analog equipment for that time [pre-CD], and came to the very same conclusions. We decided that giving away all of the other potential advantages of high-order crossovers in order to chase after the proper, flat phase response had been a mistake. At that point we went to a multi-slope speaker, where it started out being first-order; then, as it got an octave away from the crossover into the stop band, the rate of rolloff would increase. That gives you really demonstrable improvements; the power handling goes up, the distortion goes down, and the interference between the drivers is reduced because the range where two of them are reproducing the same frequency range is minimized.

**TJN:** You don’t have the lobing problems, even though they’re in the vertical plane in most loudspeakers, if designed right.

**KV:** That’s right. Those were differences that were definitely real. It also allowed us to get the amplitude response much flatter. Peter Snell had clearly designed for ultra-flat frequency response; his speakers were always the flattest that were out there. It seems that as more research is done, more and more of his ideas are proven to be true.

**TJN:** When you start a design, you probably pick what you feel to be representative drivers that you’re interested in working with. Sometimes you use manufacturers’ standard drivers, sometimes you have certain modifications made. I know you’ve said that on your new tweeter you did quite a lot of work with Vifa to get what you wanted. How does that process normally work?

**KV:** You have a choice of designing and building your own drivers or buying somebody else’s. We believe that it makes more sense for us to be buying somebody else’s. First of all, because that’s their area of expertise and they can do it better than I think we could do it. But also, importantly, if you build your own drivers you can’t build them to such a QC standard that they’re all perfect—it can’t be done. One turn of wire on a tweeter voice-coil, for instance, will make a significant difference. So if you decide to build your own, you have to decide what to do with the rejects. Some manufacturers use the same driver throughout a line, and put the rejects in the less expensive models. Other manufacturers sell those rejects as their OEM drivers for hobbyists. I don’t feel either of those is really a very acceptable solution. What we would rather do is get someone to build drivers as we like them, and then have that driver manufacturer make them available to everybody so that our rejects can go to people who are less particular.

I think this is an incredibly important point about Snell—we all know that tiny amplitude response differences are very, very critical; a tenth of a dB in level change over a third of an octave or more is something that would be demonstrably audible in blind listening tests. So if you think about most drivers being manufactured to a tolerance of, say, ±4dB, typically, it’s ridiculous. So we first screen the drivers to make them fit within a particular window. Then we adjust the crossover components so that a specific driver’s characteristics, when used with this individually tuned crossover sys-
tem, will result in amplitude response within ±0.5dB of the original reference speaker that made. In practice we approach more like ±0.25dB, but what we’re guaranteeing is 0.5dB. There are a couple of rare cases where manufacturers make matched pairs of speakers—usually computer selection of drivers that are paired—but that is actually an admission that every pair of their speakers sounds different—I can’t see that a customer is getting a very good deal if they have no idea how their speakers compare to what they’re supposed to sound like. However, we can say that this speaker sounds like the pair that the Stereophile reviewer just heard and like the pair that we played at the show and like the pair in the dealer’s showroom. That’s a central point.

**TJN:** You have a fairly high reject rate on your drivers, then.  
**KV:** It depends on the driver, because we can make quite a bit of difference by altering the crossover components. We actually adjust the turns in the inductors, tweak capacitor values and adjust resistors inside the crossover.  

Actually, the way it works in driver selection, typically is—let’s say in a three-way speaker—I use a simulation program where we can go through what used to take months of trial and error or designing drivers and testing them in various enclosures, all on the computer. Low-frequency response is what we have the best handle on, in terms of being able to model it really accurately. So I can come up with a set of specs for drivers, and can give that to various people that we would like to, potentially, buy drivers from and say, “can you build this?” or “do you have something that’s like this already?” Oftentimes, with woofers, there’s something that’s stock that works very well, and we would then go in that direction. Otherwise they build it for us. Woofers—particularly in a three-way system, where a woofer is only handling wavelengths much greater than its size—don’t vary much from one to another. If you’re talking about using a woofer in a two-way system, then the high-frequency characteristics of the woofer vary from one to another in a given production run and are very critical. The next step would be the midrange and tweeter. Typically what I do is get it down to 10 or 20 driver finalists in doing the testing here—quasi-anechoic response using a maximum length sequence analyzer—then go to the National Research Council, which has, literally, the most advanced loudspeaker design facilities in the world. I do the final measurements there, which will include the cabinet effects, and I can thoroughly analyze it and decide which ones are the finalists.

**TJN:** I believe Dr. Floyd Toole was involved with the development of many of these advanced measurement techniques at the Canadian NRC.  
**KV:** He’s been working for about 12 years on determining the correlation between measurements and sound quality in speakers. He doesn’t have any particular axe to grind because he’s not affiliated with any commercial venture. We have independently verified most of his results as really being accurate... it’s very powerful to be able to make a set of measurements that you can say for sure that, if the speaker does poorly in those measurements, it’s *not* a good speaker. Unfortunately, we’re not to the point where if it does well in those measurements, we can definitely say it’s a *good* speaker. While double-blind listening tests usually minimize or eliminate the differences between pieces of electronics, with speakers they make those differences seem larger.

They have a facility at the NRC—it’s the IEC prototype, standard listening room. When you think you’ve done with a speaker design, a technician will take that prototype into the room and four other speakers. You don’t know what the four others are, at all. The speakers are hidden from view. They’re randomly attached to five numbers. The volume levels are all equalized by measurements of pink noise. You sit and listen at any length. You don’t have to make rapid switches, you can listen to whole cuts per speaker—any way you like, any way that makes it easier for you. You write up your responses: “Speaker #1 sounded bass-heavy.” That sort of thing. It’s interesting that, as I said, it seems to make the differences even greater.

---

3 I once inspected the crossover of an older Snell Type A/II—I owned a pair for several years—after disassembling it according to Peter Snell’s directions to locate a rattle inside (the grille is nailed in place on the Type A). I observed the use of multiple parallel capacitors to make up a required value and at least one tapped resistor, as I recall.
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than they are, and you usually end up tearing the speakers apart terribly. In the case of the CII, for instance, its measurements looked good. We went into the listening room, and I ravaged the speaker—then went back to the drawing board. We wait until our speaker comes out demonstrably better—to myself and to a listening panel—than the competitors’ speakers that are also behind the screen before we come out with the speaker. So we really know that, objectively, without having any egos involved, that our speaker is the best at the price point.4

TJN: I mentioned, in passing, in a recent article that the listening room is the last frontier of audio. You’ve done some interesting things in this area. The other day you mentioned to me a new program that Snell is developing to help the customer select the right listening position and the right position for his loudspeakers.

Snell Type A/III loudspeaker

KV: That’s right. It calculates all the room modes based on its being a rectangular room, then predicts the areas where you will activate room modes and where you won’t, and gives options from best to worst for speaker placement. That will be a free service for Snell owners.

TJN: Do you have any particular feeling with your loudspeakers, or personal preferences, for either a live listening room or a more heavily damped listening room?

KV: As you can see, this room, where I do a lot of listening...

TJN: . . . is really live.5

KV: It is. It has overstuffed furniture, but there’s no Sonex on the walls. There are no Tube Traps in here right now. This is the way I usually do the listening because it’s like a normal room. I talk to a lot of customers every day who have questions about setting up their systems, and it’s obvious that very, very few of them are willing to significantly treat their rooms. They usually can’t get away with it, in a domestic situation. So most of my listening is done like this. I also bring in Tube Traps and Sonex, and do listening and comparisons under those varying sorts of acoustical conditions. The IEC room

4 Technically, of course, this refers to the listener’s preferences under the conditions of the test and among those speakers with which it was compared. I have no reason to doubt that the tests at the NRC are among the most thoroughly researched in the world (if not the most thoroughly researched). But, like everything else in life, not all will agree with the NRC’s findings. For those interested in reading about Dr. Toole’s work in loudspeaker assessment, a bound edition reprinting his earlier papers is available for $3.75 (US) including postage from the National Research Council, Division of Physics, Ottawa, Ontario K1A 0R6, Canada.

5 KV’s listening room, where the interview took place, was of moderate size, with a standard 8’ ceiling. It was carpeted, but the windows were undraped (blinds only).
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Revue du Son (France)
June/July, 1989

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up at the NEC is very, very neutral. They have bass traps to make sure that it’s also flat at low frequencies, and the positions that the listening chairs are in and that the speakers are placed are ones that are pretty much equally affected by the room’s acoustics. So its a neutral situation.

**TJN:** Have you had any experience with the Live-End–Dead-End listening room that is promoted in some quarters?

**KV:** Yes, I have set up Live-End–Dead-End rooms in a couple of different rooms and done a lot of listening. I don’t think it’s the most neutral environment. I can see why it has gained popularity in recording studios, but I think that it degrades the reverberant field. Peter Snell always said that the early arrival sound had to be ultra-ultra-flat — and that’s what you heard in terms of imaging and specificity — but that the reverberant field also had to be carefully controlled, and if you had a dead-end situation you’re going to roll off the top end of the reverberant field. I don’t think that’s desirable.

I think it’s amazing that most speakers are designed really without thinking about the room. The Type A, in its first version, totally accounted for the room’s boundary effects. In that case, the woofer was located within acoustical contact of the floor throughout its range, so that there were no peaks and dips caused by that reflection. The midrange was kept well away from the floor, and there was absorbent material below it which reduced the first reflection off the floor. The curved baffle made it act as if the speaker was in a bump in the wall — an infinite baffle. We are continuing to pay close attention to how the speakers act with the room. For instance, the Type B, which we showed a year ago just to demonstrate this concept, uses two woofers which operate over the same frequency range but are located at different distances from every boundary in the room — the floor, the walls, the ceiling — which minimizes the frequency-response irregularities that you otherwise get with a conventional speaker.

**TJN:** I recall you mentioning once that in the design of a loudspeaker, you do a great deal of your listening in the mono mode, vs using a stereo pair.

**KV:** That’s correct. Research has shown conclusively — again this is NRC research — that you come to the same conclusions about which speaker is better whether it’s in a stereo or a mono mode, but you come to that conclusion faster and more reliably when it’s a single-speaker comparison. It gets terribly complicated to switch between stereo pairs and keep their interaction with the room relatively the same — that’s a big problem in itself. Plus when you’re working on a prototype, having to continually change two of them would slow things down. So most of the original listening is done with a single speaker. I don’t use an actual mono mode [combining the two channels of a stereo signal] because that can, depending on the recording technique, roll off the top end and give you some false results.

**TJN:** Do you use dedicated mono program material or one channel of a stereo signal?

**KV:** I use one channel.

**TJN:** You mentioned the Type B in passing. I don’t know how much public information you want to reveal as to where that model stands. I know it was mentioned quite favorably in some CES reports about six or eight months ago. I’d guess that final development and production are still quite a ways down the road?

**KV:** That’s right. It’s the first model I’ve ever done that has been on schedule, although it has been a very much revised schedule from the first. We will be showing a completely finished version of it at the January 1990 CES.

**TJN:** I know that it’s probably not even in concept yet, but is the original configuration of the A considered more or less enough of a classic that you’d want to retain that in any future revision, or would you consider going to a completely new type of design?

**KV:** It’s a little early to say. Certainly the curved baffle is a great idea. I’ve done a lot of work on diffraction effects and how audible they are, how measurable they are, how to solve them, and how to get rid of them. The CI and the Q, for instance, have a grille frame that is absolutely flush with the baffle, and it then has a gentle curve. That’s very effective. The closer to the driver there is any irregularity in the surface — particularly to the tweeter — the more there are diffraction problems. And diffraction...
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problems are real amplitude-response problems, both on-axis and in the alteration of the reflected, off-axis sound.

**TJN:** All Snell loudspeakers are, obviously, direct-radiator loudspeakers. It must be somewhat frustrating for you, as a designer trying to push the boundaries on direct-radiator loudspeakers, to realize how popular dipoles are in the audiophile market.

**KV:** That is frustrating. Personally, I believe that tonal accuracy is by far the most important thing in speakers, and certainly the blind tests that have been done have proven that to be true. However, in our very subjective field, people often are willing to completely trade away tonal accuracy for a great sense of depth. It could be argued that in a dipole or bipole loudspeaker this is clearly produced by the reflection off the rear wall. It is not reproducing something in the program material; that is simply impossible. It has to be producing it by that reflection. But the argument is, so what? If, on orchestral material usually, that sounds more realistic, then that's OK. I don't have a problem with that. People usually are very clear about which they like. There's not that much competition, really. Most of the stores we sell through also sell dipole speakers, and they acknowledge that customers usually prefer one or the other. They're usually not torn between them. That was the idea of the M-1: what happens if you made a good dipole speaker—one that has accurate frequency response?

* I asked Kevin at this point if he had any comments he'd like to make that weren't triggered by the questions or discussion. He added some further elaboration on his and the NRC's measurement techniques, and on his computer-assisted optimization procedures.

**KV:** Amazingly enough, most manufacturers measure the frequency response of their speaker at whatever it looks the best; they adjust the microphone to that position. It is much more logical to look at a window — let's say a ±15° window — where the on-axis listeners will be, and average those spaces. We look at that at the NRC facilities. We also look at what's going to contribute to the early reflections. The first major thing that we hear, of the two major sonic characteristics of speakers, is the early arrival sound that's composed of both the sound that is launched directly from the speaker to the listener, plus nearby reflections — usually the floor and a sidewall are the dominant early reflections. Your ear-brain combination cannot separate those two events because they are too close together in time. You can see, obviously, that the content of that reflected sound is very, very important because it's being added together with the direct frequency response. That's usually not explored at all by speaker companies. We're looking at this off-axis response, both vertically and horizontally, including clear out to 70° off-axis, to make sure that the response is smooth and doesn't have huge peaks and dips in it that would color the sound.

The second big thing that we hear is the reverberant field. At the NRC we're able to measure completely around the speaker in every direction, to see what it will contribute to the reverberant field in a room, in total. You can also optimize that. High-order filters contribute greatly toward getting that optimized. After we do all of these important, off-axis measurements and have this great wealth of data from the NRC, then I use a filter simulation program to work on the filter networks. One of the reasons that so many audiophile companies have concluded that first-order filters are better is that they can't implement properly designed, high-order filters; if they've tried, the filter has been a failure. It's certainly not a trivial task. On the Type C1, for instance, I spent about 1500 computer hours getting it really flat. That's just not something you can do by the seat of the pants. You simply must use computer-assisted design.

**TJN:** Obviously you have found that the computer aids that are available now either speed the process or make it more efficient.

**KV:** They also allow you to do much, much better work than you could possibly do otherwise. In one minute you can try a completely different crossover network, a different set of drivers, move the listening axis, or change a driver. You used to have to actually build all of them.

**TJN:** Where do you see the future of loudspeaker development going from here?

**KV:** Recognizing that the marriage of audio and video is finally becoming a reality, I see genuine hi-fi speakers which are also specially suited for use with Dolby film sound. This would apply to both the front speakers and the specially optimized surround speakers. The adoption of a minimum performance standard would go a long way toward an experience in
a home listening room which is what the director intended. I also believe that as more and more people experience objective listening tests, they will start to pay more attention to the things that really make important audible differences.

After the interview, I had a chance to listen to both the new Type E11s and the early prototype Type Bs (the same versions—actually the exact same systems—that were demonstrated at the 1989 Winter CES). Kevin used some of the same program material he has used in his show demos: CD selections dubbed onto DAT. The Bs sounded as promising as I remember them, but are apparently to undergo a significant transformation, both in drivers and in cabinet, prior to their next showing (and hopefully their formal introduction) at the 1990 WCES.

Kevin also demonstrated his computer design tools. He uses three programs: MLSSA (Maximum Length Sequence System Analyzer) from DRA Laboratories for quasi-anechoic measurements, LEAP (Loudspeaker Enclosure Analysis Program) from CNS Electronics for low-frequency alignment, and the Loudspeaker Crossover Design and Optimization Program from Peter L. Schuck Consulting. All of these programs are available on the open market and all were, as an interesting coincidence, advertised in the 4/89 issue of Speaker Builder magazine. They are all rather expensive for a casual speakerbuilding hobbyist, but only MLSSA (at $2750, including the A/D board) would be prohibitive in such an application. (The other two programs are about $200 each.) The quality of the results obtained from any of these programs is, of course, critically dependent on the inputs provided by the user. The sophisticated crossover optimization program, for example, requires that you input both the driver frequency responses and impedances. If you use the driver specs from the manufacturer for these inputs, you'll get a result analogous to measuring something with a micrometer that you've just cut with a backsaw. Kevin Voecks, of course, can use the precise data obtained from his measurements at the NRC, which makes the precision of these programs worthwhile.

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Nominally rated at 8 ohms, this hefty three-way dynamic loudspeaker system has been updated five times and continues to sell. Why? The Type A uses room boundaries to develop a very powerful bass response; it is designed to be used next to a wall, not out in the room, making it easier to live with and decorate around; and it has a large sonic soundstage and wide dynamic range. The latest improvement, the Type A/III Improved, has a much smoother treble response. The story of this improvement is important, for it represents a cooperative effort between a speaker designer and an independent loudspeaker test and research facility, that of Canada’s unique National Research Council (NRC). Kevin Voecks, chief engineer at Snell Acoustics, drew on the NRC’s combination of free-space amplitude measurements with rigorous double-blind listening comparisons. The result: a Type A with sonic sufficiently improved that it deserves a new, full review.

From the beginning, the Type A was built to produce uniformly flat amplitude response; both for the speaker’s early-arrival—time sound as well as the room-dependent, late—arrival-time reflected sound. Also designed in was a bass response that gained power and definition from interaction with room boundaries. Speaker designers have paid attention to room boundaries before, including Paul Klipsch (folded corner horn in the Klipschorn) and Roy Allison (who eliminated the so-called “floor-dip” by placing the LF driver in close proximity to the room boundaries). Despite a number of critical reviews from this magazine and others, the Type A has been more of a favorite in high-end audio salons than Klipschorns or Allisons. Why?

System features

The Type A produces its best imaging and bass response if placed near a wall, where it was designed to go. This makes it unique among many other high-end loudspeakers. Many other systems in the $5000+ range image best when placed well into the room. As a result, moving in a pair of Type A’s does less to interfere with furniture arrangement and living space. In my house, this results in a higher-than-average Wife Acceptance Factor (WAF).

The Type A’s physical appearance is probably the second non-sonic reason for its success. Peter Aczel said it best, when he described the Type A as the “best looking large speaker we can remember: an utterly simple, virtually seamless, upright brick of polished wood and stretched cloth, four feet high, two feet wide and just over one foot deep.” Artistically, Snell's
speaker resembles a marble sculpture because its polished wood veneer has been used to adorn the front, not just the sides. No grille border frame disturbs the purity of the geometry, for the grille cloth is flush with the wood veneer. The color of wood grain enhances the sense of volume and mass without being overpowering. As with anything, speaker beauty is relative. JGH called it "one of the less-glamorous speaker systems." The massiveness and height of the cabinets lowered its Decorator Acceptance Factor (all right, its DAF) with the architect who designed my listening room (he prefers planar screens).

Physically and electrically, the speaker is divided into two sections. The smaller, but heavier (72 lb) base houses a 12″ acoustic-suspension woofer which "faces" upward into a strongly braced cabinet. This clever design trick allowed Snell to make his woofer cabinet smaller by moving the space-occupying speaker magnet and spider assembly outside the acoustic suspension chamber. (The woofer magnet appears, therefore, to be braced against the cabinet base, which will usefully increase rigidity.) All four sides of the woofer cabinet have openings at the bottom for sound to emerge: the woofer unit itself has a sealed-box alignment; none of these openings is intended to act as a tuned slot. The upper surface of the woofer cabinet has pegs and felt strips to provide mounting and alignment to support the lighter (51 pound), but larger, upper section. Snapping on the top section produces a seamless fit.

The boxiness of the upper section disguises the enclosure's acoustical shape by hiding it under the wraparound grille cloth. In fact, the baffle for the midrange and tweeter has been molded into a biconvex shape to avoid any diffraction-generating edges that might smear imaging. In addition, the midrange driver's mounting isolates the driver in its own cylindrical container, which is in turn supported in the baffle by foam mounting.

Top and bottom sections each have their own 5-way banana plugs on back panels that allow for a variety of interconnections. Short interconnecting cables, terminated in double banana plugs, jumper upper and lower cabinets when the system is set up for a single amplifier. The upper section's back panel sports three sets

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Snell Type A/III Improved loudspeaker

of bananas: one to receive the audio signal from an amplifier, one to provide the link to the lower section for single-amplifier applications, and one to allow bi-amplification.

Bi-amplication is the optimal way to use the Type As. Obviously, the short jumper cables are put aside and each cabinet is driven independently from the two amplifiers. The third pair of jacks on the upper cabinet then comes into play. A double banana plug with a shorting wire is used for bi-amplication. This acts to partially bypass the midrange's high-pass filter but leaves the other elements of the crossover intact. Then a simple outboard electronic crossover can divide the signal into two paths (deep bass and midrange-treble) for two amplifiers, leaving the remaining legs of the passive network to divide the signal between midrange, tweeter, and supertweeter. A tweeter-protection fuse and an on/off switch for the
rear-mounted, above 10kHz, rear-firing super-tweeter complete the upper section's back panel.

David Hadaway's db-3 electronic crossover was built to Kevin Voecks's careful specifications of filter parameters. "These filter characteristics are very critical in their interaction with both the remaining passive filters, and the driver/enclosure's acoustic response," states Voecks. They are unique, and probably could not be duplicated if an audiophile used a high-end "generic" electronic crossover unit instead. For example, filter slopes begin as third-order, but gradually steepen to an attenuation of 42dB/octave to make certain that all signals outside the optimal bandpass of the woofer and midrange drivers are suppressed. The db-3 has a separate two-output power supply. Next to each of the treble, midrange, and bass output jacks are screwdriver trim controls for each output channel.

A bit of history
I first heard the Snell Type A speaker in 1979. In those days, I made my Saturday pilgrimage to hear the latest high-end electronics from Spatial, Threshold, or Great American Sound at Marcel Whitman's Listening Room (now owned by Stewart Clayman) in Scarsdale, New York. Besides the exotic helium-tank Plasmatronic Speakers, not many loudspeaker systems in the store were serious challenges for the Quad ESLs (paired with Janis W-1 subwoofers) that sat in one of the smaller listening rooms. One Saturday, I was introduced to a tall, thin, bearded fellow (with a tiny ponytail!) who busied himself carrying four large boxes into the store's main listening studio. The speaker system inside those boxes was the Type A, which caused a minor sensation when uncrated and played. This was my earliest memory of the late Peter Snell (1946-1984), who designed the Type A.

The A's design first emerged in 1973, when Snell had just completed his BS in physics at Marlboro College and was working at Epicure. The first working Type A was produced in 1976 and did not resemble today's version: it could not be blamped, had no rear woofer openings, had a two-position tweeter-level switch, and used a fiberglass diffraction plate over the tweeter to smooth the response. This product first appeared in Audio's October 1977 Product Directory at a cost of $1370/pair. Reviewers, including J. Gordon Holt, criticized the original Type A's midrange recessiveness and dryness, treble dryness, and time-domain smearing. Azel downrated it because it was not coherent in the time domain, appearing to produce two pulses out, one from the midrange, one from the tweeter, when one was fed in.

In 1978, the second-generation Type A/ Improved was introduced, sporting rear woofer-section openings, biampifiability, a well-isolated midrange driver in its own rubber-felt-suspended acoustic suspension chamber, and a new tweeter with its own felt-padded dispersion bar. Tweeter switch and diffusion plate were gone, and the price had risen to $1680. Stereophile's Tom Norton (then the editor of Stereophiles) showed his early fondness for Snell speakers by praising this update. Other reviewers were not so kind, finding that the softened transient response and midrange dryness had been replaced with a "hot" top end, weak image depth, fussiness in setup, and a tendency to sound hard and bright on all but the best electronics. The Absolute Sound's JWC was unique in finding the Type A's bass response "anemic," which he incorrectly suggested was the result of having the midrange face forward and the woofer downward, "putting the drivers 90° out of phase!" Even with these limitations, TAS's Harry Pearson awarded the speaker two stars, and it remained at that level in his "Editor's Choice" for two years. October 1980 saw the production and marketing of the $2195/pair Type A/II. Snell had rewired the boxes with LiveWire speaker cable, used a factory-modified 1" soft-dome

3 Norton, Thomas J. "The Snell Type A Speaker:" Stereophiles, Vol.2 Nos.3-4, pp.4-6, 1978.
7 Coolidge, J.W. "The Snell A Loudspeaker," The Absolute Sound, Vol.4 No.15, pp.328-331. July 1979. At the low freque- ncies a woofer generates, the wavelengths involved are very much greater than the physical size of the drive-unit. The Type A's driver orientation would therefore never put the signals 90° out of phase as suggested by JWC. This comment greatly bothered Snell, who felt that it represented a serious under- standing of acoustics, and made him very reluctant to get involved with other reviewers. [It was exactly this kind of technical naivete that led Peter Mitchell to label some of the TAS reviewers as "technically incompetent" in last November's 'As We All See It.'—Ed.]
8 Pearson, H. "Editor's Choice." The Absolute Sound, Vol.4 No.16, p.487, 1979; Vol.5 No.17, p.64 (March 1980); Vol.5 No.18, p.197 (June 1980); Vol.5 No.19, p.228 (September 1980); Vol.5 No.20, p.445 (December 1980).
Audax tweeter, and had reworked the crossover. Although reviewers admired the latest version's woodwork and ability to image correctly, they found it "hard and gritty with less than optimal electronics" and highly room dependent, imaging wonderfully in one room and sounding entirely different in an adjacent room.9

This version sold 1300 pairs, even though the price rose to $2950. I owned a pair from 1981 through 1983. I enjoyed the system’s deep bass and wide soundstage, but disliked its thin, hard sound and shallow soundstage imaging, which was intensified by the bare walls and floor of my reverberant listening room. During a visit, Peter Snell damped this treble brightness with Haitian cotton stretched on frames propped against the wall. Later I even purchased a 6’ Esotech room divider covered with Sonex acoustic foam which sat behind my listening chair. I parted with the Type A/IIs because they lacked the soundstage depth and three-dimensionality of the Quad ESL-63s.

Early 1984 saw the introduction of the next version, the Type A/III. This version was 4” taller, 1” deeper, and 65 lbs heavier, and cost $3770 in walnut ($3890 for oak). The acoustic-suspension woofer was increased from 10” to 12”, and Snell put additional openings at the back of the woofer cabinet to accommodate its greater air-moving abilities. Snell added a rear-firing supertweeter. Why? Voecks explained, "As frequency increases, the front tweeter becomes increasingly directional, and so contributes less to the total power response at increasing frequencies. The rear tweeter's purpose is to compensate for that loss of contribution to the power response at very high frequencies." I reviewed this Type A favorably10 emphasizing the improved soundstage depth, three-dimensional imaging, bass power, and unusual dynamic range. Blamping this version opened up the soundstage width and increased ambient information. Other staff members on this magazine disagreed, finding that the Type A/III lacked a "feeling of relaxation" found in other Class B speakers.11 Within a year, the Type A was dropped from Stereophile's Recommended Components. Despite its ability to be "superb in low and mid frequencies," the Type A's "sizzly top end downgrades it to Class C, where it becomes too expensive."12

The two years following the designer's death saw little progress on the Type A's design. The company marketed the EC-2, an outboard electronic crossover designed by Warren Pugh (shortly after he left Counterpoint) and Kevin Voecks. I purchased one, and found it greatly enhanced the transparency of the Type A. Blamping the system with the new crossover reduced some of the speaker's treble sizzle. Unfortunately, this crossover was plagued with reliability problems, so the company made arrangements with dB Systems to produce the outboard, active electronic crossovers for those who wished to biampify the Type A.

Despite the Type A/III's superb bass response and wide soundstage, critics still hammered away at the hot top end, shallow soundstage, dearth of inner sonic detail, and relatively high price. The Type A's prominent HF character rendered it quite analytical, which made it very handy for reviewing. In many ways, the Type A was Peter Snell's most treasured design, and he continued to tame its problems in a series of updates every three years. This work was cut short just after the fourth update, when he suffered a fatal heart attack while working in his factory on September 20, 1984. Kevin Voecks resumed work on the Type A redesign in early 1986 when he joined Snell Acoustics as chief engineer and designer. [See T&N's interview with KV elsewhere in this issue.—Ed.]

Voecks & the NRC

Voecks decided to attack the Type A's treble roughness. He replaced the highly modified Audax tweeter (with its felt-padded metal strip) with a much better-performing VIFA dome tweeter from Denmark, which meant modifying the crossover filter to accommodate the new driver. As a consequence of the redesigned midrange-tweeter baffle and the removal of the tweeter diffraction bar, Voecks's redesigned Type A finally had a symmetrical radiation pattern. This spelled the end of the mirror-imaged pairing of speakers necessary with earlier Type As. Felt pads between the upper and lower sections and on the woofer-floor interface were built into the wooden frame.

11 "Recommended Components," Stereophile, Vol.8 No.6, p.118.
Voecks found that the two strongest features of the Type A's design were its ultraflat frequency response and the way it exploited room boundaries. While he tried to reduce the harsh treble characteristic, he did not want to sacrifice the Type A's flat frequency response, both on- and off-axis. He used the speaker test facilities at the National Research Council (NRC) of Canada to make certain that the update would play reliably in different rooms and be preferred in blind listening tests over the former Type A-Ill model.

Under the direction of Floyd E. Toole, the NRC provides two services for speaker designers: precise free-field amplitude measurements and a double-blind listening setup. The NRC has gathered data from both sources over the past 12 years, then "closed the loop," bringing together the most useful information from bench and listening tests. Their findings: a speaker with a flat amplitude response was preferred over other designs by expert listeners in double-blind tests. Voecks pointed out that we hear and are sensitive to both the early-arrival sounds and the delayed, off-axis reverberant soundfield. The more the off-axis frequency response of a loudspeaker resembles its on-axis response, the better it rates in a blind listening test. Toole states, "Listeners, it seems, like the sound of loudspeakers with a flat, smooth wideband on-axis amplitude response that is maintained at substantial angles off-axis."

The NRC collects test measurements in a manner that gives designers data on both the on- and off-axis responses. First, a test microphone is swept over a physical window ±15° in a hemisphere around the point of optimal performance (the exact position where other speaker designers conduct limited measurement). Two other measures follow: an average of 30–45° off-axis (which gives an indication of the sound reflected off floor and ceiling) and an average of 60–75° off-axis (which gives an indication of the composition of the usually strong first wall reflection, a dominant part of the early-arrival sound in most listening rooms).

More data are gathered. The speaker cabinet is rotated horizontally for a full 360°. These data are then combined with separate data on the speaker's response gathered by placing the cabinet on its side and rotating it 360°. The combined output from all these measures is the speaker's power response. Voecks found that the new Type A's response curves, on- and off-axis, revealed that the new tweeter performed more smoothly than its predecessor, with fewer peaks and dips in power response.

Voecks believes that the Type A's smooth power-response curves are the result of several design features. First, the Type A's biconvex, non-diffracting baffle frees the early arrival sounds from unwanted reflections. The crossover's steep third-order slopes keep each driver well within its optimal bandpass. This prevents the tweeter or midrange from showing dips in power or frequency response, and avoids directionality.

Next Voecks used the NRC's listening room. The NRC listening room is divided by an acoustically transparent but visually opaque screen. On one side, there are four positions for loudspeakers; on the other side are three chair positions. Each seated position is supposed to work equally well for the four speaker locations. The technician sets up four loudspeakers (monophonic), allows the computer to randomly assign a letter, and the designer takes an assigned seat. The acoustical output levels of the speakers are matched using pink noise. The NRC supplies questionnaires which ask listeners to rate each unit under test on a number of scales. Sample scales (but not all) used by Toole's lab include: clarity/definition, softness/hardness, fullness, brightness, spaciousness, openness, nearness/presence, pleasantness/unpleasantness, and fidelity. Voecks preferred to take free-form notes during his double-blind listening evaluations.

Because the Type A does best near a wall, Voecks modified the NRC's listening-test procedures for speaker placement. First, he had an older Type A/Ill compared to the newer, improved version. Both speakers were placed near the back wall. In every double-blind comparison, Voecks preferred the newer Type A/Ill Improved. He expected that his redesign would be smoother, which it was; he discovered, to his surprise, that it also revealed more inner detail in the music. Then he set up the Type A/Ill Improved in one of the NRC's standard speaker positions (away from the wall), which meant that its room interactions were identical to those for the other pre-assigned

speaker locations behind the screen for each of the special listening seats in front of the screen. Other speakers were then compared with it. Of course, these comparisons could not be double-blind because the Type A, now away from the wall boundary, lacked deep bass. As the new tweeter’s response became smoother in NRC’s measurement lab, the new Type A’s smoothness and inner detailing improved in the listening room.

Use and listening comments

I have to make something perfectly clear. I have owned one earlier version of this loudspeaker, a 1981 Type A/II, and spent two years reviewing amplifiers using the last model, the Type A/III. The Improved A/III reviewed here was the result of a now-available $850 factory modification14 carried out on the same samples of the Type III reviewed in these pages five years ago (Vol. 7 No. 6).

The speakers were set up against the back wall, 6’ apart, toed in, with the inside back corner set 9” out from the back wall and the outside back corner set 12” out from the wall. Most of the listening was done in the biamplified mode. Although the owner’s manual recommends adjusting the level of two dissimilar amplifiers by ear (no need for this level matching with two identical stereo amplifiers), I felt most secure trimming both amplifiers with the voltmeter. I followed Peter Snell’s original protocol for producing identical amplifier–output AC voltage readings on a digital voltmeter. After studying the crossover slopes of the db-3, I matched the output of the bass amplifier when the crossover was driven at 40Hz with the output of the treble amp when the crossover input was a 600Hz AC signal.

The db-3 was briefly compared with my 1985 Snell EC-2 electronic crossover. David Hadaway’s new db-3 crossover was convincingly quieter, cleaner, and introduced much less of its own character into the system. In particular, the EC-2 case–amplified some sub audible transformer hum, necessitating running the EC-2 with an open chassis.

Electronics at the time of this review consisted of a Threshold Stasis III (for midrange and highs) and a VSP Trans Mos 150 (for bass). Vinyl source material came from a Linn Sondek LP-12 (Valhalla Mod), a Magnepan tonearm, a Marovskis MIT-1 moving-coil cartridge, and one of Dunitech’s original Audio Standards MX-10 head amps. A Day Sequerra Broadcast Monitor and FM Studio Tuner delivered classical music selections, and a Sansui CD-X711 CD player was used for many of the more detailed (and repetitious) listening sessions.

No need to keep up the suspense: the treble on the improved version was vastly improved! No listening fatigue was evident over many hours of careful listening. In addition, I became aware that the Snells were producing more high-end detail than my Quad ESL-63s. The new Type A Snells were passing along more of the critical upper harmonic information, making the Quads seem a bit deficient. Acoustic guitar and voice came through with a naturalness and realism I had not associated with the Snells. Transparency was also improved, although the Quad ESL-63 was still superior, particularly in the midrange.

Of course, the Snell Type A/III Improved speakers had far superior bass response to Quad ESL-63s. To achieve this bass, the speaker cabinets had to be within 12” of the back wall (although Voehs informed me that the bass amplifier level can be increased if the speakers are set up farther from a wall). I can testify that the woofer cabinets were not modified (they remained with me while the upper sections went back to the factory). Still, the overall balance of the system has benefited. Perhaps it was the new crossover. In any case, the bass was subjectively flat to at least 30Hz in my listening room. Compared to my all-time favorite Velodyne ULD-18, and using the deepest subwoofer source material, the Type A’s twin 12” acoustic-suspension cones couldn’t keep up with David Hall’s error–corrected 18” woofer in a 5.77ft³ cabinet—the Snells couldn’t produce the jolt felt from the Velodyne playing David Wilson’s “Liberty Fanfare” bass drum passage. It should be said that the Snell’s bass response is so good that adding the Velodyne to the system (don’t ask for the wiring diagram I used to piggyback two crossovers!) did very little. There was no improvement in dynamic range (already spectacular with the Snells), and very little for anything but bass around 25Hz. Imaging was also a beneficiary of the new

14 The modification includes a new tweeter, new mechanical supports for the curved baffle, rebuilding the curved baffle, a new 18dB/octave high-pass filter network, and the “tuning” of the midrange and filter tweeters. The owner only has to send the upper sections (which, by the way, in their packing just make it under UPS’s 70-pound limit).
Snell’s treble smoothness. The Type A always presented a broad soundstage panorama, as well as having the capacity to “reproduce instruments in their proper apparent size” (JGH, Vol.4 No.3, p.27). Missing before, however, was the capacity to give a sense of three-dimensionality and depth. Voecks fixed that, and how! The Snell’s soundstage now has a front and a rear, so studio pan-potting becomes immediately apparent.

Tonal balance has gotten warmer in the upper midbass. JGH commented on this when reviewing the original Type A; now it gave the music a richness, with none of the somewhat cold neutrality I sometimes hear on the Quads. This makes the Bösendorfer Imperial Concert Grand Piano on Malcolm Frager Plays Chopin (Telarc DG-10040) sound wonderfully robust and romantic, with the irresistible quality sometimes associated with tube electronics. Yet there was none of the recessed midrange JGH heard in the early models.

The new tweeter also endowed the system with terrific speed and sock. The Snells will put out huge amounts of volume with two 100Wpc amplifiers driving in biamped mode. The synthesizer crescendo at the beginning of Don Dorsey’s “Ascent” (Telarc’s Time Warp CD, CD-80106) has a sledgehammer quality, with no ringing, distortion, or overhang—just a broadband pulse with what sounds like a cliff-like leading edge. This system’s power response and smoothness convey the weight and authority of an orchestra, second only to IRS Betas driven by a pair of $20,000 Carver Silver Sevens. Of course, setting up the Snells will be much less complex than fine-tuning an IRS Beta system.

Clearly, then, listening to the improved Type A/III shows that the new VIFA tweeter has fixed its hot top end. Other benefits accrue, including superior imaging, much better inner detailing, some increase in transparency, and better overall system balance.

Conclusion
At a cost of $4680, the Snell sits firmly in the high end of the cone-system loudspeaker market. Of the 1603 speaker systems listed in the October 1989 Audio Product Directory, only 7.7%, or 126, cost $4500 or more. If one limits this number to exclusively dynamic driver systems, then only 6%, or 98, of today’s loudspeaker market includes such expensive dynamic systems.

Comparing the Snells with their high-end competition reveals that the Type A gives very good value for the money spent. My hybrid Quad ESL-63 plus Velodyne 18 system has a retail value of over $6000. For that extra amount, the Quads give more transparent sonics and the Velodyne gives much more definition below 40Hz. For those advantages, however, one must live with a huge subwoofer and two screen speakers mounted up on Arcici racks, a hybrid mix that achieves the lowest WAF on record in our house! The Mirage M-1s, another Voecks concept, is a bidirectional $5000 loudspeaker that can be biamped. It does not have the Type A’s power and depth of bass response. The B&W 801 Matrix is a closer match. I find the soundstage much broader with the Type A, whereas the 801s create a narrower but more three-dimensional, solid sonic image. On the other hand, the Type A’s bass response subjectively goes deeper and is more detailed than the 801’s. In addition, the 801s compete with the Snells best if placed in sand-filled stands, again sending the WAF into the basement! From a totally subjective stance, I find the Type A far more beautiful to look at, live with, and decorate around than the B&W 801s or Mirage M-1s.

In fact, the Type A’s ability to reproduce the massiveness and power of an orchestra is closer to that found in the much more expensive Duntech Sovereigns and IRS Betas. These latter speakers, which sell for more than twice the cost of the full Type A system, outpoint the Snell in pure harmonic truthness (Betas) and in three-dimensional imaging (Sovereigns). In terms of panoramic soundstage, smooth treble, and dynamic impact, the new Snells hold their own with these more expensive systems.

I’m excited about the improvements in this latest generation of Snell Type As. The good news is that the treble has finally been tamed. This advance came about because of an independently developed protocol which combined laboratory measurements with controlled double-blind subjective listening tests. Perhaps this signals a time when less alchemy and more science will enter into the art of speaker design.

15 Voecks began to work on the M-1 as a design challenge: could a bidirectional speaker actually be accurate and still sell? He claims that his design never got further than the second implementation before he left API and joined the Snell staff. Ian Paisley and John Chillingarian of API researched and solved a number of key design issues which allowed the production M-1 to answer Voceks’s original design challenge affirmatively.

Stereophile, March 1990
**Postscript: measurements**

Following his auditioning, LG sent the Type A to Santa Fe, where I carried out Stereophile's standard set of measurements (see Vol.11 No.10, p.166–167 and Vol.12 No.2, p.118). (UPS lost the db systems crossover, so all the measurements were carried out with the speaker wired for conventional operation.) First, I looked at the speaker's spatially averaged response at the listening position in my listening room, using an Audio Control Industrial SA-3050A 1/8-octave spectrum analyzer with its calibrated microphone. For consistency with my loudspeaker reviews, I positioned the speakers in the positions where free-space designs work best, around 5–6' in from the sidewalls and 3' out from the rear wall, toed-in to the listening position. Fig.1 shows the result, the smoothest, flattest curve I have ever measured. The very slight downward trend to the midrange and treble is only marred by an excess of HF energy centered on the 12.5kHz band. This was due to an on-axis peak which fell off rapidly as the mike moved to the side. Experimenting with the speakers' toe-in should therefore give a balance at the listening seat that is absolutely flat through the midrange and treble.

The spatial averaging carried out to derive the curve in fig.1 minimizes the effect of room standing-waves on the measurement, thus allowing a good estimate of the in-room bass extension. Low frequencies can be seen to be ostensibly flat down to an excellent 30Hz, the woofer being tuned to around 28Hz, as can be seen from the plot of impedance magnitude and phase (fig.2). The woofer-section impedance falls almost to 3 ohms in the upper bass, so good, current-generous amplification is a must with the Type A. Overall, the speaker deserves a 4 ohm rating rather than the 8 specified, in my opinion.

The magazine's MELISSA system allows a speaker's anechoic performance to be evaluated in-room. Fig.3 shows the Type A/III's MELISSA-derived impulse response measured on the tweeter axis with a 30kHz measurement bandwidth and a calibrated B&K 4006 microphone at a distance of 48". (The pulse has been truncated in this graph immediately before the first reflection of the sound from the floor, thus limiting resolution in the midband.) The shape is reasonably time-coherent for a multi-way speaker, the bulk of the energy arriving within the first millisecond. Performing a Fast Fourier Transform on this impulse response reveals the anechoic frequency response on this axis, shown in fig.4. Again the energy excess in the high treble can be seen, though the rather ragged-looking midband actually has a smooth

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**Fig.1** Snell A/III, spatially averaged, 1/8-octave, in-room response

**Fig.2** Snell A/III, impedance magnitude and phase

**Fig.3** Snell A/III, impulse response on HF axis at 48"

**Fig.4** Snell A/III, MELISSA-derived anechoic response on HF axis

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trend. The tweeter axis is a little above the height at which my listening seat places my ears, so I repeated the measurement on the midrange axis. Although I haven't shown the resultant anechoic response, it was effectively identical, proving the A/III Improved to have excellent vertical dispersion. Listening height will not be as critical a factor in getting the optimum sound from these speakers as, for example, with the Spica TC-50. Whether the HF peakiness is due to a resonance or to some more innocuous cause, such as diffraction, can't be told from this measurement.

The measurements used to derive fig.1, however, implied that the smoothest treble response was not to be obtained directly in front of the grille but rather at an angle to it. I therefore repeated the MELISSA measurement on the midrange axis, offset by an angle of 15°, which in my room represents the listening axis with the speakers firing straight ahead. The resultant response is shown to the right of fig.5, and it can now be seen that, indeed, the treble region is flat compared with fig.4. The only downside to listening on this axis is the interference cancellation, perhaps due to the grille support; but this is trivial, affecting only the output above 18kHz, which is certainly a couple of kHz above my cutoff. The left side of fig.5 shows the LF response measured at the grille cloth. A true nearfield measurement requires the microphone to be virtually touching the drive-unit dustcap. This curve is therefore a little lumpy, but it confirms the excellent LF extension, the woofer's half-power point lying at a very low 25Hz.

Finally, the postprocessing power offered by MELISSA allows you to look at a speaker's resonant behavior by looking at how its anechoic frequency changes as the impulse response decays with time. (Resonances show up as ridges parallel to the time axis.) The resultant cumulative spectral decay or "waterfall" plot is shown in fig.6. The treble can be seen to decay quickly, suggesting that the excess of energy is due to diffraction, though a degree of residual hash is apparent. This is not at a sufficiently high level, in my opinion, to be audible as "spit" or treble "grain." The midband, too, decays relatively cleanly, though two less-well-controlled resonant modes, at around 980 and 1600Hz, can be discerned. The Type A/III Improved will therefore probably not be quite as transparent in the mids as a good planar.

—John Atkinson
BENZ-MICRO MC-3
MOVING-COIL CARTRIDGE

Thomas J. Norton

Moving-coil phono cartridge. Output voltage: 0.35mV (1kHz, 5cm/s). Recommended load impedance: 100 ohms ± 10%. Frequency response: 10Hz–50kHz. Tracking force: 1.6g to 2.0g (1.8g recommended). Compliance: 15 x 10–6cm/dyne. Weight 7.2gm. Tonearm: medium to high mass recommended. Price: $1500. Approximate number of dealers: 35. Distributor: Panther Enterprises, 1431 Ocean Ave. #400, Santa Monica, CA 90401. Tel: (213) 395-0511.

Despite persistent rumors of its imminent demise, and despite the raucous pronouncements of the mass media that it’s a big, wide, digital world we live in, the analog LP refuses to go away. Its health in the mass marketplace is, to be sure, suspect, as anyone who has visited a record store of late can confirm. But the supply of cartridges, tonearms, and turntables shows no sign of drying up—I had intended to begin this review with a lament on the dwindling number of available cartridges, but could not back up the premise. The 1987 Audio Annual Directory issue had five pages of cartridge listings; the 1989 edition also has five. But the picture is not as rosy as a simple comparison of the sheer number of available models would make it appear. Most of the models are the same ones available two years ago; only a handful of new models have appeared which might be of interest to the serious audiophile.

Even more rare than new cartridges are new companies marketing cartridges in this country for the first time. Benz-Micro is the only such company known to this reviewer which markets only cartridges here! And they’re bringing in a whole line of high-end pickups. While the name may be new, the look is decidedly familiar—close inspection of the MC-3, the top model in the line, reveals a body shell identical (except in color) to that of the van den Hul MC-One and MC-10. Swiss designer Ernst Benz has apparently been heavily involved in the design and build of the van den Hul pickups2 since the original MC-1000 (marketed in this country by Empire—at that time owned by Benz—in the early ’80s). Benz also builds the Carnegie pickups for Madrigal. But his own line, while externally similar to the van den

1 At the time of writing. Other products were rumored to be ready for introduction at the 1990 Winter CES.
2 The design appears to have been a collaborative effort of A.J. van den Hul and Ernst Benz.

Hulls and sharing the same solid-boron-rod cantilever, is said to be considerably different in other respects. The four Benz-Micro pickups all have identical (4 x 80μm) micro-edge line-contact styli. They vary in internal construction and body color and all have somewhat different outputs; the MC-2, in particular, is a high-output design (2mV), while the MC-3 is low-output. Sporting a gold body shell, the latter is the only one of the four models to use a square-coil construction (the others use cross-coils) and a neodymium magnet.

The distributor recommends a 30-hour break-in period for the MC-3 before serious listening. I gave it 25. I can say how it sounds fresh out of the box; I don’t generally listen to a cartridge until its break-in is complete—25 hours of valuable listening time being better spent elsewhere.3 The MC-3 was mounted in an SME V tonearm mounted on a SOTA

3 I also generally use a particularly noxious, old Phase 4 recording (best left unmuted) for breaking in pickups—a recording I couldn’t tolerate listening to for more than five minutes in any case. Don’t ask why I ever bought the thing. Probably a case of early audiophile insanity. There is some benefit in using the same recording for breaking in all review pickups; it insures that they are all subject to the same level of stress during the run-in process. Since the longest side of this record runs for 20 minutes, cartridge break-in requires about 75 trips to the turntable—aerobic exercise for audio critics.
Cosmos turntable (review in progress). The remainder of the system included a Klyne SK-5a preamp, Levinson No. 23 power amplifier, and B&W 801 Matrix Series 2 loudspeakers. The preamp-to-power-amp interconnect was AudioQuest Lapis. The B&W loudspeakers were bi-wired with AudioQuest Green Hyperlitz (mid-high) and standard Green (bass), and were mounted on 12"-high Sound Anchor stands (early prototypes, not the somewhat lower, upward-tilted production versions). The cartridge loading, except where otherwise noted, was set to 80 ohms, slightly lower than the recommended 100 ohms.

Sound

I have to admit to a certain sympathy for the point of view that expensive cartridges offer low value for money; they are fragile, delicate devices, have nowhere near the life expectancy of any other component, and almost invariably have a high stylus-replacement cost. Although nearly a dozen pickups in the latest Audio directory are more expensive than the MicroBenz MC-3, the latter certainly qualifies as high-priced. But it's hard to argue with success. If the level of performance provided by the MC-3 (with a suitably high-quality arm and turntable) could have been even approached at a more affordable price, and if the vinyl record manufacturers had been able to get their quality-control act together, then the CD would have little reason for existence save convenience. A lot of ifs. No matter. The point is that I have never heard better overall reproduction from analog discs through my system than that provided by the MC-3.

Does the Benz trounce other cartridges I have heard in every respect? No. My reference cartridge has been, for many months, the Krill KC-100, a pickup which, in my system, excels in tight image definition, dynamic liveliness, and bass clarity. The Benz is a shade softer-focused in all of these qualities, a bit less immediate and punchy. But it outclasses the Krill with a relaxed clarity, naturalness, ease, and dramatically three-dimensional soundstage. It has that quality possessed by very few components—the ability to present the music without its own obvious editorial comment.

The MC-3 does not have the rising high end typical of many moving-coils (though, thankfully, fewer than in years past). If you're in the market for that artificial sparkle and crispness that a response which takes off above 10kHz brings, you won't find it here. Instead, you'll get a full measure of HF detailing, but without any exaggeration or hype. The guitar strings on José Neto's Mountains and the Sea (Water Lily Acoustics WLA CS 02) clearly sound like the nylon strings they are—pungent and precise, yet definitely not metallic. Sibilance sounds right—neither smothered nor emphasized. Strings are silky-smooth. Hard transients do lack a subtle degree of "thereness," but only in comparison with the rare cartridge—such as the Krell—which excels in this characteristic. But while the Krell can, at times, display a trace of HF over-etching, the Benz does not.

Throughout the upper bass and midrange, I can find little to criticize in the sound of the MC-3. Voices are three-dimensional—almost tangibly precise. Cyndee Peters, on Black is the Color (Opus 377-06), has never sounded more real. The acappella trio on "Fiddler's Lament" from Metamora (Sugar Hill Records Pamlico Sound Series SH/PS-1131) was strikingly present, yet without artificial edge or exaggeration—a true demonstration cut with this pickup. And overall timbre and balance were nearly ideal. Cello had a warm, vibrant, woody character, with a clearly audible yet unemphasized rosin on the bow. The balance between body and breath tone on flute (from Stereophile's Poem, STPH001-1) sounded right. And the quality of the castanet sound from "Live" Direct to Disc—Flamenco Fever (M&K Realtime Records RT-107) must be mentioned. A castanet is not merely a series of high-frequency clacking sounds, but has an associated cavity resonance (from its hollowed-out center). The Benz properly reproduced this cavity resonance—even variations in this resonance from one transient to the next. The Krell, in contrast, makes the initial transient sharper and more "exciting," but failed to fully capture the resonant tone.

Perhaps because I have become accustomed to the Krell KC-100's precisely focused, lively sound, or perhaps only because the Krell sounds (and measures) brighter than the Benz, I found the latter lost some image specificity and clarity toward the rear of the soundstage. But in all other respects the quality of the MC-3's soundstage is superb: wide, deep, and fully layered. Ambience reproduction is warm and natural. There are no better examples, in my opinion, of recorded chorus than those on Proprius, and on Kor (Proprius PROP 7770) the
spread, depth, and three-dimensionality of the voices, as reproduced by the Benz, were stunning. Chesky’s remastering of Rachmaninoff’s Piano Concerto 2 (Chesky Records CRZ-2) had, with the MC-3, a warm, ambient glow and three-dimensional depth that ideally complemented this work (despite some limitations in image specificity—caused here, I believe, by the chosen microphone setup). And the MC-3’s soundstaging abilities were further demonstrated by another Proprius recording—the much overused but still valuable Jazz at the Pawnshop (Proprius 7778-79), where the loudspeakers virtually disappeared sonically, replaced by a seamless spread of instruments and audience across the front of the room.

It was only in the low frequencies that I was less than captivated with the Benz’s performance. There is nothing at all wrong with its bass extension—it is, in fact, exceptionally deep and powerful. But it is just a bit too warm and less than optimally tight and defined. The bass drum on “Our Lady of the Grotto,” from the aforementioned José Neto album, seems larger, fuller, and less punchy through the Benz than through the Krell, the explosive footwork on “Flamenco Fever” less driven and a bit smeared. It may merely be a matter of less than an optimum LF compatibility with the SME tonearm. The overall effect is minor enough, in light of the other positive aspects of the MC-3’s performance in the SME, that I do not hesitate to recommend the combination.

**Measurements**

As I’ve indicated before, cartridge measurement is a tricky business; no two test records give the same result. Since I typically use two test records which provide spot tones, it’s no surprise that my measurements frequently differ from those provided (usually) by manufacturers. The MC-3 was no exception. With the CBS STR-100 test record, response was very flat up to 2kHz, gradually dropping off to −2.3dB (L) and −2.8dB (R) at 10kHz, then rising smoothly to −0.2dB (L) and −0.7dB (R) at 20kHz. Response measurements with the newer CBS CTC 330 were essentially the same up to 10kHz, but dropped to −3dB at 20kHz. Ambient temperature for all measurements was approximately 70°F.

Since I made a number of listening comparisons between the Krell KC-100 and the Benz, I remeasured the response of the former pickup using the STR-100. Low frequencies were very flat (and within 0.5dB of that of the MC-3), above 1kHz response dipped to −1.4dB (L) and −1.7dB (R) at 5kHz, then rose gradually to +2dB (L) and +1.3dB (R) at 12kHz and +4.7dB (L) and +3.8dB (R) at 20kHz.

I should point out, for those interested (and to provide a little perspective), that the flattest response I have ever measured with the STR-100 was on a Dynavector 17D: flat to within 0.5dB to 40Hz, with a gradual rise to +2.5dB at 20Hz; −1.0dB (L) and −1.7dB (R) at 5kHz; −0.6dB (L) and −1.4dB (R) at 10kHz; and +0.2dB (L) and −0.6dB (R) at 20kHz. The subjective tracking ability of the MC-3 was excellent. Measured tracking, using the Audio-Technica AT-6605 (M1 126J) (a 300Hz test), showed a slight breakup in one channel at 80μm. Increasing the anti-skating force to the maximum available on the SME (3gm setting), while retaining the 1.8gm vertical tracking force, stabilized the tracking ability in both channels at 80μm.

**Analysis and conclusions**

The Klyne preamp provides two preset cartridge-loading options which neatly straddle the MC-3’s recommended 100 ohm loading: 80 or 120 ohms. As already noted, 80 ohms was selected for the bulk of the listening tests. But I did experiment with other loadings: 100 ohms is available with the Klyne by using plug-in (metal-film) resistors. I did not find the change from 80 to 100 ohms sonically significant; further increasing the resistance to 120 ohms brought on the feeling that the sound was brightening slightly and losing a bit of its pristine quality. Bruce Ball of Panther Enterprises also recommended that I try a 47k-ohm load—a load popular with some audiophiles. I did. With the higher loading (but still using the moving-coil gain stage), the sound was decidedly degraded. (I took care to compensate for the 2dB increase in output resulting from the higher load resistance—a level difference which may account for preferences formed in casual listening tests.) There was a subtle dryness added to the sound. Not obvious, overt distortion, but a definite reduction in liquidity—and along with it a clear loss of presence and three-dimensionality. The MC-3 began to

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4 My primary reference disc is the CBS STR-100, now discontinued. Since my several samples of this disc have been considerable use, I back it up with the new CBS CTC-330 and, occasionally, the JVC TRS-1002.
sound like a very good, low-priced moving-coil. Attempts to load this pickup with 47k ohms are, in my opinion, misguided. Measurement-oriented readers may have begun protesting by this time that the sonic differences observed between the Krell KC-100 and the MC-3 are primarily a result of their respective frequency responses. That argument is certainly defensible. But since neither cartridge measures completely flat (on the chosen test records), I don’t consider such a conclusion very helpful. Even if we were to accept the results of the measurements using the two chosen test records as an absolutely accurate representation of each cartridge’s frequency response (a hard and fast position to which I do not subscribe, given what we know about variations in test records), then the only real conclusion which can be drawn is that both pickups deviate from the ideal in different ways, the Benz producing a slightly smoother midrange-to-HF octave-to-octave balance and a flatter top octave.

I thought it would be of some interest to compare the MC-3 with the van den Hul MC-One, considering their origins. Regular readers may recall that my original sample of the MC-One, reviewed in my last cartridge comparison, suffered cantilever collapse and was replaced by the distributor, Transparent Audio Marketing. It has only recently been broken in, and was listened to for the first time during this review. Unfortunately, it appeared to have one channel wired out of phase. Fortunately, reversing the leads at the cartridge was an easy chore. The result? The MC-One was clearly the MC-3’s sonic stablemate, but the latter was just slightly better integrated and more transparent. Both are clearly Class A pickups; if I were choosing between them and money was not an object, my choice would definitely be the MC-3. But its margin of superiority was narrow, and the MC-One is significantly less expensive. My comparison between them was a brief one; that out-of-phase channel gave me pause. Was this sample of the MC-One atypical in other ways? I intend to return it for a properly wired sample, and will report any change in my findings at a later date.

It is the curse of all reviewers that none of us have heard everything available at any given point in time, and so cannot make irrefutable pronouncements that a given pickup (or loudspeaker, amp, etc.) is the current “best.” But in this case I can say that the MC-3 is, overall, the best pickup I have heard to date in my own system. Not better in every respect than some significantly less expensive models, but better in those areas which (for me) are the most vital. The only restraint on my enthusiasm is the cost. You can get within 10–15% of this level of performance for considerably less money; the law of diminishing returns is still in force. That last increment in performance is, as ever, costly. But those willing and able to go for it are not likely to find their investment a disappointment.

A JOURNEY THROUGH ANALOG

Martin Colloms discusses some recent experiences with black-vinyl-disc replay components

Alphason Sonata turntable, Alphason HR100S tonearm. Prices: $1800 (Sonata), $1000 (HR100S). Approximate number of dealers: 15. Distributor: May Audio Marketing, PO. Box 1048, Champaign, NY 12919. Tel: (518) 298-4434.


Linn Sondek LP12, Linn Ekos tonearm, Linn Toloika cartridge. Prices: $1165 (LP12 afrormosia finish),
$1205 (LP12 walnut finish), $1230 (LP12 black finish), $1995 (Ekos), $1750 (Troika). Approximate number of dealers: 100. Distributor: Audiophile Systems Ltd., 8709 Castle Park Drive, Indianapolis, IN 46220. Tel: (317) 849-7103.


Roksan Xerxes turntable. Price: $1800 in "black ash" finish ($1900 finished in teak or walnut, $1950 in oak, $2050 in "piano black"). Approximate number of dealers: 6. May Audio Marketing, P.O. Box 1048, Champlain, NY 12919. Tel: (518) 298-4434.


This journey through analog disc replay is more a saunter than a gallop.1 But at a time when the vinyl medium is on the retreat commercially, it remains an undisputed fact that a well-balanced, high-quality black disc player can deliver fine replay sound that has a natural alliance with the sound of the master tape—a balance between ease, sweetness, and natural dynamics which only the very best digital replay can approach. Nor, these days, need the user be too aware of the mechanics of replay. Sure, digital has its advantages, but in our rush to adopt the now-credible digital neighbor, we should not neglect an old friend of proven worth—trusty analog.

A good analog player is something of an open-ended proposition. Whatever its balance of qualities and limitations, it is fundamentally musical in the sense that it is free of stress and also may be significantly improved by the appropriate choice of phono preamplifier. Preamplifiers have self-evident and marked effects on the sounds of analog players. Conversely, the digital-sourced signal, arriving as it does at line level, offers less scope for improvement. Its balance of performance factors is relatively fixed by the D/A, and subsequent filter and audio-output electronics. If a high-volume CD-player producer has decided to spend only $10 on his product's output stage, then that is how it will sound—forever. If you want a sound with good bass timing, musical dynamics, and tonal purity, you have to fight for it with the digital format. These properties seem to come naturally to analog replay, however, where the fight is more for detail, more consistency to end-of-side, better pitch stability, tighter focus, lower coloration, and greater transparency. Each critic will balance the importance of these according to taste and experience. Analog is often easier to listen to than digital, less immediate and less obviously exciting in some cases, but generally more involving and—paradoxically—more relaxed. Many digital encode/decode systems still sound hardened in tonal quality, slow on musical timing, and rather nervous and highly strung, overall.

This isn't to say that the quality of digital-audio replay doesn't advance by the month. It has at last broken free from the apparent psychological block that in the past prevented designers from achieving more than a purely nominal rate of improvement in sound quality. But analog disc, despite increasing supply difficulties and the popular connotation of an "out-of-date" technology, continues to advance on its own terms (even though this is at a more sedate pace than formerly). It is self-evident that a good LP collection remains a valuable musical and historical resource, and one whose early content is untainted by that first generation of musically primitive digital encoders. Digital encoding may be at last showing signs of improvement, but it still does not attain the fundamental purity and transparency which Sheffield achieved with direct-cut discs over two decades ago.

Analog disc-replay systems will remain of considerable interest for some years to come, in my opinion. I have reviewed so many digital products in the past year that it was refreshing for me to return to friendlier analog ground.

—JA

1 Logistic difficulties limited the turntables under examination in this report to UK-manufactured models. Dick Olsher has almost completed a review of the Australian Aura turntable being distributed in the US by TARA Labs. Thomas J. Norton is currently working on full reviews of the SOTA Cosmos and VPI TNT turntables, while Arnis Balgalvis is preparing an appreciation of the Basis. We also intend to obtain a sample of the cost-no-object version of the Well-Tempered Turntable as well as the latest version of the Vena Dynamics 2.0. These reviews should appear in Stereophile in the late Spring to early Summer.
where much of the technology is self-evident, where sound quality often correlates well with measurement, while the whole performance goes on to relate well with many of the more satisfying aspects of reproduced music.

The test cartridges were properly run in, and extended experiments were also made with respect to temperature, alignment, and tracking downforce.

**Listening details**

The main system used to audition the players consisted of Apogee Duetta Signature loudspeakers bi-amped with two Krell KSA-80B amplifiers and fed by a Krell KSP7B preamplifier. Cables were all custom-made with pure silver conductors and Teflon dielectric. Celestion SL700s, bi-amped with Goldmund Mimesis Three amplifiers, also made an appearance, using a custom Musical Fidelity VX preamplifier. The reference turntable in the middle range was a Pink Triangle "PT-T00" fitted with an SME V carrying a van den Hul MC One cartridge.

I used a wide variety of discs, including the old established Sheffield direct-cuts; even the earliest of these still demonstrates a unique sonic standard. Leaving aside questions of musical content, the intrinsic quality of these recordings is so high that they continue to help in revealing important aspects of component sound quality. We certainly need the equivalent direct-to-disc philosophy applied to CD, and I look forward to hearing Reference Recordings' direct-CD disc.²

**Alphason Sonata turntable:**

*$1800*

**Alphason HR100S tonearm:**

*$1000*

Reasoning that a good subchassis is highly rigid and has preferably a substantial mass, and assuming a minimum of self-resonance and energy storage, Alphason designer and company proprietor Mike Knowles has chosen to work in a traditional material. Where other decks feature wood or wood-composite, light alloy, or pressed-steel subchassis, the Sonata's is made of cast iron which uses thick reinforcing webs and reinforced bosses for the key structural positions—the main bearing and the arm mount. Rigidity is the watchword here, and the arm-chassis-platter loop is closed tightly. Bass neutrality is thereby conferred, but may have been achieved at the expense of excessive energy storage and non-optimum arm-pillar termination in the midband.

The subchassis is hung on three coil springs; leveling can be adjusted from above the plinth via three Oracle-like suspension towers.

The relationship between the single motor's pulley in the original design and the platter is not a particularly stable one, and a really steady support and stable floor are essential to achieving a fair degree of pitch stability. Lateral swing was the preferred direction of subchassis freedom, due to the suspension being predominantly gravity-driven. This is not ideal for constant drive-belt tension, and it is interesting that the player with accredited subjective timing accuracy, namely the Linn LP12, has a suspension design oriented to achieve a clean vertical float.

Fortunately for this review, the test turntable was updated to a twin-motor version. Placed across the platter diameter, the single belt runs around the two motor pulleys and consequently two sides of the platter. Pitch variations due to chassis swing are successfully canceled out, while unwanted differential forces on the belt are reduced. Platter torque is increased, leading to a shortened start-up time. In addition, the platter bearing is no longer loaded asymmetrically, aiding gyroscopic stability.

Made of a loaded vinyl composite, the heavy one-piece platter is inert and self-damped. Direct record contact without a mat is recommended, and the use of a heavy cast-iron center weight with a washer at the spindle provides some degree of tension-reflex disc clamping. Good termination of disc vibrations is assured.

By skillful design of the plinth, a slim, distinctive appearance has been achieved, complemented by the gold-anodized top plate. For the second model, we had use of the new Atlas power supply (which can be used on an Alphason or on any other AC-driven turntable requiring a 110V, 50Hz supply for a 24-pole motor). The Atlas is a two-speed supply with quartz-locked fine speed control; a single-speed version, the Alceus, is also available. These power supplies can deliver a low-noise sinewave, properly phase-shifted at both 33⅓ and 45rpm. With the Atlas, the locked speed may be incremented in steps as small as 0.02%, and

² See Robert Harley's feature article in the January issue, Vol.12 No.1, p.85. —JA
Alphason suggests a small 0.05% or 0.1% speed increase over nominal to achieve a mild “upbeat” tempo if so desired.

Now well established and fitted with fixed van den Hul cabling, the HR100S tonearm was among the earliest one-piece headshell/beam designs, the main section fabricated from a nitride-hardened titanium-alloy tube. When internally damped, this offers superior acoustic performance. Effective mass is modest, and downforce can be fine-tuned via a precision-threaded counterweight stem. Bias compensation is obtained via a version of the traditional thread-and-weight system. Vertical tilt cannot be adjusted. Pre-loaded, the low-friction bearings include carbide inserts to combat brinelling (the undesirable scoring of bearing running surfaces common in lower-grade designs). The bearings are housed in a classic concentric-gimbal mount design; the “circles” are executed in stainless steel.

On test, the arm delivered low-friction results, below 25milligrams (mg) in both planes, while arm-beam resonances were better behaved than in older versions of this design. The first torsional mode was placed above 1kHz. Geometric accuracy was very high, while bias-force settings lay in the correct range. Both moving-coil and moving-magnet cartridges should work well in this model.

For the turntable, wow & flutter was improved by 30% with the twin-motor drive, recording a fine 0.05%, while longer-term pitch variations were also considerably reduced under the test conditions. The bi-motor setup also stabilized more quickly, allowing for more consistent and accurate readings to be taken. Overshoot upon removal of torque over-load also improved to a “very good” standard.

Disc impulse damping was very good in terms of the suppression of the initial leading edge, though a more detailed analysis of the impulse tail at high resolution indicated that energy storage at a low signal amplitude was not as small as the overall response at first might suggest. No platter rocking mode was noted—a positive result. Located in the 3–4Hz range, the free resonance of the subchassis was nicely clear of the arm/cartridge resonance zone.

Rumble analysis suggested clean working of the main bearing with DIN B figures of –76dB or better, while power-supply harmonics were rejected well via the mechanical route. Mutual shielding is employed to suppress the hum field from the second motor, which is mounted more or less directly below the cartridge, under the nonmetallic platter. Just a trace of supply hum was evident at full volume when used with the more hum-sensitive cartridges. In practice, this is unlikely to pose a problem.

With the compliant springing and high-mass, low-resonance chassis/platter system, the rejection of external vibration and acoustic energy was considered very good; as a result, the deck was less critical of siting than most.

**Sound quality**

Listening began with the original single-motor type Alphason Sonata fitted with the Alphason HR100S tonearm and a van den Hul MC One. General impressions were of a neutral, well-balanced, and self-effacing presentation. In the Sonata, however, the MC One did not deliver the spatial and musical information so easily
apparent when it was used with the PT T00/ SME V combination. I then fitted the review sample vdH MC Two, and the auditioning took a more serious turn. (The transmission matched composite platter was used as recommended, with a clamp but without a mat.)

Auditioned over an extended period of months, mainly using the MC Two, the single-motor player never gave cause for concern. Certainly in combination with that cartridge it always sounded unflappable, neutral, and again, self-effacing. Ultimately, however, it was the Alphason's capacity for self-effacement which left me dissatisfied; in the end I craved more commitment from it, more of the drive and energy possible from well-reproduced music.

In a sense, the Alphason system was a ringer for "average to good"—quality CD—blandly neutral with no obvious flaws, with nothing you could easily put your finger on and cry "here it is—listen to that nasty coloration!" It was as though the Alphason player's blemishes have been ground down to inaudibility; by comparison, the Linn sounded distinctly colored and lumpy (although the degree of this should not be exaggerated). However, there is more to the enjoyment of music than textbook neutrality, the subjective quality of uniform frequency or tonal balance. Somehow, the single-motor Alphason managed to slow the beat, rather like the very early SOTA. Musical pitch was somehow diluted—not a lot, but just enough to give an impression of a slightly off-center disc. It would be unfair to call this "wow"—it isn't—but it did detract a mite from the impression of a musical line, a chain of well-tuned notes. The effect lies on the borderline between stable timing and pure pitch, and feels related to an apparent slowing of tempo (noted, for example, by comparison with a Linn, a PT T00, or a Roksan).

Another oddity concerned clarity. Simple instrumental lines were conveyed with good ambience and pleasing clarity and definition. Stage focus and perspective were also well defined. Amazingly, this character vanished when the musical going got rough. Dense musical scores sounded just too dense, the soundstage clogging up with what I can only call a kind of noise, a sort of muted roar building up from below. In these sections, it was evident that the impression of dynamic range was curtailed, the result one of compression—a flattening of musical contrast.

As with the midrange, the Alphason player's bass was essentially neutral and sounded well extended for its class, very likely a reflection of its rigid, high-mass chassis and the substantial platter. However, the bass could not be described as "quick." Slam was softened, and bass playing sounded too relaxed.

Although I like its neutrality and, in truth, it is still competitively priced, I feel that the HR100S tonearm is beginning to show its age; I would like more precision and definition in the treble than it currently delivers. This was particularly the case with the Sigma 2000 installed, and it did not really do justice to a Koetsu Rosewood either.

The van den Hul MC Two cartridge gave the best balanced effect in the treble, while the Koetsu added more bass thump. However, the mids sounded withdrawn, leaving the treble a touch obvious. As noted, the Genesis 2000 did not take too well to this player, and the treble mismatch was severe. The combination sounded fractured and emphasized in the treble.

During the progress of this review, Alphason supplied the twin-motor update of the Sonata, augmented by the optional Atlas electronic power supply. I have to report a transformation in performance. The new Sonata showed a subjective improvement of some 20% or so, the reproduction now imbued with considerably more confidence and drive. Pitch has been much improved; comparison with the original suggested that it was positively somnambulant! With better bass timing and tune play-
The construction, Linn tonearm: did Alphason still steady changed Eminent subchassis by rendition. At the time of writing in late '89, I did not feel the single-motor Alphason was recommendable, but the two-motor electronic version has lifted the performance back into the recommendable category.

**Eminent Technology ET 2 tonearm: $950**

Much has been written in these pages on Eminent Technology's parallel-tracking, air-bearing tonearm, so I will only be brief. I must report that I find the Series Two ET to be a most creditable product, overcoming my earlier mixed feelings about it which were based on my auditioning of the original model. It does need a highly stable support and in these series of tests, it worked well in combination with the Roksan Xerxes turntable (see later).

**Linn Sondek LP12 turntable: $1165**

**Linn Ekos tonearm: $1995**

**Linn Troika cartridge: $1750**

The long-established LP12 turntable is little changed in respect of major parts, although many detailed refinements have continued a steady rate of performance improvement. The subchassis is still a steel pressing reinforced by a U-shaped channel. Originally of welded construction, chassis tolerances could be affected by thermal distortion; some variable resonance behavior was present. The latest LP12 therefore incorporates a bonded chassis using heat-cured epoxy. Better stiffness, structural damping, and dimensional accuracy all result.

Over the years, the three-point, tapered-coil spring suspension has been refined using better bolts, superior rubber bushes, and more accurate springs. While the arm board is still mounted to the chassis using the familiar three small wood screws, the intention apparently being to partially decouple the board from the subchassis, the board is now a triple laminate: an MDF inner core is covered with hard composite skins to improve rigidity, increase damping, and resist warpage.

Plinth improvements include the addition of reinforcing corner fillets to the hardwood frame, better build tolerances, and a six-point fixing for the intentionally soft and lossy bottom cover. Revisions have also been made to the main bearing by adopting a new sleeve liner. Originally PTFE (Teflon), this is now made from a harder and more stable plastic called PEEK. This material has much better dimensional stability and may be machined to a closer tolerance. The whole bearing offers lower noise, lower friction, and desirably tighter coupling between subchassis and platter, firming up the mechanical loop encompassing the tonearm and cartridge. Minor improvements have been made to the single-speed, quartz-locked electronic power supply, which now offers even better speed stability. The heavy two-part Mazak platter remains, fitted with the traditional felt mat, while tighter lid hinges pro-
vide better mechanical coupling of the low-resonance acrylic lid to the plinth.

On test, rumble was placed at the measurement limit of -78 dB, averaged for both channels. Speed accuracy was excellent, while wow & flutter was also one of the best measured for a true subchassis design at 0.05% DIN Peak Sigma 2. High torque ensured that speed loss under load was minimal at below 0.12%, while the system proved free of speed overshoot during the recovery cycle. Electrical breakthrough was fairly low, though not as low as those designs with a physically separated power supply. The disc impulse response was the usual felt-mat result: although "loud" on the initial transient, it does have the advantage of an essentially uniform spectral balance. Many plastic- or rubber-based mats can show great absorption in some frequency regions, but are rather selective in their performance. While shock was not resisted too well, the LP12 was well sorted out with respect to mechanical and acoustic vibration. Both feedback routes were well damped over a wide frequency range; this player correctly seeks to isolate itself from its environment. As regards structural rigidity, the chassis design resulted in some controlled "imprecision" in the midbass (80Hz-120Hz). Without it, it is likely that the arm termination characteristic would be inferior. Conversely, some penalty is paid in terms of the uniformity of the bass, which I found to be mildly emphasized in the percussive range.

Based on the well-loved Ittok—the first of the true super arms—the Ekos looks very similar to its forebear and is distinguished by its excellent all-black finish and the incorporation of the arm-rest in the pillar. Ekos seeks a higher mechanical and sonic performance standard, which engineering intuition indicates would confer benefits. (In practical terms, it offers little measurable improvement.)

The form may be similar but the build has been improved. Three critical components, previously trimmed precision castings, are now machined from solid, using higher-performance alloys—aluminum and stainless steel—where appropriate. These parts are the headshell (which carries additional sidewall reinforcement and is optimized for the Troika cartridge), the main bearing yoke, and finally the pillar-stem. This is a two-piece component in the Ittok but is machined as one in the Ekos. Superlative bearings are fitted, with performance which approaches that found with the finest gyroes. These are very low-friction (something confirmed on test) and thus contribute less noise than usual, thereby improving dynamics and the resolution of low-level detail in the presence of louder complex modulation. Torsional stiffness—the main resonance criterion for a tonearm—has been radically improved by the new mechanical parts, as well as by the adoption of thermal bonding for the main tube beam.

Given good tonearm design and manufac-
ture, one might intuitively expect the improvements attained above to result in better dynamics, improved bass definition and detail, and overall control, and that is just what the listening tests suggested.

In the lab the Ekos showed an upward shift in its primary resonance compared with the Ittok, confirming the greater torsional stiffness, while the overall Q and distribution of higher resonance modes was clearly improved. Bearing friction was vanishingly low, too low to be measured reliably, and was of the order of 10mg or less. The effective mass varied somewhat according to the cartridge mass to be counterbalanced, and was typically 9.5gm, suited to a wide range of cartridges. No viscous damping is provided. Due to the geometric offset, some interactive variation of VTA and azimuth is possible, while the latter is nominally accurate. Fine adjustment of azimuth for a specific cartridge is not possible.

A descendant from an honorable line of moving-coil cartridges, the Troika evolved from the Karma, the first high-rigidity all-metal design from Linn. The Karma improved the mechanical bond between cartridge and headshell, as imprecision in this area was suspected of reducing dynamics as well as blurring the treble to some degree. Karma moved in the right direction relative to the earlier Asak, while the Troika represents a further step forward. Named after the Russian sleigh drawn by three horses, the Troika offers a defined, high-precision, three-point contact via three contact domes on the back of the cartridge. Additional stability is provided by a unique third fixing bolt, a facility already present in the Ittok/Ekos headshell design. The resultant mechanical contact performance is unrivaled in my experience. Based on earlier designs, the stylus is a traditional low-mass elliptical "line edge" diamond by Namiki, called Vital. Offering a very low tip mass, and superbly finished, this stone is bonded to an aluminum-tube cantilever. Tolerancing is tighter on the Troika, with better coil windings. Closer channel matching plus higher-precision alignment are the order of the day.

On test, this low-output cartridge was not as sensitive as the Koetsu, but still had a healthier output than many models, including the Ortofon. The low source impedance helped to reduce input noise, while the hum shielding was good. Channel balance was very good, and while the frequency response (measured at 20°C—68°F) was classic moving-coil, the presence dip and subsequent treble recovery were not too exaggerated. Tracking rates were rated as "good plus," and in truth it was quite hard to catch it out using real-life discs. Infrasonic damping is not a feature of this design, and the LF resonance peaked at 12dB, resulting in some mild bass lift below 30Hz (+2dB at 20Hz). In the UK, preamplifiers with some infrasonic roll-off are generally recommended for the Linn player. Good channel balance was achieved, into the mid-30dBs over much of the midband register. A mild glitch in the separation traces was seen near 8kHz—characteristic of some other Linn moving-coils. At a reasonable 21°C (70°F), the tracking performance was good to very good, in practice the cartridge very rarely being caught out and then only on special torture tests. 70µm modulation at 300Hz represented a midband tracking margin.
Sound quality
Revisiting the Linn turntable system after a few years' absence proved fascinating. Not that this was the arrangement I had used then—that specification had included an LP12, an Ittok, and a Karma cartridge. This current top-of-the-line arrangement is certainly more expensive, and should compare more favorably with many of the more exotic audiophile setups such as my own Goldmund ST4, which is fitted with a late ’89 series Koetsu Rosewood Signature.

A Linn turntable user can become habituated to the noticeable flaws in tonal quality, the coloration and frequency balance, and, equally, to the high degree of pitch stability and rhythm provided. I have to report that with this latest setup the sound is better—clearer and more informative, as well as more involving—but at the same time, no significant progress appears to have been made on the tonality and coloration fronts.

Without a shadow of a doubt, the Ekos is a top-class tonearm, clearly better than the respected Ittok, reinforcing its strengths while sharing a moderation of its weaknesses. That positive, decisive quality was still more in evidence, with the new arm more explicitly revealing complex midrange textures. Vocal lines extending over a wide frequency range were presented more clearly and with a consistent weight, here drawing a parallel with the SME V.

However, where the SME V demonstrates a quiet neutrality, being almost too laid-back for some tastes, the Ekos sounded energetic, lively, and eager to communicate. The upper range was a little bright, but where the Ittok would slip into a touch of lazy brashness, edging on grain (depending on cartridge type and quality), the Ekos maintained its grip on the situation and retained a higher level of treble precision and detail. The treble remained well controlled to the highest reaches, this particularly evident with the Troika cartridge, where any arm weakness can quickly deteriorate into fizzy mush.

Evaluated on the LP12, the Ekos's bass was also better than the Ittok's. While the latter was always tight, rhythmic, and purposeful, the Ekos added a degree of transient speed and definition which improved the snap and crack of wide-band bass percussion. I also got the impression of more tuneful bass lines, as well as a more open extension to low frequencies.

In terms of coloration, I also found the Ekos to be a little cleaner than the Ittok, with a reduction in that fairly small degree of nasality and hardness in the upper mid. Both the Karma and the Koets worked well in the Ekos, while the tetchy Troika threw when mounted on this platform, delivering its characteristic and sometimes wayward sparkle without too serious a hint of brittleness. In fact, the Ekos allowed the Troika to make its qualities known in a manner which eluded me in earlier tests using the Ittok. With its exuberant presence range now held in check, the Troika revealed a fine midrange tonality, a stable stereo focus with a high degree of specific localization, and, in this Linn player, fairly good depth. Since the cartridge on the whole tended to sound transparent, the restricted depth in absolute terms might be a function of the whole player's performance.

Open and lively, this cartridge also performed very well in the bass in respect of a quick responsive quality—an aspect which allowed rhythmic bass lines to blat through the mix, free from softening or masking. In the Linn player system, the characteristic mild emphasis in the 100Hz range remained, appearing to provide additional focus and drive in the bass without descending to the kind of coloration associated with a similar emphasis found in some loudspeakers. Undeniably, the 100Hz emphasis served to moderate the subjective force of bass extension and low-bass weight.

Finally, a tinge of "metal" may be heard in the upper treble of the Troika, certainly not an unadulterated brightness, but more a sheen reminiscent of tinted, oxidized titanium gently gleaming in the background.

Taken as a whole, the Linn player is so designed that each part is compatible with the others to an exceptional degree. For example, the tonal qualities were highly complementary; in addition, the subsonic hardness of the cartridge/arm combination was partially moderated by the intended resonant frequency and preferred degrees of freedom present in the LP12 subchassis system. Properly sited and set up, the real-life performance of the Linn player exceeds the sum of its parts due to the total system control exercised by the one-source origination.

Monster Cable Sigma Genesis 2000 cartridge: $1200
Based on the successful Alpha Genesis 1000,
the review cartridge was first described to me as an Alpha Genesis 2000, but since then it has been renamed the Sigma Genesis 2000 in order to complement Monster Cable's Sigma range of high-end cables and related product.

A very low-mass cartridge, it is built externally from reinforced plastic painted in a metallic finish of poor durability. It weighs just 4 grams, with 1.8gm the recommended VTF or tracking force, which figure was agreed on test. At normal modulation (5cm/s lateral) the output was just under 0.2mV, which was close to specification, and in line with the IHF definition of a medium-output moving-coil design. A low generator resistance of 4 ohms was noted, and a loading as tough as 100 ohms in parallel with up to 10nF was within the allowable range. With some preamplifiers, this can help control the upper treble.

Built as a more refined version of the Alpha 1000, the 2000 retains the Namiki MicroRidge stylus profile with its claimed effective tracing geometry of 3µm scanning radius by a long 60µm vertical contact radius. In this respect it is close to the top-spec van den Hul line-contact profile. Namiki's variation undercuts the tracing edge, placing the contact region out on a ledge, thus guaranteeing the fine tracing performance. As long as this fine edge does not chip or fracture or the step become dirty, the finer tracing radius should be maintained for a long time. The low-mass, nude, grain-oriented diamond is securely fixed, drilled through, and bonded to the cantilever. The latter is of some interest as it uses a triple composite to aid damping. Primarily a boron tube, a boron rod is contained within, while the outside is clad in a super-hard coating of deposited diamond.

On test, the Genesis 2000 performed very much as specified, and like the van den Hul MC Two it largely avoided the usual dip in the presence range. When optimally set up, loaded, and measured at an ideal temperature of 22°C ±2°C (around 71°F), the frequency response was respectively flat from 50Hz to 10kHz, achieved with a fine channel balance of around ±0.2dB over this range. By 20kHz, both cartridge and inevitable test-disc errors widened the amplitude tolerance to ±1.5dB. Channel separation peaked at 32dB midband and comfortably maintained a very worthy 20dB from 50Hz to 15kHz, the crosstalk trace visually free from upper-range resonance-breakthrough effects.

Tracking was very good, matching the MC Two and proving quite comfortable on a range of tracking tests at 1.8gm, including the maximum 80µm modulation at 300Hz. Examination of the ultrasonic range verified the claim for an extended response; I did not venture beyond 50kHz, but 75kHz is claimed! With a compliance of 16cu (1cu = 0.000001cm/dyne) and its low body mass, the Genesis 2000 can be used in a range of tonearms up to 14gm effective mass. The use of moderate arm damping will depend on the final installation. With the SME V, I found vestigial damping helpful in stabilizing stereo focus.

Interestingly, aside from the fast risetime and extended upper-range frequency response, I could find no specific reason why this design sounded as light and bright as it did in some arm combinations.

**Sound quality**

This cartridge proved highly tonearm-dependent—in fact, to an unexpected degree. Indeed, first impressions gained using an Alphasonic rig, including the Alphasonic tonearm, were distinctly unpromising. Here the 2000 sounded lean, with a bright, untidy treble verging on brittle grain. Vocal sibilants were quite out of proportion to the midband, while small choral forces suffered from a torn-apart effect on the vocal lines. Surface noise was exaggerated, while stereo focus and depth were unexceptional. The bass was poorly defined and soft-
ened—in my opinion, not a result worthy of the cartridge's high-end pedigree.

Considerable improvement was noted, however, when the cartridge was installed in a Pink Triangle/SME V combination. Now the tonal balance was beneficially fuller, while the treble, although still a touch lean, was tamed. The bass had more drive, while depth and focus were both now pretty good. Moderate use of the SME V's damping helped to stabilize the stereo focus and endow the sound with better sense of pitch stability.

Interestingly, the van den Hul MC Two was found to partner the Alphason rather better, particularly from the viewpoint of tonal balance and neutrality. Luckily for the Genesis, the combination of the Eminent Technology ET 2 and the Roksan Xerxes proved a nicely compatible foundation. The Sigma 2000 really took to this tonearm, the pair performing in a thoroughly creditable audiophile manner.

At last it was possible to relax and enjoy the sound, one which appeared airy and open, with a delicately extended high end—perhaps a little too open for some tastes, but at the same time clearly musical and informative. The sound was fast, transients possessing a believably exciting "snap" right through the frequency range. Soundstages were wide and deep, the nearfield performers presented just a little nearer and livelier than usual. In visual terms, the 2000 seemed to turn up the contrast ratio a notch.

The bass was undoubtedly good, showing fine extension, low coloration, clean, articulate detail, and an absence of boom or related exaggeration. Conversely, the bass did not quite show the drive and rhythmic energy heard in the mid and treble registers, and from a rock viewpoint, the bass was judged to be a bit soft, an effect rather less of a drawback on classical program.

At times this cartridge delivered musical lines with such delicacy and precision that its high-quality status could not be in doubt. Occasionally, on some rougher, more aggressive material, listeners were grateful that the monitoring system was as smooth and well-balanced as it was. A brighter, fiercer replay chain might well undermine the Sigma 2000's status.

**Roksan Xerxes turntable: $1800**

This player was made briefly available on a private loan, and I was determined to include a mention of it, not least because of the dedication of this company to produce a complete one-brand player in conjunction with the Artemiz tonearm and Shiraz moving-coil cartridge.

A few explanatory words are worth putting on record concerning these unusual designs. They are based on sound mechanical engineering principles applied with a fresh eye as far as the problems of analog replay are concerned. The turntable drive is Thorens-style, via a flat belt from a slow-speed synchronous motor. This is selected for low noise and mounted on a rotating spindle fixing, gently restrained by a flat coil spring. On start-up, the motor rotates, storing some of the energy in the spring tension. As the platter comes up to speed, the spring tension is gradually released. Belt wear is reduced, and the motor mounting method also provides some additional reserve under peak torque demands.

Very precisely machined and balanced, the two-part platter is made of aluminum alloy. The center bearing is quite slim, and is also finished to a very close tolerance. Surface velocities are low in this bearing, and it offers both low noise and low friction. Subchassis and armboard are one piece, made from MDF (medium-density fiberboard) and uniquely cut to disperse plate-type resonances and also to uniquely define the arm mounting area. A conventional coil-spring suspension is avoided, the chassis instead resting on compliant bendable "posts" which provide some radial freedom but little vertical compliance; the contention is that forcing vibration energy will naturally move to the plane with most freedom and dissipate relatively harmlessly. This semirigid construction helps drive stability by avoiding chassis rocking and bounce, but does compromise to some degree the vibration-isolation properties. The Roksan Xerxes is more sensitive to support and location problems than a SOTA Star Sapphire, for example, but if sensibly used it can deliver a fine performance even in respect of vibration isolation.

On test, the Xerxes was capable of fine wow & flutter results, typically 0.09% DIN peak with good stability as well as high absolute-pitch.

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4 The sample reviewed was sourced in the UK. Roksan declined to submit an official review sample on the grounds that the turntable sold in the US differs slightly from the UK model, due to the design being optimized for 60Hz mains operation rather than 50Hz.

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accuracy. Mechanical isolation was good, acoustical isolation very good, and the motor was also capable of delivering good torque to the platter. As regards the platter, its two-part construction eliminates any bell mode resonance, while the vinyl disc impulse response was free from significant low-frequency rocking, though dominated by the usual "loud" but quickly damped signature of a vinyl disc on a felt mat. Rumble was close to the state of the art at –76dB, DIN B, and the electronic power supply effectively filters mains noise and the higher line-frequency harmonics. Bearing rumble is excellent, well below –80dB DIN B weighted.

Officially I am not reviewing either the Artemis or the Shiraz, and will accordingly restrict my comments on these products. The Artemis is a rigid-tube aluminum tonearm with an unusual bearing system that is hard to describe, one which feels loose when handled or free-suspended, but which "locks up" appropriately when properly set and loaded with an operating cartridge. I'm not entirely convinced, however, and look forward to an official review player for proper analysis. Unusually, the main counterweight is freely suspended on an inverted unipivot and is allowed to swing. At the arm/cartridge subsonic resonance, complex motion results whose analysis involves the mathematical theory of chaos. SUFFICE it to say that free resonance of the cartridge is blocked and, like the Xerxes's chassis system, the resonance peak is flattened and dispersed and the energy dissipated. Cartridge tracking stability will be enhanced as a result. My other observation concerns the arm resonance modes at high frequencies, which are more energetic than usual, perhaps contributing to the subjectively heightened treble.

The Shiraz cartridge is an extensive rebuild of the EMT moving-coil, involving a mechanical pre-tensioning of the body which results in virtual single-point contact. Enhanced dynamics and definition are claimed, and were verified in the listening tests. On measurement it behaved rather like its EMT forbear, with mild bass lift, some 2dB of gentle depression in the upper midrange, and a slowly rising treble thereafter, ±3dB or so at the start of a disc (where the modulation is nice and open). Tracking was unexceptional, and the result was a bit nervy. Good separation was delivered, with better than 33dB noted in the midband.

**Sound quality**

First impressions of the Xerxes/Artemiz/Shiraz ensemble were of an overall crisp and clean, open and quick quality and a tonal balance quite reminiscent of Roksan's Darius speaker. This judgment takes into account the fact that the speaker's frequency balance is tilted upward with rising frequency, and that its midrange tonality tends to thinness and forwardness. In truth, such a characterization is not directly reflected by the lab results. For example, the frequency response looks straightforward. Instead, the sonic character generated is a function of the directed nature of the whole design, and the intended interrelation between the component parts.

I was not too keen on the treble, which suffered from some flizz and grain, while ticks and pops on poor record surfaces sounded more obtrusive than usual. The final treble octave sounded rather accentuated as well as untidy. Whether this is associated or not, acoustic needle talk was rather louder than usual. Conversely, tracing at higher frequencies sounded clean enough in terms of specific musical detail, while the vocals sounded unusually articulate and focused. Good depth and transparency were evident throughout the midrange. Bass drive and rhythm were strong points, and the upper bass was judged more
impressive than the low bass; the latter was somewhat softer and less well defined.

I was never entirely comfortable with the complete Roksan player, though I do think highly of the turntable and have used it successfully with three other arms: the Rega RB300, the SME V, and the Eminent Technology ET 2. (For the latter arm, I had the use of a black Roksan of such exquisite finish that at first I thought it had been made from polished black acrylic.) The ET was very much at home on this mounting, and the Sigma 2000 really came into its own on this platform; the van den Hul MC Two also enjoyed the ride. The ET arm tamed the 2000's tendency to favor the top end and delivered an impressive result, while the virtues of high chassis stability delivered by the Roksan helped the ET arm to perform optimally.

It is worth restating the Roksan's virtues at this point. A player definitely in the Linn LP12 class, the Roksan Xerxes is relatively free from setup and alignment problems. Its drive and platter system, though not high-mass, are built to very high-precision standards and run true, with very good pitch stability. The timing is good, the bass a touch lightweight but nicely rhythmic. Its particular feature is the one-piece energy-absorbing and nonresonant chassis/arm board, which provides an effective and musical-sounding foundation for a wide range of tonearms.

The SME V sounded particularly good when mounted on the Xerxes—the result was lovely, though still well balanced. Given the dollar pricing for the ET 2, its combination with the Roksan is a particularly effective one.

**van den Hul MC Two cartridge:** $1475

In general, this high-output cartridge has the ability to sound better in many situations where a low-output equivalent would suffer the potential disadvantage of a high-gain input or some kind of step-up device. The MC2's high-output advantage is a real one, and cannot be dismissed. If it can achieve a decent output without undue sonic compromise, it can help an audio preamplifier by increasing its headroom over input noise, and by reducing the need for additional gain.

A higher-output version of the established MC One built in the same aluminum-alloy housing, the Two has a coil resistance of 85 ohms—the inductance is negligible—and a nominal output of 2.0mV compared with the One's 11 ohms and 0.45mV. The level difference is 4x, or 12dB, and is sufficient to allow the Two to be directly input to the MM input of many preamplifiers, in my experience these often of superior fidelity to the MC alternative.

Weighing 7.2gm with a low-frequency compliance of 18cu at normal temperatures, it was best suited to medium- to low-mass tonearms of 6gm to 13gm effective mass (including fixing hardware).

van den Hul's own line-contact stylus is fitted—a superbly polished low-mass nude diamond bonded to the slim boron-rod cantilever. The all-metal mounting lugs are threaded to accept the fixing screws directly; zealous overtightening may strip the threads!

On test, the frequency responses showed a good match between channels, the overall trend a linear and rather mild downtilt with rising frequency measuring ~1.5dB by 10kHz from a 50Hz reference point. Channel separation peaked at 32dB midband—a good result—while a decent 20dB level of separation was maintained over an unusually wide frequency range, indicative of the well-controlled dynamic performance of the coil and suspension system.

Tracking was the MC Two's forte, and at 1.6gm downforce it happily cleared all the torture tracks, approaching the legendary Shure standards in this respect. Harmonic and intermodulation distortions were better than usual. In the infrasonic range the damping was higher than the average, and the use of additional arm damping is therefore questionable with this design. The technical results showed it to be equally well balanced in its lab and subjectively assessed performances.

**Sound quality**

The MC Two is a clear relative of the MC One, whose pedigree is beyond doubt. It may not sound quite as fast as the One, but it still attained a high standard for both accuracy and life on musical transients. In character, it seems ideally suited to classic tube preamplifiers, and superbly complemented C-J's fine new PV10. In combination, the best of both products was brought out, the overall result wonderfully sympathetic to classical orchestration and yet sufficiently lively and direct to deliver the goods on hyped-up rock material.

This cartridge sounded sweet, in the MC10
and MC One mold, neutral but in a laid-back manner. A particular feature is the good damping shown at both bass and treble extremes, neither end sounding tipped-up as with so many other cartridges. It therefore avoids the suspicion of any "loudness effect" in the subjective frequency response. CD still sounded thinner and more forward; the MC Two cannot be said to have equalized vinyl to a CD tonal balance.

Striking a relaxed attitude, the MC Two had good depth and a pleasing, unexaggerated transparency. Fine detail was present, but not highlighted. Stage width was very good at the proscenium, and narrowed moderately to the rear. Stereo focus rated good to very good, the perceived placement aided by the obvious coherence established between the mid and treble registers. There were no spurious sibilant or edgy sounds in the treble to disturb the precision of the midrange focus. With a sound delicately drawn in the treble, the stylus profile—when properly aligned—seemed to retrieve more detail, with less grain or surface noise. Through the midrange the sound was evenly balanced, while the bass sounded extended, sufficiently weighty without being ponderous. In terms of tonal purity, the MC Two conceded little to the high attainment of the MC One, while in some systems the ability to bypass a sonically limiting step-up device or MC gain stage will give the MC Two a significant advantage. Notwithstanding a mild softening of transients and dynamics, this cartridge's overall character was as close to tape neutrality as you are going to get.

With its low moving mass and medium cantilever suspension compliance value, this cartridge will not be too fussy about tonearms, and while this could be described as a kindness, it does the MC Two no favors to use an inferior arm. The ET 2 and SME V sounded just fine with it, while I have also achieved and enjoyed a very respectable sound with both the Well-Tempered and Rega tonearms.

**Summary**

It was fascinating to explore this series of analog representations of recorded audio performances. Compared with CD replay, the variations in tonal balance and texture were still far greater with vinyl replay; this explains why system matching at every level remains a critical factor when building a top-class chain predominantly used for vinyl disc replay. These differences also allow for a wide variation of opinion and critical comment. On my part, the judgments are based on replay systems intended to be neutral—sufficiently so to handle both CD and vinyl replay in an evenhanded manner. Judgments of analog replay are based on the performance of a Goldmund Reference turntable, against which my own ST4/Koetsu unit has been carefully graded and analyzed (see below).

Looking back at the auditioning, the latest top-of-the-line Linn player stands out as a great survivor. Easy to criticize on grounds of an old-fashioned sound—somewhat lumpy, mildly colored, even "colorful"—it sounds unlike master tape or CD. Yet this player is a serious musical device, one which constantly reaches to the heart of a performance—the drive and the pace. This player invites the listener to pay attention to the important bits—the bass line, the lead vocals, the dynamics—ignoring in this context the potential distraction of high-end bass extension, treble purity, absolute transparency, and neutrality. It is as if the Linn accepts its limitations and makes a damn fine job of those aspects it does best, firmly validating the subjective musical experience. Anyone who has followed the Linn player over the years will immediately appreciate the strengths of the current LP12/Ekos/Troika combination. For those mixing and matching with the LP12, I have good reports of the Naim ARO arm, while the Koetsu cartridges are also compatible. The Troika has been optimized for Linn arms, while the Ekos, like the Ittok, is destined to be a classic and has been found compatible with a variety of high-class turntables.

In complete contrast, the Alphason player attempts to portray accurate tonal balance and uniform perceived frequency balance over a wide frequency range, and largely succeeds. However, for critical listening the single-motor version of the Sonata was seriously lacking in timing and pace, to a level where I was disconcerted by the generally favorable press reaction so far enjoyed by the design.

The current twin-motor version goes a long way toward satisfying this objection, and while clearly not as "pacey" as the Linn (even with the speed inched up by 0.1 or 0.15 %, as suggested by the designer), the overall performance is now secure. With its unyielding cast-iron chassis, I fear that a number of the high-

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rigidity arms will not sound their cleanest on this mounting. In addition to Alphason's own design, however, I note that the WTA is also undemanding of pillar termination.

In combination with the Atlas power supply, the twin-motor Alphason can now be recommended in Class C of Stereophile's "Recommended Components" listing.

I was surprised by the failure of the Alphason player to match the Monster Sigma Genesis 2000 cartridge; the latter performed exceptionally well in an Eminent ET 2 (which UK distributor Vipex kindly lent me, ready-installed on a lovely piano-gloss Roksan Xerxes). A valuable and entertaining experience, it was nice to hear this modestly priced air-bearing tonearm deliver so much music on the Roksan, the latter's stable horizontal attitude aiding the ET's leveling needs. Although the complete Roksan player has not been officially reviewed here, I include the comment that my opinion of the Xerxes is a high one, and I rate it in the Linn class for its sonic pace. Its timing and pitch stability are both first-rate, and it steams along like a heavy freight train, never sounding indecisive. The bass is more neutral than the Linn's, though the mid is a touch more forward as a result. Easy to set up, its other redeeming feature is the marvelous arm termination which its specially cut MDF chassis affords the better tonearms.

The SME series of tonearms also works particularly well on this motor, and that goes for other philosophically related models such as the Ekos, Ittok, Sumiko, and the like. Many UK Roksans are, in fact, sold with the budget-priced Rega RB300 arm. As for the complete player—Xerxes/Artemis/Shiraz—I did not really get on with it. Further investigation may help elucidate the relative contributions made by the Roksan arm and cartridge.

Monster's Sigma Genesis 2000 is a sensitive, refined performer, one which needs careful handling if unmusical results are to be avoided. The Alphason lesson was salutary; the advice of a good dealer should be sought concerning systems other than the Xerxes/SME V or ET 2, which we tried for this review.

If the Sigma 2000 were to be placed on the brighter and more forward side of reality, then the van den Hul MC Two lies on the other side—richer, more laid-back, smooth, and sweet. With a moving-magnet output level, classic tube amplifiers will welcome it with open arms, and very little is conceded to the highly rated MC One for this gift of improved matching.

I could live happily with most of the reviewed designs. If asked to make an absolute choice, I would vote for two combinations: the complete Linn Sondek/Ekos/Troika for rock replay, or a Roksan Xerxes fitted with an SME V and a van den Hul MC Two for the best presentation of classical music.

**Goldmund ST4: $5690**

**Koetsu Rosewood Signature MC cartridge: $1950**

I will conclude this journey by returning to my own Goldmund and Koetsu combination. Although this ensemble admittedly costs rather more than the other systems reviewed in this piece, I find that the speed stability I so admire in the Goldmund is rivaled by the Xerxes; its midband neutrality and fine record-vibration termination is approached by the Alphason; and its feeling of inner balance and drive by the Linn. In turn, the consistent arm-tracking precision of the ST4 is matched by the ET 2; the Goldmund's arm coloration and definition is bettered by both the SME V and the Ekos.

The Goldmund still emerges with honor because it encompasses nearly all the relevant aspects with consistent competence. It is a measure of the continual advance in analog replay that less costly designs are beginning to match the Goldmund in key areas.

My Koetsu Rosewood Signature has remained a reference for some 18 months now, and matches the Troika for bass definition and overall integrity while steering a satisfying path somewhere between the rewarding space and perspective of the MC Two and the high resolution, clarity, and sparkle of the Sigma Genesis 2000. As this investigation was coming to an end, the latest-production Rosewood Signature arrived, embodying some of the technol-

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ogy featured in Sugano-san’s 80th Anniversary onyx design. Louder and more dynamic, better focused and with an enhanced analysis of complex passages—a strong point in any case—the current Koetsu will remain my personal favorite for some time to come.

THREE LOUDSPEAKERS

John Atkinson reviews inexpensive models from Cambridge SoundWorks, Monitor Audio, and Polk Audio


Monitor Audio Monitor 7: two-way, stand-mounted, reflex-loaded loudspeaker. Drive-units: 19mm (0.75") aluminum-dome tweeter, 4.5" doped pulp-cone woofer with butyl surround. Crossover frequency: 2.9kHz. Crossover slopes: 6dB/octave (low-pass to woofer), 12dB/octave (high-pass to tweeter). Frequency response: 60Hz–20kHz ±3dB. Sensitivity: 88dB/W/m. Nominal impedance: 8 ohms. Amplifier requirements: 15–70W (100W amplifiers can be used with care). Dimensions: 13.5" (343mm) H by 6.5" (165mm) W by 7" (175mm) D. Weight: 7.7 lbs (3.5kg) each. Finishes available: black vinyl with black grille cloth. Price: $379/pair (matching stands cost $150/pair). Approximate number of dealers: 50. Manufacturer: Monitor Audio, Cambridge, England. Distributor: Kevro International Inc., P.O. Box 1355, Buffalo, NY 14205. Tel: (416) 831-4741.


According to the conventional wisdom, companies selling consumer products fall into two categories: those whose sales are “marketing-led” and those whose sales are “product-led.” Marketing-led companies tend to sell mature products into a mature market where there are
no real differences between competing products—soap powder, mass-market beer, or cigarettes, for example—whereas product-led companies tend to sell new technologies, such as personal computers and high-end hi-fi components. In the audio separates market, conventional wisdom would have a hard time categorizing any individual company: no matter which you choose, it would be simplistic to say that it is either product- or marketing-led. No matter how good the product, without good marketing the manufacturer stands little chance of success; a poor product superbly marketed may make a company successful overnight, but that success will have hit the end stops by the following night. Nevertheless, for this month’s group of three loudspeakers, I have chosen models from two companies renowned for their marketing strength: Polk Audio and Cambridge SoundWorks. The latter company, which has demonstrated an astonishingly fast rise from nowhere on the strength of Henry Kloss’s name and superbly written ad copy, has even disposed of the conventional retail network to sell its products, relying instead on an aggressive mail-order operation, coupled with a 30-day money-back guarantee. Completing the trio is an inexpensive speaker from the English Monitor Audio company.

As Polk declined to supply review samples of the RTA 11t, we bought a pair from a local retailer; we also bought the Cambridge SoundWorks speakers through the mail.

Review context
Each of the three pairs of speakers was positioned for the best sound (with only one pair of loudspeakers in the listening room at a time). Source components consisted of a Revox A77 to play my own and others’ 15ips master tapes, a Linn Sondek/Ekos/Troika setup sitting on a Sound Organisation table to play LPs, and Kinergetics KCD-40 and Meridian 206 CD players. Amplification consisted of a Mark Levinson No.25/26 preamplifier combination driving a pair of Mark Levinson No.20.5 mono-blocks via 15’ lengths of AudioQuest LiveWire Lapis balanced interconnect. Speaker cable was 5’ lengths of AudioQuest Clear Hyperlitz. I certainly don’t regard the rest of my system as being typical of that with which these three pairs of speakers will be used, but it certainly should enable me to get the best sound from the speakers under test.1 I carried out comparisons with my vintage pair of Rogers LS3/5as (see Stereophile passim), the pair of Celestion 3s that I favorably reviewed last October, and, in the case of the Polks, our review pair of Thiel CSI.2s. (The Celestions have since risen in price to the princely sum of $269/pair—still a great buy, in my opinion.) The Rogers and Theils give of their best in free space; the Celestions need to be against the wall.

Regarding measurements, I use a mixture of nearfield, in-room, and quasi-anechoic FFT techniques (using the MELISSA system from DRA Labs) to investigate objective factors that might explain the sound heard. (Stereophile’s measuring microphone is a calibrated B&K 4406.) The speakers’ impedance phase and amplitude were measured using Stereophile’s Audio Precision System One.

Cambridge SoundWorks Ambiance: $218/pair plus $10 S/H
Cambridge SoundWorks’ Chairman is one Henry Kloss, a name that will be familiar to anyone who has followed the US hi-fi market for more than five years or so. Mr. Kloss has been a speaker man all his life, being involved in Acoustic Research in its formative years, leaving that company to found KLH, then becoming the force behind Advent. He appeared to lose his way in the ’80s when his company produced a projection TV system, but the appearance of Cambridge SoundWorks saw a return to his woofer’n’tweeter roots. The company’s first product, a tiny satellite/dual subwoofer package called the Ensemble, along with a similar package from Bose, set the style for what now appears to be a best-selling “lifestyle” loudspeaker system.2 In addition, the notion of sell-

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1 At the conclusion of the review period, I took delivery of the ridiculously expensive tabbed D/A converter from Stax. A review will appear next month, but suffice it to say that this gave some of the most musical sounds I have experienced from digital replay. Using it with the Monitor 7s and Cambridge Ambiances floored me, as superficially there was only little subjective indication that the speakers were budget-priced. Yes, quantity was missing, but not nearly as much quality as I might have expected from all my previous auditioning of these minis. From my experience of multi-thousand-dollar speaker systems, I have to say that using a $3,000 CD front-end with $230/pair loudspeakers makes a lot more musical sense than driving infinity IRS Betas with a $230 CD player. “The speakers make the sound so that is where you need to concentrate your resources,” goes the conventional wisdom—give me a break from all this conventional wisdom!

2 Since committing this review to type, I am reminded of a tiny subwoofer/satellite system marketed seven years ago by Desktop Loudspeakers. It appears there’s nothing new under the sun in loudspeaker design!

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ing only direct to the public, with a 30-day money-back guarantee and a toll-free number where expert advice would always be available (at least from 9am to 10pm EST, Monday through Saturday, and 9am through 6pm EST on Sundays), proved a winner.

The Ambiance, Cambridge SoundWorks' second product, is a more conventional minimonitor that resembles a slightly larger-scale version of the Ensemble satellite. Though specifications and literature state that the Ambience features a 6.5" woofer, this dimension misleadingly includes the mounting plate. The actual radiating diameter of the pulp cone is 4.5". Bass alignment is sealed-box or "acoustic suspension," while the tweeter is a ferrofluid-cooled unit with a plastic phase plate over the dome. A metal grille protects the drive-units, which are mounted on a slightly recessed baffle, while electrical connection is via gold-plated five-way binding posts on the rear. A "keyhole" is included on the rear panel to allow the speaker to be wall-mounted. A rear brass bush is also fitted so that the Ambiance can be bolted to an optional stand. The review samples were finished in gray Nextel, but primed wood (ready for painting) and solid oak finishes are also available.

The instruction sheet contains concise instructions for getting the best sound from a pair of Ambiances, including a firm instruction that "we have found no audible benefit with any speaker from very heavy (and expensive) 'audiophile' speaker cable." Cambridge SoundWorks supports this statement by saying that if their customer has difficulty in locating their recommended 18-gauge cable, they will send some free of charge. Now that's backing up your beliefs in a solid way!

Sound quality: Correct placement of minis is crucial to getting the best balance between the limited amount of bass available and the rest of the spectrum. Site a pair of LS3/5as against a rear wall or a pair of Linn Kans out in the room and the sound will not fail to disappoint. I felt Cambridge SoundWorks' instructions for the Ambiance—amounting to "anywhere where you like the sound is OK"—are too all-encompassing to be of specific guidance. I started by using the speakers toed-in on 24" stands (which placed my ears at tweeter height), positioned well away from room boundaries, in order to get a handle on the Ambiance's intrinsic balance.

Pink noise revealed a rather midrange-forward tonal balance, relieved only by a slight emphasis in the presence region. Except for the top audio octave, however, that balance changed very little above, below, or to the speaker's sides, implying excellent dispersion in the midrange and above. The Ambiance is hardly a "hot seat" speaker where you have to sit with your head in a clamp if the balance is not to change significantly. Lows were missing in action, as might be expected, and moving the speaker to within 24" of the rear wall provided some useful reinforcement in the upper bass.

The bulk of the auditioning was done with this placement. Placing the speakers against the rear wall resulted in an unnatural "chesty" effect on spoken male voice, however. Male spoken voice also revealed some presence-region emphasis,

Cambridge SoundWorks Ambiance loudspeaker

[Image of Cambridge SoundWorks Ambiance loudspeaker]

3 The stands were the same that I used for my review of the Spica TC-50 and Celestion 3 last October, $300/pair Celestion SLS-1 models which are single-pillar designs, with steel top and bottom plates. The pillars are filled with 25 lbs of lead shot, topped up with about another 10 lbs of dry sand. The top plate is a little large for both the Ambiances and Monitor 7s, so I positioned the speakers at its front edge, coupled to the stand with small blobs of EZ-Tak.
with a slight "quack" noticeable lower in frequency.

Playing Stereophile's Poem album, the sound of the flute was too breathy, with a very small-sounding piano. Some notes in the flute's lower register also were too hooty. The soundstage was shallower than I expected, with the instruments presented pretty much in the same plane. (Having produced this recording, I am very sensitive to changes in the way it is presented.) The music communicated quite effectively, however, though I did suspect a lack of dynamic impact not connected with the speakers' restricted LF extension.

Hildegard of Bingen's A Feather on the Breath of God album (Hyperion CDA66039) is one of my reference recordings for female voice. Emma Kirkby's divine voice both suffered a little from sibilance emphasis and was rendered rather small-sounding, with the same cupped-hands coloration noticeable that lent a slight quack to male voice. Lateral soundstaging, however, was quite precise, with no sense that images were localized in the loudspeakers, a sign that the small, solid-feeling cabinet is relatively free from midband resonant problems. The enclosure did seem reasonably dead, though one major resonance centered on 260Hz was noticeable, the entire cabinet literally shaking at this frequency.

Orchestral recordings suffered a little from the presence-region emphasis, which made violins sound rather too wiry. In addition, the top two audio octaves were somewhat depressed in absolute terms, which diminished the sense of air on naturally miked recordings. At low levels, the sound was still relatively clear, but climaxes took on a muffled character. Again I got the impression of a relative lack of dynamic impact to the sound; turning the volume up didn't seem to help.

Listening to my own piano recording on the Stereophile Test CD,4 I was again struck by the way the soundstage floated free from the speaker positions but with a restricted feeling of depth. There also seemed to be a little confusion in the upper midrange, some notes fighting with others due to an uneven overhang characteristic. The speaker was noticeably less clear here than in the region below. Within its limitations, however, I must say that the Ambiances performed creditably with recorded piano.

I have heard a lot worse, and one evening, intending just to dip into the Reference Recordings Nofima Plays Liszt CD (RR-25CD) for a quick sound check, I listened all the way from the start of the first Mephisto Waltz through to the end of the B-minor sonata. The Ambiances may have an identifiable character but they do let enough of the music through.

As described by Bob Katz last December,5 the LEDR test, which is included on a new test CD from Chesky, enables the listener to make an accurate subjective check of the ability of a pair of loudspeakers to reproduce image positions between, beyond, and above the speakers. Specific tracks, labeled "Up" and "Over," should produce moving images that trace a vertical line above left and right loudspeakers, then arch between them in both directions. The Ambiances did quite well on the "Over" tests, the image moving up slightly, then evenly moving across the soundstage before descending. The "Up" pathways were less well-defined, however, first moving inward from the speaker positions as they moved up, then moving out again in an unstable manner. (The Ambiances were much better than the Polks or Thielis in this respect, however.) The lateral imaging test signal also revealed a slight pulling to the sides, evident as a broadening on central images. Moving the speakers more than 2' out from the rear wall slightly improved things, but then, of course, the bass became seriously undernourished.

My primary comparisons were made with the Celestion 3, a budget-priced ($269/pair) English sealed-box miniature that couples a titanium-dome tweeter with a 5" long-throw woofer. Listening first to J. Gordon Holt's Prae- ludium track on the Stereophile Test CD, the Ambiances were not unpleasant to listen to, the orchestral image being well-separated from the speaker positions. The central imaging was a little unstable, however, when compared with that of the Celestions placed in the identical positions in the room. While sharing the Ambiance's cupped-hands midrange coloration, the Celestion did have less of a midrange-forward balance, though its mids were more clangy than those of the American speaker. This is a contrast between a pure tonal balance problem

4 Available for $6.95 plus $2 shipping and handling—see the advertisement elsewhere in this issue.

5 "Take Me to Your LEDR," Vol.12 No.12, p.82. The test signals are based on psychoacoustic research carried out at Northwestern University into how the ear/brain localizes sound sources.
and one due more to resonant colorations, I guess. The Ambiance also had a seamless quality to the midrange that made the English speaker sound untidy. Usefully for a budget-priced speaker that will be used with low-powered amplifiers, the Celestion was over 5dB more sensitive. It also had significantly more midbass energy — orchestral basses having more weight — to the benefit of the music, and its treble region was both higher in level than the Ambiance's and cleaner overall. There was less sibilance noticeable on female voice, though recorded tape hiss seemed equally audible.

Performing a comparison with the Rogers LS3/5a might be thought to be unfair to the Ambiance, considering the English speaker, at $649/pair, costs a hair under three times its price. However, such a comparison is invited by the Ambiance literature, which states that the speaker "provides a level of performance for its size that makes it directly comparable to the costliest small systems available." Well, I'm here to tell you that the venerable LS3/5a still has it over the challenger. Apart from the upper bass, where the LS3/5a features the under-damped bloom that engineers in the early '70s thought necessary in a miniature speaker to compensate for the lack of extension, instrumental tonality was considerably more true, as judged from my own recordings. The seamless aspect of the Ambience's balance enabled it to offer a very listenable sound quality, but its overall higher level of midrange coloration, coupled with the combination of lispy yet shut-in highs and rather subdued dynamics, rendered its sound significantly less involving. In addition, it just couldn't compete in the area where the LS3/5a is one of the leading contenders, that of the creation of a broad soundstage with convincing depth. Images were significantly more palpable via the English speaker; the Ambiances presented a flat, rather one-dimensional stage. A pair of LS3/5as definitely can take their place as the primary speakers in a high-end system; for a pair of Ambiances to do so is questionable.

**Measurements:** Looking first at the speaker's impedance (fig.1), the sealed-box woofer tuning is revealed by the peak around 75Hz. As the impedance only drops below 8 ohms in the upper bass and ranges between 12 and 16 ohms in the treble, the Ambiance will be an easy load for even inexpensive amplification to drive, particularly as the phase angle is also minimal throughout the midrange and treble. Its low sensitivity, however, will mean that realistic sound levels will not be within its reach, even with 100W amplifiers. (Assessed with a 1kHz-centered, ½-octave warble tone, the Ambiance is 3dB more sensitive than the LS3/5a, but 5–7dB less sensitive than the Celestion 3 and Monitor 7.)

Turning to the time domain, fig.2 shows the anechoic portion of the Ambiance's impulse response, 48" away on the tweeter axis, as calculated by the MELISSA software. (The measurement bandwidth was 30kHz, equivalent to a sampling rate of just under 91kHz.) The shape is typical of a design with a second-order crossover, while the HF ripples are presumably due to a tweeter resonance. What appears to be a reflection around the 7.5ms point is not from anything in the room, the speakers being sited some 4' above the floor and 5' from the walls for this measurement. (Simple trigonometry indicates that the first reflection in these circumstances, that from the floor, will arrive about 6ms after the first arrival.) I suspect that this reflection is related to the stand used.

Performing a Fast Fourier Transform on this section of the impulse response gives the speaker's anechoic frequency response above 200Hz or so on this axis, which is shown to the right of fig.3. A strong peak in the upper mid-

**Fig.1** Ambiance, impedance magnitude and phase

**Fig.2** Ambiance, impulse response on HF axis at 48"

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range can be seen around 1 kHz, above which the highs gently roll off, relieved by what is presumably a resonance peak in the top octave. The lefthand side of fig.3 shows the woofer's nearfield response measured with the microphone against the grille (which I was unable to remove). The response starts to slowly roll off below 100 Hz, with a half-power point at 63 Hz. For comparison, the larger Celestion 3, also a scaled box, has a nearfield half-power point of 53 Hz. Despite Cambridge SoundWorks' claim that it "has more output in the 40 Hz region than any speaker its size we've encountered," the Ambiance is definitely a mini-monitor in this respect. This is also revealed by looking at the distortion levels in the bass, shown in Table One. (The SPLs indicated are those measured at an 18" distance at 50 Hz and 100 Hz, equivalent, due to the speaker's early LF roll-off, to midband levels of around 86 dB and 96 dB.)

At any reasonable SPL, the 4.5" woofer is working very hard at low frequencies, the third harmonic dominating at 50 Hz and the second at 100 Hz. (For those not familiar with my preferred way of expressing distortion as a dB level below the level of the fundamental: -10 dB is equivalent to 31.6% distortion; -20 dB, 10%; -30 dB, 3.2%; -40 dB, 1%; -50 dB, 0.32%; and -60 dB, 0.1%.) The Ambiance is not a speaker suitable for the Annual Headbangers' Ball.

Fig.4 shows how the speaker's anechoic response translates to its subjective balance in a real room. The curve is derived by measuring the spectral balance of left and right speakers individually, using pink noise and an Audio Control Industrial 1/3-octave analyzer at 10 different positions in a window around the listening position. Averaging the 20 different spectra eliminates the effect of LF room resonances on the measurement to a large extent, while it also integrates the direct sound of the speaker with that of the delayed room reflections to an extent that mimics the behavior of the ear. The treble can be seen to have a triple-peaked nature, which correlates with the somewhat lispy nature of the speaker noted during the auditioning. The smooth response trend through the midrange, however, is impressive for such an inexpensive model, and the individual spectral measurements taken to derive fig.4 indicate that the Ambiance has a smooth and wide dispersion above 1 kHz, implying a lack of criticality concerning optimum posi-

<table>
<thead>
<tr>
<th>Harmonic</th>
<th>50 Hz/76 dB</th>
<th>100 Hz/86 dB</th>
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<tr>
<td>Second</td>
<td>-37 dB (-24 dB)</td>
<td>-26.9 dB</td>
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<tr>
<td>Third</td>
<td>-31.5 (-18.6)</td>
<td>-39.3 dB</td>
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<td>Fourth</td>
<td>-48.6 (-28.3)</td>
<td>-55.4 dB</td>
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<td>Fifth</td>
<td>-57.4 (-47.9)</td>
<td>-63.8 dB</td>
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<td>Sixth</td>
<td>-51 (-55.6)</td>
<td>-72.4 dB</td>
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<tr>
<td>Seventh</td>
<td>-60 (-57.5)</td>
<td>-68.1 dB</td>
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Note: figures in brackets refer to a 50 Hz sinewave at 86 dB SPL

Fig.4 Ambiance, spatially averaged, 1/3-octave, in-room response

Fig.3 Ambiance, nearfield LF response and MELISSA-derived anechoic response on HF axis at 48"

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in the treble, the two small peaks at 3450Hz and 3750Hz, as well as that an octave higher, are also resonant effects, as is evidenced by the prominent and long-lasting ridges that develop at these frequencies. Though these look like two very small peaks in the frequency domain, their persistence and the fact that they are positioned right in the ear’s region of maximum sensitivity will undoubtedly contribute to the subjective lispersness and feeling of emphasis in this frequency region. A strong resonance can also be seen at 1420Hz, the cursor position, which might correlate with both the coloration and the lack of clarity noted in the upper midband.

The overall impression I get from this set of measurements is of a competent design executed from what are actually not very promising ingredients: I suspect that this is a recipe for commercial success with an inexpensive loudspeaker.

**Conclusion:** Reaching a conclusion appropriate to *Stereophile*’s readership is quite difficult with such an inexpensive loudspeaker as the Ambience. To be honest, I can’t imagine many readers choosing the Ambience as the featured loudspeaker for their primary sound system. If $230–$270 is the maximum you can spend on a pair of loudspeakers and you need to be able to place them near a rear wall or even on a bookshelf, the Celestion 3 will probably be a better choice, with its higher sensitivity, cleaner treble, better sense of dynamics, and more extended lows. But for the office or den, or as a pair of visually unobtrusive —ahem— ambience speakers in a surround system, I can’t imagine a better, more painless way to spend 228 bills.

**Monitor Audio Monitor 7:**
$379/pair

Sam Tellig, *Stereophile*’s Audio Anarchist, didn’t hold back in his praise of Monitor Audio’s miniature Monitor 7 loudspeaker in the January issue. “Very fine speakers for the price,” he gushed. He was even going to give a pair to Mrs. Anarchist for Christmas—so much cheaper than something from Tiffany’s!—but then fate intervened, both his samples emitting a “rattling sound,” apparently due to the plastic port inserts coming loose. As his initial impressions were so positive, however, I decided that the 7 should undergo the full review treatment here in Santa Fe.

Finished in a neat black “lacquer,” the Monitor 7 is a two-way design, with the diminutive 4.5” doped-pulp-cone woofer loaded by a 1.25”-diameter reflex port, 2.5” deep, on the rear panel. The woofer also has a butyl rubber surround. In common with Monitor Audio’s overall philosophy, the 19mm tweeter is an aluminum-dome type, with the voice-coil former made in one piece with the dome. Though sourced, I believe, from the Norwegian SEAS company, the tweeter is unique to Monitor Audio and is cooled with ferrofluid. Neither unit is rebated on the front baffle. The crossover is minimal, consisting of four components glued to the rear of the terminal panel.

(Unusually for an English speaker, this accepts standard dual-banana plugs.) A ferrite-cored
inductor in the woofer feed provides a first-order low-pass action, while a series plastic-film capacitor and a shunt air-cored coil make up a second-order high-pass filter for the tweeter. The fourth component is a series resistor to lower the tweeter's sensitivity a little.

Unusually for a speaker in this price range, the cabinet is constructed entirely from MDF (medium-density fiberboard).

**Sound quality:** Whereas the last two miniature speakers I've reviewed, the Cambridge SoundWorks above and the Celestion 3 (see the October '89 issue, p.161), are intended to be used relatively close to a room boundary, the Monitor 7 I understand to be more of a free-space design. Accordingly, I initially sited them on 24" Celestion stands some 6' from the sidewalls and 3' from the rear wall. The cloth-on-frame grille presents significant obstruction to the tweeter, so I left it off for the auditioning. In any case, the fact that the front baffle is nicely finished suggests that the manufacturer also intends the speaker to be listened to sans grille.

As with the Ambiance, low bass was missing in action, and I felt that moving the speakers a little nearer the rear wall provided some useful body to the sound. This still didn't make the 7 a suitable candidate for organ recordings. Peter Mitchell's recording of Harvard's Busch-Reisinger Museum instrument on the Stereophile CD had insufficient pedal weight to support the music effectively. Trying to drive the speakers to high levels with music having continuous bass energy, your average rock recording for example, also proved disappointing in that it was relatively easy to make the rear port "chuff," and the midbass developed an increasing sense of sogginess as the level got higher.

With that proviso, however, my initial impressions of the Monitor 7 were very favorable. Its sound was bright, open, and appealing, with a good sense of space noticeable around instrumental images. It was also appreciably more dynamic than the Cambridge SoundWorks speaker. I can see why the Anarchist liked the 7 so much, its soundstaging having that sense of palpable presence, of believability, that he finds so important in reproduced music.

J. Gordon Holt's purist recording of the Järnefelt Praeludium on the Stereophile CD showed that the 7s created a better sense of depth than the Ambiances when sited in the same positions, though neither speaker could compete with the LS3/5a in this respect. In addition, instruments with a lot of treble energy were pushed forward in the soundstage rather more than I felt appropriate. The Chesky LEDR tracks revealed the 7s to produce a more stable sense of lateral imaging than the Ambiances, though less of a sense of image height was developed with the "Up" and "Over" tracks.

Tonally, the midrange seemed relatively uncolored for a budget-priced speaker, individual instrumental colors emerging relatively unscathed. The different colorations on the Stereophile CD's microphone test track were significantly easier to differentiate than they were via the Ambiances or Celestion 3s, for example. Higher in frequency, things were less good, though. The piano's right-hand registers were too clangy, while female voice took on a touch of hardness or stridency above the treble staff. The HF air and sparkle that had initially impressed me could easily become fatiguing; there was also some emphasis of recorded tape hiss compared with the Ambiances and Celestions, and the Hildegard of Blin-
gen recording was reproduced with rather too dry, too throaty a tone color.

Apart from comparisons with the Cambridge SoundWorks Ambiance, I carried out some comparative listening sessions with the almost identically sized but less expensive Celestion 3. The Celestion had more midrange coloration noticeable than the Monitor, recorded piano and lower strings acquiring a cardboardy character by comparison. It also sounded more shut-in in the top two octaves. Conversely, the Monitor tended to sound rather shouty in the low treble, with an exaggerated brightness region. The Celestion will undoubtedly be kinder to inexpensive electronics, which often feature a brightness similar to that of the Monitor Audio speaker. Those differences apart, the speakers tended to be rather similar, with almost identical sensitivities, subjective bass extensions, and imaging precision. Despite its brightness, however, the more expensive speaker gets the prize on points in my opinion, due to its more musically believable presentation.

**Measurements:** Looking first at the Monitor 7's impedance (fig.6), the port tuning is indicated by the minimum in the solid trace at 65Hz, which implies that the speaker will not offer much bass below this frequency. The impedance magnitude dips to 5.5 ohms in the lower midrange, but the speaker overall won't present inexpensive amplifiers with any drive problems. A B&K ST-140, with its loose bass, would probably be a good choice. The anechoic section of the 7's impulse response on the tweeter axis at a distance of 48" is shown in fig.7. Similar in overall shape to the Ambiance's impulse response, the decay of the tail is more complicated. The slight reflection just over 3ms after the impulse that I noted in the Ambiance review can also be seen here. 3ms is equivalent to a physical distance of approximately 34'; again, as there was nothing that close to the speaker during this measurement, I can only think that it is an artifact of the particular speaker stand that I used.

Deriving the speaker's anechoic response above 200Hz with the Fast Fourier Transform gives the curve shown to the right of fig.8. The treble is broken up by a series of peaks, which probably correlate both with the life and sparkle that I noted in the speaker's treble and its tendency to "shout" in this region. Unlike other metal-dome tweeters that I have listened to and measured recently, the Monitor 7's unit has a well-suppressed ultrasonic resonance. It can be just seen at 31kHz, though the tweeter's overall output is well down at this frequency. (The measurement was made with a 35kHz bandwidth.)

To the left of fig.8 can be seen the low-frequency responses of the woofer and port, measured in the nearfield. The woofer itself can be seen to roll off rapidly below 100Hz, its half-power point lying at a very high 82Hz. The rear-firing port covers the range from 35Hz to 110Hz, but assessing its contribution to the speaker's bass extension from these nearfield figures is fraught with difficulty. Fig.9 therefore shows the Monitor 7's spatially averaged response, measured on a 1/3-octave basis with the speakers in the same positions as the other two models reviewed this month. Compared with
the midband, the bass starts to roll off below 100Hz in-room, with a slight rising trend discernible between 100Hz and 1kHz. There is useful output down to 60Hz or so, but the 7 has no real low bass to speak of, rolling off much faster than the Cambridge SoundWorks Ambiance, for example.

What bass it does have is also affected by high distortion levels. Table 2 shows the harmonic analysis of 50Hz and 100Hz tones at a microphone distance of 18". Distortion of the 50Hz tone was taken at a 76 dB spl, approximately equivalent to a midband level of 87 dB. Even at this moderate level, audible chuffing could be heard from the port, and attempting to raise the measured level at 50Hz to 86 dB resulted in a sound that was unlistenable due to port wind noise. Even at the lower level, high levels of second, third, fourth, and fifth harmonic could be noted, suggesting that the woofer and the air in the reflex port are behaving in appreciably nonlinear manner here. Despite conventional wisdom holding that reflex loading reduces distortion in the bass, the Monitor 7 has appreciably higher distortion than the sealed-box Cambridge SoundWorks Ambiance at the same frequency and spl, despite its being more than 6 dB more sensitive and thus having to work less hard. This is presumably due to the tiny port having to carry the entire burden at 50Hz. Things were much improved at 100Hz, and I carried out the distortion analysis at an indicated 86 dB spl, equivalent to a midband level of around 89 dB. The only significant harmonics now present were the third at -34.3 dB (1.9%) and the fifth at -45.5 dB (0.5%), the others dropping to the 0.1% level or lower.

Returning to fig.9, the treble is reasonably smooth apart from an excess of energy in the presence region, this noticeable on all axes and audible as added brightness and detail. The very slight peak centered on the 12.5 kHz band was accentuated on the tweeter axis, implying that not toting the speakers all the way to the listening seat might be a good idea. The "waterfall" plot of cumulative spectral decay (fig.10),
however, reveals that this peak is not due to a resonance. A series of resonances can be seen in the lower treble, persisting for some 4ms after the exciting impulse has been and gone. The presence-region peak in the anechoic response at 3kHz (the cursor indicates 2878Hz, but stating more than one significant figure here is spurious) is also due to a cluster of resonances, correlating with the accentuation of this region in the in-room plot (fig. 9), while the lack of energy above it is probably due to crossover cancellation. This ragged behavior will contribute to the speaker's tendency toward treble hardness.

**Conclusion:** With its open, appealing tonal balance, relatively uncolored midrange, palpable soundstaging, excellent finish, and relatively low price, Monitor Audio's Monitor 7 should sell well. However, its lack of low frequencies seems to be more of a subjective problem than with either of the sealed-box speakers with which I compared it, the Cambridge SoundWorks Ambiance and the Celestion 3. In absolute terms, I also found its treble to be both bright and rather hashy, and its tonal balance will be unforgiving when it comes to choosing matching electronics and source components. Recommended, but be sure to audition the Monitor 7 carefully to ensure that its treble will not drive your overall system balance too far in the brightness direction.

**Polk RTA 11t: $950/pair**

Polk Audio may have the appearance of a marketing-led company, but according to surveys in the trade press, they appear to have loyal dealers who have a good regard both for the performance and saleability of Polk loudspeakers and for the level of service backup offered by the company. So much for the conventional wisdom! In fact, since its founding in the early '70s, Polk has become one of the most commercially successful specialist loudspeaker companies in the US.

Most of the publicity generated by Polk products in recent years has concerned the "SDA True Stereo" principle, by which one or more extra midrange units in each loudspeaker reproduce an anti-phase version of the oppo-

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6 I am told that the more expensive Monitor 9 features a version of Monitor Audio's excellent aluminum/magnesium-alloy 1" dome tweeter. This speaker may well solve the 7's treble problems while preserving its virtues. But don't quote me on that.
site channel’s feed. As with Bob Carver’s “Sonic Hologram” circuit, this is intended to provide a degree of cancellation of the interaural crosstalk signal — each ear normally hears a time-delayed version of the signal intended for the other ear — the result being a soundstage that can transcend the speaker positions. My listening to Polk’s SDA models has been limited to CE Shows, but while feeling that SDA does indeed widen the stereo stage at some frequencies, I remain unimpressed overall. I found it unable to reproduce what on good conventional speakers should be stable, precisely positioned images. If such soundstage expansion is what you want, I feel the full-range Carver “Sonic Hologram” generator does a much better job (though in my experience, you do need to hold your head in a clamp). When we decided to review a Polk product, therefore, I felt it more appropriate to choose one of their non-SDA loudspeakers.

The RTA 11t is the top model in Polk’s conventional line of speakers. An attractively proportioned, deeper-than-it-is-wide, floor-standing tower design, its most obvious feature is the large number of drive-units on the speaker’s front baffle. In fact, the lower two 8” units lack magnets and voice-coils and are passively driven — Polk is one of the most successful users of passive-radiator technology — with different mass-loadings applied to each to result in what Polk terms a “high-resonance fluid-coupled subwoofer” and a “low-resonance fluid-coupled subwoofer.” (The fluid in question is, of course, the air within the cabinet.) As with the slug of air in a reflex port, the passive radiator works in conjunction with the woofer to extend the low-frequency extension and reduce cone excursion and distortion levels, the tradeoffs being a sharper (24dB/octave) final roll-off compared with a sealed box’s 12dB/octave and a lack of control of woofer motion below resonance. The passive radiator also blocks internal cabinet colorations from reaching the outside world in a more efficient manner than a plain reflex vent.

The RTA 11t features what is generally known in the US as the “D’Appolito” drive-unit configuration,7 where the tweeter is placed vertically midway between two woofers. Polk’s literature states that by having the tweeter positioned coincident with the virtual image of the two woofers, the result is “coincident radiation” from a point source, resulting in “perfect blending at the critical crossover point.”

The tweeter is a version of a unit used throughout Polk’s extensive range, a soft-plastic-dome type with a faceplate that gently slopes away from the dome, this helping with diffraction problems. Called by Polk a “silver-coil” tweeter, initially thought that this refers to the coil material. Reading Polk’s literature, however, suggests that as the tweeter is said to use “high-conductivity coated wire,” the “silver” probably refers to the coating. The high-blown terminology also applies to the twin 6.5” woofers, where the “Tilaminate Polymer” appellation refers to a relatively conventional pulp cone that is doped with two different polymers, one to stiffen the material, the second to damp breakup resonances. Butyl rubber surrounds are used, and the woofers are constructed on pressed-steel chassis.

The crossover circuitry is mainly carried on a printed circuit board attached to the rear of the terminal panel, with the exception of the series air-cored inductor in the woofer feed, which is wound on a circular molding integral with the panel. The low-pass filter for the woofer is second-order, a polarized electrolytic capacitor shunting the drivers, while the tweeter high-pass also appears to be basically second-order. However, a resistor in series with the shunt air-cored inductor and another in parallel with one of two series capacitors give a hybrid response, where the filter’s output gently tilts down below 12kHz with then an initial 9dB/octave rollout slope. A series voltage-dependent resistor in the tweeter feed provides protection — normally very low in value, it changes to a high resistance when the speaker is overdriven in order to cut the current flow to the drive-unit. Internal wiring is all 18AWG.

The cabinet is covered with a “furniture-grade” vinyl finish and is constructed from ¥¾” fiberboard, with ¥¼” MDF front and rear baffles. The sides are braced horizontally, and a front-to-back brace adds further stiffening of the enclosure. The top of the cabinet is filled with what appears to be acryllic fiber, and all the drive-units are rebated into the baffle.

7 After a paper presented at the October 1983 AES Convention by Joe D’Appolito, “A Geometric Approach to Eliminating Lobing Errors in Multiway Loudspeakers,” AES Preprint 2000, I first saw this arrangement of drivers in 1980, on the Meridian M2 active loudspeaker, but according to Vance Dickason in The Loudspeaker Design Cookbook, it is also essential to use an odd-order Butterworth network (typically third-order, 18dB/octave) if the benefits of an even and symmetrical vertical dispersion are to accrue.

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Sound quality: The RTA IIIs were positioned well away from room boundaries, as the mid-bass became too heavy when the speakers were placed within 3' of the rear wall. Sidewalls were 5–6' away. As my floor is quite heavily carpeted, I tried using Tiptoes to clean up the upper bass/low/midrange, but the metal studs on the speakers' bases defeated this, the speaker sliding off the smooth top surface of the cones. At low levels typical of casual background listening, the sound of the RTA II was quite seductive, a rather loose, rounded bass quality being allied to a feeling of air and space in the treble. Upon more critical listening, however, it became apparent that although the speaker is tonally well-balanced through the midrange, the overall characteristic resembles the familiar saddle-shaped "loudness" contour, where emphasis in the treble and bass compensate for the ear's low sensitivity at the frequency extremes at low listening levels.

The peak in the high treble exaggerated spit and sibilance in spoken male voice, and could be heard as a metallic signature added to recorded tape hiss, though paradoxically, the treble in total sounded rather recessed and shut-in. Violin tone, as well as the sound of the flute on the Stereophile Poem LP, was too warm, and lacked HF air. Despite the presence of the high-treble peak in the speaker's response, the speaker was too laid-back, apparently due to a lack of energy in the presence region. At high levels, however (spls in the 90s), the sound took on a treble harshness which had me reaching for the volume control.

Lower down in frequency, a hooty lower midrange added to the feeling of a warm tonal balance. Again, this was not unpleasant at low levels, but at more normal playback levels the speaker featured a significant degree of resonant overhang in the lower midrange. This was particularly bothersome on my own piano recordings, where the definition of pitch became obscured. On slow music, or when the melodic line being played lay well above the treble staff, things were relatively OK, but with contrapuntal music lower down in frequency, the sound of the piano degenerated into an unclear mess. Similarly with orchestral music or rock music with a complex mix: the sound was acceptable as long as things were quiet and simple, but when they got complicated and loud, instruments seemed to obscure each other's tone colors, the result being an untidy, muffled effect. In this respect, the RTA II per- formed significantly less well than the two much less expensive speakers reviewed this month. The Cambridge SoundWorks Ambience may have a less flat tonal balance than the Polk speaker, and it is certainly more "colored" in that sense. But it has considerably more clarity, there being much less resonant overhang in the lower midrange, and it is more listenable as a result.

The one thing the Polks did well was to achieve good levels of low bass. Bass drum had satisfactory weight. Double basses may have been too boomy in their upper registers, but their sound was sufficiently nourished lower down in frequency. Organ recordings came over well as a result, and as the transient-free sound typical of the organ is only slightly affected by midrange colorations, the music communicated more successfully than with voice, piano, or orchestral program material.

Listening to the Peter Mitchell organ recording on the Stereophile CD, however, which was recorded in such a manner so as to capture the spatial differentiation between the close "positiv" pipes and those more distant, revealed that the Polks throw a soundstage with very little depth. This was confirmed by the soundstage depth tracks on the Chesky Test CD. Although it could be heard that the voice and tambourine were recorded increasingly farther away from the microphone, the smaller ratio between the direct sound and the reverberant field being reproduced satisfactorily, the reverberation failed to gel with the direct sound. The result was that distant-sounding sound sources still stayed pretty much in the plane of the speakers.

The LEDR imaging tests on the Chesky CD also revealed the imaging to clump around the speaker positions—always a sign of resonant colorations—with the central image considerably wider in the midband than in the treble. The "Up" and "Over" tests also reproduced particularly poorly. The "Up" pathway, which on the other two speakers reviewed this month approximated to a signal rising in the air above the speakers, was presented via the Polks as an unstable and vague sound darting between the speaker positions and the central point between them.8

I carried out one set of specific comparisons,

8 Having tried this test on about 10 pairs of loudspeakers as of the time of writing, it seems that the smaller loudspeakers do better with this aural illusion, as do those with first-order
with the pair of Thiel CS1.2s that Larry Archibald reviewed a year or so ago. Though the Thiel costs $1090/pair and thus does not represent direct commercial competition for the RTA 11t, its performance sets a benchmark for true high-end speaker performance, in my opinion, in this approximate price range. With the exception of the Polk's HF peak, the tonal balance of the two speakers was surprisingly comparable, both having rather a laid-back sound with a warm bass register. (In order to be fair to the Polks, I used the Thiels without any spikes or Tiptoes coupling them to the floor beneath the carpet and pad.) Beyond that similarity, however, there was no comparison. The clarity of the Thiel's midrange sound, and the lack of clarity of the Polks', coupled with the difference in presentation of the soundstage, meant it was no contest. It was Tyson vs Spinks all over again.

Worried by my negative reactions to what I believe to be a commercially successful loudspeaker, I concluded the auditioning by asking two friends who were visiting Santa Fe, experienced listeners both and to some extent mentors of mine, to spend some time in my listening room with the Polks before we went out to dinner. I made myself scarce, having blueline proofs of the February issue of the magazine to read, but rest assured that I hadn't given my friends any clue concerning my own feelings about the speaker's sound. When we got together later, both listeners gave me descriptions of the 11t's signature that tied in exactly with my own: apparently flat in the midrange, with warm, rather muddy lows and exaggerated, spitty highs; very restricted image depth; and overall, a rather confused, musically very uninviting presentation. So be it.

**Measurements:** The plot of the RTA 11t's impedance magnitude and phase against frequency (fig.11) suggests that the two different-mass passive radiators actually act as one, the minimum in value at 37Hz indicating their combined tuning. The dip below 6 ohms between 85Hz and 440Hz, with a minimum value of 4 ohms, confirms Polk's 6 ohm rating for this speaker, though the treble region does stay above that value. The two small dimples in the magnitude trace (solid line) around 150Hz and 250Hz are echoed in the phase response (dotted line), normally an indication of resonant behavior. Driving the speaker with a swept sinewave revealed a series of strong cabinet vibrations at 213, 240, 260, and 290Hz, these much worse in degree than any of the other speakers I listened to this month. Listening close to a speaker sidewall gave me the impression that I was stepping between these discrete frequencies even though the sinewave was actually being swept. Such strong resonant output from a speaker's enclosure can have a serious negative effect on its ability to accurately reproduce musical pitch information in the lower midrange, in my experience. I conjecture that the exact pitch of the musical note the speaker is being asked to reproduce will be disturbed by the subjective pulling of the reproduced frequency to the frequencies of nearby low-Q resonances. This is analogous to the way a violin with a severe "wolfnote" will sound rather sour in that region. The cabinet was considerably more inert an octave lower, though I did find that the passive radiators had output more than I expected around 160Hz. This probably correlates with the dimple in the impedance plot at this frequency, but it seemed to be subjectively innocuous.

Fig.12 shows the anechoic section of the RTA 11t's impulse response as calculated by MELISSA. The measuring microphone was on the listening axis, level with the cabinet top, at a distance

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Crossovers: The larger a speaker's front baffle and the higher the order of its crossover, the less the image rises above the speaker position.
of 48". (The speaker was sitting on a 24" stand for this measurement so that the first reflection, from the floor, could be delayed as much as possible.) The shape implies that the drive-units are connected with the same polarity, and there is a complicated pattern of ringing extending out to the edge of the time window. A speaker’s impulse response contains within it its frequency response, connected by the mathematics of the Fourier Transform. FFT analysis of the impulse of fig.12 gives the response shown to the right of fig.13. An overall falling trend from the lower midrange to the mid treble is broken by a significant lack of energy in the crossover region and a peak centered on 12.5kHz. The response plummets above that frequency, implying that the tweeter has a severe lack of HF extension. (The measurement bandwidth was 30kHz.) Repeating the measurement on the tweeter axis gave the curve shown in fig.14, showing that the lack of extreme highs was not due to the particular measurement position. The curve’s very similar nature, however, reveals that the 11t has good vertical dispersion.

The curves to the right of fig.13 show the responses of the upper woofer and the two passive radiators, measured in the nearfield: i.e., with the microphone almost touching the diaphragms. The woofer actually appears to start its gentle rolloff quite high in frequency, though it doesn’t reach its half-power point until 50Hz. As suggested by the impedance measurement, the two passive radiators have almost identical outputs centered on 37Hz, though the “low-resonance” unit rolls out slightly faster below that frequency, as can be seen from the plot.

As might be expected from the 11t’s dual woofers and dual passive radiators, low-frequency linearity is significantly better than either of the two miniature speakers reviewed this month. Even at a high 96dB spl, only low-order harmonics were measurable above the noise floor (see Table 3). At 50Hz, even the highest in level, the second and third harmonics still measured less than 1% each. Peculiarly, the second harmonic was higher in level for the 100Hz tone at −37.9dB, 1.25%. As the passive radiators are not significantly contributing to the speaker’s output at this frequency, this suggests some asymmetry in the woofer’s behavior.

Looking at the spatially averaged in-room response (fig.15), which minimizes the effect of low-frequency room resonant modes, the nearfield-measured bass performance translates to good 40Hz extension, with a rapid roll-off below the passive radiators’ resonant frequency. An excess of energy in the upper bass can be seen, however, as can one in the 630Hz

Table 3
Polk RTA 11t distortion analysis

<table>
<thead>
<tr>
<th>Harmonic</th>
<th>50Hz/76dB</th>
<th>100Hz/96dB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second</td>
<td>−43.2dB</td>
<td>−37.9dB</td>
</tr>
<tr>
<td>Third</td>
<td>−44.4</td>
<td>−52</td>
</tr>
<tr>
<td>Fourth</td>
<td>−72</td>
<td>−71.6</td>
</tr>
<tr>
<td>Fifth</td>
<td>−60.1</td>
<td>−72.5</td>
</tr>
</tbody>
</table>

Fig.13 Polk RTA 11t, nearfield LF response and MELISSA-derived anechoic response on listening axis at 48".

Fig.14 Polk RTA 11t, MELISSA-derived anechoic response on tweeter axis at 48".

Fig.15 Polk RTA 11t, spatially averaged, 1/2-octave, in-room response.

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Fig. 16 Polk RTA 11t, MELISSA cumulative spectral decay plot

band. Again there is an overall lack of energy in the crossover region, while the peak centered on 12.5kHz noted on the anechoic traces results in a significant boost in this region in-room, noticeable on all axes. This doesn't mean that the 11t will sound bright, brightness being associated with peaks an octave or more lower in frequency. And in fact the lack of energy in the presence region might be expected to lend the speaker rather a dull, uninvolving nature. However, the top octave boost will add a spitty quality to record noise and emphasize sibilants.

The final graph, fig.16, shows the RTA 11t's cumulative spectral decay plot assessed on the speaker's tweeter axis. These “waterfall” displays indicate the presence of resonant problems by ridges running parallel to the time axis: as the impulse decays, these are the frequencies where the speaker continues to ring. Compared with the similar plots for the other two speakers reviewed this month, neither of which is without problems, fig.16 reveals the Polk speaker to be similarly mediocre, notwithstanding its significantly higher price. In some respects, however, it is actually worse than the other two. Although there is an initial clean drop of 6dB or so in the treble, there then develops a number of individual treble resonances, these persisting longer than the treble resonances typical of the Monitor Audio and Ambience speakers. In particular, the regions between 2700Hz and 4kHz and between 8kHz and 12kHz are very lively. The peak in the latter region is probably associated with these resonances, but its shape does suggest that some other factor may also be at work, maybe a diffractive mechanism.

To sum up the subjective meaning of these measurements is difficult, as often they will tend to produce opposing effects. The implication that the presence region will sound rather laid-back, for example, derived from the frequency response curves, has to be put against the fact that fig.16 reveals there to be significant resonant problems in this region that might well counteract this tendency. Overall, however, I felt that while its overall response below the top octave might be flat in broad terms, these measurements did reveal the RTA 11t to have a number of problems that undoubtedly contributed to its musically uninvolving nature.

**Conclusion:** The Polk company may have an excellent reputation for product reliability, dealer support, and service backup, but I can't help but wonder what those attributes are worth when the basic sound quality of their products is compromised, as I felt the RTA 11t's to be. Of high perceived value, it failed to deliver the musical goods, in my opinion. It may have a reasonably neutral tonal balance, but its sound is flawed by a spitty, rather exaggerated treble and a loose, not particularly well-defined bass. These aspects would be more forgivable if the severe lack of midrange clarity, coupled with a recessed presence region, hadn't rendered the speaker's sound so musically uninvolving. Ultimately, I feel the RTA 11t, at $950/pair, just isn't competitive in a high-end environment.
Sansui AU-X911DG integrated D/A amplifier

In Vol.12 No.11, Larry Greenhill wrote an exceptionally favorable review of the Sansui AU-X911DG integrated amplifier. In fact, the review was so enthusiastic that we decided to audition the unit in another system and under different circumstances. (This is Stereophile's standard policy when extremely positive or extremely negative reviews are published.)

I listened at length to the Sansui in conjunction with, and in comparison to, the following equipment: Kinergetics KCD-40 and Magnavox CDB 472 CD players, Audio Research SP-14 preamplifier, VTL 225W Deluxe monoblock power amplifiers, and a Creek 4140S2 integrated amplifier. Loudspeakers were B&W Matrix 801s, bi-wired with AudioQuest Clear Hyperlitz. During one portion of the evaluation, AudioQuest's new F-14 speaker cable was used. Since LG wrote that the Sansui compared favorably with his Levinson/Threshold combination, I had no qualms initially about putting the integrated amp up against the SP-14/VTL setup.

The Sansui AU-X911DG also contains a digital/analog converter for decoding the serial digital output of a CD player or DAT machine. In fact, the Sansui incorporates one of the first examples of the new "1-Bit" decoding scheme described by Peter Mitchell in Vol.13 No.1, in this case a Matsushita "MASH" circuit. I decided to evaluate this section first by comparing it with the excellent Kinergetics KCD-40 ($2000). The line analog output from the Kinergetics was fed to the Sansui's CD input, while the digital output of a Marantz CD-94 was input to one of the Sansui's digital inputs. The integrated amplifier then drove B&W 801s in a bi-wire configuration. It was thus possible to compare the Sansui's D/A section with the KCD-40's.

The Sansui's DAC was clearly no match for the Kinergetics'. By comparison, the Sansui's tonal character leaned toward the bright, with cymbals taking on a splashy character. Vocal sibilants were also more noticeable and slightly spotty. The upper octaves had a metallic quality that added an edge to high-frequency tran-

1 This excellent cable retails for $794/foot.

sients. These characteristics endowed the Sansui with a forward, up-front presentation.

The soundstage presentation was somewhat better, but it did not have the air and depth I heard from the Kinergetics. The soundstage was wide, with a feeling of "bigness." However, the Sansui's soundstage was noticeably shallower than the KCD-40's, creating a sense of a smaller acoustic space. Reverb decay seemed longer through the KCD-40, adding to its remarkable sense of depth. This was particularly evident on percussionist Jim Brock's new Reference Recordings CD, Tropic Affair.

Instrumental lines tended to be a bit congested and obscured through the Sansui, resulting in less resolution and lack of transparency. Low-frequency impact did not match the KCD-40, an area where that player excels. The bottom octaves presented by the Sansui lacked the depth, control, and liquidity that make the KCD-40 seem so effortless. Overall, the Kinergetics was much more musical and listenable.

With hindsight, I feel it was unfair of me to compare the Sansui's DAC to that of the highly regarded (and much more expensive) KCD-40. In light of LG's review, however, I had originally thought such a comparison would be valid. To give the Sansui some competition more in line with its price, I brought out JA's own Magnavox CDB 472 CD player, a once-popular unit, though now discontinued, that could be bought for about $200. (JA had bought the '472 to use as a test vehicle for CD-player modifications, but had never got round to doing anything with it.)

The adage that "all things in life are relative" certainly applies to hi-fi. Just about all the criticisms I made of the Sansui's sound compared with the Kinergetics' could now be applied to the Magnavox in relation to the Sansui. The Sansui's DAC was clearly superior to the Magnavox in every regard. Next to the CDB 472, the Sansui could even be described as smooth and warm. The Sansui lacked the bright, hashy upper octaves that made music through the Magnavox decidedly unpleasant. By comparison, the AU-X911DG's soundstage was open and detailed, with a nice sense of air and depth. Bass was tighter and much better controlled than through the Magnavox. The budget CD player had a reedy, metallic quality that gave
music a rough texture. In addition, detail, resolution, and transparency were superior through the Sansui’s MASH DAC.

These comparisons revealed the Sansui’s DAC to be competent, but not outstanding. Given the fact that it is included in an integrated amplifier, it performs well for the money. I would rate the DAC portion of the AU-X911DG in Class C of Stereophile’s Recommended Components.

After conducting the sonic evaluation of the Sansui’s DAC, it was time to see how its amplifier section fared. I had listened to the Sansui for a few weeks, turning off the VTL 225 W Deluxe monoblocks and Audio Research SP-14. To get my bearings back after so much switching of CD players, I listened at length to the KCD-40 feeding the AU-X911DG via its analog inputs. After this session, I connected the CD player directly into the VTLs, using the KCD-40’s output-level control to adjust volume.

The difference was immediately obvious. The entire character of the music changed. The soundstage thrown by the VTLs was huge, three-dimensional, and had a transparency not heard through the Sansui. Suddenly, I was able to see through to the back of the soundstage without obstruction. The clarity and resolution of instrumental outlines took a quantum leap forward. The texture of the music through the VTLs became velvety and inviting, a description that I would not apply to the Sansui. In addition, the integrated amplifier could not begin to compete with the VTLs in the areas of bass impact, depth, and effortlessness.

Despite LG’s advocacy, the Sansui amplifier section did not come close to the sonic performance of the much more expensive ($4200/pair) tube monoblocks, in my opinion. To give the Sansui some competition more in its price range, I brought out the Creek 414052, a 40Wpc British integrated amplifier that I favorably reviewed in Vol.12 No.9. The Creek sells in the US for $550.

The Creek proved more of a match for the Sansui. The biggest difference between them was the Sansui’s greater dynamic impact and punch. The Sansui clearly was more powerful and dynamic, with a greater feeling of ease. When driven moderately hard, the Creek imparted a sense of strain, as would be expected from its lower power output and smaller power supply. However, when operated within its power range, and with less power-demanding source material (chamber music, for example), the Creek had a liquidity and textural delicacy not heard through the Sansui.

Comparing the phono stages of the two integrateds, I was impressed by the Sansui. It had a nice, open presentation and was detailed without being etched. In fact, I found the phono section to be the Sansui’s strong suit. It was smooth and inviting, making me want to keep playing records. In addition, the phono section was very quiet, even with substantial gain.

Conclusion: The Sansui AU-X911DG, with an onboard DAC, multiple digital inputs, extensive source-switching facilities, and 100Wpc power output, appears to offer much for $1250. Its performance is what one would expect for a unit in this price range. However, I must disagree with colleague LG as to its musicality in relation to truly high-end products. It’s not that the Sansui is unmusical; on the contrary, I found its overall performance quite good for its price. But next to products such as the Kinergetics KCD-40, Audio Research SP-14, and VTL tube monoblocks, the Sansui was revealed to be a competent but not outstanding performer.

—Robert Harley

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Stereophile, March 1990

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Sir Thomas Beecham

DENIS STEVENS

W\iting from London for the New York Times on September 25, 1949 (just 40 years ago as I write these lines), the critic Stephen Williams told readers: "Beecham is mainly self-taught. He is unorthodox—many less successful conductors call him 'amateurish'; but by some inspired alchemy he frequently files a key to unlock 'the door they howl without.' I don't know how he does it; neither perhaps does he. But I have not the slightest doubt at those moments that I am in the presence of a genius."

Few others who heard Beecham in his glorious years would ever question that assessment. They gradually came to understand what made him great, although they must have guessed that it was a fantastic combination of opposites, for as he himself once put it: "a truly great performance must combine the maximum of tenderness, and the maximum of virility." A large number of his recordings do exactly this. His remarkable version of Borodin's Polovtsian Dances, with chorus (EMI CDC 7 47717 2), ranges from a gentle love-song to a fierce and frenzied dance of warriors. The savagely biting four-note figure, descending, played by violas right after the middle section, is a case in point. Few conductors have ever brought out the strength of that phrase as Beecham does. Again, for years I thought Grieg's In the ball of the mountain king a rather wild dance by basically amiable trolls, but when Beecham conducts it,
again with chorus (EMI CDM 7 69039 2), one is tempted to rush out of the room in terror.

Let me add that the main work coupled with the Borodin is none other than Rimsky-Korsakov's Scheherazade, while with the Peer Gynt music we also have Grieg's Overture In Autumn and his Symphonic Dance Op.64 No.2, both in excellent performances radiating vivid Nordic colors. Scheherazade has been in a class of its own for years, not only on account of the superlative windwood playing, but because of Beecham's unrivaled grasp of passion and poetry, drama and derring-do. Listening to this masterpiece of orchestration in his highly personal reading is very much like being present when the tale of the Arabian nights was first related.

Beecham's earliest recording seems to have been Stravinsky's Firebird Suite, made in London early in 1916 shortly after he had received his knighthood in the New Year's Honours List. Paris was the scene of his last session, when on December 4, 1960 he recorded Fauré's immortal Pavane. Those 44 years rank as eventful ones in the history of recording technology, not least when we realize that Beecham made a stereo test tape in Ludwigshaven while touring Germany with the London Philharmonic in 1936. But there are treasures on both sides of the stereo "wall," some yet to be released. I recently heard a fine 1937 Covent Garden Tristan und Isolde with Melchior and Flagstad, released by Melodram (MEL 37029), which brings to mind a recent discussion of piracy in the August 1989 issue of Gramophone. This was in the form of a letter, in which the author pointed out that although the present Lady Beecham objects, as she may well do, to piracy on the high end, there is every evidence that Sir Thomas successfully corsaired a number of his own operatic performances.

One release that almost certainly comes under this heading is the Berlioz Requiem recorded at a concert in the Royal Albert Hall on December 13, 1959. This is available on the Italian label, Hunt CD LSML 34012, and features the Royal Philharmonic Orchestra and Chorus, with Richard Lewis as tenor soloist. The sound is very acceptable, despite the location, which Beecham once described as the only hall in England where a British composer could hear his music played twice. But the reverberation is not at all displeasing, and the orchestral-choral blend excellent. The chorus, by the way, is in fact the Ambrosian Singers, a group which I helped to found in 1952 when London had no professional chorus of this nature and size. I had long previously handed over its administration to a colleague, who surprised me a few days before the concert with a telephone call asking me to come along and sing, as Sir Thomas was keen to have as many basses as possible. Naturally I leapt at the chance, and still recall a packed Albert Hall and a splendidly stirring interpretation.

Beecham's legendary versatility is amply borne out by his recordings, which range widely over opera, ballet, symphonies, tone poems, and concertos. In the last-mentioned, he projected into his accompaniments the flair for exquisite balance and attention to detail which one habitually finds in his orchestral repertoire. A still unsurpassed record, to my mind and ear, is the superhuman, demoniacal version of the Sibelius Concerto with Heifetz as soloist, made in 1935—mono, 78rpm, but still hair-raising in its sheer intensity. How did it happen? Beecham had given three public performances of the work in 1933 and 1934, so that by the following year he knew it very well. Heifetz was then at his topmost peak of devil-may-care bravado, and the orchestra was the newly formed London Philharmonic. Some kind of extraordinary magic shaped these sessions into discs of white-hot fusion. The 78rpm set, made for the Sibelius Society, was transferred to LP, issued on Seraphim 60221, and again more recently in the Smithsonian "Virtuoso" LP box.1 Put out the lights, relax, and listen!

Another that has never been done better, in any recorded medium, is the Prokofiev No.1 in D, with Joseph Szigeti, made just four months before the Sibelius. In this case Beecham was apparently sight-reading the score, but the result is superlatively stunning because the soloist possessed an uncanny range of colors. He may have been (as Stravinsky said) "the only violinist capable of giving a recital in a telephone kiosk," but his seemingly restricted bow-arm produced a color spectrum which I have never heard equaled, let alone surpassed. This too is now available as part of the "Virtuoso" set.

Most of Beecham's Delius legacy is fortunately well-preserved, and has now found

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1 Available from the Smithsonian Collection of Recordings, Washington, DC 20560.
"The effect of cleaning a record with the Nitty Gritty is astonishing" John Atkinson

I reached for my British RCA pressing of Casino Royale, well-chewed by countless cartridges and the ravages of the elements for 22 years. The background groove noise was not particularly high in level, but had a gritty quality. Just one clean on the Hybrid reduced this to an occasional minor tick, taking the background noise below the level of the intrinsic master tape hiss.

Please read the full review in the March issue of Stereophile (1989). Five models to choose from, starting at $220.

Nitty Gritty, 4850 Arrow Hwy. #F4, Montclair, CA 91763
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its way onto CD. First and foremost is the EMI 2-disc album, CDS 7 47509 8, containing imitable and meticulous readings of Over the Hills and Far Away, Brigg Fair, Florida Suite, Dance Rhapsody No.2, On Hearing the First Cuckoo, Songs of Sunset (John Cameron and Maureen Forrester), and other popular works by this composer. Three months after meeting Delius, Beecham programmed Paris with the New Symphony Orchestra, playing in Liverpool, in January 1908; and he continued a staunch advocate until his very last public concert given with the RPO in Portsmouth in 1960.

Paris, complete with offstage piccolo, is given a rousing performance on the Beecham Collection BC-2, along with other works dating from the Delius Society albums of the late 1930s; and connoisseurs may wish to compare these versions with the more recent ones on the EMI set. Music and Arts CD 281 offers us North Country Sketches in a performance recorded in the BBC's Studio 1, Malda Vale, on November 4, 1959, with Mendelssohn's Overture, The Fair Melusine and an inspiring projection of Beethoven's Seventh, recorded four days later in the Royal Festival Hall.

No Beecham collection would be complete without Mozart, and for those who cannot afford the miraculously salvaged video program made with the Montreal Symphony on March 20/21, 1956 (obtainable from the Sir Thomas Beecham Society, 664 Irena Avenue, Redondo Beach, CA 90277), there are treasures such as the Bassoon Concerto (Gwyndol Brooke) and the Clarinet Concerto (Jack Brymer) on EMI CD 7 47864 2, coupled with shorter Mozart works. Also of lasting value is the "Jupiter" symphony on EMI CDM 7 69811 2, which also features Beethoven's Symphony 2. So far we have no complete Mozart operas, which Beecham performed with a Mozartian mélange of fiery flair and loving care, but rumor has it that 1990 will see the release of the 1937 recording of Die Zauberflöte, with that never-to-be-repeated cast starring Tiana Lemnitz, Erna Berger, Gerhard Hüschen, Wilhelm Strienz, Helge Roswaenge, and others of distinguished repute.

Since Beecham knew Puccini well and Richard Strauss better, it is fitting that the CD market has thus far included three masterpieces by these giants of the 20th century. La Bohème, complete on EMI CDS 7 47235 8 and CDCB 47235 8, features magnificent performances by Jussi Bjoerling and Victoria de los Angeles, well supported by Robert Merrill, John Reardon, Giorgio Tozzi, Fernando Corena, Lucine Amara, and others. Excerpts from Strauss's Le Bourgeois Gentilhomme date from 1938, as does Don Quixote, with Paul Tortelier and Leonard Rubens as soloists, and both works are on one disc (EMI CDH 7 63106 7). Another well-filled EMI disc is the Schubert collection (CDM 7 69750 2), which gives us three symphonies: 3 in D and 5 in B flat (both recorded 1959); and 6 in C, which dates from 1955. All are memorable, combining effervescent allegros and soulful slow movements—music which Beecham clearly loved and admired. Listeners interested in his marvelous phrasing should turn to H. Procter-Gregg's study Beecham Remembered (London 1976), where the section entitled "Beecham as Man and Artist" (subsection II—"Technique") explains all this with pertinent musical illustrations.

Other discs to be warmly recommended are the Berlioz collection, highlighting his swashbuckling Overture, .. be Corsair, "The Royal Hunt and Storm" from The Trojans at Carthage (version with chorus), and the vivid and colorful recording of the Symphonie Fantastique which he taped with the French National Radio Orchestra in the late fall of 1959. There are two delightful Haydn symphonies (101, "The Clock," and 103, "Drum Roll") on EMI CFP 4530, while Liszt lovers can grasp something of his romantic outlook in the Faust Symphony, with Alexander Young (tenor) and the Beecham Choral Society under Denis Vaughan on EMI CDC 7 49260 2, originally issued in 1958.

Future releases should include Balakirev's Symphony 1 and the symphonic poem Thamar, Tchaikovsky 4, and a 2-disc Sibelius album. In the meanwhile, lighter fare can be enjoyed in a Beecham Society release of a Radio Luxembourg program from 1939, which allows us to hear a selection of "Lollipops" introduced by Beecham himself in his best Bloomsbury accent, well-clipped for the occasion. Perhaps the best of these is the Brahms Hungarian Dance whose midddle section evokes the sound of an accordion, and the "Meditation" from Massenet's Thais in which the violin solo is beautifully played by David McCallum. The choice is already wide; and it looks as if it will grow as the years go by.

Stereophile, March 1990 163
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Once upon a time, way back in 1968, a hairy young man named Frank Zappa had two record labels, called Bizarre and Straight. But having is not necessarily owning. In actuality, Bizarre was a subsidiary of Warner Bros., and Straight was too. Though Mr. Zappa decided what would be released on Bizarre—his own records and those of the Mothers of Invention, Wild Man Fischer, and The GTO's—the legions of Straight were led by Herb Cohen, Zappa's manager. Mr. Cohen released into the world first albums by The Persuasions, Jeff Simmons, Tim Dawes, Alice Cooper, and not-so-first albums by Ted Nugent and the Amboy Dukes, and the Buckleys, Tim and Lord. Neither Bizarre nor Straight lasted very long, though it seemed an age at the time. In 1973, they fused into Mr. Cohen's new venue, DiscReet, on which label all the surviving musicians released records until the late '70s. Then, as happens all too often in tales of this kind, all but one of these records went out of print in a puff of heavy black petroleum-based smoke.

For the longest time, that lone Straight album bore the tattered standard in bloody glory: Captain Beefheart and the Magic Band's notorious, epochal, seminal, densely unprecedented Trout Mask Replica. For some reason of Mystery known only to themselves—certainly few people actually bought the record—the hooded lords of Warner/Reprise (who never die, but drift through life with horizontal mobility) have kept this powerful music in print for over 20 years. (Though now the label says only "Reprise")

While the rest of the forgotten music slept the sleep in cold metal crypts, Glitter Rock, Pomp Rock, and Punk Rock came and went. Reggae reigned. The Who gave its farewell tour. New Wave came and gentrified. The Who gave its second farewell tour. New Age came and stayed and stayed and stayed. And stayed. The Great Marsalis Brother waged his acoustic war against the sinuous synthesizers, which insinuated themselves like a computer virus into group after group, label after label. People stopped counting The Who's farewell tours. Likewise the Rolling Stones'. The CD was born
one silvery morn, and the LP, after one look at the babe's rainbow face, began to wither away. The Who gave its next farewell tour. And as aluminized youth and vinyley age battled, the cassette quietly cornered the market. Some said that the Madonna herself had returned. And from time to time, DiscReet rumors would surface, only to be plunged into the nether darkineses of corporate bowels.

A sad tale, but it is now ended.

EMI International owns Capitol Records, which owns 50% of nearly a dozen different divisions called Enigma. One of these Enigma variations is called Retro; Retro is intent on proving that you can go home again, and has resurrected an astonishing amount of high-quality late-'60s geek music that those of us who called ourselves "freaks" at the time listened to more than most of us would now care to admit. You see, we all believed that, in the words of the great cartoonist R. Crumb, "minds were made to be blown." Most of this weird, warped universe revolved around Frank Zappa. More than half of the releases I discuss here didn't.

Enigma Retro, which seems to have strictly restricted itself to reissues of Herb Cohen acts—what was once "motley" is now "eclectic"—has so far done a wonderful job. Everything has been digitally remastered, each CD is a picture disc, and not only are all photos, credits, and lyrics from the original LP sleeves reproduced in full, but, in the case of the Tim Buckley releases, which originally had no printed lyrics, Enigma has gone to the trouble of digging up Buckley's original lead sheets and reprinting the lyrics as found there (which often differ considerably from their recorded versions). These are archive-quality re-releases, and I, for one, am very appreciative.

But get 'em now, chilluns, 'cause this is the Golden Age of the CD. Right now. Today. These albums were all out of print long before CD was a silver gleam in its daddy's multinational eye, so don't you blame those cute lil' silver saucers. These audio incarnations of Buckley, Buckley, Beefheart, et al probably won't be around for long once the heady rush of '60s consumer nostalgists and fanatic collectors is over, even with the media cachet of New Format! New Format! New Format! These records represent strictly minority tastes, tastes which challenged conventions in an age far less conservative than our own. Enigma is half-owned by a major label. Draw your own conclusions.

Sermon aside, and beginning with Captain Beefheart and the Magic Band, believe it or not the best-known name here: Lick My Decals Off, Baby, from 1970, is an aural, cubist portrait of a knockdown drag-out brawl stylistically pitting Ornette Coleman vs Howlin' Wolf, with William S. Burroughs refereeing. I think the Wolfman wins. This nightmare bastard son of the Delta blues follows up the punch that landed on an unsuspecting world the previous year in the guise of Trout Mask Replica, but it's a more confident, if less terrifying piece of work. You should know that Capt. Beefheart is not big on melodies. Rhythm, rhythm, rhythm, cross-purpose rhythms sticking out of the percussive tornado like cars, cows, and barns. Yes, this man does know what "Diddy Wah Diddy" means (check out his A&M single of same from the mid '60s—heavy metal before it had a name). This is raw, difficult, nasty music, meticulously rehearsed and played, no rough edges filed off. (The good Capt. said that he wrote all of Replica's 25 songs in one day, then spent the next year teaching his band how to play them.) In fact, the only similar rhythmic patterns I've ever heard happened one day when I was working out in the gym: the cassette deck started playing both sets of stereo tracks of Sly & the Family Stone's Greatest Hits simultaneously, two forward and two backward. Crazy.

Well, Beefheart's back out in the Mojave these days, talking to bugs, painting in his
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I68 Stereophile, March 1990
trailer, and waiting for the saucers to land, but we've got "I Wanna Find a Woman That'll Hold My Big Toe Till I Have To Go" to listen to until he feels like making music again. Fans of the more recent Tom Waits records should listen to Decals to hear where Tom got most of it from. But it's not all harsh. Herewith the complete lyrics to "I Love You, You Big Dummy": "Love has no body / I love you, you big dummy / No body has love / Breathe deep / Breathe high / Breathe life / Don't breathe ah lie / I love you, you big dummy." And the sobering title of a poem published along with the song lyrics: "You Should Know by the Kindness of uh Dog the Way uh Human Should Be." Uh-huh.

Unlike most of these reissues (see below), the Enigma Retro CD is superior in every way to the mint-condition LP I borrowed from a friend (thanks, Vince!); and the LP was pretty good itself: warm, full bass, decent highs.

In 1969, Straight released an album by the first of two unique Buckleys, Lord Richard. Recorded in 1956 and edited by Frank Zappa in '69, a most immaculately hip aristocrat was excerpted twice on the two editions of Zappéd, a Warner/Bizarre/Straight sampler of 21 years ago, which is how I found out about it. I looked and looked for aristocrat, but found it only once—and I had no money. It was out of print by late 1970, and I was out of luck.

Well, here it is again, and now that I've finally heard it, it's probably the best Lord Buckley album. Period. (Demon Records has released four World Pacific Buckley LPs on their Verbals subsidiary.) For those poor souls who have never heard the Lord, stash this under your wig: Lord Buckley is to the stand-up live jive monolog as Mozart is to the piano concerto, as Muhammed Ali is to elegant boxing, as Vienna's Hotel Sacher is to the torte. A man who loved life till it hurt, and shared his joy at every opportunity, Lord Buckley was the gonest, grooviest cat on this here sweet-swingin' sphere. (And if you look on the cover of Bob Dylan's Bringing It All Back Home, on the mantle behind Albert Grossman's wife (no, that's not Dylan in drag), you'll find an early album of Buckley's.)

"The Bad-Rapping of the Marquis De Sade," even in its unfinished form here, momentum interrupted by tape-recorder fiddlings which Zappa decided to leave in (this was recorded in Buckley's home, near as I can figure), is far better than the live version—with a herd of hecklers from Hell—on the Demon LP named after this monologue. And everything that follows "De Sade" is even better. "Governor Slugwell" and "The Train" are tours de farce, Buckley playing announcer, crowd, cops, engineers, marching band, senator, governor, train, passengers, conductor, and whistle, political and black humors raging. "The Raven" is Poe's chestnut translated into "the somatic of the hip," the narrator now a fixless junkie festering in his room, dodging a rent-hungry landlady and wrestling his own jones. Most amazing is "The Hip Einie"—Einstein—"a cat who carried so much wiggage, he was gigless!" Incredibly, Buckley tells the story, in thickest hipster argot, of Einstein's early years, and the thought experiment that accurately predicted the bending of light around an eclipsed sun. Wild.

Thank you, Enigma Retro and Herb Cohen. Lord Buckley is a natural resource. Thanks for repluggin' me in to the wattage of his wiggage. 1969 (that date keeps coming up) was the heyday of Cock Rock, the eve of the Women's Movement, the beginning of the end of the guiltless groupie deathstyle. Frank Zappa, his antennae in gorgeous tune, produced the first and only album by The GTO's (sic), aka Girls Together Outrageously. Yes, this is the long-out-of-print album, recorded in '69, made by a gaggle of groupies who hung with rock stars on and off the Sunset Strip, and recuperated at the Zappas' Log Cabin, formerly owned by Tom Mix. And yes, the Very Cute Miss Pamela "I'm With The Band" Des Barres was of their ilk and number, and figures prominently here.

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Stereophile, March 1990
tent. *Permanent Damage* is a classic Zappa social document in the tradition of *An Evening with Wild Man Fischer*: musical nonentities to whose incipient weirdness Zappa thought we all should be exposed. But *Damage* fulfills another function: it’s a record of a media-created world that, for a short time, and however history may judge it, nonetheless passed for reality for those who populated it, and is now extremely gone. Listening to this record again for the first time in over 20 years made me realize, once again, just how much things have changed.

Musically and culturally, The GTO’s were products of The Beach Boys. Sure, the content of their zeitgeist had changed drastically by the time Zappa switched on his Ampex, but the style remained pure giggling, screeching, cheerleading California Girl, with the emphasis on ‘girl.’ When my fiancée and I listened to this, our hands went to our cheeks in poignant disbelief. “They sound so young.” What we meant, of course, is that we were so young then, and are now twice that age, and then some: 19, as was Miss Pamela. Yes, we remember goofing like that, remembering all those pops. The GTO’s kept swooning about, remember entirely restructuring our basically ’50s childhoods in the new, psychedelicized blacklights of our college dorms and crashpads, always as if we were the first to do so. That feeling of “firstness” was the great lie and the great truth of our generation. Yes, every coming-of-age generation feels itself uniquely informed, uniquely stylish, unprecedentedly insightful. But that generation actually did do things that none before or since has, as everyone is so sick of hearing; we need to be as careful to make too little of that as we are to make too much of it.

But *Permanent Damage* . . . there are “songs,” chants, poetry, telephone conversations, cosmic-level discussions inside pianos, you name it. The GTO’s wrote all the words, with guest composers. Musicians include Jeff Beck, most of the Mothers of Invention, Rod Stewart, Davy Jones, Nicky Hopkins, and Lowell George (who wrote music for two of the songs here before moving on to form Little Feat). It seems churlish to say that the GTO’s could neither sing nor play, especially when they had so much fun doing it anyway. And Miss Pamela’s “Do Me In Once and I’ll Be Sad, Do Me In Twice and I’ll Know Better (Circular Circulation)” is winsomely, poignantly innocent.

This record contains undeniable spirit. When I first heard it, the world it excerpted was happening all around me, or at least I thought it was. Now all we have left are such meager progress reports as *Permanent Damage* and lots of dead brain cells. Time slouches on.
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The Persuasions

the more exciting, somehow makes me appreciate all those basic soul changes all the more. Side two (CD tracks 7–13) was recorded in the studio, but there are still problems: lead Jerry Lawson is extreme left, the other four extreme right, and a huge hole in the middle. Mono buttons? Punch 'em if you got 'em.

Though the Persuasions did most of their early persuadin' on their native Brooklyn streetcorners, most of the tunes here—and their vocal style—are straight (so to speak) Motown: "Searchin' for My Baby," "Don't Look Back," "I Just Can't Work No Longer." There's also a moving, politically right-on "Old Man River" in a fascinating, ever-changing arrangement; a testament to Zen-like acceptance called "It's All Right"; and a pentecostal revival cooked up from that little nothing, "The Bounce." Yep, there's real shakin' music on this one, with a deep, loving gentleness under the shouts and groans, but newcomers should first try (if they can find it) the mid-'70s We Came to Play (Capitol ST-791, op), or the brand-new Live in the Whispering Gallery (reviewed elsewhere in this issue).

But this article was first conceived when I heard last year the exciting news that most of Tim Buckley's long-out-of-print back catalog had been, or was about to be, re-released.

Tim Buckley? I'll forgive you if you haven't heard of him. Considered a minor figure of several distinct late-'60s L.A. music scenes, Buckley never had a huge following, his songs were seldom covered, and, as he never made the same album twice, few of the fans who started out with him were still around by the time he blinked out in a haze of heroin and morphine after a long 1974 tour and more than a year of being clean and sober. He was 28. (His last words: "Bye bye, baby.") His name never makes the lists of his rock-casualty contemporaries Jimi, Janis, and Jim. But he deserves more remembrance than he ever got: Buckley burst on the Los Angeles and national scenes in 1966 in an explosion of earnestness, grace, and light, with all the pure passion of '60s youth. With his powerful lyrics, amazing gifts for melody and harmony, and his five-octave voice swooping and shape-changing like Yma Sumac in drag, he was unprecedented. That light began to dim almost immediately, as the rest of Buckley's short life became a struggle to balance the demands of his art and his habit, and his outlook grew ever more seamy and narrow as he grew up far too fast in an age when there was a lot of that going around. And it never helps if you're marketably talented.

But his first six LPs were remarkable in their variety and integrity—some of them brilliant, at least one of them horrendous. I don't think
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anyone likes all of them. The first, Tim Buckley, like the next three, was released on Jac Holzman's Elektra label, before that company was snapped up by Warners. On it a 19-year-old singer/songwriter performs, in pretty advanced mid-'60s folk-rock style, some of the most, by turns, heroic, tender, passionate, innocent songs you've never heard, performed with deft deference—the album opens with the chiming dissonances of "I Can't See You," then there's the pastel "Valentine Melody," the mounting cry of "Aren't You the Girl," the seance of "Song Slowly Song," and much more. Lean string charts by Jack Nitsche, keyboards by Van Dyke Parks. Elektra hasn't yet reissued Tim Buckley. They should, and you should buy it.

Buckley's next two discs are finally available again, and were probably his most popular albums. Goodbye and Hello, recorded in L.A. during the Summer of Love, is an example of all that was good about late-'60s rock music. Every song is absolutely Buckley's own, but so differs from all others on the album that you'd think different songwriters, arrangers, and musicians were involved. From the dark media critique of "No Man Can Find the War" to the fever-dream "Carnival Song" to the nightmare-like junkie's anthem "Pleasant Street" to the positively superhuman "I Never Asked to Be Your Mountain" (in which Buckley sounds like a 19th-century Romantic hero singing from the top of that mountain, cape unfurling in the Wagnerian gale) to the near-Eastern "Phantasmagoria in Two" to the baroque "Knight Errant" to the metaphysical State of the Union address that is the title song to the closing, poignant "Morning- Glory," which, of all people, Blood, Sweat & Tears covered 20-odd years ago, this album is a sleeper, an underrated pop classic, inspired psychedelia at its very best. And that's true for music and lyrics, half of the latter by Buckley, half by his lifelong collaborator Larry Beckett.

But Goodbye was no introduction at all to 1968's Happy Sad, similar to the former only in title. Writing in the language of drugs, as the first generation of rock critics so often did, Goodbye's psychadelics had given way to Happy Sad's heroin. Buckley's voice, words, and music seem, to quote "Buzzin' Fly" from this album, to melt "like honey in the sun." Instead of the orchestras, electronics, and massive, inspired studio manipulation of the previous album, Buckley here restricts himself to a quintet of two guitars, congas, acoustic bass, and vibes. The music is haunting, jungle-like, the melodic lines long and ephemeral, Buckley's voice swooping, hovering, screaming. And "Love from Room 109 at the Islander (on Pacific Coast Highway)" is 11 minutes of almost static sonority underlaid with the constant sound of surf. (This was my favorite make-out album of 20 years ago.) Happy Sad was Buckley's first attempt at a more jazz-flavored music, but all of his experiments in this vein, no matter how varied the settings, had the same strengths and weaknesses: great sonorities (a holdover from the folkie tradition) and tonal colors, but the music seldom went anywhere; Buckley simply was not a jazz musician. So many times during his records, you realize he's holding on to a note or letting rip with a guttural yell or a near-supersonic scream because he probably doesn't know what else to do, as his band cranks on, oblivious. The folk-rock contingent of Buckley's fans began to hear their mothers calling. (Of Elektra's CD reissues, Hello and Goodbye is so far superior to my mint-condition LP, fuzzy, boxy, with no bass, that there's no comparison. Happy Sad, on the other hand, sounds virtually identical in both formats.)

Whatever its weaknesses, Happy Sad was a popular record, unlike its far superior successor of the following year, Blue Afternoon. This was his first on the Straight label, and the first Buckley record I ever heard. It remains my favorite; nostalgia aside, it stands beside Tim Buckley and Goodbye and Hello as his best work. Buckley added a piano and drums to his basic band, and came up with eight songs that
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sound as if written from beyond the grave—
music so achingly sad, so serenely without
hope, so drenched in drugged ennui that they
could be songs of a spirit wafted by his own
vague memories of his former life on earth. I
remember wondering, when I first heard this,
what price Buckley had had to pay to be able
to write such songs (Beckett was not involved
in this one). They were that powerful back in
'69, more so five years later, when Buckley
OD'd, and almost too painful to listen to today.
In a just universe, "Happy Time," "Chase the
Blues Away," "I Must Have Been Blind," "So
Lonely," "Cafe," and "Blue Melody" would all
be instant classics, folk torch songs. But no one
ever sings them; no one ever did. This music
could have been written at almost any time, and
is therefore timeless. Blue Afternoon was ter-
ribly recorded: too distant, too dry, too rolled-
off in highs and lows. The CD improves over
the LP somewhat in the highs, but the LP's bass
still wins. But musically a winner—when Lee
Underwood's vague, distant, smoky piano
starts off "Blue Melody," the Café Rick is still
open, and Bogart's still leaning on the bar, look-
ing miserable through clouds of nicotine. And
just as Bogart will always be walking off into
that final fog, so Buckley will always be sing-
ing this song.

The less said about Lorca, Buckley's 1970
contractual-obligation album to finish out his
Elektra agreement, the better—he sounds as
if he was making it up in the studio as he went
along, stoned out of his gourd. Lorca remains
in the vaults along with his first album, and
should probably stay there. No tunes, no ar-
rangements, ridiculous lyrics, and an incompe-
tent band. Buckley's fans rightly stayed away
in droves.

But awful as Lorca is, it was still more acces-
sible than the truly avant-garde Starsailor,
which, if hardly easy on the ears, is still often
interesting. Buckley considered this his best
work, though few would agree (I don't). Static,
atonal tone clusters abound, with dolphin-
shouts, electronics, high guitars, and horns
wailing like Penderecki as Buckley whispers,
whups, and holters. That said, this is the only
one of Buckley's late albums that fully succeeds
on its own harsh, stark terms. Buckley's notes
for the title cut are instructive: "Harmonic
structure: a set of horizontal vocal lines is
improvised in at least three ranges, the verti-
cal effect of which is atonal tone clusters and
arrhythmic counterpart. Performance: the
written melody is to be sung, after which the
lines of lyric are to be reordered at will and
sung to improvised melody, taking advantage
of the opportunity for quartertones, third note
lengths, and flexible tempo." This is a pretty
accurate description of what actually happens
in the grooves, right down to the almost total
lack of any kind of emotion or heart. Whether
or not you are at one with the free-blowing
mentality is a matter of taste and sensibility.
This a-human album brings up images for me
of bright, brittle insects toiling over rocks
under a desert sun. But, pasted like a daub
of aromatic ointment on the back of a giant,
meticulously glittering fly, we find "Moulin
Rouge," a charming little toy song in bad
French, 1:57 of gamin grace. Enigma Retro's
CD has more highs, but they don't sound real;
as if someone had turned the Treble knob all
way up. The LP is deeper, rounder, the CD
more spacious but flatter.

But with Starsailor, Buckley had put the
royal kabosh on whatever following he'd
managed to keep. Wryly bemoaning this in an
interview at the end of his Elektra contract, he
said, "The way Jac [Holzman] had set it up, you
were supposed to move on artistically, but the
way the business is, you're not. You're sup-
posed to repeat what you've done before, and
there's a dichotomy there." No shit. Buckley
found himself without an audience, and it was
a good two years before he released the almost
abjectly commercial (by comparison) Greet-
ings from L.A. in 1972. Musically, the album
was definitely a compromise, produced by
Jerry Goldstein with a bunch of crack L.A. ses-
sion players and back-up singers (Clydie King,
Vanetta Fields, etc.). With the exception of the
acoustic "Hong Kong Bar," the tunes were all
slightly funky-tonk R&B, L.A.'s version of the
Muscle Shoals rhythm section, with the occa-
sional string arrangement, and wouldn't have
been out of place on an Al Green album; Buck-
ley stayed with this very professional, though
not very challenging or interesting, General
Business Band instrumental sound through the
end of his life. The lyrics, however, were a very
different story.

From Happy Sad on, Buckley's lyrics had
been entirely pagan, having nothing to do with
Judeo/Christian notions of guilt, remorse,
good, or evil. As he sang on Blue Afternoon's
"So Lonely": "No pretty ladies, no pretty
boys..."—songs and singing embodied pure
sensualism, an omnisexual amorality with
none of the tender deference of Tim Buckley's
love songs, or the social conscience so brilli-
antly displayed on Goodbye and Hello. No,
these were the words of a man in thrall to his
appetites; those hungers reached a leering high
(or low, depending on your sensibilities) in
Greetings from L.A., which, except for "Night-
hawkin'" (a rollicking tune about a crazed Viet-
Nam Vet holding a knife to the taxi-driver nar-
rator's throat, hoping to "kill a gook before
dawn," Clydie King wailing in the background; and this sounds like a happy song, believe it or not), is about nothing but sex; the few mentions of "love" couldn't be considered anything but bullshit foreplay. And Buckley waxes graphic, even to the titles: "Move With Me," "Get On Top." What can you say about an album that opens with these lines: "I went down to the Meetrack Tavern and I found myself a big ol' healthy girl. Now she was drinkin' alone, aw what a waste of sin?" The album was notorious for its X-rated lyrics—"like a bitch dog in heat," "beat me, whip me, spank me," "lick around the stretchmarks"—which many—including virtually all of his female fans, in that age of burgeoning feminism—found offensive; no surprise, it got almost no airplay. But Buckley sang on in gutter glossolalia, having a high old time, sounding as if looped on some evil gumbo of rum, cocaine, and smack, dripping greasy sweat, sounding as richly rotten as early-70s Saigon.

Halfway through this record, my fiancée called out from the bathroom, "Has he come yet?" Not for everyone, believe me; the world will seem a seamier place when the record's over. The original Straight LP is far superior to the Enigma CD, with that great, fat, early 70s electronic bass; the CD's sound is just plain skinny.

Sefronia, which followed in 1973, was a much more engaging, friendly sort of record. Though Buckley's promoters called it "his most eclectic," the album sounds to me more like a standoff between the singer/songwriter and his producer, ex-Mamas & the Papas Denny Randell: you get a song, I get a song. This is the only Buckley album with covers of other writers' tunes, and there are no less than five, starting out with "Dolphins," by Fred Neil, the composer of "Everybody's Talking," a fellow junkie and the only other folkie with a vocal style similar to Buckley's. It works. But Buckley's duet with Marcia Wäldorf (who?) on Randell's "I Know I'd Recognize Your Face" is disastrous, Buckley phoning it in; he's barely audible in the mix, and sounds embarrassed. "Peanut Man" is Buckley's rather labored and overproduced answer to Harry Nilsson's "Coconut," but his cover of Tom Waits's "Martha" toes a thin line between getting more out of the song than Waits ever did, and sounding uncomfortably like late Neil Diamond. "Stone in Love" has a great, lopsided groove, and the album closes with what is probably my favorite version of the traditional "Sally Go Round the Roses," here severely modernized. But Sefronia's centerpiece is the titular diptych, two impressionistic panels about two black women named Sefronia, one a slave in the US, the other an African maiden in shells and feathers who has captivated a young black king. This is Buckley at almost his best, crooning a hot-beach reverie that sounds half dream, half reality. The CD is "cleaner," more analytical, but this is hardly 'clean' music; the LP (all of these LPs are out of print, by the way) hangs together more as a cohesive, musical whole.

The same LP/CD comparison is true of Look at the Fool, Buckley's final album, recorded and released in 1974, the year he died. Followers of Paul Butterfield's post-Better Days records will be on familiar ground here, as Buckley mixes slick good-ol'-boy production values with his by-now-patented south-of-the-border ambience, sounding as if crazed on wormy mescal on the fourth day of a three-day drunk, when the whores look as bad as you feel. "Tijuana Moon" and "Mexicali Voodoo" are filled with border-town fever, dark drugs, and danger. For all that, Look at the Fool is a refined, more efficient Greetings from L.A., and not half as disturbing. The title cut turns the sea into a vast ironic being sighing these words with the hushed voices of women: "Look at the fool love brings me." It's a nasty conceit, and works like a charm. And the hand-clappin' "Wanda Lu," had it been released 15 years earlier, might have become a high-school rock classic like "Gloria" or "Louie Louie." I found myself singing this one years after the last time I'd played the record. Who knows if it's good or not? Can't get it out of my head.

Tim Buckley wrote only three songs in his life, as far as I know, that were not about himself and his women: "No Man Can Find the War" and the title cut from Hello and Goodbye, and "Down in the Street" here. This one's about summer in the city: riots, rent-control demonstrations, murders, drug-dealing, and rock festivals (1974, remember): "All through the night you hear gunshot warnings; This time it wasn't you. Paid your dues."

But Look at the Fool is short, clean, and slight, a clearing of the palate before a second course that never came.

The recorded life of Tim Buckley is a frustrating thing for a writer to wrap his word processor around: so much talent so young, wasted so soon; so much all-encompassing vision brought so despairingly low. What's left us are two thirds of a cycle that most artists go through at least once: early inspiration, middle cynicism, and late wisdom. Whether or not Buckley had his best work ahead of him is something we'll never know; such projections were made of so many '60s rock musicians who never again captured more than a hint of their first glory that I'm cautious not to mourn too much. Consider his life and career a cautionary tale. Too often, you hear Buckley's
effort at recapturing his former grace, not the grace itself. What makes him fascinating is how many different ways he tried to get back there, giving his all every time but one. Few rock survivors have shown such guts.

Fans of early Alice Cooper and Ted Nugent might check out Enigma/Bizarre/Straight/Disc-Reet’s reissues of Cooper’s first two albums, Pretties for You and Easy Action, and certifiable gonzo guitarro Ted Nugent & the Amboy Dukes’ Call of the Wild and Tooth Fang and Claw (not covered here because of exigencies of taste and space). Find out why Frank Zappa, when he discovered that Alice Cooper & Co. could empty a 3000-seat hall in 15 minutes, promptly signed them up—“Any band that can do that has something,” quoth our wry and hairy gadfly. Can’t argue with that.

And just one more thing, dear reader. As of press time, Enigma Retro has just announced a 2-CD set of live Tim Buckley material, recorded in 1970 at the London Palladium; release is scheduled for the 26th of this month. And, as yet more previously unknown in-concert tapes have just been discovered, there might be another disc after that. These will be the first “new” Tim Buckley recordings in 16 years. Perhaps it isn’t quite “Bye bye, baby,” after all. Thanks, Enigma. Keep up the good work.

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BACH: Goldberg Variations
Lars Ulrik Mortensen, harpsichord
Kontrapunkt 32023 (CD only). Nils Winther, eng.; Lars
Ulrik Mortensen, Nils Winther, prods. DDD. TT: 72:45
BACH: Goldberg Variations
Ulrich Eisenlohr, Adelheid Lechler, pianists
RBM 6.3087 (CD only). Gunter Appenheimer, eng.; Teije
van Geest, prod. DDD. TT: 66:47

Although this monumental set of variations was
commissioned by the Russian Count Hermann
Karl von Kayserling, its nickname stems from the
musician who first performed it—Bach's
pupil and the Count's harpsichordist, Johann
Gottlieb Goldberg. Conceived for two-manual
harpsichord and completed in 1742, the work's
master plan consists of 30 variations based on
a 32-measure "aria," every third variation cast
as a canon (a strictly imitative form of which
the "round" is a simple example). The result
is not only music of uncommon beauty, but a
landmark in contrapuntal artistry rivaled by
few other compositions, among them Bach's
own Art of Fugue and Musical Offering.

These two recorded traversals of the varia-
tions have about as much in common as a
stripped-down economy car and a European
luxury sedan: though both will get you from
point A to point B, the latter will get you there
with elegance, grace, and style. It will also last
longer and remain beautiful despite changes
in vogue.

Indeed, "stripped-down" rather aptly de-
scribes the two-piano version written in 1883
by Josef Rheinberger, later revised by Max
Reger and performed here by Ulrich Eisenlohr
and Adelheid Lechler. While the combined
resources of two Bośendorfer Imperial concert
grands obviously dwarf those of a lone harp-
sichord, in this case (and with apologies to Mies
van der Rohe) more is decidedly less. Most
sorely missed is virtually all of the often florid
ornamentation that Bach specifies through
the numerous squiggles that dot much of the score.

It's worth pointing out that baroque orna-
tmentation is more than mere frosting on the
cake. Although such decorative elements as
mordents and some passing tones certainly
provide that not unimportant element, others
(including appoggiaturas and trills) form an
integral part of the musical structure and add
significantly to the feeling of tension and
release which is central to all music. In their
absence, we have something more akin to a
sonic blueprint of Bach's intent than a luxuri-
ously clothed example of high-baroque musi-
cal architecture. Equally lamentable, Rhein-
berger felt it necessary not only to double
melodic lines (fair enough in an arrangement
of this sort), but to then add material of his
own. In Variation 8, for example, he even in-
serts part of the aria theme as if Bach had some-
how missed an opportunity to render the sub-
lime mundane.

Having said that (and not wishing to belabor
whether or not piano sound serves this music
well—though the late Glenn Gould certainly
made a compelling case that it could), tran-
scriptions of all sorts have value—particularly
to those who perform them. And it should be
noted that at the time Rheinberger undertook
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this arrangement, harpsichords were largely unavailable and amateur pianists craved the opportunity to familiarize themselves with a wider repertoire. But in common with playing the symphonies of Haydn and Mozart in piano duet form, it is a pleasure— in my view, at least— best left for the parlor or music room. Nonetheless, if a romanticized rendering of Bach's music piques your interest, you won't do better than this performance by Eisenlohr and Lechler. Their playing is expressive, impeccably balanced, and full of subtle contrast. It is also pianistically full-bodied; thankfully, they make no attempt to emulate the harpsichord's more intimate nature, an exercise that almost invariably results in musical anemia.

Danish harpsichordist Lars Ulrik Mortensen is clearly after something much closer to the source, and he succeeds handsomely. Performing on a sonorous two-manual instrument crafted by Thomas Mandrup Povlsen and modeled after those of Ruckers, his interpretation reflects a compelling unity of musicianship and scholarly insight. In keeping with 18th-century practice, he sometimes adds ornamentation of his own, always in good taste. More importantly, his handling of all the ornamentation is natural and unforced, serving to illuminate music of incredible scope that stretches the harpsichord and its player near their respective limits. He effectively characterizes each variation through artful choices of articulation and registration, and uses rubato sensitively in the interest of both emotional content and formal clarity. As a welcome dividend, Kontrapunkt's recorded sound is definitely in the "you are there" class.

— Gordon Emerson

BIZET: Carmen
Jessye Norman, Carmen; Mirella Freni, Micaela; Neil Shicoff, Don José; Simon Estes, Escamillo; Jean-Philippe Courtis, Zuniga; Ghylaine Raphanel, Frasquita; Jean Rigby, Mercedes; François Le Roux, Le Dancaire; Gérard Garino, Le Remendado; Nicolas Rivenc, Morales; Orchestre National de France, Choeurs et Maitrise de Radio France, Seiji Ozawa
Philips 422 366-2 (3 CDs only). Erik Smith, prod.; Hein Dekker, eng. DDD. TT: 2:39:18

Boy, is my face red. Having praised Jessye Norman to the skies in these pages a few months ago, I now find myself actually staring at my speakers in disbelief, hoping that I'll be able to see something I can't hear. Norman's Carmen is an embarrassment, and I don't mean of riches.

Not only is her dense sound unsuited to the music, she seems to have come to the rather odd conclusion that Carmen is an okay kind of priss without much temperament or sexuality who has endless patience until she's finally pushed too far in the opera's final pages. Granted, she sounds really miffed right before the Flower Song, but more like a truck driver than a femme fatale. Norman articulates the text in much the same way, I suspect, Elisabeth Schwarzkopf might have had she been goofy enough to try to sing the role. Yes, the sound remains creamy and rich, but it and the way it's used are simply wrongly conceived. She sounds like Rossini's Rosina in the quintet, by the way. It's really bizarre.

That said, she isn't quite as appalling as Simon Estes's Escamillo. Lillas Pastia's almost closes due to vulgarity during the Toreador Song: I haven't heard so much noise since Wotan got mad at Brünnhilde in Act III of Walküre. Charmless, sexless, and with French dic-
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Stereophile, March 1990
tion (this set is complete with dialog) which will leave you laughing unless you're French, in which case you'll be too angry to laugh.

That's the bad news. Neil Shicoff is a passionate, young-sounding Don José, and he does himself proud in scene after scene. His tone is so luscious at times that he could get away with less intelligence if he wanted to, but he's too good to fudge. Freni (at 53) can still sing Micaela with great beauty and innocence, and it's a relief whenever she shows up. The rest of the cast sounds wonderfully French; the quintet, for instance, is handsomely articulated, with all the little notes and words in place.

I like Ozawa's reading. It has inevitability and fate written into it—what a fine opera conductor he's turned into. There's some rhythmic slackness in the Habanera which is either his or Norman's fault; I'll defend him. The chorus is occasionally ragged, but the orchestra is responsive and sounds like an important band. The recording is ravishing, despite a really shabby tape splice in the Seguidilla.

So what to say? I certainly can't recommend this, but it isn't altogether dismissible either. When an artist of Norman's caliber makes such a mistake, one still wants to know—sort of like aural rubbernecking. And the others, dreadful Estes aside, are worthy of close attention. Perhaps a highlights disc will satisfy the curious; nothing here will satisfy Carmen fans.

—Robert Levine

**BRITEN: War Requiem**

Lorna Haywood, soprano; Anthony Rolfe-Johnson, tenor; Benjamin Luxon, baritone; Atlanta Symphony Orchestra & Chorus, Atlanta Boy Choir; Robert Shaw

Telarc CD-80157 (2 CDs only). Jack Renner, eng.; James Mallinson, prod. DDD. TT: 83:24

This is Britten's grandest anti-war statement; indeed, it may be the most potent piece of anti-war music ever written. By placing verses from the Latin requiem next to poems, in English, by Wilfred Owen, the composer hits the listener with both barrels—the old and new, the clerical and laic, the theoretical and actual. It is a remarkably beautiful work, one which has already been served exceptionally well on discs. Both the composer's own version (on London) and Simon Rattle's (on Angel) are superb and highly recommended (I haven't heard William Hall's); now Shaw's can be added to the fine list.

This performance has great thrust, and if I were to recommend it above the other two, which really isn't fair, it would be for its sonics alone. The others are excellent as well, but Telarc has apparently pulled another one of its rabbits out of a hat. To cite one example, the "Let us sleep now" section, at the work's end, is recorded here with such clarity and so many layers to the soloists, chorus, boys choir, and orchestra that one is presented with a practically visual experience. The singing is properly gentle but crystal-clear. Similarly, the large moments have a grandeur which astounds. Bravos to all involved.

I guess it doesn't hurt that the three soloists have more alluring voices than their predecessors (they aren't greater or more expressive singers, however), or that the Atlanta Chorus is, as we know by now, a truly titanic bunch. Nor is it a hindrance that Shaw's leadership has great sweep and that he pays scrupulous attention to detail (his tempi are marginally slower than those of Britten or Rattle, but there's no sense of lagging behind) without losing sight of the big picture.

It would be absurd to be without a recording of this work in your collection, and I can see no reason why Shaw's shouldn't be the one.

—Robert Levine

**COPLAND: Symphony 3, Music for the Theatre**

Yoel Levi, Atlanta Symphony


**COPLAND: Music for the Theatre, Quiet City, Music for Movies, Clarinet Concerto**

Chris Gekker, trumpet; Stephen Taylor, English Horn

(Quick City); William Blount, clarinet (Concerto); Orchestra of St. Lukes, Dennis Russell Davies

Musicmasters MMD 60162L (CD only). Gregory K. Squires, eng., prod. DDD. TT: 66:56

RCA missed a bet in 1945 by failing to record Copland's Third with Koussevitzky/BSO. The work came into its audiophile own during the early '50s with a brilliant Mercury record (mono) by Dorati/Minneapolis, whose sound and performance stand up very well to this day. Copland led two recordings of 3 for Everest and CBS, with the LSO and New Philharmonia, in 1958 and 1972 respectively, but it remained for Bernstein to cap the definitive 3, twice with the NYPO: for CBS in 1965, DG in 1985.

Copland's Everest has been reissued by Philips in its Legendary Classics series using the NoNoise (NoMusic?) process. The Everest origins neither require nor deserve such treatment. Copland's LSO performance brims with excitement and vitality, but is no match in terms of polish, security, and accuracy for either of Bernstein's performances, and Lennie is never dull. Otherwise, it's Copland masquerading as Bruckner by Mata/Dallas on EMI. Slatkin/St. Louis on RCA, which could be very good, looms on the horizon.

Within such context, Telarc has determined to feature Yoel Levi in his debut recording as Atlanta's Music Director. By no means his debut with Telarc, he has already recorded works of Sibelius and Prokofiev with the Cleveland Orchestra, in sturdy, competent performances
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in the glistening Telarc sound that gets 10s in *CD Review*: Telarc has taken the right path with Levy. Subsequent recordings will continue to feature him in his new post in 20th-century, albeit virtually standard repertoire.

His only competition is Bernstein/NYPO on DG, and he meets it head-on. His orchestra is no less secure, and in certain respects the NYPO seems musclebound and leaden, while the ASO seems lean and fleet of foot. The Telarc sound—Telarc used the dbx/CTI 18-bit ADC—is of near-breakthrough quality. The sound of an orchestra in a believable space with clear textures, and non-electronic timbres, is among the best DDDs of 1989, ranking with Handley’s VW Sea Symphony on EMI Emi-nence, and Shostakovich’s Symphonies 1 and 7 by Bernstein/CSO on DG.

I don’t hold Levy’s inability to phrase the third movement with Bernstein’s Mahler-like agogics against him, but I’m embarrassed for him at the ponderous tempo of the scherzo codetta. Basically the recall of a folk-like dance tune, jubilant in mood and busily orchestrated, its substance doesn’t support Levy’s grandiose gesturing. Otherwise, he’s got the piece down.

Levy/ASO and Telarc are far less successful with *Music for the Theatre*. A cerebral parody of 1920s jazz and cabaret styles, it needs hardly more than a chamber orchestra to perform, with intimate acoustics for recording. Here the space, so appropriate for Symphony 3, is totally out of character with the piece’s needs. Moreover, the ASO’s playing, so apt for 3, is stolidly accurate but stiff and painfully square.

For this work we must turn to the recent Musicmasters recording by Dennis Russell Davies and the Orchestra of St. Luke’s. Recorded at the Performing Arts Center at SUNY, Purchase, the production is ideal, and Davies and this Orchestra, who together enjoy total confidence in the idiom, give it their all.

Davies’s collection is rounded out by *Quiet City*, rendered with subtle tenderness; the only currently available recording of *Music for Movies*, a set of short pieces from *The City, Our Town*, and *Of Mice and Men*; and the Clarinet Concerto with William Blount, St. Luke’s principal clarinetist. The entire program is played with the individual authority and cohesive ensemble which characterize the work of primarily freelance chamber musicians, and differentiate it from those cradled in the contractual security and full-time routine of major orchestras. Blount’s performance of the Concerto is especially outstanding, wiping out all competition except Benny Goodman’s first Columbia recording of 1949 (unavailable). A unique collection, and so well recorded it seems an irresistible item to anyone interested in Copland.

—Richard Schneider

**GERSHWIN: Earl Wild Plays His Transcriptions of Gershwin**

Fantasy on *Porgy and Bess*; Improvisations in the Form of a Theme and Three Variations on “Someone to Watch Over Me”; Seven Virtuoso Etudes (“I Got Rhythm,” “Oh, Lady, Be Good,” “Liza,” “Embraceable You,” “Somebody Loves Me,” “Fascinatin’ Rhythm,” “The Man I Love”)—Michael Rolland Davis, prod. DDD. TT: 58:58

Earl Wild is one of those rare-breed pianists with the extraordinary ability to improvise at the keyboard in virtually any style, a practice now largely forgotten. His most recent disc, made in June 1989, brilliantly demonstrates that skill with three groups of now fully worked-out compositions derived from Gershwin, including a nearly half-hour-long fantasy of highlights from *Porgy and Bess* (Wild had once before recorded this back in 1976), a set of variations on “Someone to Watch Over Me” in which the final tango section even cleverly interweaves bits of Bach, and seven dazzlingly brilliant etudes that make Gershwin’s own song transcriptions sound almost like child’s play. All of this, of course, is redolent of what Franz Liszt did with his own operatic and song transcriptions, paraphrases, and fantasies back in the 19th century, not that Gershwin really needs that kind of popularizing today. No matter. It’s all very entertaining, and one cannot help admiring how well Wild evokes the original character and spirit of the selections while weaving in and out with florid but never empty-sounding embroidery. The exaggerated piano reproduction, quite smooth from bass to treble, does not especially impress one with either sense of depth or tonal color, but its unassuming character is pleasingly natural.

— Igor Kipnis

**KORGOLD: Die Toten Stadt**

René Kollo, Paul; Carol Neblett, Marietta; Benjamin Luxon, Frank; Hermann Prey, Fritz; others; Bavarian Radio Chorus, Boys Choir, Munich Radio Orchestra; Erich Leinsdorf

RCA 7767-2-RG (2 CDs only). Alfons Seebacher, eng.; Charles Gerhardt, prod. ADD. TT: 2:17:11

This opera remains one of the toughest in the repertory to pin down, but this 1975 performance makes somewhat of a case for it. Korgold was the lushest of lush Romantics, a com-

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1 In all fairness, it must be pointed out that many NYPO players continue to feel uncomfortable in what they perceive to be the uncompliant acoustics of Avery Fisher Hall, which is widely held to be a difficult hall in which to perform. Telarc has a sonic advantage in that DG’s Copland was taped while they were in the process of getting their act together at AFH. Though thoroughly livable, it still lacks the luminosity of Mahler 2, or the austere but honest realism of Mahler 3.
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poser of superb, over-orchestrated, practically wall-of-sound (sorry, Phil) movie music, and much of this work is like that. If you like that sort of thing, you'll like *Die Tote Stadt*.

There is a surprising lack of memorable melodies in the opera, particularly when one realizes that the one melody which is memorable, "Glück, das mir verbriebl" (known as "Marietta's Lied"), is so magnificent, so touching, so haunting, that one can only wonder why Korngold didn't compose more of them. Wasn't he savvy enough to realize that a good tune, not earbashing, is the way to the public's heart? Oh, well.

At any rate, the big moments (the opera takes place in the medieval city of Bruges, known for its ghostly, ghastly, mysterious processions) come off very well on stage (I've seen the opera once, at the New York City Opera), and they also work on this recording, up to a point. The soloists are all good without actually making us want to construct a shrine: Kollo is a passionate Paul, Neblett a spooky and, when she should be, lovely Marietta/Marie, and Hermann Prey makes his little second-act arietta sound important. Leinsdorf, one of my least favorite conductors, deserves this music and, frankly, he serves it well. The sound is excellent, if just a bit too forward for my taste. If you like it, you'll like this—a better recording is unlikely to come along soon.  

---Robert Levine

**MAHLER: Das Lied von der Erde**
Alfreda Hodgson, alto; John Mitchinson, tenor; BBC Northern SO; Jascha Horenstein
Descant 01 (CD only). Broadcast recording of live performance, 7/14/72. AED. TT: 70:32

**MAHLER: Symphony 7**
Jascha Horenstein, New Philharmonia
Descant 02 (CD only). Broadcast recording of live performance, 8/29/69. AED. TT: 72:37

Descant is yet another Italian CD label dedicated to reissuing recordings of live performances by notable classical artists. It boasts thus far just three issues, all conducted by Jascha Horenstein: the two of Mahler reviewed here, plus one of Bruckner (review to come). Unlike certain other live-performance labels—notably Hunt and Foni-Cetra—Descant relies more upon its admirable discretion than upon lax Italian copyright laws in determining performances for release.

Horenstein's *Das Lied* is successful for the same reason other superior recordings are successful: because the conductor never loses sight of the piece's words and story. The sense of Horenstein's story is, of course, unique to him. As always with his Mahler, it is tense, dramatic, with full realization of the lack of centeredness of the new century which the music heralds: quite unlike the heroic saga Klemperer makes of the piece, or either of Walter's elegiac recordings.

Horenstein is as evocative as Walter in painting the autumnal, murmuring strings in "Der Einsame im Herbst," but now the picture is of blank and cold finality. He is just as clear of line as Eliahu Inbal in his recent Denon recording, but the result is more emotionally integrated, more committed. Unlike Inbal, Horenstein compensates—perhaps argues for—the discontinuity between Mahler's pentatonic orientalism and the late Romantic death-obsessed music. He also better adapts to the idiiosyncrasies of the singers.

Tenor Mitchinson's voice is rather baritonal through the meat of his range, tending to vaporize when it gets high and impassioned, as in the first-movement "Trinklied." It remains graceful and delicate in "Von der Jugend," where it doesn't have to shout. Though the quality of Hodgson's alto is on the matronly side, her singing style is objective rather than warm. In the faster stanzas of "Von der Schönheit" she approaches breathlessness, her part acted as much as sung in a daring display by singer and conductor. Her distanced singing in "Abschied" complements beautifully Horenstein's stark conception.

Sound is true stereo, nicely proportioned, except for voices too large for the orchestral image. Timbres are exemplary for a radio-check recording. No texts are included.

If there's one Mahler symphony resistant to Horenstein's lacerating approach, it's the Seventh. The second Descant CD bears this out. With the other symphonies, and even *Das Lied*, one hears from Horenstein all the historical, political, collective-psychological forces of the new 20th century coming to nexus. This doesn't work with Mahler 7 because the work doesn't aspire to such intellectual depth. It's about romance, fright, fun, caprice: Mahler for once allowing himself to be virtuosic for the sake of virtuosity. Thus Horenstein's lockstep dotting of the first movement's opening rhythms makes for an inappropriate militaristic effect. The tense and analytical precision of his fourth-movement *Andante amoroso* robs it of its sex. And while the string counterpoint and *portamento* of the finale are dispatched with verve and exactitude, it is also evident that something is missing: what is called for is more the spirit of Mozart's "Jupiter" Symphony than of Bach. Small wonder that for Otto Klemperer, too, 7 was the least successful of his EMI Mahler recordings.

The stereo sound is marginally dimmer and less lucid than *Das Lied*. Inner voices lack transparency: clarinets and middle strings are hard to hear, detracting from the luminosity of
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the score. Another technical problem, probably not related to recording quality, is the watery and indecisive solo horn, playing anything but mit grosser ton, as called for in the score.

Importer for the Descant label is the Berkshire Record Outlet, well-known mail-order retailer of discontinued LPs. Joe Eckstein, owner of Berkshire, informs me that the A&R for the three current releases was provided by Horenstein's son Peter. Immediate plans include more Horenstein issues: Bruckner 8 and Mahler 8 and 9, the last a true stereo release of the same LSO performance currently available from Music and Arts in electronic stereo. Longer-range plans include performances by Guido Cantelli, Nicolai Gedda, and British music conducted by Adrian Boult.

—Kevin Conkin

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**JEAN GUILLOU ON DORIAN**

**REUBKE: Sonata for Organ in c ("The 94th Psalm"), Sonata for Piano in b-flat**

Jean Guillou, organ, piano

Dorian DOR-90106 (CD only). Craig D. Dory, Brian C. Peters, engs.; Craig D. Dory (piano), André Gauthier (organ), prods. DDD. TT: 49:50

**ORGAN ENCORES**

Jean Guillou, organ

Dorian DOR-90112 (CD only). Craig D. Dory, eng., prod. DDD. TT: 70:04

**MUSORGSKY/GUILLOU: Pictures at an Exhibition**

STRAVINSKY/GUILLOU: Three Dances from Petrouchka

Jean Guillou, organ

Dorian DOR-90117 (CD only). Craig D. Dory, Brian C. Peters, engs.; Randall Foster, prod. DDD. TT: 53:26

If the other organ discs that have come my way recently are any sign of a trend, the state of the organ-playing art is about as plodding and ponderous as a concrete shoe on a set of pedals. Take my review of a trio of CDs in Vol.11 No.8, for example: Most of the performances were less than inspirational. These new recordings by Jean Guillou, however, inform us that there are still vivid signs of life at the big keyboard.

Guillou is a French organist, pianist, and composer who has transcribed many works for organ, including the two by Mussorgsky and Stravinsky contained on one of these discs. As a performer, Guillou is the antithesis of the largely lethargic style displayed by the organists in the recordings I reviewed previously. Guillou brings light and life to the music, not just through brisker tempos but also through an adroit touch that may be an outgrowth of his fluid piano technique. And thanks to the engineering of Dorian's Craig D. Dory and Brian C. Peters, Guillou's work is displayed with astonishing depth of image, ambience, and tonal realism.

With the sonatas for organ and piano of Julius Reubke, Guillou presents an almost forgotten composer—a student of Liszt who died in 1853 at the age of 24. These works show Reubke to be an artist who achieves deep melodic expressiveness with an unusual economy.

_Stereophile, March 1990_
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of notes. Some themes are shorter and less complex than a simple jazz riff, but they pack strong emotional force.

In both sonatas, Guillou makes the music sound spontaneous and improvisatory. The exceptional delineation of voices and dynamic contours in the closing fugue of the organ sonata is an example of his highly articulate technique. In the piano sonata, his manipulation of tone color and textures is absorbing. This piano piece many not be quite worthy of the words “monumental” or “landmark,” which Guillou uses to describe them in the notes, but it is revealing of Reubke’s nascent gifts for melody and dramatic harmonic structure.

The organ sound on the Reubke disc is arresting, especially in its enormous depth. On decent equipment, there is simply no relationship between the location of the organ and the plane of the speakers. This more than compensates for a slight lack of brightness and immediacy. So does the bass — 16Hz worth of it (with no rolloff, say the notes). The sound of the piano, on the other hand, is disappointing — all hammer and very little string. Brightness and air are conspicuously absent.

Guillou himself designed the instrument he plays on Organ Encores, and he achieves a dazzling variety of tone colors throughout all 23 compositions. Bach, Purcell, Handel, Haydn, Schumann, and Prokofiev are just a few of the composers represented here. Guillou shows an uncommon level of expressiveness in nearly all their works. Comparing his reading of Purcell’s Trumpet Tune in D with that of Michael Murray on Telarc (one of the discs reviewed in Vol.11 No.8), one finds a new sense of joy, life, and just plain fun. And Guillou’s transcription of a movement from Handel’s Organ Concerto No.10 casts a remarkable orchestral impression.

The organ in this recording has greater immediacy and presence than that on the Reubke disc; and the image, while not quite matching that recording’s depth, is more spacious and airy.

On the final disc, Guillou’s transcriptions of Pictures at an Exhibition and three dances from Petrouchka render those works in very picturesque tone colors. While the opening “Promenade” of Pictures is slightly lacking in its sense of portent and “The Great Gate of Kiev” loses a bit of its grandeur and momentum, this is overall a very satisfying piece. No mere curiosity, it is a valid and successful transcription and performance. The Stravinsky dances seemed weak in overall cohesiveness, but were nonetheless interesting.

Sound quality was very close to that of the Encores CD, with the timbres and melodic lines perhaps a bit more sharply defined. Another outstanding job by Dorian.

There is a great deal to absorb on all these releases, and they can all be recommended for anything from outstanding sound quality to enthusiastic and refined performances, from worthy but neglected music to wonderfully colorful new transcriptions. Perhaps best of all, each proves that organ playing remains a lively and fascinating art.

― Robert Hesson

SKRIabin & PROKofiev: Piano Music
Marta Deyanova, piano
Nimbus NI 5176 (CD only), DDD. TT: 78:11

The Bulgarian Deyanova exhibits both fire and energy, as well as, where required, an appropriate sense of the tender and even the inward poet in her Skriabin. Her dynamic range appears wide, but her coloristic ability, due at least in part to the usual tunnel-perspective of the recording company, tends to be monochromatic. The reverberation in general seems, at least in my view, to be excessive, if for no other reason than that of any possible articulation invariably being washed out in a haze of legato, regardless of Nimbus’s aesthetic arguments for this kind of pickup. The pianist does well with her primary composer, but the Prokofiev wants much more bite and sarcasm; here and there one can notice a few interpretive sharp edges, but Deyanova’s lack of Prokofievian violence and what sounds like an overly rounded tonal palette might, at least in part, also be due to microphone placement. It should be observed that this is not a composer who sounds especially good when treated in an overly polite fashion. Incidentally, one should note the generous playing time.

― Igor Kipnis

CYRIL SMITH & PHYLLIS SELlick: Piano Duets
Cyrl Smith, Phyllis Sellick, piano three hands
Nimbus NI 5178 (CD only). Simon Eadon, eng.; Christopher Raeburn, prod. ADD. TT: 79:21

Although the enjoyable piano reproduction heard here is wonderfully mellow and warm (perhaps even a bit too bottom-rich for such earlier 19th-century works as the Schubert and Mendelssohn), these recordings were in fact made in July, 1974, only a month before the death of Cyril Smith (b.1909). Smith, I recall, made some impressive mono discs back in the early ’50s, including concerted works by Rachmaninoff and Dohnányi, but in 1956 his career suffered a severe setback when he suffered a
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thrombosis and was no longer able to use his left arm. He had previously often performed with his wife, Phyllis Sellick (b. 1911) in two-piano and piano-duet repertoire, but now they proceeded to perform as a three-hand duo, Smith taking the “primo” treble part with his right hand, his wife the “secondo” bass. Thus, what one hears here is to some extent a matter of skillful arranging of four-hand duet material, the opening Franck being the only work originally intended for two hands. There are some very sensitive, expressive, and charming performances here, for instance in the Fauré and the not-often-heard Schubert Sonata. Sometimes, just on occasion, what one hears is a bit dutiful and mildly plodding (the Schubert Fantasy, which, along with the duet Sonata in B flat, had not previously been released), but overall this is a recital that succeeds in offering a good deal of enjoyment, as well as a fine testimonial to a distinguished British pianist. The exceptionally long duration of this CD is an added inducement.

— Igor Kipnis

VARIOUS: Italian Music for Lute/Baroque Guitar and Harpsichord/Table Organ
Jürgen Hübscher, lutes, baroque guitar; Alfred Gross, keyboards
Edition Open Window 0W 0.03 (LP only!). Dusan Klimo, prod.; Wilfried Zahn, eng. AAA.

I should probably warn the reader that I have at present a sort of love-hate relationship with Herr Dusan Klimo: I love his genuine devotion to the twin causes of fine reproduced sound and early music, while at the same time hating the fact that every time I think digital sound has truly arrived, along comes a release from Open Window to demonstrate the contrary. It is also through reviewing these records that I was led to Das Ohr, the German audiophile journal, from which I have learned many fascinating facts, such as that in German “the High End show” is “das High-End Show.” (Actually, if you have good German, I highly recommend Das Ohr. It has much the same enthusiasm as existed in American and British audiophile circles perhaps 15 years ago.)

A number of audio manufacturers have, over the years, produced recordings intended to demonstrate the superior reproduction available from good hi-fi equipment, but only in the last few years have they managed to avoid the trap of the “sonic spectacular.” In the case of the Open Window issues, it is obvious that the producers are true amateurs (in the literal sense) of early music. Dusan Klimo has an obvious gift for finding young, dedicated musicians who share his own passion for the works of the Baroque and Renaissance, and he appears to have as well a gift for getting the finest possible performances from his artists. In this selection of pieces from the 16th to the 18th centuries, Jürgen Hübscher and Alfred Gross play together as though they had been doing nothing else for years.

I should mention that the title of this record is a bit misleading; in fact, a great deal of this music was not originally written to employ a keyboard. I do not know who made the transcriptions used here, but they work perfectly and are entirely in keeping with the practice of the period. You will also recognize one of the works (a ballo by Simone Milanaro) as having undergone a more famous transcription/transfiguration as a part of Ottorino Respighi’s Ancient Airs and Dances. Other works include a trio of Vivaldi, a fine toccata by Frescobaldi, and a lovely anonymous Folia from the 17th century. The selection is varied, interesting, and unusual, and a perfect showcase for the performers. It would appear that Holt’s Law— “The better the sound, the worse the performance”—having served its purpose well, has at last died the death. May it rest in peace.

As far as their taste in sound is concerned, producer Klimo and engineer Zahn (ought we to call him “Mr. Tooth”? are men after my own heart. While staunch upholders of the superiority of analog (and tubes as well), they also know progress when they see it. As detailed in Das Ohr, they are neither afraid of noise reduction (the Telcom compander system, which yields a S/N in excess of 90dB) nor of Direct Metal Mastering. One listen to any of the Open Window issues should convince the most reluctant audiophiles to cast aside their fears as well. They preserve, as well as any medium can at present, the true timbral characteristics of live music, along with realistic dynamics and decay. They are not obvious demonstration records—no big bass drum, organ pedal, or cannon shooting ones and zeros—but they may well be among the last and purest artifacts of the analog era. As such, they ought to be treasured, and as music, they ought to be heard again and again.

Soapbox time again: Pressing plants are closing right and left; ironically, it is the inertia of pop music buyers, most of whom could care less about sound quality as this magazine understands it, who are keeping the remaining plants in business so that audiophiles can still get their fix. If analog recording is going to continue—and we need it to do so, if only to force improvements in digital—then something will have to be done now, and nothing will be done if we do not buy records like these. Only we as audiophiles can create the necessary demand. Let’s do it. — Les Berkley

Stereophile, March 1990
"Julianne Baird is a vocal phenomenon... a rare and wondrous voice guided by an extraordinary musical intelligence... (she) produces sounds of unearthly beauty..."
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Performance: 10, Sound Quality: 10
— CD Review

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BROADWAY CAST RECORDINGS FROM RCA VICTOR

RCA/BMG has just released on CD five more of their original Broadway cast recordings from the ’50s and ’60s. Once again, no relation-to-me Didier C. Deutsch and ace engineer Paul Goodman have done a sterling job with the remasterings, and Bill Rosenfeld has written informative liner notes on each show: Hello, Dolly! (3814-2-RG) represents a major improvement in sound quality over the LP (at least over my copy, itself a reissue), and the music is Jerry Herman at his most melodically inspired. The Broadway cast of Oliver (4113-2-RG) is very good, but the original London cast (nla), featuring Ron Moody’s definitive Fagin and more Dickensian-soundingurchins, is even better. (The movie soundtrack has Moody, but is problematic in other ways, including sound quality.) Paint Your Wagon (60243-2-RG) has never had a really good recording; this original-cast version serves to introduce the music but fails to do it justice. The movie was pretty much a disaster, so this is still the best we have. Silk Stockings (1102-2-RG) is a lot of fun (including “Stereophonic Sound” recorded in—you guessed it—mono), and if the score is perhaps not Cole Porter’s best, even middle-drawer Porter is better than no Porter at all. This original cast recording proves an exception to the rule that Broadway casts are superior to movie casts. Don Ameche does not come close to matching the charm of Fred Astaire in the movie (who would?), and Hildegarde Neff (aka Knef), whatever her physical attractions, is a much weaker singer than Cyd Charisse (or whoever dubbed her in the movie). The last, but by no means least, of this set of original cast re-releases is The Boy Friend (60056-2-RG), one of the great trio of pastiche musicals, the other two being Little Mary Sunshine and Dames at Sea. This show has had several good recordings, but the original is still the champ. (I hated the movie.) Catchy tunes, clever lyrics, sprightly ’20s-style orchestrations, crisp mono sound, and a 19-year-old Julie Andrews—who could ask for anything more?

—Robert Deutsch

EILEEN FARRELL SINGS RODGERS & HART

Eileen Farrell; Loomis McGlohon, piano; arrangements; Joe Wilder, special guest artist


The second in Reference Recordings’ Eileen Farrell series features strengths and, unfortunately, weaknesses much like its companion piece, Eileen Farrell Sings Harold Arlen (RR-30). (The similarities are not surprising: both recordings are derived from the same sessions.) Farrell certainly doesn’t sound as if she’s well into senior citizenry (which she is), nor is she given to the sort of pretentiousness that typically afflicts classically trained singers who venture into this sort of repertoire. However, she continues to have problems with intonation (listen to “I Didn’t Know What Time It Was” for several examples), and she’s not helped much by Loomis McGlohon’s arrangements, many of which treat the vocal line as something of an afterthought.

In purely technical terms, the recording is quite stunning in both LP and CD formats, but I must admit that listening to it often seemed like a chore. I’ve admired Farrell’s singing through the years, and have a lot of respect for the people at Reference Recordings, so I wish I could be more positive about this release, but, for me, it doesn’t quite hit the mark.

—Robert Deutsch

ANA CARAM: RIO AFTER DARK

Ana Caram, guitar, vocals; Steve Sacks, alto flute; David Finck, bass; Café, Carlos Alberto de Oliveira, percussion; Antonio Carlos Jobim, piano, vocals; Paquito D’Rivera, alto sax, clarinet; Bill Washer, guitar; David Chesky, piano

Chesky JD28. TT: 54:25

LUZ BONFA: NON-STOP TO BRAZIL

Luiz Bonfa, guitar; Gene Bertoncini, guitar; Café, percussion

Chesky JD29. TT: 46:57

DAVID CHESKY: CLUB DE SOL

David Chesky, acoustic piano; Brian Blake, drums; Café, Steve Krogen, percussion; David Finck, bass; Bill Washer, guitar; Kenny Landrum, synthesizer

Chesky JD 33. TT: 57:19

PAQUITO D’RIVERA: TICO! TICO!

Paquito D’Rivera, clarinet, alto & tenor sax; David Finck, Nilson Matta, bass; Mark Walker, Portinho, drums; Danilo Perez, piano; Raphael Cruz, percussion; Fareed Haque, Romero Lubambo, Tiberio Nascimento, guitar

Chesky JD 34. Norman & David Chesky, Paquito D’Rivera, prods. TT: 56:38

All: CD only. Norman & David Chesky, prods.; Bob Katz, eng. DDD.

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for popular music. I gave Chesky Records’ first three mainstream jazz releases an unambiguous rave (Vol.12 No.7). These latest discs contain music of quite another genre. The Chesks have gone South to bring the listener a sampling of the Brazilian samba form popularized in the States (ca 1960) as the Bossa Nova. Remember the immensely popular Stan Getz recordings on Verve featuring Astrud and Joao Gilberto and Charlie Byrd? Remember “Desafinado”? “Corcovado”? If you listened to the radio 25 years ago, you remember.

If not, these recordings will awaken those memories. Four artists are presented—a singer, a guitarist, a pianist, and a saxophonist—and the music lover is well served by all of them. Ana Caram receives her stateside debut, Luiz Bonfa ends a 15-year American recording hiatus, David Chesky (yes, the David Chesky of Chesky Records) returns to recording, and Cuban-born Paquito Bonfa's D'Riviera explores a wide range of Latin-American jazz styles. The music on each set is varied, dynamic, exciting, and involving. And, as we have come to expect from this label, the recording quality is extraordinary.

Ana Caram, on Rio After Dark, sings and plays guitar on a few of the songs with a charming, youthful tentativeness. On others, she sounds like a seasoned veteran. David Chesky’s title tune sets the mood for the entire album, a celebration of life in sight, sound, and feeling. The sunset heralds a sensual awakening to the beauty of Rio de Janeiro at night—a place where “the samba swings until the break of day.” This tune flows in an easy-going, gentle manner with Ana’s guitar and the accompanying alto flute, percussion, and bass creating a fine ensemble sound that captures the samba spirit nicely. Antonio Carlos Jobim makes an appearance on his famous “Meditation,” his piano delicately supporting the captivating vocal duct. Listen to the last Steinway chord as it fades off into silence. No heavy hand on the controls here! I wish other record companies, especially the majors, would display the same sensitivity to their artists. I also yearn for more recordings which capture the nuances of male and female voice as well as this one does. “Viola Fora De Moda” has the potential to become a standard demo cut in high-end audio salons. Ana’s sassy guitar playing is featured, along with some of the most realistic-sounding and exotic percussion I’ve ever heard. Listen especially to the cymbal as it is either struck with the drumstick or caressed with the wire brush. I have rarely heard such keen high-frequency extension captured on either CD or LP. It sounds exquisite, and, once heard, will linger in one’s memory like the taste of a fine wine.

Ana’s songwriting skills are revealed on “Rainbow” and “Renovação.” Each is sensitive, mature, engrossing. She’s no slouch on guitar, either, propelling the music forward gently or agitatedly, according to the mood. Track after track on this generous CD brought a smile to my face. The only sour note is Carol King’s classic “You've Got A Friend.” Sorry, Ana—Carol’s version will forever be etched in my mind. [As will Donny Hathaway’s on mine.—JA]

Luiz Bonfa is one of Brazil’s most celebrated composers. He plays guitar too, though not in a fast, flashy style. His playing is personal, lyrical, refined—cozy. And cozy is exactly the way I felt. Listening to Non-Stop to Brazil, I was transported to a small, intimate, Rio de Janeiro bar, having a good time, surrounded by others having an equally good time. What a pleasure!

Bonfa is most famous for his soundtrack to Black Orpheus, ca 1959. From that score, “Manha De Carnival” and “Samba De Orfeo” are included here. Also heard is Bonfa’s “Gentle Rain,” which has become a jazz standard. All of the songs on this disc are Bonfa originals, and there’s not a weak one among them. They glisten with life and touch deep into the soul. Don’t expect flamboyance or pyrotechnics, though. Instead, listen to an accomplished musician doing what he obviously loves to do—play! The intimate recording captures the timbre of the guitar well. Studio ambiance seems less accentuated on these tracks than on other Chesks I’ve heard, yet there is an astounding amount of extraneous noise on several cuts. Also, I detected hiss on several tracks. No matter—this disc is a treat.

Responsive accompaniment is provided by Café’s percussion and, on three tracks, guitarist Gene Bertoncini. If you like relaxed music with a decidedly Latin flair, and appreciate state-of-the-art digital recording, you’ll love Non-Stop to Brazil. An unqualified rave. But why, Norm and Dave, only 46:57?

In addition to being a gifted composer, pianist, and band leader, David Chesky assists in the production of recordings which are setting new norms for the industry. Club de Sol should secure him a new audience. Music and performances are excellent, the recording is everything we expect from Chesky Records, and there is not a colorless track present. The title tune has a nice, lazy feel; all the instrumental forces are at play here, and the interesting melodic and harmonic structures do not obscure them. The arrangement is tasty, with enjoyable percussion and synthesizer effects. Check out the cymbal sound on this cut.

“Waltz For Libby” is David’s homage to the late Bill Evans. I liked this tune a lot: gentle and quiet, the trio arrangement with extremely
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Stereophile, March 1990
pleasant harmonic movement features some nice bass work by David Finck. Audiophiles will be pleased with the piano sound, especially the decay on the closing chords. "Sunrise," for solo piano, continues the mood set in "Waltz." Another introspective piece, it shows off David's compositional skills as well as the Steinway Concert Grand's lovely tonal palette. The sustain pedal is used frequently; one can become lost in the resulting gossamer-like sound. Listening to this tune, I was reminded of my first exposure to Steve Kuhn, ca. 1975. A segue into "Morning Mist" finds the ensemble back in a song of unusual harmonic and melodic makeup.

"Desert Island" is a return to the Latin-inspired samba form. I especially liked percussionist Café's vocal effects; this tune has a Pat Metheny feel. Guitarist Bill Washer is featured on "Sugar Loaf," where he does a satisfying job of setting the mood of the piece—nice and dreamy. My favorite track is "Swan's Point," a well-arranged duo for guitar and piano with a melody line that sticks in your head like tar over gravel. The piece sustains the overall mood of romanticism which permeates this release. It's subtle, well-crafted, and sensitively performed. A burst of percussion begins "Back Again," an attention-getter with Dave, after stating the theme, flying off into a rousing solo followed by Washer's well-constructed improvisation. This track, quite a change of pace from the others, virtually smokes. Another solo piano piece, "Central Park Morning," concludes the set, a tone poem beautifully performed and recorded.

Whereas the first three Chesky discs seem infused with moods bordering on melancholy, Tico! Tico! explodes with all the power and energy one has come to expect from sax virtuoso Paquito D'Rivera. The hand-picked ensemble provides tasteful and inspiring support, but the focus is on D'Rivera's usual partner, trumpeter Claudio Roditi, is not present. The album opens with "Danza Caracteristica," a boisterous jam with Paquito wailing away on clarinet, Fareed Haque on guitar, and Danilo Perez on piano. Written by the distinguished Cuban composer Leo Brouwer for solo guitar, the tune is transformed by Paquito's arrangement into a full-tilt blowing session. This piece casts the die for the rest of the disc. Paquito's full-bodied alto sax is featured on "A'Horador Encuentro" The tempo slows for this bolero, Paquito literally singing on his horn. I love the sound he gets on that sax. Paquito lets it all hang out, alternating melodic excursions with wailing cries of exuberance. (David Finck's bass solo is also outstanding.)

The "Three Venezuelan Waltzes" are cast in a folk idiom and showcase Paquito's clarinet virtuosity on the first waltz, Tiberio Nascimento's guitar playing on the second. "Carola," the third waltz, begins as a beautifully arranged duo for guitar and clarinet which leads into a joyous, full ensemble conclusion. Everyone will recognize the old warhorse "Tico Tico," but I bet you haven't heard it played like this. Paquito sounds as if he'll blow the reed out of his mouthpiece! Romero Lobambo, the guitarist on this cut, gets a good workout also. A splendid track.

Paquito's songwriting talents are displayed on "Song For Maura" and "To Brenda With Love." The first, written for his mother, is a haunting bossa nova with Rivera back on alto sax, Perez on piano, and, I believe, Tiberio Nascimento on guitar. I got a kick out of the quote from "A Night In Tunisia." Paquito picks up the tenor on "Brenda," a samba, and proceeds to wail throughout. The interpolation of a Bach prelude toward the end of the tune is accomplished without pretense. Following "Serenata's" clarinet/piano intro, the engaging composition explodes into a potpourri of Latin rhythms. The storm of frenzied improvisation culminates in a phrase lifted from a tune by one of England's most famous groups. You'll recognize it when you hear it. I especially liked David Finck's bass line beneath Perez's piano.

Perez's "Elizabeth" is a delightful ballad with Paquito in good form on alto, along with the guitarist (Fareed Haque?). The group achieves a pleasant, relaxed groove; my only complaint is of the somewhat labored accompaniment, which creates a dirge-like mood I'm sure the composer did not intend. David Chesky contributed "Chorinho #3 Sheep Meadow," a shifty, folk-like tune which reminded me of some of the more accessible Villa Lobos I've heard.

Wake up! shouts the rollicking "Recife's Blues"; on alto, Paquito plays his heart out. There are admirable solos all around, especially that of Nilson Matta on bass. This is hot, spaced-out be-bop in the best tradition of Diz and Bird. Yeah!

These four artists deserve extensive exposure. And on these four discs, the recordings are as outstanding as the performances. The Chesky Brothers are on a roll; I hope it continues.

—Guy Lemcoe

BILL LEE: Do the Right Thing (Original Soundtrack)
Branford Marsalis, tenor & soprano sax; Donald Harrison, alto sax; Terence Blanchard, Marlon Jordan, trump; Kenny Barron, James Williams, piano; Robert Hurst, bass; Jeff Watts, drums
Columbia OC 45406 (LP), CK 45406 (CD). Patrick Smith, eng.; Bill Lee, Delreyo Marsalis, prods. DDA/DDD. TT: 43:07
Spike Lee got his dad Bill to write the music for last summer's controversial, provocative Do the Right Thing, as Bill has done for all of his son's films. The elder Lee has gotten pretty good at it. The entire score is based on a single noble, open-ended motif, repeated in jazz combos and orchestra, and flexible enough to serve most scenes. Lee's orchestral music is friendly, down-home Copland-cum-Gershwin—style movie music, perfectly acceptable, but his jazz settings are far superior. Then again, with Branford Marsalis, Harrison & Blanchard, Bob Hurst, "Tain" Watts, and Kenny Barron, it'd be hard to go wrong.

Marsalis cuts loose, mostly on soprano, in his usual grab-bag of styles, including neo-Coltrane ("Father to Son"), Wayne Shorter ("Riot"), and his own (in the meltingly bluesy sax-and-strings lament "How Long?" and the straight-ahead "Wake Up Finale"). The seven-minute "Mookie" is recorded twice here, in almost identical performances, one with orchestra, one without; we could have done with only one. Kenny Barron solos one and lonely on "Tawana," and Marsalis and Harrison trade tenor/alto licks in "Malcolm and Martin." Definitely worth your while.

The jazz tracks are recorded with CBS's usual ambient deadness, but I'm so used to it by now that I almost don't mind. Almost. This extremely false-sounding RCA Studio A recording sounds better on LP—more bite, more burr on string basses, more depth. But the orchestra...! A suffocatingly, almost anachronically arid recording—there's no hall resonance. It's so dry my ears got chapped. Oh well—but buy the LP while you can.

—Richard Lehneart

**Rock, Etc.**

**JOHN CALE: Words for the Dying**


What is classically-trained popular musician John Cale up to? On one hand, easily accessible art is usually wallpaper. On the other, the artist must make some effort at communication, and ideally, something like Cale's first formal symphony should be worth 40 minutes of your turntable time. Maybe it's because this is Cale's first release on his friend Brian Eno's record label; maybe it's because Eno's wife has connections in the USSR which is why the concocition was recorded there—with video, no less (outboarding expensive US and UK symphonic recording sessions is a time-honored wheeze, and glasnost is a timely draw). Maybe Cale just fears the repeater. "I figured I'd better get started before I ended up like Brahms or something," said Cale, 47, when asked why he'd just now baked a symphonic work after a history of turning out everything from Velvet Underground monoclonal horror stories to ballet scores and MIDI studio bijoux.

Cale is a power in avant-garde composition, and I'd hate to say his best work is past him. Exemplified by his newest moving and powerful work with former Velvet colleague Lou Reed in the Warhol tribute "Songs for Drella" (heard in concert; recording in the works), it's clearly not. (His dream sequence summons up the same compelling and otherworldly quality as Japanese filmmaker Kurosawa's examination of last things in films like Ran). But splendid one-off solo LPs like The Academy in Peril (1972; one of his few works reissued on CD—Demon Import, 1989) aside, much of his great work is often a joint effort. The benchmark, Church of Anthrax, is a collaboration with jazzter Terry Riley, and brighter spots of live appearances at the now-tarted-up Lone Star in New York featured Cale and British guitar ace Chris Speeding.

But here's The Falklands Suite, an unhappy mishmash of Dylan Thomas poetry and uninspiring orchestral music apparently goosed to full symphonic flight by Brian Eno from a piano-and-voice outing Cale first wrote in 1982. The Soviet Gosteleradio Orchestra does a bang-up job, but the aesthetic concept of the piece is so overblown it's a wonder it didn't go up like the Hindenberg. Worse, the production itself is poor. Whether it was a mistake or an attempt at an effect, there's a terrible mismatch between Cale's heavily reverbed overdubs and the wonderful hall sound of the orchestra, which provides a lovely sense of place touched up with some light spot miking. Cale's vocals also contain breathing sounds and other noise—fine to signify a live recording, but unforgivable in a studio work when you have all the production time in the world. The same sort of mismatch of hall sound is also evident on the overdubbed boys chorus (recorded at Llandaff Cathedral, Wales), although it's less jarring. A more intimate sound on the vocals might have given the effect of someone reading poetry in front of an orchestra (à la a good production of Peter and the Wolf), but here the production makes Cale big, probably to try to bring him forward. The end result, alas, is that the whole piece sounds disconnected, and Cale sounds like he doesn't belong anywhere near it.

Furthermore, Cale can't sing formally and shouldn't try; the concept of treating poetry as though it were lyrics, a form which by definition carries its own rhythm and interpretation, makes a wormy apple out of a master poet's orange; and the composition hardly

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pushes the envelope of either Cale's beloved avant garde or more traditional forms (this is rather subfusc English mystic, at best).

Well, the producer should have reined the whole thing in, but what do you expect from a guy best known for enervating concepts such as compositions of ambient noise for airport waiting rooms and early performances with Roxy Music where he cued up tape loops and sported full makeup, feathered headdress, and little else? As a friend and co-producer to the likes of David Byrne (My Life in the Bush of Ghosts, etc.), Eno is a giant magpie to the international arts set. He's responsible for depositing found-music samples and swell bits of Uhuru nose-flute melodies in other friends' nests, no doubt, but he can't add much to someone like Cale, who generally hits the scene with artistic vision fully loaded.

The best work here, ironically, is a dizzy tribute to Carmen Miranda ("Soul of Carmen Miranda"), a bitter-sweet and simple little meringue they co-wrote for a woman who wore a lot of fruit and tried hard to please. But one success does not an album make: Words for the Dying is a hodgepodge of mixed styles (Songs Without Words is a ballet, The Falklands Suite is a "practice piece"). Although Cale practicing is inherently more interesting than most people working flat out, he needs collaboration from earnest but aesthetically down-sized art-bores as much as Vladimir Horowitz needs Ryuichi Sakamoto. Must to avoid. The CD is warm and clear (except for some of the lyrics), the LP warmer, if woolly. "Carmen Miranda" sparkles.

—Beth Jacques

THE PERSUASIONS: Live in the Whispering Gallery
Hammer n' Nails HNCD 1988 (CD only). Frank Kulaga. Larry Cullen, engs.; David Ackerman, prod. D–D. TT: 34:39

Ah, the Persuasions...! These guys and their acappella Brooklyn street-corner doo-wop can make me feel good faster than any group I know. After listening to this strong, loving recording, I listened to all their other records one after another. Best kind of rave I know.

This issue of Stereophile celebrates The Persuasions' first and latest albums, 20 years apart (see my feature on the Enigma Retro reissues from the Straight/Bizarre/DiscReet catalog elsewhere in this issue for a review of that first album, Acappella). No doubt about it—Live in the Whispering Gallery (of NYC's Grand Central Terminal), with a hooked-in homeboy audience, is one of their sweetest rides. (Strangers to New York should know that this is a double-groined vault in the lower levels of GCT, in one corner of which you can face the wall and whisper, and be heard perfectly clearly in the diagonally opposite corner.) The voices may be a little rougher now, the harmonies almost over-ripe, but Jerry Lawson & Co. are in complete and tender control. They do Motown ("Searchin' for my Baby," "Don't Let Him Take Your Love From Me") and Sam Cooke ("Only Sixteen") as always, but there's plain ol' rock'n'roll here, too ("Get A Job," "Don't Let Go"), not to mention ballads ("Place in the Sun," "She Never Talked to Me that Way"), and the gospel always bubbling under the surface of these joyous, vital voices ("The Lord's Prayer," "Amen"). Does it swing? You had to ask?

It's half a world away and even farther culturally, but I couldn't help thinking of Lady-smith Black Mambazo as I listened to Whispering Gallery—black male voices, nothing more, nothing less, singing for the sheer gas of singing, sounding like all the music you'd ever want in the whole world—it just sounds so joyous (I'm fumbling through my thesaurus, but that's the word), even as the tears fall. And the direct-to-two-track sound (Sony PCM 2500 R-DAT) is live, immediate, right there.

Sorry; all my critical faculties took a hike as soon as track 1 clicked in; you'll have to trust me on this one. Solid. —Richard Lehnert
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Stereophile, March 1990
Snell Type AIII loudspeaker
Editor:
Thank you for Larry Greenhill’s excellent Type AIII review. Needless to say, I don’t have any complaints about such a rave review. I would like to commend Dr. Greenhill on this superb job he has done in thorough research, getting the facts right, and checking them to be sure. In addition, JA’s measurements provide some objective information and an explanation of the significance of the results, sadly lacking in most loudspeaker reviews. I hope this review is used as a model for a higher standard in loudspeaker reviews. The entire industry can thank Dr. Greenhill if that happens!

Kevin Voecks
Chief Design Engineer, Snell Acoustics, Inc.

Benz Micro MC-3 cartridge
Editor:
We of Panther thank Thomas J. Norton for his in-depth review of the Benz Micro MC-3. We also feel that the best “overall reproduction from analog discs” is to be obtained with this unique cartridge. There are cartridges that portray more detail in an etched and artificial way; many find this totally unacceptable. We are among this group. We find more people with high-resolution systems switching to MC-3s. Many of the “who’s who” of audio, affectionately known as the Audiophile Illuminati, are using MC-3s as their reference. What does ARC have in common with VTL, Versa Dynamics, Cardas, Graham Engineering, Brooks Berdan, Wilson Audio, etc.? The Benz Micro MC-3!

There are a few little things we would like to clarify for the record:

1) Another reviewer mentioned that some people using CAT preamps found 47k to be the preferred setting. We have different exact recommendations from many exalted audio personalities. The factory’s recommendation is 100, but do listen and tweak to find your “right number.”

2) Most important in using a Benz/SME combination is to use the SME headshell spacer. The difference is a dramatic one. We discovered this in our office, and it was confirmed by Brooks Berdan.

3) The MC-1 is now called the MC-100, the MC-1 super is the Blue Diamond, and the MC-2 is called the MC-200. We did this to differentiate our line from the van den Hul line.

Users of the MC-3 will know they are entering the VTA window when their rooms open up wide and go straight back with a transparency that has to be heard. Our message is a simple one. We invite you to rediscover the joys of analog. Happy listening.

John Dudley, Bruce Ball
Panther Enterprises

Monster Cable Sigma Genesis 2000 cartridge
Editor:
Thank you for the inclusion of our new cartridge, the Sigma Genesis 2000, in Martin Colloms’s excellent report.

We certainly have reaffirmed our belief in the analog domain with our new cartridge, and feel rewarded by Martin’s observations.

We had submitted this cartridge to Martin in early 1989 for evaluation. That particular cartridge was taken from a batch of first articles. We discovered subsequently that, as Martin indicated, the cartridge was tonearm-sensitive. In fact, we held it back from delivery until we had made it less tonearm-dependent.

What I think we have achieved is a performance that retains all the virtues that Martin depicts, but without some of the aggression he alludes to. By alterations in the damping modes and orientation of the coils, we were able to get the cartridge to work with a wide variety of arms. In fact, we demonstrated it at WCES, using the Alphason tonearm, with great success.

The response to the combination was very enthusiastic, with strong comments as to how smooth and delicate it was, and how full yet controlled the bass sounded.

The cartridge has only been sold in this version, so in actual fact none of the initial batch were sold.

Martin’s findings certainly justified our withholding the product until we were satisfied with its total performance and compatibility. We hope a follow-up review in Stereophile in the near future will bear this out.

Thank you once again for the opportunity to expose a product we are truly proud of.

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“Euphonic coloration,” a term frequently used to describe as pleasing a characteristic which would otherwise be thought simply a fault, normally has a positive connotation. But there’s always a patronizing air attached—we like to think that truly good components avoid all coloration.

JA, TJN, and I are just back from the recording sessions for Stereophile’s second LP, and the experience, along with a visit to Paul McGowan of PS Audio, set me to thinking about euphonic colorations—or compromises, as I prefer to call them.

Paul, in a discussion started in 1987, maintains that, since all interconnect and speaker cables change the sound of the signal going through them, it is imperative for audiophiles to make use of these changes to tailor the final sound of their system—cable as tone control. While I concede that it’s a mistake to use cables which highlight the inherent defects of your system, I feel you should choose the most neutral possible cables, so as not to create a system so dependent on the sound of a particular cable that any positive changes might well appear as negative.

Our recording sessions took place at the First Universal Unitarian Church in Santa Barbara, with Kavi Alexander again at the mikes and open-reel recorder. They took me back close enough to the source to once again regard my interconnect argument with some skepticism. Like our first sessions, these felt like a titanic battle against the elements. In both cases we’ve been blessed with musicians (in this case, pianist Robert Silverman of Vancouver) who are professional and musically exciting, as well as pleasant to work with. Barring such cooperation on the performing side, I fear our other problems would have proved insurmountable.

Our first “problem” came from the recording environment—in quotes because, though we yearn for a reverberant recording space, in this case we had more than enough from the beautiful, Spanish mission-style church. Microphone placement was super-critical, changes of just a few inches enabling the recorded sound to change from very direct to “swimmy” (never dry).

Next we ran into problems from what we had expected to be the same microphones used for the Poem album. In fact, the mikes were different from Kavi’s original samples of Tim de Paravicini’s Esoteric Audio Research tube microphone—physically, they appear identical to the EAR mics Stereophile purchased, but inside lurks a different tube (EF86 as opposed to 6DJ8). In spite of a more finished appearance, the new mikes had significantly more intrinsic noise, necessitating compromises from our preferred mike positioning to ensure adequate signal from the piano.

While we struggled with mike location, Bob Silverman began discovering lots of minor problems with the piano, a magnificent Steinway “D”—minor, that is, until we began hearing the squeaks of the keyboard moving back and forth on our best take, or notes popping out where they weren’t supposed to. Bob did a great job of adjusting to these problems (one adjustment we almost accepted was locking the keyboard in place, halfway between soft and loud, but fortunately we found a way around this option, as it compromised too much the sound of the piano), and after much struggle with our flagging energies and car sounds during our best takes (sessions went from 7pm to 1am), we ended up with a magnificent recording of Brahms’s Piano Sonata in f and the three Op.117 Intermezzi. In spite of the excessive mike noise, if we can get the master successfully transferred to lacquer—the tape has phenomenal dynamic range—the record will be something to hear.

Will it be an absolute sound? Yes, in a way—the absolute sound of that piano (tuned and adjusted for that night) in that space by that pianist over those mikes in that specific location. There could have been four or five legitimate alternates, though, all more different from each other than any components you could assemble, with the possible exception of your speakers. The sessions were filled with compromise—euphonic compromise, in every instance, and faithful to the sound we heard live, but compromise. My guess is that every recording has many such compromises; the records we’ve come to love are made by people skilled in the art of euphonic compromise, the ones that sound bad by those unskilled. When it comes to the final adjustments to your system, don’t look down your nose on such compromises!

—Larry Archibald

Stereophile, March 1990
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