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## CONTENTS

**AS WE SEE IT** .......................................................... 5  
J. Gordon Holt looks at arbitrary factors which inadvertently affect a reviewer's impartiality

**LETTERS** ............................................................... 12

**INDUSTRY UPDATE** .................................................. 31  
High-end news from the US, UK, Japan, Italy, and France

**THE AUDIO CHEAPSKATE** ......................................... 49  
Sam Tellig listens out for music at the Summer CES

**THE WINDY CITY** .................................................... 58  
John Atkinson, Lewis Lipnick, Thomas J. Norton, and Richard Lehnert report on what they heard and saw at the Chicago CES

**PURE GOLD** ........................................................... 99  
Alvin Gold has a preliminary listen to a new British mini-monitor with metal-diaphragm drive-units

**EQUIPMENT REPORTS** .............................................
- Apogee Diva loudspeaker (AB) ........................................... 105
- Synthesis Reference System loudspeaker (JGH) ...................... 113
- Elite Rock turntable (DO) ............................................... 117
- Elite Excalibur tonearm (DO) ........................................... 117
- Rotel RCD 820BX2 CD player (LL) ...................................... 122
- Stax SR-Lambda Pro Signature headphones (BS) ................... 125
- Camber 3.5A loudspeaker (JA) .......................................... 127
- Image Concept 200 loudspeaker (JA) .................................. 131

**FOLLOW-UP** ..........................................................
- PKR&D Acoustat 1+1 loudspeaker modifications (DO) ............ 133
- Ohm Walsh 5 Revised loudspeaker (DO) .............................. 134
- NAD 2600A power amplifier (JGH) .................................. 136
- CD Saver (JGH) ........................................................... 137

**A MATTER OF TASTE** .............................................. 139  
Mortimer H. Frank describes his system and his sonic and musical tastes

**BUILDING A LIBRARY** ............................................ 143  
Christopher Breunig on Debussy's *La Mer*

**RECORD REVIEWS** ................................................. 149

**MANUFACTURERS' COMMENTS** ................................. 167

**COMING ATTRACTIONS** .......................................... 4

**WHERE TO BUY STEREOPHILE** ................................. 177

**AUDIO MART** ........................................................ 185

**BACK ISSUES** ...................................................... 104

**SUBSCRIPTIONS** ................................................... 103

**FOREIGN SUBSCRIPTIONS** ...................................... 103

**ADVERTISER INDEX** ................................................ 193

**THE FINAL WORD** .................................................. 194  
Publisher Larry Archibald on the state of play

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**AUGUST 1988**  
**VOL. 11 NO. 8**
Time to pen another “Coming Attractions” column, and apologies are in order to those readers (and writers) who wonder why my description of Stereophile’s future doesn’t always tally with reality.

Sorry.

I write these words after we have started the process of preparing the next issue’s contents, but before Larry Archibald has decided on the exact issue size. 90% of what we intend to appear does indeed do so, but just lately, a couple of interesting articles have had to be bumped. One such was Robert Deutsch’s look at the Broadway musical on record. Another was George Graves’s odyssey into the world of in-car sound. Both will appear next month. Honest. I promise.

The main equipment review in the September issue is of the Infinity IRS Beta loudspeaker. Following the remodeling of his listening room, J. Gordon Holt spent much time coming to terms with Infinity’s four-box, $10,500 statement in high-end speaker design, and will report in depth on his experiences. Lewis Lipnick has been living with the Mark Levinson No.23 amplifier, JGH looks at a power station of an amplifier from, of all people, dbx, while Dick Olsher, fresh from his close encounter of the controversial kind with speaker cables, reports on the sonics of Kinergetics’ KCD-30 CD player. At a less rarefied level, I will be reporting on the latest British metal-dome and metal-cone drive-unit technology, as exemplified by the Celestion SL700 and Acoustic Energy AE1 loudspeakers; Thomas J. Norton looks for a good, affordable, solid-state pre-amplifier, auditioning the PS Audio 4.6 and Sumo’s Athena; and in a special report, guest reviewer Brian Cheney (of VMP’s loudspeaker fame) reports on his experiences with a one-piece music system from Yamaha.

In the Music Section, Christopher Breunig will survey Beethoven piano concertos on record, record reviewer Les Berkley describes his taste in sound, music, and hi-fi, and Stereophile’s regular team of writers tackles a broad sampling of the latest classical, jazz, and rock releases, including opera reviews by new reviewer Robert Levine, Keith Jarrett’s new recording of Bach’s Well-Tempered Clavier, and recent releases by the Marsalis brothers, Bob Dylan, Van Morrison, and Prince.

And remember, if you’ve been buying your copies of Stereophile from a newsstand, you can save more than $2 per issue by subscribing—the subscription form can be found on p.103 in this issue.

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Stereophile, August 1988
For a subjective equipment reviewer, whose writings are based as much on impressions as on observations, it is very important to approach a product without personal bias. Of course, all of us lay claim to this ideal, and some of us even manage to maintain the appearance of impartiality most of the time. But just under the reviewer’s veneer of urbane professionalism and deliberative restraint lies a darker force—a leering hobgoblin of anarchy and mischief which scoops usually forbidden adjectives from a well of calumny and offers them for the writer’s consideration as the perfect word to describe what he is trying to express. It’s an ever-present temptation to accept the suggestion, because every critic harbors a secret urge to be another Dorothy Parker, trashing mankind’s most earnest endeavors with devastating *bon mots* that will endure long after the writer has ceased to. Most of the time, the reviewer is able to resist the temptation to broadside a product, but some products, and the people they represent, make this very difficult. In fact, sometimes it is impossible.

1) **The instructions are laughably illiterate or, worse, inaccurate.** While this has no bearing on the intrinsic quality of a product, it does give a bad first impression.

2) **The product arrives along with a fat package of reprints of rave reviews from other magazines.** It is easy to understand why a manufacturer who feels his product is the best thing since the wheel likes to provide evidence that some reviewers agree with him.
With Precise Loudspeakers, noted inventor and recording engineer Keith Johnson has added still another notable achievement to his long list of industry credits.

Precise embodies the finest sonic characteristics of the hand made studio monitors Keith uses at Reference Recordings. They are a testimony to his dedication, persistence and uncompromising ideals.

The design signatures Keith has brought to Precise create a speaker capable of a truly wondrous performance. Indulge yourself today with a listening session at your Precise dealer.
but most reviewers don’t give a damn what other reviewers think about the product, and may even be a little annoyed by the implication that their judgment might somehow be swayed by using, less astute opinions about the product. (The reprint package also raises the question of why the hell this reviewer should be getting his sample of the product months after everyone else has had a crack at it.)¹

3) The product arrives without any paperwork at all. A Cardinal Sin, akin to spray-painting obscenities on a marble Madonna, this necessitates an urgent phone call to the president of the company, who (it turns out) is the only person in the universe who knows anything about the product and is, unfortunately, in Monaco for an important business meeting but will call the moment he gets back, three days after the report is due. The acute irritation (and uncertainty) of having to write up a product without knowing anything more about it than how it sounds is guaranteed to produce, at the least, a cautiously noncommittal review.

4) The product is dead out of the box, and its replacement works for two hours before going kaput in a puff of smoke. A reviewer’s reaction to this oft-repeated scenario will depend on whether the manufacturer is a small upstart firm that’s trying to get its act together and not succeeding very well, or whether it’s a highly successful one that’s been around for years working diligently to convert an anecdotal reputation for unreliability into a corporate image. In the former case, the review will be sympathetic; in the latter, the reviewer will be rewarded by the privilege of unleashing his hobgoblin and composing a devastatingly sarcastic review. (The manufacturer will then pull his advertising from the magazine and threaten to sue for libel and the whole brooha will blow over in two months.)

5) The factory did something dumb. Like wiring the input receptacles backwards or putting the output binding posts in some ridiculously inaccessible place, perhaps at the bottom of a deep recess between two of the heatsinks. These come under the category of faux pas rather than Unforgivable Offenses, so while they hardly warrant torpedoing the product, their irritation value can nonetheless temper a reviewer’s enthusiasm for an otherwise-superb product, and earn it, at the least, a caustic comment or two.

6) An important part is missing. This is particularly irksome when, after three hours spent setting up some incredibly tweaky phono unit, comes the last sentence of the instructions: “Thread the belt around the uppermost drive-shaft pulley and the perimeter of the platter.” And there’s no belt. This always happens in the evening or over a weekend, when it is impossible to make an outraged phone call to the person responsible. (He’ll be in Monaco tomorrow anyway.)

7) The product is a nightmare to install and then turns out to sound absolutely abominable. Here we have irritation compounded by outrage (at the time wasted in getting the thing to work at all) giving the reviewer virtual carte blanche to pull out the stops with a truly devastating review. The perverse pleasure he will derive from writing this will increase in direct relation to the price of the product.

8) The product must be returned three times during the first six weeks for “last-minute upgrades.” When it still proves to be seriously flawed, one more upgrade is guaranteed to fix it. This can make the most imperturbable reviewer see red, because it is clear to him that nothing he writes about the product can ever be conclusive. Worse, it threatens his credibility as a critic, because if he reports a serious sonic flaw, it will probably have been corrected by the time a reader audits the product himself. (“Rough highs? He’s full of it; the highs are gorgeous!”)

9) The unit is unnecessarily difficult to service. Five-year warranties notwithstanding, all audio products will require servicing eventually, and it is always better for the dealer (or, better still, the owner) to be able to do it than to have to send the thing back to the factory, from which it may well never return. This is particularly true of such a simple exigency as a blown fuse, but some manufacturers like to make this more difficult than it has to be by burying the fuse inside the chassis and then making it a pigtail type, which must be soldered into the circuit. Serviceability is hardly a major issue, but a shortage of it is always worth a curmudgeonly comment.

10) The manufacturer is arrogant, sleazy, or has shifty eyes set too close together.

¹ My use of the male pronoun here may seem sexist, but the fact is that audio reviewers are almost universally male. My apologies to the few exceptions, Judy Davidson and Enid Lumley.

Stereophile, August 1988
While considerations of personality have no place in our equipment reports, it is inevitable that a reviewer will associate a product with its progenitor. If its manufacturer or his representative does not have the personality of a Johnny Carson and the demeanor of a Sean Connery, it is best that the product be delivered to the reviewer by an impersonal UPS or by a trucker whose sullen rudeness can be blamed on the Teamsters Union.

There are other things that turn a reviewer off before he even gets started, but the foregoing sample will give you an idea of what I'm talking about. However, there is also an obverse to impartiality: Some things predispose reviewers favorably toward a product. Such as:

1) The instruction manual has an index that actually refers to the page where a subject is discussed. Many direct you to the wrong page, and often send you to a place where the topic is mentioned in passing but not discussed.

2) All the proper tools necessary to set a product up are supplied with it. Even though a reviewer owns every tool needed to do any job relating to audio, the one he needs is never where it belongs, so it's nice to have another packed with the product. The tool, of course, will not be returned to the manufacturer. (How can you expect the reviewer to find someone else's tool if he can't lay his hands on his own?)

3) All the controls are in the places you expect them to be. This is called Zengineering; it's a joy when you encounter it, and the Japanese still do it best.

4) There is no sound of a small metal object rattling around inside the chassis when you turn the unit upside down. If there is, it probably is a homeless lockwasher which, if not located and excised, will inevitably manage to lodge itself between the chassis and a power supply rail. (See #4, above.)

5) The loudspeaker terminals do not unscrew when you loosen their caps. The simple expedient of using lock washers where they may be needed contributes much to a reviewer's confidence in the reliability of a product.

6) The product weighs too much to move singlehandedly. This is a carry-over from the days when output and power transformers were judged by how much iron was in their core. Three-quarters of a modern preamp's weight may be due to the two large blocks of lead inside its chassis, but there is no doubt that impressive weight heightens a reviewer's expectations of a product's performance.

7) The last three products the manufacturer produced were superb. Good track record positively affects expectations.

8) The thing works the first time it is turned on, and is still working three weeks later. This is especially impressive if it is the most expensive product of its kind on the market.

9) The product arrives with a friendly note that says "There's no hurry returning this to us." Translated, this means "Keep this as long as you can use it, but return it to us when you're done with it." Equipment bribery is of course prohibited by publisher's decree, but then an open-ended loan isn't a gift. And the reviewer isn't going to want to hang onto the thing unless he likes it and would have given it a good review anyway. Unless, of course, his daughter needs a $7000/pair speaker system for dance parties.

10) The manufacturer phones a day after the product is up and running, not to ask what the reviewer thinks of it, but to ask if he may be of any assistance. This comes under the category of doing-something-nice-that-isn't-specifically-against-magazine-policy-because-the-question-hasn't-come-up-before. The same category also includes packing a bottle of vintage Chateau LaFitte Rothschild with the product, or flying the reviewer's son to Disneyland to celebrate his hamster's birthday.

Under the circumstances, it is hard to see how any reviewer could possibly resist all of these temptations of personal bias. But we do the best we can.

2 I call your attention to this word because it is so clever and because I invented it myself. It should be a part of our language, for which reason it never will be.

3 Ah, but a corollary of Murphy's Law operates here to keep subjective reviewers as penniless as their readers. In general, I have found that the products that one would want to keep on extended loan are the ones which the manufacturer needs back urgently. Those that their maker is happy to have handing out in the reviewer's listening room often tend to have less good sound. Ultimately, if the reviewer wants the best sound, cash has to change hands somewhere down the line, just as in real life. —JA
EXCELLENCE IN ANY LANGUAGE.

“...Absolute Spitzenklasse…”
Stereoplay Magazine, Germany
—Hans Ulrich-Fessler

“...Een Serieus Produkt…”
HiFi/Video/Test Magazine, The Netherlands
—Hans Goddijn

“...Un Nuovo Reference Standard…”
Stereoplay Magazine, Italy
—Sandro Ruggieri

“...Superior Sound Quality…”
Digital Audio & Compact Disc Review Magazine, The United States
—Ken Pohlmann
"Absolute Spitzenklasse"—a performance rating of "top class"—is how one of Germany's leading audio magazines rates the newest Philips CD player. The Swiss called one of Philips' newest components "a new dimension in sound."

After examining the engineering, technology and design in Philips' latest CD component, Japan's premier audio magazine had praise that approached envy.

Throughout the world, Philips of the Netherlands has long set the standards for audio and video performance. It was Philips who invented the audio cassette, the laser optical video disc and, most recently, the compact disc.

Now we introduce Philips to the U.S. with these expert opinions as references and as the promise of what's to come.

For more information, and for your nearest Philips dealer, call 1-800-223-7772.

WORLD-CLASS TECHNOLOGY. EUROPEAN EXCELLENCE.
Discrete, not discreet

Editor:
I thought you might be interested in an amazing new advance in solid-state technology. Altec has announced "Discreet" Amplifiers!

Are you tired of that indiscreet transistor sound? Is your system telling you things you never wanted to hear? Does it embrace you in front of your friends? The ultimate in discretion is now available! The new Altec 550 has ten (count 'em) discreet amps. Golly gee.

I expect a limited command of English in manuals for home-brew local-yokel stuff, but this is a two-page copyrighted ad in major (?) magazines, eg, the June '88 Stereo Review, from a company with a "Consumer Products" division. They even hired a pro photographer and the world's ugliest housecat.

Oh, well.

Luke Smith
Doraville, GA

Oh, well

Editor:
The reason I signed up for your introductory offer was the note from Sam Tellig talking about his "Audio Cheapskate" column—budget stuff! My first two issues of Stereophile (February and March) didn't have the column at all. The April issue arrived, and I opened it to the "Cheapskate" column to find a test on an $11,000 turntable! I will never believe any turntable is worth $11,000! But to find it in the column you had advertised as "Budget Stuff" blew my mind! The May column was a little better: $1500 for a pair of speakers and $1045 for a preamp (of course, for this price it can't challenge the state of the art). If this is budget stuff, I would sure like to have his budget!!

To me this isn't "inexpensive equipment that performs better than you would expect it to." That is equipment like the '60s gave us—Dynaco ST-70, PAS2, A-25, and AR XA. That's what Sam's column should cover, not $1045 preamps! Please cancel my subscription and return my money. I can buy a CD with it, not a "foot" of speaker cable!

Jim Ford
Raleigh, NC

Time well-spent

Editor:
Recently we were perusing some back issues of Stereophile when we came across a letter which provoked this one. The letter in question (in January '88) was written by a "defecting reader." One of the complaints which he addressed was that Stereophile had a "glut" of low-end component reviews. My point is that although your magazine devotes time to lower-priced components, this is time well spent. Lower price does not mean lower quality or subsequent poor performance. Cost is important because some of us are "poor audiophiles." We, for example, are college students who have limited means but not limited interest. We enjoy reading your magazine, especially the column by Sam Tellig, "The Audio Cheapskate." The fact that Stereophile reviews "affordable high-end" is greatly appreciated by a significant portion of your readers. Thanks!

Vincent C. Meleco & John Arthur Phelan
(two poor, aspiring audiophiles)
East Greenbush, NY

Marketplace pragmatism

Editor:
I am a fairly recent convert to the (semi) High End, and after months of reading the various audio publications, I have begun a subscription to Stereophile. The primary reason is your infinitely more pragmatic approach to audio than your competition, mainly TAS. You gentlemen realize that while CD may not be better than good analog at this point in time, it does have potential.

The reality of marketplace majority rule is killing analog, and any magazine that refuses to admit the existence of CD, except to denigrate it, is not pragmatic enough to be read on a consistent basis. Analog has had quite a long time for engineers and other tinkerers to improve upon it. Once engineers realize how to use digital recording technology, CD will become a lot better.

Kudos to you and your staff, especially Sam
Tellig. I agree with the Cheapskate 100% on the Sony CDP-505ES! A great machine, and because of the introduction of the '507, the 505s I’ve seen are being closed out at dealers for (yikes!) $299.99. A steal at $600, they’re absolutely larcenous at $300!

Why no reviews of MIT cable? On a whim, I did a comparison between the Aural Symphonics interconnects and the Discwasher Gold-Ens cable, using identical amplifiers (Hafler XL-280s—there are more musical amps, but not many more accurate ones) and CD players (Sony 505ES), with Magnepan 1Cs (as big a Maggie as I could get without running afoul of the Wife Acceptance Factor) wired with 8-strand Kimber. If there was a discernible difference, I’m a monkey’s uncle. As a matter of fact, the Discwasher cables may have even been a bit better, and they sure as heck are cheaper and easier to find! I suppose people will harrumph about “system limitations” and other assorted dreck, but I know what I heard (or didn’t hear).

Hold it! Stop the presses! Just when I was ready to assign audiophile cables a place in the “Emperor’s New Clothes” Hall of Fame, I switched from the Aural Symphonics interconnects and standard Monster Cable to MIT 330s and eight-strand Kimber, plugged into the Magnepan 1Cs, now biamped with a Musical Concepts modified Hafler DH500 (bass), and a B&K ST-140 (treble). I now come home and find my wife, the quintessential “it’s just a record player and I don’t really give a hoot” female, perched in front of the system with a most blissful expression painted upon her countenance. ‘Nuff said.

Kevin M. Williams
Oak Park, IL

Dick Olsher reviewed MIT’s MH-750 loudspeaker cable last month. —JA

A Karajan orgy

Editor:
Yours is the only magazine I have ever read that regularly prints disparaging letters from its readership. While this is refreshing in its uniqueness, I also find it disturbing because I enjoy your publication so thoroughly. Over my three years of subscribing I think Stereophile has improved in every aspect. Your instincts are very good.

I would like a claim over which I am incredulous verified. During all the recent de-
Yamaha just solved the industry's biggest problem.

All those little capacitors, resistors and semiconductors?
They make up what's known as a CD player's analog filter.
A necessary evil designed to remove unwanted digital noise.
While unfortunately distorting otherwise crystal-clear sound with phase shift.

Ahem.
Presenting Yamaha's exclusive hi-bit direct output technology.
A revolutionary technology we've incorporated into our CDX-910U, giving you the option of completely eliminating the analog filter with the touch of a button.

Allowing you, in turn, to enjoy improvement in music you thought couldn't be improved.

You'll also find 8 times oversampling, giving you incredibly accurate waveform resolution and unbelievably natural sound.

Hi-bit twin D/A converters to improve dynamic resolution and eliminate interchannel phase distortion.

And a host of features that add up to the most pleasurable listening experience yet.

Stop by your nearest Yamaha dealer today and hear the remarkable new CDX-910U CD player for yourself.

We think you'll come away sharing our philosophy that anything that comes between you and your music is definitely a big problem.

No matter how small it may be.
like nothing more than for you to be another marketing statistic, and concentrate our attention on small companies like Conrad-Johnson and Rowland Research, whose only concern is music!

Randy Rico
Colorado Springs, CO

Please
Editor:
In response to Richard Fletcher's letter (Vol.11 No.5), while I agree that I haven't heard much difference between signal cables, I suggest that he compare the sound of Polk and Carver with the sound he finds in a high-end store.

The reason Polk in his white coat doesn't appear in the pages of Stereophile is that he doesn't belong there. His product line reflects his genius for making money, not speakers. His advertising blitz in Stereo Review keeps the readers cruising into the mid-fi stores, cash in hand. In Consumer Electronics magazine, Polk was rated #1 in stock turnover and #1 in dealer satisfaction. It's a marketing scheme.

I imagine Mr. Fletcher sold his turntable and LPs when he got his new Emerson CD player. (Why pay more? They all sound the same.) I am a 21-year-old college student audiophile. I like to demonstrate my systems at school, especially with LP. After blowing them away with LP sound, I switch to CD. The comments: "It sounds canned," "No depth," "I thought CDs were supposed to sound better than records," "It sounds artificial," "Yuck."

Well, maybe if we work together we can keep the LP alive longer than anyone thinks we can. I am nauseated at the thought of nothing but CDs on the shelves, pushed down our throats by Polygram, Philips, and CBS.

Don Lindich
Plantation, FL

Is it possible?
Editor:
Is it possible that vast quantities of LPs are being destroyed just to force us to buy CDs sooner? Could Stereophile find out what's going on and inform its readers?

J. D. Griggs
Volcano, HI

Audio is analog
Editor:
I must agree with Marc Richman's letter, "Audio is analog!," in the May issue.

Having drifted away from high-end audio in the early '80s, I was sucked in by the silent background and apparent dynamic range of CDs. I collected over 200 CDs and built a decent system featuring the Sonograph CD player. Yet, I would come home from concerts not entirely satisfied with the sound of my system...

Then I upgraded my old Technics record player to a Dual CS5000 and an Ortofon X-3MC. Depth, staging, transient response, Tellig's "palpable presence" shook my bones. I have since upgraded to a Linn/Iltok (same cartridge) and from top to bottom, front to back, I have the CD player whipped but good.

I am beginning to sense the move away from digital will reach a critical mass. Hopefully, truly enlightened audio designers will give up trying to quantify music and maybe begin to listen again. As for software—we've already set the stage for a whole decade's worth of music being unlistenable by future ears. What a waste!

Please stop so much digital coverage!

Siegfried P. Duray-Bito
Littleton, CO

But hearing is digital
Editor:
I have been reading your magazine for seven months now, and it has made a tremendous difference in my enjoyment of recorded music. After reading several issues from cover to cover, including all the (to me) outrageous statements, I gave my main system a good, hard, honest listen and realized that, to quote Harvey Rosenberg, it did sound like dog doo-doo. Using Stereophile's list of recommended components as a guide, I have now upgraded both of my systems and the difference in sound quality and enjoyment is not trivial.

Admittedly, some (most?) of the anger and high blood-pressure I experience from time to time while reading Stereophile are caused by the sneaking suspicion that you may be right. Whenever I find dissenting views making me angry, I know that I am becoming dogmatic and I try to open my mind back up.

However, some of the standards I have read in Stereophile simply amaze me. I find the anti-CD sentiment very strange. I have been listening to records since I was a kid back in the 1940s, and I consider the advent of digital audio a godsend for those of us who want to

Stereophile, August 1988
What is the meaning of life?

Many have pondered this weighty question, no one has found an answer that satisfies all.

At best, life is synonymous with what we know to be real, i.e. genuine, unaffected and natural. As life grows denser and more technologically complex, simplicity becomes more appealing.

The same applies to hifi. High end audio systems are now dedicated to the transparent reproduction of authentic, lifelike sound.

Unfortunately, too many of us remain impressed with massive speakers that produce a brutish and exaggerated "larger-than-life" sound.

But truly lifelike sound is always more thrilling, simply by the sheer impact of its total fidelity. That's why it's universally acclaimed as "the real thing." Those who know the truth when they hear it can't be satisfied by any substitutes or illusions of reality.

For them, we offer Celestion loudspeakers. A range of subtle and elegant components that deliver "lifelike" sound.

If you've had enough surreal sound to last a lifetime, we've been building the world's most honest loudspeakers for you. Discover the meaning of life at your qualified Celestion component dealer.
hear the music without all the attendant noise and distortion that mechanical reproduction entails. There is no argument that LPs can and do sound very fine when clean and when reproduced properly. I have derived a great deal of pleasure from them over the years, but the CD is simply superior in every way when properly mastered in the first place. So my ears tell me; you may hear something else, and I will never presume to tell you what you can and cannot hear. However, the Off button on my CDP-505ESD does not beckon, but the music does. As an example, the CD rerelease of Reiner’s recording of Alexander Nevyssky is a revelation.

To me, the argument that sound and hearing are analog is specious. Sound and hearing are sound and hearing; they cannot be analogs of themselves. Yes, the motion of the eardrum can be said to be an analog of the impinging sound waves; on the other hand, the human nervous system appears to operate on a “digital” basis (neurons firing or not firing, etc.). Such gross oversimplifications can lead to meaningless quarrels.

The real argument seems to be continuous vs discrete; yet quantum mechanics teaches us that even continuous behavior is really discrete, at a very high sampling rate! Talk about graininess: the universe appears to be ultimately grainy, with time itself jumping forward in quanta. Good old J. Gordon Holt ought to deliver a lecture on this subject.

Regardless of the “CD or not CD” argument, there are lots of recordings out there in all formats that I want to hear, and Stereophile will have a lot to do with this old hillbilly’s enjoyment of them. I have sent my renewal payment in to Mt. Morris, IL. Keep ‘em coming!  

Charles L. Crawford  
St. Albans, WV

PS: Oh, It’s Johnny this, and Johnny that, And Johnny go away;  
But it’s “Thank you, Mr. Atkinson,” When the disc begins to play . . .

Bullfeathers!

Editor:  
I’ve read Stereophile for many years and always respected JGH’s opinions even when they disagreed with mine. However, I sincerely feel compelled to rebut his comments on p. 157 of the April issue pertaining to Telarc recordings. He said: Telarc is “sacrificing a lot of great per-

Stereophile, August 1988
HOLOGRAPHIC SOUND

CLOSE YOUR EYES

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135 Torbay Road, Markham, Ontario, Canada L3R 1G7
detail, they do provide those same goosebumps.

The problem with many audiophile labels is that their star performer is frequently the East Podunk Community Orchestra. While the recorded sound is great, the performers aren't good draws and few stores sell the recordings anyway. Telarc, on the other hand, can boast the likes of Ozawa, Maazel, Ormandy, Shaw, Minelli, etc., and are available everywhere. The bottom line is that Telarc is the only audiophile recording company that has been able to successfully market their product to a wide segment of the public and still maintain high standards.

As to the "seriousness" of some of the recordings: If *Hollywood's Greatest Hits or Star Tracks* can pay Telarc's utility bills so that the Debussy String Quartets can be produced, fine! This is still not Whitesnake or Butthole Surfer (yes, that's a rock recording!). If they start recording that garbage, then I'll blast them for being "commercial."

Telarc can be criticized in some areas, but lighten up, Gordon! I think you're gutting the goose looking for more golden eggs. Were you really happier with the sound of your Ormandy Columbia LPs? Think about it!

*Dennis W. Brandt*

*Wrightsville, PA*

**Golden ears**

*Editor:*

Well, I'm impressed! I read what you "golden ears" have to say, but I never quite believed it until your comments on the Bainbridge BCD6272 recording in Vol.11 No.5 (p.165). I have listened to this CD probably a dozen times since I got it last month and never noticed anything like this. Nevertheless, I promptly threw it in my trusty CD player (Sharp DX-C6000 changer) and listened—nothing! I took it to work and tried it on a little portable I keep there (Citizen CBM 1000—you can see I'm really into the high end). Now I could hear something, but what? At lunch, I trotted off to a local vendor and tried it in the new top-of-the-line, $1800 Sony and wasn't sure. Next we put it in another player whose manufacturer I didn't get, and then we heard it! Back to the Sony and it was barely audible. Then to the Citizen and quite apparent. Last night, I tried it again on the Sharp, listening through a recently acquired pair of Beyer DT-990 head-phones. Still nothing. I guess that's good.

At any rate, how do you do it? I still can't believe you threw this thing in your player and at 0:44 a terrible sound came out. Were you comparing it to the Sonic Arts LP? Is your CD player that bad? Or is it just that you are so attuned to these things they jump out at you? If so, how can you ever enjoy the music?

*Robert B. Peirce*

*Mcmurray, PA*

As discussed in "Manufacturers' Comments" in May, the CD of Stephen Kates' Sonic Arts Rachmaninov cello sonata recording had been "cut" at a very high level. On some CD players, this would cause the signal waveform to be clipped, to a greater or lesser degree, depending on the degree of level error in the DAC, at the times I mentioned in my review.

Yes, I do enjoy music, but I believe the role of any kind of critic is to be explicit about what be or she observes. In the case of this Bainbridge recording, I was disappointed by what I heard and felt that our readers should be made aware of a potential problem. Bainbridge has since sent me the remastered CD, cut 3dB lower in level, and I can report that on the CD players I have to hand—Marantz CD94, Magnavox CDB472, Sony D7S, Meridian Pro—there is now no clipping problem.

This disc can go back on our recommended list: indeed, I urge you to buy it for the performance.

—*JA*

**Suggestions**

*Editor:*

No matter what path is selected to start down to reach the goal of pleasurable music reproduction, it is paramount to remember that, in each and every case, beauty is in the ears of the beholder. I have been tweaking my system for four years now to please myself, not friends or the reviewing staff of a magazine. Due to the differences in taste in each individual, it is impossible to build a music-reproduction system to suit everyone. The goal of anyone assisting (is this not the goal of this publication?) should be to help the individual achieve his individual goal, not to ram a particular pet theory down someone's ear. For me, at least, *Stereophile* has done just this: provided me with competent guidance in both my hobby and my work (while not defending my country, I work part-time in a used audio store). Thank you for a job well done.
A remarkable combination of exceptional performance, flexibility and value.

The GFP-555's musical performance is outstanding—by any measurement or listening criterion. For example, Stereophile* calls it "one of the most satisfying preamps around in terms of overall tonal balance... You can go back to it after a few weeks and still feel it to be basically right, it reveals most associated equipment as more colored than itself."

At the same time, the GFP-555 is surprisingly affordable. Again, from Stereophile: "It is unclear from close examination why it should cost only $500... it outperforms several competitors from the $2500 bracket."

Here are just a few examples of how we did it. The GFP-555's gain path includes the most innovative state-of-the-art linear amplifiers ever used in high fidelity components, and is simple and direct from input to output.

The speed of the gain stages is almost fifty times faster than CD or LP signals. And the noise and distortion measurements are incredibly low. Direct coupling makes possible a frequency response from below 1 Hz to beyond 400,000 Hz.

Superb construction, incorporating regulated power supplies with large filter capacitors, provides superior performance no matter how widely the musical signal or AC line voltage may fluctuate.

As for flexibility, you can listen to any source while taping from another. There's an unusual number of inputs and outputs, plus adjustable phono gain and capacitance.

If you'd like the full story of this remarkable preamplifier and the review from Stereophile*, please write. Of course, the fastest way to hear its demonstrably superior combination of sonic performance, flexibility and value is to visit your nearest Adcom dealer.
I have a couple of suggestions to make a great magazine even better. First, the next time you build a recommended components list, it would be interesting to do a complete compilation of all components that have ever been recommended and list how long each one was in the relevant category. Put the current units on the top and list the rest at the end in reverse chronological order. This may appease those whose equipment has suddenly disappeared from the list. It may also help the used equipment market. For example, if a piece of New York Audio Labs gear is still worthy of placement in a particular category, it should be mentioned. After all, isn't performance in pursuit of music what we are after?

My next suggestion may not be a popular one, but I think it would greatly enhance the credibility of the subjective-review press. Quantify! That's right, assign a numerical value to assessments of differences between equipment under review and the reference. I realize that this would be difficult to implement, but your readers would find it very worthwhile.

Ms. Frederick A. Benjamin
USAF

Where are the Diamonds?
Editor:
Long ago you dropped the Wharfedale Diamonds from "Recommended Components" on grounds of unavailability. I don't blame you for not reading Stereo Review, but J&R Music World continues to advertise Diamonds, making them more readily available than most of the speakers you do recommend. Why don't you check out the latest Diamonds?

Robert W. Hayden
Plymouth, NH

We intent to, now that Wharfedale has revitalized their US distribution. —JA

Where are the AKGs?
Editor:
May I ask why AKG's top headphone, the K-340, was not included in your mass headphone test a few issues back, since it was the model I was most interested in buying and was totally disappointed it was not included. All of the other top-model headphones were tested except, curiously, the AKG K-340! Could it be because it's Stereo Review's reference headphone?

Nelson Lorance
Wahaiwa, HI

We have no prejudice against products recommended by the "sticks," though I would point out that Julian Hirsch's criteria for recommending a product don't necessarily align with ours. (That's an example of English understatement!) The fact is, the AKG 340 headphones, which combine an electrostatic HF driver with a dynamic woofer/midrange unit, were tested by JGH back in Vol.4 No.5 and apparently haven't changed appreciably since then. Despite their having a clean EHF, be felt that their tonal balance was spoiled by a propensity for bass heaviness and an "'ib" (as in "bin") coloration, which gave violins a somewhat steely edge.

—JA

MOSFET II: the sequel
Editor:
In a recent letter to the Editor ("Letters," Vol.11 No.2) I stated that power MOSFETs as used in audio amplifiers do not have negative temperature coefficients, but are as prone to thermal runaway as bipolar transistors.

In Vol.11 No.5, both Mr. Roberts and Mr. Ranta correctly pointed out that the MOSFETs manufactured by Hitachi in Japan are constructed differently and do indeed have negative tempco characteristics at the static bias levels typical in a class-AB power amplifier. When I wrote my original letter, I had completely forgotten about this brand of devices. I cannot claim that my oversight was due to unfamiliarity—we used Hitachi devices in our discontinued SA-8 amplifier as well as the first two runs of our SA-12 amplifier—but it was no doubt due to some bizarre variant of Alzheimer's Disease.

While I can claim that Dick Olsher's review of the Delta Mode amplifier did not specify the brand of device used, this doesn't get me off the hook of having committed the same generalization as he: "MOSFETs have a negative tempco, and are therefore not likely to self-destruct due to thermal runaway,"—DO; "MOSFETs have a positive tempco (at normal bias currents) and are quite likely to run away without bias stabilization circuitry."—ME (Mike Elliott).

Sigh. It would probably be a good idea for everyone concerned (reviewer and senile designer alike) to remember that one brand of MOSFET is thermally stable in typical class-AB designs, and most (if not all) other brands of MOSFETs are not.

Stereophile, August 1988
It Starts With This

It starts with a commitment to excellence.

Boffi Vidikron has taken the best of Italian design to produce the TGS-100, a video projection system with no equal. Utilizing American, European and Japanese technology, high performance and reliability are the standard.

Its fully modular construction uses professional quality components. The Vidikron TGS-100 has a remote control that is full-function. It also features S-VHS input and a relay trigger to lower and raise the optional electronic screen.

The TGS-100 is the first video projector to have a keystone correction circuit that allows for a 20 degree tilt adjustment.

The unique design of the Vidikron system features a sleek, compact projector with an invisible support for the ceiling mount which results in a drop of just 11 inches.

Projection screens to complete the system are available from Boffi Vidikron. They range from high-gain curved screens to electronically controlled flat screens. Measured on a diagonal, screen size varies from 65 inches to 10 feet.

The Boffi Vidikron TGS-100 is being exported to key dealers in 18 countries worldwide. It is now available through a select group of U.S. dealers whose commitment to excellence is as strong as that of Boffi Vidikron.
Mr. Roberts is correct in stating that the tempo of a device has nothing to do with how a design will sound. As designers, we pick our poison and then work around the eccentricities of the chosen components. At Counterpoint, we've come to appreciate the lower on-resistance of US-made MOSFETs. This allows our amplifiers to deliver more current to low-impedance loudspeakers than would be the case were we using the Hitachi devices cited by Mr. Ranta (the US devices used in our SA-12 amplifier have nearly one-ninth the maximum on-resistance of the devices used in the venerable Hafler he mentioned).

After all, the suitability of a device for a particular application is often in the eye (or ear) of the designer. Manufacturers of devices such as MOSFETs try to tailor their data sheets and products to fit their perceived markets (consumer electronics in Japan, industrial applications in the US). For example, who in the polypropylene capacitor manufacturing business 15 years ago would have thought that high-end audio manufacturers would be using their products? Those guys were targeting the telecommunications, RF, and high-speed digital markets.

In closing, I wish to address Mr. Roberts's statement that he doubts "that the letters column of Stereophile is ideal for plumbing the subtleties of amplifier design..." Perhaps our kindly Editor would like to give his views on whether or not these pages are an appropriate place for discussions of this nature. After all, 30 years ago it was quite common for magazines to explore circuit topology and device characteristics in such depth that music lovers could build amplifiers and preamplifiers from scratch.

J. Michael Elliott
President,
Counterpoint Electronic Systems, Inc.
Quite appropriate, I feel.

Yip Mang Meng again
Editor:
Two-channel stereophony cannot produce solid, focused images way beyond the sides of the loudspeakers. Yet almost every Stereophile audio reviewer has mentioned that it is an acoustic possibility in their articles, thereby misleading their readers.

Consistent vague imaging beyond the speakers' boundaries in any system is due to wall reflections. Occasional occurrence is due to "doctoring" of recordings by the engineers.

Comments from readers and reviewers welcomed.

Yip Mang Meng
Singapore

PS: It's cheaper for me to get my copy from the newsstand—and earlier.

Unfair! Our reviewers do not hold that wall-to-wall imaging is a function of the system. Indeed, the venerable J. Gordon himself has often reported that when this does happen, it is either due to a component problem, or to the recording having anti-phase inter-channel information, such as that inherent in the SQ encoding process.

—JA

Copycode RIP
Editor:
Trish Heimers' comment in defence of the RIAA's support of Copycode—"As soon as we found that the CBS system was audible, we withdrew our support for it"—in May's "Industry Update" seems to allow only three ways they could have come to this embarrassing stance: Either they weren't able to detect the problems when they heard it; they endorsed it without auditioning it (and ignored those who had); or they heard Copycode's problems but ignored them. I submit that none of these possibilities speaks well of the RIAA or its appreciation of the "product" it is engaged in promoting.

Perhaps the answer would lie, as in the field of computer software, in removing some of the layers between artist and consumer, so that costs and the perception of excess profits could be reduced; or in placing more value in the packaging, such as lyrics, performance information, etc., rather than the current practice of printing song titles on a baseball card and calling it "liner notes." The purchase of a recording would then entitle one to more than 10 cents' worth of plastic and the right to hear the music. (In private, of course. "Public use prohibited"—Hey, maybe Ghetto Blasters are illegal as well as immoral!)

Ah well, enough of Utopian ideals. But perhaps the whole matter can be cleared up by the time Randy's THOR reaches the market...

Gary Fisher
Spectrum Electronics Inc., Grand Rapids, MI

Flies on the wall
Editor:
I sure hope the Lipnick fly-on-the-studio-wall
FROM The HeartLand...

(800) 4-AMRITA
article in May is indicative of more to come. We spend countless hours tweaking and twitching the only half of the audio reproduction chain we can get our hands on. In the past, classical recording engineers have played their cards right close to the vest on microphony, and the audio press has respected their sanctum sanctorum (see Ed Dell’s short reply in Audio Amateur to a reader’s letter last year re his review of a Decca session in Canada). The only way we can influence the record companies to release product that lets us hear past the microphones, recorders, amplifiers, and speakers and into the music is if we develop knowledgeable opinions on their art as well as our own. Even the unnamed German label cannot maintain its grit and sizzle forever if we tell them why we don’t like it.

I wish, however, that an engineer had accompanied Mr. Lipnick to fill in a little more than the tantalizing tidbits of technical detail offered. From the article and pictures a few questions come up...

The main mic is an AKG C-422, yes? (What’s a CO422?) And strict Blumlein?

The spot mic on p.70 is a U-47, not a FET-47 (I think he meant U-47 BET, but it isn’t that either).

DM086? You mean KM-86? And for all of the KM-86s, what pattern?

About the M-50: It is neither omnidirectional nor flat. I enclose a copy of the pertinent section of FWO Bauch’s AES paper describing it. It is rumored that many of EMI’s M-50s have been modified to FET amplifiers; any comment on those in the Litton sessions?

More articles on recording! How about some mic and instrument-placement drawings for the sessions, too.

Last but not least, stay tuned to this channel for information on the reintroduction into the US after many years’ absence of Germany’s largest, but largely unknown here, microphone builder. There is a whole range of new-technology condenser mics known and liked in Europe but unknown in the US. And they won’t take as big a bite out of the DAT budget as the others do.

David Josephson
Josephson Engineering, San Jose, CA

The best Mozart 20
Editor:
I enjoyed Christopher Breunig’s roundup review of the Mozart Piano Concerto 20 in D minor in the April 1988 Stereophile. However, I was sharply disappointed that you did not mention what I consider to be the finest recording of the work that I know of: that by Steven Lubin, conductor and fortepianist, with the Mozartean Players (on period instruments), on Arabesque CD Z-65 (which also contains Concerto 23). I know there are a lot of recordings of 20 in print, but the Lubin recording is listed in the current Schwann (it’s been out for about four years). CB also seemed less than totally satisfied by the available original-instrument recordings, especially the thin sound of Bilson’s fortepiano (I agree!). I’ve had the opportunity to hear both the Bilson/Gardiner and Gibbons/Bruggen teams play Mozart concertos live (Gibbons/Bruggen played 20 last fall in Boston), and it hasn’t changed the way I feel about their recorded performances. Bilson is too brittle and weak-sounding, although the English Baroque Soloists do play well, and Gibbons/Bruggen make far too Romantic a team for my taste.

The logical alternative? Lubin and the Mozartean players! Lubin’s fortepiano, made by R.J. Regier after a 1785 Walter original, is rich-sounding, with lovely decay. He uses his own cadenzas, which CB might find very interesting. The Mozartean players produce an equally rich, yet precise sound. This could be the original-instrument performance he is looking for. At least he owes it a listen!

Mr. Lubin works out of New York and has an ongoing series with the Mozartean Players at the Metropolitan Museum of Art. His records have been reviewed by the New York Times, Stereo Review, High Fidelity, and Fanfare. And last year, this combination released a wonderful recording of the Mozart Concertos 12 and 15 (Arabesque CD Z6552). So how come they don’t even rate a mention? I can only assume Mr. Breunig hasn’t heard their recordings. Otherwise, I can’t imagine he wouldn’t have included their recording of 20 in his survey.

By the way, please tell LA that I borrow copies of Stereophile from his sister, with whom I have the pleasure of working!

David Foss
Chestnut Hill, MA

The Tatrai & Haydn
Editor:
In the January 1988 issue, MHF gives a very
Together they promise flawless music reproduction.
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Museatex Audio Inc. (514) 333-6661.
favorable review to the Tatrai Quartet's recording of Haydn's Op.20 Quartets. But he is wrong in saying that the Tatrai's recording of the quartets started to appear around 1970 in this country, five years after they appeared in Europe.

I can attest to the fact, having been the distributor of Hungaroton in the US for the past 24 years, that:
1) All of the Tatrai's Haydn series appeared rather earlier in the US than in Europe.
2) The first in the series, the Op.76, was available here in the summer of 1966 (being the first stereo recording of any Haydn quartet to appear in the US), and was reviewed by the New York Times, High Fidelity, The American Record Guide, Stereo Review, and numerous other publications the same year.

I would further point out that the Op.76 recording received unanimously favorable reviews such as few other records ever received in this country. We still have the copies of those reviews, with the dates.

The Op.20 was released here by us, if I remember correctly, in 1977.

Otto Quittner, PhD
President, Qualiton Imports, Ltd.

Audio in Atlanta
Editor:
The March issue of Stereophile listed an inquiry from the Buffalo, New York Audio Club concerning information about other audio clubs in the United States. In response you indicated that you would accept information about other groups for future publication; therefore, we are responding to the call and are very pleased to provide this information. We are always exploring ways to inform the public of our existence, and your fine magazine provides an excellent outlet.

Ours is the Atlanta Audio Society, founded in 1983 by a small group of metro-Atlanta audio buffs. We currently have over 65 local members and several from out of state. Members range from novice audiophiles, musician/audiophiles, equipment and record/CD reviewers, hi-fi/record shop owners, to serious audiophiles (who often build or modify their own equipment). Our musical tastes are as varied as the membership, and our monthly meetings often reflect this diversity. Featured speakers have been: Jack Renner, Richard Vandersteen, William Johnson, Conrad and Johnson, Louis Lane (Atlanta Symphony), and others.

Our overall goal is to expose our members and guests to the wide variety of quality of equipment and recorded music sources available today. We also sample equipment and recordings from earlier days as a comparison to how far the industry has progressed, and we attempt to identify those sources of equipment and recordings that provide the best results at a fair price.

The Society hosts meetings in Atlanta on the third Sunday of each month, from 2:00 to 5:00 pm. The $25 annual dues include a monthly newsletter. Guests and new members are welcome.

For information you may contact Chuck Bruce (President), (404) 876-5659; Kevin Campbell (Vice-President), (404) 432-5468; or write: Atlanta Audio Society, PO Box 92130, Atlanta, GA 30314.

Charles G. Bruce
President, Atlanta Audio Society

Insult-proof!!
Editor:
I am pleased off!!! In fact, if Don Scott were in front of me I would probably slap his face and demand satisfaction.

On his enthusiastic recommendation, I traded in my Onkyo 9090—a winner—and bought the Denon TU-800—a loser.

I have had roughly a dozen tuners in my day and this has to be the worst that I have ever owned. The AM on the bottom two-thirds of the dial is a wipeout, and the selectivity figures are not justifiable when compared to the Onkyo 9090.

Mr. Scott, may I strongly suggest that you find another hobby; surely you can't really take yourself seriously. I did and it cost me a lot.

Thank you, and if you read this far you must be insult-proof.

Charles V. Ramsay, Jr.
Fall River, MA

The Audio Advisor answers
Editor:
Thank you for the opportunity to respond to Mr. Monroe's letter in Vol.11 No.7. Situations such as this are bound to arise from time to time, as anyone knows who has had to dispute a department-store bill. When they do—and for us it's rare—our policy is to defer to the customer whenever possible. There is no need...
When you do something this well you can’t do it for everyone.

Look closely. This is an audio cabinet unlike any other. Handcrafted from solid wood and gleaming marble. Accented by the glint of solid brass hardware and beveled glass. Hand rubbed to a deep gloss. Elegant. Timeless. A Talwar cabinet. Individually crafted to your exacting specifications.

Now look inside. At joints reinforced for rigidity. A shelf support system that provides proper air flow on all sides. Features such as an 8-outlet power strip, concealed wire management system, heavy duty casters, and removable back. Plus sophisticated options. Like equipment cooling, vibration isolation, power filtering, electrostatic control, time delay power-up, and grounding bus bar.

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to argue back and forth about the details of the matter involving Mr. Monroe. Suffice it to say, he received his refund for the first purchase and is enjoying the second unit we sent him.

I should clarify what we mean by "satisfaction guaranteed." We mean that a customer may return the merchandise within ten days of receipt for a full refund of the purchase price—provided the unit is in saleable condition. What happens to these returned units? They become "demo" specials at a special discount.

When a customer uses Visa, MasterCard, or Discover, there is no extra charge. We add 3% for American Express and 2% for Optima. Retailers who charge full list can absorb the extra expense. With our smaller profit margins, we cannot. We always remind customers about the surcharge when they place a phone order.

No mail-order company can provide the face-to-face, personalized service of a local store, but we have knowledgeable sales staff who take the time with each customer and who can offer suggestions as to what will and what will not work well together in a system. Moreover, we offer our customers products which may not be available locally, including products which are not available in places like New York, Chicago, and Los Angeles!

I'm sorry Mr. Monroe had problems with his order. It is fruitless to argue who's right and who's wrong. I'll just say that long-term customer satisfaction is more important to us than short-term profit. The vast majority of our orders are from repeat buyers. That's something we always keep in mind.

Wayne Schuurman
Audio Advisor Inc.

...remarkable!

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.

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For 30 years Stereo Review has been entertaining its readers with funny, insightful, topical and timeless cartoons by Charles Rodrigues. These explore the eccentricities of hi-fi sales clerks, audiophiles, their wives, pets, and jargon. About 120 Rodrigues cartoons have now been collected in a book entitled Total Harmonic Distortion, which can be ordered by mail from Perfectbound Press, Suite 4118, 1120 Avenue of the Americas, New York, NY 10036. The cost is $7.95 plus $1.50 for mailing; New Yorkers add 65 cents for sales tax.

A 144-minute CD

When I was a college student trying to build a music library on a very limited budget by tapping from FM, I took advantage of a little-advertised virtue of the quarter-track stereo tape format. By recording a different mono program on each channel in each direction, I could store four recordings on one tape. This worked because in that format the tracks were interleaved, with virtually no crosstalk between channels. Cassettes can't do that trick, but CDs can.

A French label, Rodolphe Productions, is now issuing double-length mono CDs in which the left channel contains the first half of the program and the right channel the second half. A 1953 Vienna State Opera performance of Beethoven's opera Fidelio, conducted by Wilhelm Furtwangler, is contained on a single 144-minute CD (RPC 32494). Wagner's complete Ring cycle,
NOW:
Even greater purity and performance from Audio Research electronics.

You invested in Audio Research electronics because you heard the difference in accuracy, detail and dynamics. Music simply sounded less reproduced, more real, on all input sources. Now you can extract even more of the performance you paid for: with new LitzLink™ interconnects and LitzLine™ speaker wire from Audio Research.

LitzLink and LitzLine both incorporate the same oxygen-free copper Litz wire used for critical point-to-point internal wiring in Audio Research preamplifiers and power amplifiers. Winding configuration and conductor size are the outcome of methodical experimentation and careful listening tests by the people who know Audio Research electronics best.

The greater tonal neutrality, transparency to low-level detail, ambient richness and dynamic expressiveness you'll hear with LitzLink and LitzLine aren't due to arcane wire theory or marketing hype. They're simply the result of painstaking attention to detail and quality component materials—like all Audio Research equipment.

Assembly procedures, solder formulation and termination connectors were all researched to insure exceptional performance as well as reliability. LitzLine, for example, is terminated with proprietary lugs featuring heavy gold plating over a machined oxygen-free copper base designed to allow easier hookup as well as greater sonic purity. You won't find them on any other speaker wire.

In short, every detail of new LitzLink and LitzLine is the outcome of careful listening to music—not preconceived notions about wire design. The result is a difference you'll not only hear, but enjoy. And while LitzLink and LitzLine were developed expressly for Audio Research electronics, other high-quality electronics may benefit as well.

Ask your authorized Audio Research dealer for an audition of new LitzLink and LitzLine. Let your ears do the rest.

HIGH DEFINITION® MUSIC REPRODUCTION
recorded live at Bayreuth in 1953 with Clemens Krauss conducting, is on a 7-CD set lasting almost 15 hours (RPC 32503/09). Rodolphe CDs are distributed to stores by Harmonia Mundi USA.

**DAT is here — sort of**

When the NBS report shot down the CBS Copy-code system in March (ending any possibility of Congressional action), the RIAA promptly threatened to sue any manufacturer selling DAT recorders in the US. At first the threat seemed a bluff, or a public-relations gambit; but Marantz and other companies announcing DAT marketing intentions have received formal warning letters from the RIAA's law firm, threatening immediate 'prosecution of appropriate legal action...if you proceed with your announced plan to market...DAT recorders to be used to copy our clients' property.' The listed clients include CBS and PolyGram Records.

The US has a huge and growing population of lawyers, most of whom need to feed their families and keep up their BMW payments; and America is the most litigious society on earth. For US companies, lawsuits for real or imagined damages are a routine part of the cost of doing business. Recognizing the shallowness of the RIAA threat, several companies announced plans to have DAT recorders in stores this summer, and on April 28 the Electronic Industries Association (EIA) announced a six-figure defense fund that would be used to match, dollar for dollar, the legal expenses of any manufacturer sued by the RIAA. That may not be enough; for US record companies, which enjoyed $5 billion in sales last year, a few million for legal fees would be a trivial expense.

The scare tactic worked. After the death of Copycode, a half-dozen companies announced plans to have DAT recorders in US stores this summer. But in nearly every case they were quickly forced to retract; their Japanese suppliers refused to ship DAT hardware to the US. Suggestions that DAT shipments may have been embargoed by MITI (Japan's Ministry of International Trade and Industry) have been denied by MITI and by individual suppliers. A lawsuit is a rare and serious event in Japan, and the RIAA's threat is being given much more weight by manufacturers than it deserves.

The result is that DAT recorders are being introduced cautiously and at elevated prices. As we go to press it appears that TEAC's impressive-looking R-1 DAT deck will arrive in a handful of stores by midsummer, becoming the first consumer model to be marketed officially in the US. (DAT decks from Sony, Casio, and Technics have been sold previously through the 'gray market' without US warrants.) Since the R-1 is priced at a cool $5400, TEAC expects to sell only a few. And since this obviously isn't a mass-market product, it may escape the wrath of the RIAA's lawyers. Meanwhile, Harman-Kardon, Onkyo, Marantz, et al are trying to persuade their suppliers to follow TEAC's lead and start delivering DAT decks.

Manufacturers are catching on to the notion (mentioned previously in this space) that the natural market for DAT is not the general public but professional and semipro users—the people who used to buy Revox and TEAC open-reel tape decks. Tascam will soon have a pro version of TEAC's R-1 audiophile DAT, and Technics has announced a $4000 pro version of its elegant portable DAT. In England, Sony's "consumer" DAT recorder is being publicly advertised and sold by HHB, a company that rents and sells pro audio equipment to recording engineers and musicians.

**The Philips Solo dance**

In Vol.11 No.3 (March) I discussed the One-Copy concept proposed by a Philips executive at a London copyright conference last year as a possible alternative to the Copycode threat. According to the brief reports that leaked out, the One-Copy system would allow a consumer to copy a CD onto DAT tape for personal use, but additional digital dubbing would be blocked. Philips refused to disclose any details of how the One-Copy idea would be implemented, but in this space I described one logical way—by causing every DAT recorder to put a copy-protection flag bit into its own recordings. Any DAT machine that tried to copy a DAT tape (of either commercial or private origin) would automatically drop out of the recording mode when it detected the flag bit.

You could freely copy your CDs onto DAT tape for playback in the car, but amateur pirates could not make endless digital "clones" of DAT tapes for sale. Only professional-grade DAT machines would be able to make digital-to-

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1 See this month's Record Reviews for my review of the Rodolphe Ring. — RL
"Skin effect" is a phenomenon which causes discontinuities in the behavior of electrical current as it flows thru the core and outer skin of an audio conductor. This effect causes much of the distortion, poor imaging and poor dynamic contrast in most conventional speaker cables.

**LiveWire Black** prevents these problems by using 6 surface-only conductors. These technically sophisticated conductors have a single layer of .254mm OFHC copper stranded around a polypropylene core.

Audition LiveWire Black at your nearest Audioquest dealer and he'll show you how to keep your music skin deep and beautiful.
digital DAT dubs (for editing purposes). The loss of consumer-level digital editing would be an acceptable tradeoff in exchange for getting DAT decks free of Copycode or other encumbrances. Once the bugaboo of large-scale digital piracy was alleviated, manufacturers could restore the DAT's ability to record at CD's 44.1kHz sampling rate.

This implementation of the One-Copy concept seems a reasonably fair compromise (since we'll probably have to make some concession to the big record companies), but evidently it's not going to work that way. Philips (the giant Dutch electronics company) has a substantial ownership share in the PolyGram group of record companies (Philips, DG, London, et al), and Philips officials have been describing a much more restrictive implementation of the One-Copy idea, now called Solo, at conferences with record-company executives who are still searching for ways to restrict home taping.

Solo would let you copy a CD onto DAT tape just once. Any attempt to make a second copy of that CD would be blocked. (For example, if you made a DAT tape to play in your car and it accidentally got mangled, you couldn't make a replacement copy.)

How would the DAT deck know you had taped that CD before? Reportedly the plan is that, during recording, a Solo-equipped DAT would detect the ID number included in each CD's digital bit stream and store it in a memory chip. Each time you recorded, the incoming ID number would be checked against the stored list.

Obviously, Solo restricts only digital copying from CD to DAT (and subsequent DAT-to-DAT digital dubbing). It wouldn't stop a pirate from recording the analog output of a CD player onto a hundred DATs. So Philips came up with a version of Solo aimed to please even the most paranoid record-company executive. Under the Solo II plan, a DAT recorder would have no analog input and no A/D converter, just a digital input jack. The deck's sole purpose would be to dub music from CD to DAT in the digital domain—just once.

Is this for real, or just a sick joke? I don't know; Philips still hasn't said anything for the record about Solo, nor published technical details in any journal. At first glance it seems obvious that nobody in his right mind would buy a crippled DAT recorder that couldn't tape a concert from FM, couldn't make archive copies of old analog tapes, couldn't make safety copies of unreplaceable LPs, and couldn't even be used to record live music.

On the other hand, DATs have been selling slowly in Japan, partly because they are already crippled (to prevent CD copying). Their inability to dub CDs in the digital domain distresses the big population of Japanese hi-fi hobbyists who were eagerly anticipating an all-digital future.

Try to put yourself in the mind of a CBS or Philips executive who really believes that most home taping involves copying commercial recordings. Then it seems reasonable to think that American, European, and Japanese buyers would happily buy a DAT machine that made perfect digital dubs of CDs, even if it couldn't record anything else. Maybe the Solo II proposal isn't crazy after all . . .

While the RIAA in the US has expressed only mild interest in the Solo proposals, European record companies appear to be close to endorsing Solo I (which would permit unlimited recording of analog sources). Whatever happens, the negotiations about Solo may have already served their real purpose—to delay DAT by keeping alive the illusion that DAT is a threat to the music industry and that a compromise can be worked out between record companies and DAT manufacturers. Whether the ultimate result is more delays or a Solo-crippled DAT that will never become popular, Philips has gained more time to develop optical disc technology—including a recordable CD.

Precise: a new brand

Only a handful of Japanese speakers have ever been admired on this side of the Pacific. So when Onkyo decided to launch a new speaker line, the company hired an American consultant, Keith Johnson. Though best known as the chief engineer of Reference Recordings, Keith has previously designed high-performance tape recorders and duplicators, optical-disc tracking servos, and speaker systems. The new speakers, bearing the Precise Acoustical Laboratories brand name, were previewed at the January CES, formally launched at a New York press conference in May, and shown again at the June CES.

The selection, testing, and modification of drivers was based on an interesting technique invented by Johnson. As you know, Celestion and Wharfedale have successfully employed
Teac introduces a machine designed for people more interested in music than in black boxes. The Teac AD-4, CD/Cassette Deck Combo. On the left side we've installed our latest programmable compact disc player. On the right we've included one of our top of the line auto-reverse cassette decks with Dolby B and C noise reduction. To further simplify things, we made them both work via a wireless remote control. A 16-selection program lets you pick the selections you like on a compact disc and rearrange them in any order you prefer on your cassette. You can even listen to a disc while you're taping from an outside source.

The Teac AD-4. All you ever wanted in a compact disc player, all you ever wanted in a cassette deck, all in one place.

TEAC
Made In Japan By Fanatics.
laser interferometry to map the motion of vibrating woofer cones and tweeter domes, revealing the complex ways in which they depart from the ideal—the uniform back-and-forth motion of a piston. Virtually any driver will exhibit non-pistonic motion in the upper part of its frequency range; this is most acutely obvious in woofers, because the resulting colorations occur in the midrange. During “diaphragm breakup,” parts of the cone or dome vibrate independently of the voice-coil and of each other. Near a “nodal point,” part of the diaphragm may be moving forward while another part is moving backward.

Like many great ideas, Johnson’s method of examining diaphragm breakup seems obvious and simple once it is explained. He uses a tiny bidirectional (figure-eight) microphone, only an eighth of an inch in diameter, positioned vertically (edge-on) just above the diaphragm surface. Thus the microphone’s “null” faces the diaphragm, while positive or negative acoustic pressure on either side of the mike will generate an output. Test tones or music is played through the speaker, while the microphone’s output is recorded or monitored via headphones.

If the diaphragm is vibrating uniformly like a piston, identical sound-pressure waves strike both faces of the microphone. Their effects cancel, producing little or no output. Where there is diaphragm breakup, the two sides of the mike pick up different sound-pressure patterns that don’t cancel. If the mike is at a nodal point, the differences in diaphragm motion on either side of the mike produce a strong net output from the mike.

While laser interferometry uses complex instrumentation and produces a picture on a computer screen, Johnson’s method is simple and allows the tester to hear directly the sonic distortion produced by each small area of the speaker’s diaphragm. By slowly scanning the mike across the diaphragm, the tester can easily identify the location of a problem—for example a bad glue joint where the edge of the cone is fastened to the surround. In effect this “differential-mode stress analysis system” provides the designer with an acoustic microscope for examining the dynamic behavior of any driver in intimate detail.

Johnson used it to test many Onkyo (and other) drivers, select the best, and identify areas where they could be improved further. The result is a line of five Precise speaker systems priced from $280 to $1500/pair. The two smallest (models 3 and 5) are two-way bookshelf speakers that sound quite good for their price and size. In the models 7 and 9 I heard some midrange coloration at both the January and June shows; judging from the amount of panel vibration that could be felt in a hands-on test, I suspect this coloration may be due to inadequate internal bracing and damping of the cabinets. The Precise Monitor 10, the top of the line, is the model that most fully reflects Keith Johnson’s design ideas, and its sound is quite smooth and uncolored—amply good enough, I think, to deserve a full review by one of Stereophile’s senior critics.

Surround sound
The new Lexicon CP-1 digital surround-sound processor could borrow a slogan from the old Schaefer beer commercials: it’s the surround to have if you’re having only one. For the past 18 months the surround-sound market has been led by not one but two processors. If you wanted to hear the ambience of a concert hall in your parlor, the Yamaha DSP-1 stood alone—a revolutionary achievement far above all the competition. If you were setting up a video home theater, the Shure HTS-5000 (or the newer HTS-5200) was the Dolby Surround decoder that equaled the best theater systems in its ability to focus dialog and on-screen sounds exactly where they belong while providing spacious ambience all around. If you loved both movies and symphonies, you wanted both processors, at nearly but $1000 apiece.

The Lexicon unit offers, in one $1200 box, state-of-the-art Dolby Pro Logic Surround processing even better in one respect than the Shure, plus concert-hall ambience as sophisticated as the Yamaha and perhaps more subtly naturalistic, plus a Panorama mode that provides some of a surround system’s spaciousness without requiring extra speakers.

The Lexicon’s advantage over the Shure is its auto-balance and auto-azimuth circuits, which prevent on-screen dialog from leaking into the surround speakers. Shure has published a list of video tapes and discs containing production errors that cause this and other imaging problems; the Lexicon’s automatic compensation ensures stable imaging even with sloppy soundtracks.
The McIntosh XRT 22 Loudspeaker System delivers

The McIntosh XRT 22 is the purest expression of the loudspeakers scientist’s endeavors. It is the one right combination of component parts that has eluded the diligent search for the loudspeaker bridge to the dominion of reproduced musical reality. The high-frequency radiator column is an illustration of the right combination. The 23 tweeter elements can reproduce 300 watts sine wave input power at 20 kHz, with the lowest measured intermodulation distortion. Because each tweeter mechanism handles a small quantity of the total power, extremely low quantities of distortion are developed. The total column radiates the energy in a half cylindrical time co-ordinated sound field. The low distortion, transparency of sound, coherence of sound images, definition of musical instruments, and musical balance is simply a revelation that you must experience.
dbx goes West
After months of rumors, dbx has been sold by BSR to Carillon Inc., the California investment group that backed the development of the Finial Technology laser turntable. Michael Kelly, former plant manager at ADS, is the new President of dbx. The engineering staff at dbx will remain where they are, but most other dbx employees were terminated, and the dbx factory in Massachusetts is being closed; it will be replaced by a more efficient, highly automated production plant in California. That factory will also produce circuit boards for the long-awaited laser turntable.

UK: Ken Kessler
The period between the Federation of British Audio dinner and CES is dullsville in the UK, and I don't really want to regale you with more tales of Peter Belt just to fill space, so I'll be brief. All I'll say is that Belt is starting to get coverage outside the hi-fi press, including a piece in a respected national newspaper, The Independent, and a huge feature in Q, the UK's latest, most respected rock monthly. The tone for both pieces is tongue-piercing-cheek, but that's not the point. Whether you think Belt is a god or a lunatic, the man is the first to receive publicity for juste hi-fi practices beyond the confines of the hi-fi community.

There are those who would say that this is negative publicity, for it portrays the hi-fi enthusiast as gullible in the extreme. But I seem to recall JA telling me that all publicity is good, so long as they spell your name correctly. Since “hi-fi” is hard to spell incorrectly, I think we're on to a winner. Just think: maybe some borderline closet hi-fi enthusiast will return to the fold just because it looks like we're having so much fun.

But it's time to change the heading for this month's column to:

JAPAN
During a recent trip to Japan, I took the time to visit a number of record and hi-fi shops to find out how the Great Format Wars were developing. The US may be the biggest market in the world, but Japan must run a close second, and developments there are bound to affect all of us. After all, they're making most of the hardware which will determine our future. While patterns in the various territories in the West follow each other fairly closely — eg, the ascendancy of the cassette in the USA followed by similar action throughout Europe — Japan has some unique market forces. Hopefully we'll never have to suffer the indignities of Karaoke, in which you're invited to stand up in front of your friends to sing along with a backing track while making a fool of yourself.

My first big shock was a visit to a record store in the Akihabara district, Tokyo's hi-fi heaven. Last year, the stock of LPs was good enough to lighten my wallet by a few weeks' wages. This year, the vinyl was gone, vanished, kaput. I didn't have to ask the staff why; the little silver devils were selling like hot cakes, including the 3" variety ("CD3s," as they have been christened).

It looks like the Sony-inspired replacement for the 7" vinyl 45 is a success, at least on the home market, and the selections were huge in the shops I visited. Okay, so 70% of the titles were by Japanese artists, but I still managed to count around 150 from Western performers, few of which were available in 3" form in the UK. Besides the usual chart-oriented material of recent vintage (Belinda Carlisle, the Bangles, Sting) there were some tasty "archive" three-inchers. The hottest one was an Eric Clapton title with "Layla" and "I Shot The Sheriff" on it, timed just right for the release of the massive Crossroads boxed set. My wallet made all the right noises when I found five different Beatles CD3s, but don't get too excited; they consisted of pre-EMI material of interest only to the hardcore.

Unlike 3" CDs sold in the UK (and the few I've seen from the USA), Japanese CD singles don't come with adaptors. The Japanese accessory manufacturers, never slow to exploit the fastidiousness of the home-market consumer, provide a selection of adaptors, each selling
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Ariston Amplifier—fully remote controlled stereo integrated amplifier—$399; Ariston Image loudspeakers—two-way bass reflex loudspeaker, 100 watts handling—$439/pair; Ariston & Deck—semiautomatic with auto lift off—$279; system price $1,117.
for a couple of bucks. The Nagaoka adaptor was everywhere, but I was told that cognoscenti prefer the Sony—which I couldn't find.

The packaging on CD3s appears to have been standardized in Japan, unlike in the UK where they may come in normal 5" jewel boxes, slimline jewel boxes, or nasty little paper sleeves. The Japanese CD3s come in 3x6" packaging, the disc mounted in a plastic frame. When you open the package, you find instructions showing you how to snap off the bottom half of the frame, leaving you with a tidy 3x3" tray to which the artwork is attached. This folds around the tray, thus forming a nice booklet. Then you look to see what the accessory boys have come up with to protect the paperwork and, sure enough, you can choose between 3" jewel boxes—perfectly scaled-down replicas of the familiar full-size types—or simple plastic slipcases.

Prices for the CD3s run between Y1000 and Y1500 ($7.90 and $11.90), and I couldn't find any reason why they should differ so much, as some of the cheaper ones had more tracks or longer playing times than the Y1500 items.

As for music cassettes, the pirates were everywhere, with titles ranging from the latest Michael Jackson and Madonna to Beatles compilations selling for Y800 ($6.30) each if you bought five or more. The pirate tapes sport professional artwork, but once you open them up you find what looks like the cheapest cassettes ever produced, with labels bearing just a batch number. As for the sound quality, don't ask. What this doesn't explain, considering how quality-conscious the Japanese are, is why cassettes only account for 10% of sales in some shops; surely they're not buying these nasty things in place of official, high-quality tapes. I spoke to the (American) manager of Tower's Japanese operation, and he confirmed that CD accounted for more of the turnover than LP, and that tapes were way behind. Could the Japanese be doing all of the home taping which the record companies claim the British are doing?

It dawned on me, after having spent a total of an hour looking for Japanese LPs, that the shops with deep vinyl stock were holding mainly imports. One shop in Kyoto had a sizable selection of LPs, but only one in 20 was a Japanese pressing, and those LPs the shop did keep tended not to be available on CD. I recently heard from a colleague that the general feeling regarding the future of the LP was as a rather limited, exclusive source aimed strictly at a cult-type (e.g., collectors, hardcore audiophiles) market; this seems to have happened.

Amusingly enough, you can buy bootleg LPs quite openly in Japan, the product sourced mainly from Europe and selling for prices identical to what you'd pay in a "collector's shop" in the side streets of London. It would appear that the Japanese consumer is less willing to follow black-market trails for illicit purchases—drugs and porno are rumored to be nonexistent there—but who'd have believed that bootlegs would be sold in well-known, main-street operations, complete with the shop's nicely-preprinted price tags? None of this plain-brown-wrapper, under-the-counter stuff for the Japanese vinyl junkie.

(I did a quick count and found that bootleg Beatles LPs outnumbered legitimate releases by 20% in one shop.)

As for unkosher CDs, these too could be purchased quite openly in the Akihabara, but—unlike the cassettes—the ones I heard sounded fine. Selling for a few bucks less than legitimate CDs were illicit Beatles CDs providing stereo versions of the tracks EMI would only give us in mono. No wonder the Japanese Beatle fan is envied in collector circles.

On the DAT front, it was depressing to find that the few prerecorded tapes in the shops were either US or European, from GRP, Capriccio, and Factory (UK). DAT, as you've heard, isn't exactly making anyone in Japan rich... yet. But the feeling is that the manufacturers are going to do whatever is necessary to get the record companies to produce the sorely needed software, and that means not antagonizing the major labels. The hardware looked tempting—I'd love to own either the Sony or the Technics portables—but DAT, like everything else, is going to be software-led and the Japanese have no intention of blundering their way through impossible launch promises. They've been watching Philips screw up mightily with CD-V and would rather not see DAT discredited in the same manner. Since the format has the blessings of studios around the world, its credibility is not an issue. As the Japanese rightly see it, the delays are all political, not technical, and they have nothing of which to be ashamed. But when is someone going to remind the record companies in the West that they felt the same way about analog cassettes, which now
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Let me leave you this month with a few Beltisms, which may or may not be apocryphal:

Apparently, wine tastes better if the bottle has been treated with Belt's polarizing brush. Being a teetotaller, I can't attest to this, but I'm sure that there are some pickled-liver journalists out there just eager to do the testing. Cigarettes and cigars, too, are supposed to benefit from a quick brushing; none will yet admit to increasing the potency of cannabis with Belt products.

Another Belt gem I've just heard about involves how you park your car. Apparently you have to park it in the same direction all the time or you'll never enjoy your hi-fi again. Try doing anything the same way twice in a Fiat...

**ITALY & FRANCE:**

**Bebo Moroni**

A strange April in Paris—cold, very cold, while in Italy it was practically summertime. The atmosphere of the hi-fi shows, too, was cool. Only a half-day to see the *Son et Video* Show, few new items and few new ideas—except for the recordable Thompson CD, a prototype. Maybe it's the season or the nearness to other European shows, but it's a pity to see such an important exhibition, in such an important market like the French one, prove to be of such little interest.

*Les Journee de l'Haute Fidelite*, at the Nikko and Sofitel Hotels, was more interesting, but, *excuse moi, mes amices francaises*, you've lost a splendid opportunity. At the end of this article you will see why.

"More interesting" doesn't mean a great show. *Au contraire*, of greatest interest was, with few exceptions, the general lack of good sound. I do not understand why the taste of the French, or at least the taste of the French opinion leaders, is so Japanese. What kind of musical culture joins Paris and Tokyo? OK, Nikko and Sofitel are Japanese-type hotels (*Nikko is Japanese*), but I can't believe that this is the reason. Tell me why you let a good amplifier sound so bad with a pair of loudspeakers far out of any reasonable musical bounds? It's incredible: what sort of musical excitement can you get from an Electrocompaniet Amplifier 250 driving a pair of Klipschorns in a 4x5m room? Well, you can make the walls tremble and fall, and destroy eardrums if you want, but have you heard of an idealistic concept called musical truth? I know the Colonel is a very pleasant and funny guy, but I very much prefer to hear him talk than to listen to his loudspeakers.

The real problem was the fact that almost all the speakers in the show sounded like Klipschorns; worse, they sounded like Klipschorns driven by bad amplifiers! Monsieur Jean Hiraga and Monsieur Gerard Christien* are stubborn and able men, but I begin to think they're not giving a good presentation to French audiophiles with their theories about high fidelity and the best way to reach musical truth. Yes, I love antiques, paintings, furniture, carpets, but do I want to listen to my favorite records with a 1956 Fairchild? I can't believe that an Ortofon SPU Gold in an SME 3012 arm sounds better than a Grado MCX or a Monster Alpha 1000 on a WTA; I can't believe that an SPU Gold sounds better than a Grado GTE! *La Nouvelle Revue du Son* has to decide whether it's a high-end magazine or a collector-car magazine: the system they propose may be able to beat the record of the fastest lap at Le Mans (try to feed 250W to a 99dB/W/m loudspeaker and tell me the name of your physician and your lawyer), but it will never reproduce a decent violin.

Let's go back to the Paris Show.

If you're familiar with the ancient Colosseum shows (I'm not talking about John Hiseman's rock band, I mean the gladiator races from 300 BC to 400 AD) or with Las Vegas's Caesar's Palace, then you can imagine the Focal/JM Lab room: an amphitheater of enormous propor-

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2 Editor and Publisher respectively of the very influential French "underground" magazine *L'Audiodilèbre* and contributors to the leading French glossy, *La Nouvelle Revue du Son*.

Stereophile, August 1988
With discerning appreciation for the experience of good listening, music lovers in 18 countries have demanded Monitor Audio loudspeakers for excellence in engineering and esthetics in sound and form.

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* Model R352, 'best loudspeaker' What Hi-Fi? Awards 1987
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tions full of all sizes of loudspeakers. Who cares about 60 or 70 differently styled and sized loudspeakers when the musical nuances are so similar and so unattractive? The same goes for 3A, Elipson, Confluence, Quadral, etc.

Surely most interesting was the discontinuous but often high-quality Cabasse speaker (shown at the Festival du Son et Video). OK, they’re a big company and they want big numbers, so they have a lot of mediocre-sounding loudspeakers. Nevertheless, they’ve got the technology: they can—and sometimes do—design very good speakers.

And what about a gorgeous IRS Beta Infinity System made to sound like an Altec 19 with a broken woofer? That’s what happened in AMF’s salon, where the French distributor of this lovely American loudspeaker demonstrated the “tremendous dynamics” of the system, driven by a pair of 600W Accuphase amplifiers in continuous clipping. Something like 30-40% distortion! It’s alright, ma, I’m only bleeding. (I think Arnie Nudell was crying.) A mere five minutes in AMF’s salon and you wished you didn’t have ears.

But this is not meant just to be a report from Paris, and maybe I’m too critical anyway. I should also acknowledge the good things at the show: De Fursac, Lectron, Curiol, YBA electronics, the excellent Goldmund system (good loudspeaker, though not at the same level as their turntables and electronics), the very good work done by Ricardo Franassovici in an impossible room, the massive presence—very important for the Italian industry—of Sonus Faber, the very good Japanese food at the Nikko Hotel. I apologize if I forgot someone.

In short, however, Paris has lost a magnificent opportunity to host the most important European electronics show.

Let me explain to you the present situation in Italy for hi-fi and consumer electronics shows: Since last year, in numbers of exhibitors and public, SIM/Ives has been the biggest European Video, Hi-Fi, and Musical Instrument Show. The Milan Fair exhibition in September used to be considered a “must,” not only for the Italian operators and press, but also for worldwide producers and distributors, as well as journalists. After the two American trade shows (W- and SCES) and the Tokyo Audio Fair, the most significant of the new items were shown at SIM.

Now SIM is dying. Why? Because most of

the manufacturers and distributors are engaged in a war with the show organizers. The reasons: very high prices for the exhibitors, scant returns on investment, ever-higher rents or construction costs of gigantic exhibition stands, and the advertising policies of the most important companies, who prefer media like television and press rather than shows. So, after a long battle with the SIM organization, Andec, the association which represents the most significant part of the Japanese and European products’ distributors (Pioneer, Sony, Hitachi, Philips, Onkyo, B&O, etc.) decided to desert. At the same time, the discontent spreading among high-end distributors and manufacturers exploded, with the decision to found a new association, apparently unrelated to Andec, to find a better place, with lower prices and much better rooms for music listening.

At the moment, the situation is quite confused. SIM/Ives will continue to exist, but a second show, in October at the Quasar Hotel, has been promoted by the High-End Association. Andec has not yet decided if they will put on a third show or not show at all.

AUDIOreview, my Italian magazine, will be, as ever, in every show, without preconceived positions. But in spite of my criticisms of SIM, I think the eventual death of this very important show is a pity, especially when in as confused and factionary a manner as I’ve described.

Paris has lost a decisive opportunity to become the most important hi-fi show in Europe and, with all its faults, SIM was (is?) the best-organized European electronics fair.

Le Roi c'est mort. Vive le Roi.

Stereophile, August 1988
HOME IMPROVEMENT.
If you're still not completely satisfied with CD sound, if you have the nagging feeling something's still missing...you're right. 14 bit, 16-bit or even "floating" 18-bit CD players simply can't deliver all the rich potential of compact disc sound.

It's time for a little Home Improvement—a brilliant improvement at that.

Meet the Elite™ Series PD-91. The compact disc player that lets you hear CD sound in its fullest glory.

The PD-91 employs 8-times oversampling and full 18-bit linear twin DA converters yielding an amazing 16-fold improvement in the val of ambient cues, harmonic detail and instrument tones and vocalists. It's an improvement so dramatic your ears will perk up instantly.

To build a player this superior demanded incredible attention to detail. Example: The PD-91's analogue circuitry is pure Class A for lowest distortion and highest musicality. Inside, you'll see four separate power supplies and eleven voltage regulators—to keep critical small signal audio information free from interference.

To additionally minimize electrical interaction, portions of the PD-91's circuitry are defeatable—like front panel illumination, headphone amplifier and the analogue output section when digital outputs are being used.

The PD-91 incorporates an outboard power transformer. Pioneer's exclusive copper-plated honeycomb chassis and special ceramic components to combat extraneous vibrations that can destroy signal integrity.

The PD-91's special linear motor delivers the world's fastest track access (1.2 second). You also get flexible seven-way programming, full random play, and, of course, full remote control. Optical as well as coaxial outputs make the PD-91 future-perfect as well.

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High performance. Down to earth.
Could it be—this was my fourth Chicago CES? Yes, indeed. And by now, I am into a comfortable routine. Take the subway in from O’Hare, attend the Friday afternoon Chicago Symphony concert at Orchestra Hall, check out Rose Records, and all the rest of the pre-show rituals.

Things got off to a slow start.

First, the Iwan Ries pipe shop was a disappointment. This once-proud shop, a fixture on Wabash Avenue for decades, is now a second-story walk-up, reduced to the indignity of displaying signs proclaiming, “All pipes sold at a discount.” The selection was limited. The ranks of pipe smokers are dwindling as fast as is the vinyl down the street at Rose Records.

I did see one hopeful sign at Rose Records—CD cut-outs! That’s right...unsold CDs, dropped from the catalog. It gladdened my heart. I think we shall see many more of these—CDs cannot be melted down and recycled, the way vinyl LPs can.

Kenneth Jean was conducting the Chicago Symphony, Sir Georg having bowed out, as is customary when the Cheapskate comes to town. If only CES had been a week later, I could have heard a communist conductor, Kurt Masur, of East Germany, leading the CSO in Russian music, the Shostakovich Fifth. As it was I had to make do with Grieg, Haydn, and Respighi. Is there a more tired piece in the repertory than the Grieg Piano Concerto? The pianist apparently agreed with that assessment.

The Respighi Pines of Rome was wonderful. In surround sound! Most of the brass section played in the balcony, and I was sitting near the front of the balcony. What sound! It was magnificent, enabling me to survive the entire show. Strange, though, that the only person from the show I saw at the CSO was British Fidelity’s Antony Michaelson. It was Antony who suggested I play hooky from the show again Sunday afternoon, to hear Krystian Zimmerman in a piano recital of Chopin and Liszt. Good idea, Antony!

This time I didn’t attempt to “cover” the zoo—the main exhibition halls. It was enough to hear from Don Scott about two new VCRs—“From Sharp minds come Sharp products”—including one that talks back to you as you push the programming buttons. And a VCR from Panasonic that you can program from a touch-tone phone. Or does the touch-tone-phone-programmable VCR come from Sharp and the talking VCR from Panasonic? I forget which. Someone should come out with a VCR you can phone and talk to.

“Hello, VCR.”

“Hello, Sam.”

“I want you to record ‘Thirtysomething’ tonight at 10 on channel 7. Got that?”

“Sure thing, Sam. Would you like me to tape ‘Nightline,’ too?”

VCRs have become hopelessly complicated, to the point where many consumers are apparently giving up and looking for models with fewer buttons, fewer features...and lower prices.

Onkyo has a bright idea. It’s called the Unifier. It’s a device that combines all your remote controls. Onkyo sent me one to play with. Somehow, you use the remote control from each device to “teach” the Unifier. I’m having trouble teaching myself to do this, however...and I’m in no mood to learn right now, having just spent two hours mastering my new Panasonic “Easaphone.” That task was anything but “easah.”

But back to the high end and the McCormick Center Hotel.

Antony Michaelson’s British Fidelity is as good a place as any to start. In typical fashion, Antony was more intent on demonstrating Gervaise de Peyer’s clarinet playing than the new British Fidelity equipment, which made this the perfect way to ease into the show.

“The phrasing is marvelous, isn’t it?” asked Anthony.

Yes, it was. And so was the sound coming from four new MA 50 mono amplifiers (50Wpc.
"Martin-Logan makes the speakers that Mozart and Beethoven would have used . . ."

"... and I wouldn't think of listening to any other loudspeaker."  

When most audio manufacturers speak of "technology," it's usually to discuss the amount of distortion their product produces. When Martin-Logan uses the term, it's to expound on the musical experience of listening to a symphony played through "Monoliths." Or perhaps a concerto as rendered by a pair of "CLS.

It is an experience that transcends cartridges, electronics, and speakerwire. It avoids the anxiety of slew rate and damping factor. It's an experience that amazes the world-class conductor to the extent that he would give this unqualified endorsement.

The experience is MUSIC. The product of musicians and Martin-Logan's "technology."

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class-A) bi-amping a pair of MC4 loudspeakers ($995/pair). British Fidelity also has a new budget speaker with metal-dome tweeter, the Reference 2 ($395/pair). These are meant to be used close to a wall. The sound was quite good for the money, but imaging was not a priority.

A more spacious sound can be had from Monitor Audio's new R300/MD, a new two-way with metal-dome tweeter (similar but not identical to the one in my R952/MDs), which retails for $669/pair. KK was carrying on about these.

Ken: "Tell Mo [Iqbal] I told you to dump your R952s for a pair of R300/MDs. They're a better speaker."

Me: "Are they?"

Ken: "Of course not. You just want to pull Mo's chain."

I tried it and it almost worked.

Mo: "Ken didn't really say that, did he?"

Me: "No, he told me to say that he did."

Mo also had a production prototype of a new gold-anodized aluminum-alloy-dome tweeter, which apparently will push the breakup point of the tweeter to a still higher frequency.

"These will be magnificent," said Mo, with authority. "And don't you report that I was walking around in tennis shorts. As you can see, I'm not."

Monitor Audio's Mo Iqbal (left) with Sam Tellig

While we are on the British, Naim Audio had a new version of their NAIT integrated—the NAIT 2, rated at 15Wpc. Or is it 18? Depends on when you talk with Julian Vereker. Under 20, anyway.

Why would anyone pay $795 when you can have much more power for less?

Hell, I don't know why people buy the things they do. I do know that the NAIT 2 sounded superb driving a pair of Naim's new floor-standing, wall-hugging IBLs (Integrated Stereophile, August 1988
The Magic of Music

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Box Loudspeakers). The name refers to the fact that each speaker's drivers are housed in three separate enclosures, within the box. The NAIT's neat, in a way. If you want to upgrade, you can use its preamp section to drive any of Naim's separate power amps, although details on how this is done were less than forthcoming.

"Why don't you make it more powerful, Julian?"

"My research people tried that. They concocted several prototypes while I was away. All were more powerful and all sounded worse than the NAIT."

I met this marvelous bum outside the Congress Hotel—a yuppie bum, this being Michigan Avenue.

"Excuse me, sir, I am a brand-new bum. First day on the job. I need to make it a success. Can you spare a quarter?" I gave him a dollar just so I could stand by the lightpost and watch him for ten minutes as he approached each mark.

"Excuse me, madam. It's my first day as a bum, and I want to make this a successful career, because I've messed up all the rest. Can you spare some small change?" She could.

And then this, to an up-tight middle-aged couple who ignored him:

"I've just had a terrific first day on the job as a bum—Chicago's a great town. I don't need any more money. If you don't want to give me a quarter, I'll give you a quarter. I'll give you two quarters."

He tossed two quarters to the pavement.
The couple passed without breaking their stride.

"I'll take the two quarters," I cried out, from behind the lamppost. "If you have so much money, you can entertain me for 50c."

"Oh, no you won't," cried he, and quickly picked up the quarters. "You taking bum lessons or something?" he asked.

I wish Roy Hall had been with me. Indeed, I heard a similar routine at Music Hall, the 'ome of 'umble British eye-fi.

"I have such nice-sounding products," Roy told a potential dealer, "and my wife is about to give birth to our second child. Won't you buy something from me?"

Roy did have nice-sounding products—some of the best sound of the show. Prototypes of the pricey new Onix separates (about $3700 for remote-control preamp and power amp) were driving a pair of Epos 14s.

Onix is developing a CD player. Roy now has less than a year to rethink digital.

"What will you do, Roy, when you have Onix CD to sell?"

"Sell it. Praise it. I don't know."

"I thought you were into good analog sound, Roy?"

"I'm into greed. I'm going to have two children to support."

"Roy, did I tell you about this bum I met last night in front of the Congress Hotel? He must have been of Scottish ancestry."

KEF had a free champagne breakfast Saturday morning, so I headed over for bacon, sausage, and reconstituted eggs... before I hied over to Orchestra Hall for a used record sale. Sorry I missed the press conference. KEF has a new integrated tweeter/woofer, which JA will tell you all about.

I did hear that Quad and KEF are working jointly on a subwoofer. Quad is also said to be ready to introduce a new preamp with remote control. Can a remote-control FM tuner be far behind? And a Quad CD player?

Word was spreading fast about Finial Technology, who were demonstrating the latest prototype of their laser-read LP player at a secret suite at the Hilton Hotel. Stereophile staffers were excluded—foreign press only. This is the kind of cloak-and-dagger routine for which Finial is now notorious.

Practicing a little cloak-and-dagger work of my own, I managed to extract information from a bunch of foreign journalists by buying them beer. (Larry, can I put this on the expense account?)

Forgive me if this is fragmentary. I am not able to take notes and drink beer at the same time. The Finial is a much more finished product—looks quite handsome, I'm told. But no photos were allowed, so this is only hearsay. It is said to play 12" 45s, but not 7", and will not play 78s. There is defeatable circuitry to filter out ticks and pops. According to one keen-eyed observer—from Pravda, I believe his name was Semyon Tellignovsky—Finial was using Rozoil Gruv-Glide to clean the records.

Two years ago, Martin Colloms said to me, "You know, Sam, they might get this apparatus to work, but the sound might be rather ordinary—not at all an audiophile product." It was speculation, since the tightly controlled
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demonstrations afforded little opportunity to judge sound quality.

Apparently, though, from what Tellignovsky and others told me, the Finial sounds quite good.

"Great. By the time they get this on the market, all the vinyl will have disappeared," said one jaded journalist.

Not quite. I think the product will be a rip-roaring success—so long as the sound quality is acceptable. It doesn't have to be exceptional. And it doesn't matter if there is no new vinyl.

Every radio station in the world will want at least one, and possibly two or three players. So will libraries. Finial does not need the audiophile market, and will be better off not having to rely on it.

Michael Goldfield, of Euphonic Technology (of all people—Michael! who hates LPs!) suggests that the Finial might be used to reissue recordings of vinyl source material for which the master tapes have been damaged or lost. There's also the possibility dealers might rent out players, so people could dub their record collections onto tapes.

Now... if the Finial is an audiophile product... if it is sonically competitive with other high-end record-playing systems (its projected retail price is under $4000)... then watch out! Jason Bloom will buy one for his Apogee demonstrations, so he doesn't have to worry about clobs bumping into his turntable and destroying records he paid $200 for. Everyone who has a sizeable record collection and who can afford the tab will want one. The Finial chapter has yet to be written.

Finial, by the way, is now owned by Carillon Inc., the same parent company which owns dbx. Strange, but I can't recall having seen or heard anything about Finial's having been issued patents on the player. Well, perhaps it isn't peculiar. Publishing a patent is practically an invitation to have it infringed upon. So maybe some of the cloak-and-dagger stuff is called for.

Ken Nelson told me about a phone call he got.

"I'm sorry to phone you at home after midnight, Mr. Nelson. But I am shopping for a Finial, and I want to know where I can get the best price on one."

I can just imagine where Ken told him to go.

Don't go shopping for a Finial. Not just yet. In the meantime, there is a product you might shop for—the Alphason Automatic Tonearm Lifter, distributed by May Audio Marketing, which will retail for under $30.

An elegant device (unlike the Audio Technical Safety Raiser, no longer available), the Alphason uses miniature rare-earth magnets to provide a concentrated lifting force when the tonearm reaches the end of the record. The printed instructions look complicated, so I ignored them and used common sense instead. Oh yes, the product works.

I finally met up with Touraj Moghadam, of Roksan, whose turntable, new arm, speakers, and shelf units are now distributed by Bryston. "I wanted to be able to play Thelonious Monk," Touraj told me, by way of explaining the table's raison d'être.

The Roksan does play Thelonious Monk. (So, too, does an AR ES-1 with metal armboard and Rega RB300 arm, but perhaps not so well as a Roksan.) It remains to be seen whether the Finial plays Thelonious Monk.

NAIM has a new unipivot tonearm with a removable top (so you can have several tops with several different cartridges installed, and change them in 30 seconds, as Julian Vereker demonstrated). It will retail for about a kilobuck and should further infringe on Ivor Tiefenbrun territory (the arm was set up on a Linn).

B&K showed their "giant killer" M200 monoblocks ($1800/pair)—said to send 200Wpc into any impedance down to 0.75 ohm and swing more than 100 amps peak-to-peak current. By the time you read this, the new B&K Sonata MC 101 preamp will be available at $895, featuring all-discrete circuitry, Tiffany connectors, and defeatable tone controls.

In the same room with B&K was Spectrum, demming their new 208B loudspeakers, priced at a mere $449/pair. Full-range, and very fine! The original 208As struck me as a little coarse in the midrange and on top—eminently recommendable, though, at the price. These new models seem to have the very thing the 208As lacked—refinement.

I was likewise impressed by the MartinLogan Statements, demming with Krell amplification at the Betsy Rosenfield Art Gallery. The Statements are aptly named. They make a statement: "I can afford $40,000." I have to say that the sound was spectacular. But imagine how many concert tickets you could buy
for $40,000. You could even buy a BMW to get to and from the concerts.

I have auditioned the new Krell KSA-200 at some length and leisure. What makes the Krell swell is the almost total freedom from congestion. Other amps deliver, too. The difference is that the Krell keeps on delivering. I have spoken for a Cheapskate’s Krell—the KSA-80. Krell Digital, a separate company, was demonstrating their new Krell CD player. And yes, it sounded great.

Jeff Rowland is making a statement of his own with the new Avalon Acoustics floorstanding three-way speaker, the Ascent. The performance is ascendant, as is the price—a lofty $11,800/pair.

Those looking for less expensive speakers might investigate, as I plan to do, two new offerings from Snell Acoustics: the floorstanding C-2 at $1,890/pair, and the K-2 ($465/pair, plus $100 for stands). The sound qualities of both are exceptional for the money. In fact, exceptional. Period.

There were lots of other interesting products, including outboard digital processors from Arcam, British Fidelity, and others. PS Audio (conspicuously absent from the show) has announced one, too. These outboard units are said (by several manufacturers) to be particularly effective with inexpensive players, like the Sony CDP-507ES.

Here’s a tip. The Magnavox CDB650 has a digital out. The new 471, 472, and 473 models do not. Buy a discontinued 650 on the cheap—watch Service Merchandise and other retailers—and upgrade later with an outboard box.

Conrad-Johnson showed the new MV100—a 90Wpc tube amp. And VTL had a pair of “special order” 35W class-A monoblocks, each using four 6B4G tubes that look like inverted Coke bottles. I was lustng over them. $1800/pair and intended mainly for the French market—le pauvre gentilhomme’s Jadis.

I can tell you that every Denon dealer in the United States and Canada is now deaf. Well, every Denon dealer who attended the Bob Berg rock concert at Eddie Rockets. I cringed as the sax player practically put the microphone inside his instrument. This says a lot about the musical tastes of your typical Denon dealer.

Attendance at the show was not good—especially at the main exhibit halls. On Tuesday, last day of the show, the aisles were almost empty. I have a hunch that even tougher times are ahead for the industry, although the outlook seems brighter for the high end.

Indeed, there seems to be little in the way of price restraint, so far as the high end is concerned. Distributors seem to be falling over themselves trying to import expensive gear. Monster Cable is flirting with Swiss Physics—I think they may actually be married.

Ditto for Ortofon and a Danish company called Gryphon. The stuff looks exquisite, but so, too, are the prices. And SOTA is bringing in the YBA electronics from France. I would assume that all face stiff competition from the likes of Rowland, Threshold, Krell. If I were Jeff Rowland, Nelson Pass, or Dan D’Agostino, I would not be losing any sleep.

On the last day of the show, I wound up, as usual, at Music Hall.

“I’m all out of Scotch," Roy said. “You don’t have to stay.”

“I just wanted to hear Louis Armstrong and Duke Ellington.”

Roy went over to his Linn—equipped with new, upmarket Revolver arm—and played Satchmo’s rendition of “Duke’s Place.”

Prototype of Krell Digital’s CD player
Fifty Years of Excellence.

Fifty years ago, one man impassioned with music and equipped with the scientific knowledge of electrostatic transducers designed and manufactured the world's first electrostatic headphone. The word spread quickly, as good news does, that this headphone could actually rival the best loudspeakers. Recording engineers of the day began to refer to this listening device as an ear-speaker, since the word headphone did not accurately describe its musical nature.

From that time, STAX electrostatic earspeakers have remained the benchmark by which all others are judged. Audiophiles, recording companies, and professional musicians throughout the world rely upon STAX earspeakers to bring them closer to the soul of the original sound.

Every STAX earspeaker system—our SR-Lambda Signature and Professional series, our SR-Gamma, our SR-5NB, our SR-84 and SR-34—is crafted with a fifty-year heritage of handmade electrostatic transducers. STAX President and founder Naotake Hayashi's dedication to flawless music reproduction ensures that our current products will please the most sophisticated music lovers.

This may be why the National Bureau of Standards selected the SR-Lambda Professional earspeaker for critical listening tests that can affect the state of DAT recording and copy protection legislation. It is also why Daimler-Benz, the prestigious automobile manufacturer, selected STAX earspeakers for automotive acoustic analysis.

Music lovers and audio critics agree—unless you are listening to live music, nothing is more rewarding than a fine pair of STAX electrostatic earspeakers.

Pictured: SRM-T1 Direct drive amplifier with vacuum-tube output for earspeakers, SR-Lambda Signature earspeaker, CDP Quattro II high-resolution compact disc player. For a full-line brochure, please send $5.00 to: Stax Kogyo, Inc. 940 F. Dominguez St., Carson, CA 90746.
John Atkinson, Thomas J. Norton, Lewis Lipnick and Richard Lehnert report from the Summer CES in Chicago
...and the windy city is, mighty pretty, but it ain't got what we got," namely good sound most of the time. As far as the powers that be at CES seem to be concerned, the high end is the bastard child of high fidelity. Ever-resentful of these companies' needs to treat sound quality as important as cosmetics or dealer margins, CES nevertheless recognizes its need to include these high-profile exhibitors in order to create international interest for what is, at heart, a domestic US show. The result is history, recent history. The '87 SCES finished apparently without the high end having anywhere to exhibit in '88, the reason being a little problem with the Chicago Fire Marshal's office, which felt that the subject of real hi-fi is incendiary enough to require sprinklers in every room used to demonstrate sound. The Americana Congress hotel stepped into the breach, its new manager vowing to meet the fire regulations, only to step back again later in the year. The Hilton took up the ball, but only if the high end would agree to mainly static exhibits, then backed down in turn. Mere weeks before the show was due to start, the CES organizers persuaded the McCormick Center hotel, already the site of many of the audio exhibits, to expand the amount of rooms they were prepared to make available; once again the high end had somewhere to show its wares, even though the rooms were small and the hotel facilities overloaded.

But the message was received loud and clear by the exhibitors: companies concerned with "quality" as an intrinsic factor in the design of their products—and that, of course, is what distinguishes the high end from the mass market—are getting to be too much trouble, both to CES and to Chicago hotels. CES has always had the appearance of a show concerned only with money as the sole factor in determining its participants' worth. According to the Electronic Industries Association of America, VCR sales in the US were worth more than $5 billion in 1987, the in-car equipment market was worth $3.8 billion, while the audio separates market was worth just $1.4 billion including Japanese components, which was pretty much what the US sales of portable cassette recorders were worth last year. When you consider that "real" hi-fi represents but a small fraction of that $1.4 billion, you can see why CES seems to get increasingly impatient with our special needs.

All of which meant that a current of gloom underlay the 1988 show, exacerbated by the low attendance.1 A few exhibitors managed,

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1 The official attendance was said to be 98,561. But then, as the official attendance is always in the region of 100,000, I'm inclined to believe that the organizers must have counted quite a few people more than once. I had two badges. For example, being both an exhibitor and a member of the press, meaning that I was probably counted as two. How else could the final day's empty corridors be explained?
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through skill, luck, experience, and hard work, to produce sound that was worth sitting down and listening to; most did not. And it could be fairly pointed out that making good sounds shouldn't even be necessary at a trade show. No dealer with a fair share of common sense is going to make a momentous purchase decision based on what's heard at a show. No, the purchase order comes after the moment of truth in the dealer's own listening room, meaning that CES could exist purely as a mixed social/business event, allowing a manufacturer to "reinforce the pair bonding" between it and its dealers, as sociological jargon would have it, each making the other more aware of their respective needs. Listening to music doesn't seem relevant to that process. But to tell the truth, without good sounds at a show, it becomes a wearsome business exposing your psyche to so many encounters in such a short time. Without music, the soul of the show seems absent.

As always at a CES, I first check out the "Zoo," the main exhibition halls where the mass-market companies each spend the gross annual turnover of a high-end amplifier manufacturer in assembling pavilions, geodesic domes, even clusters of circus tents, to catch the eye of the passerby. I like to taste the air, listen in on conversations, talk to other journalists, and catch up on what is being said about what to whom. R-DAT was the hot topic last year; this year, there was a curious lack of excitement. In-car companies are eagerly awaiting DAT—Mitsubishi says that their DT 10 in-car player will be available in the Fall; blank-tape manufacturers are ready with product—TDK, Maxell, Triad, and Fuji have suitable metal-particle tape ready to ship; Sony has been supplying potential DAT duplicating plants with sample tapes; some record companies have prerecorded DATs ready—classical label Capriccio has 38 titles, jazz labels GRP and DMP seven and one—accessory company Discwasher showed a DAT head-cleaning tape at CES; but concerning the recorders themselves, there was little to be seen or heard. Sure, there were samples on display—Casio even had a replay-only portable—but if you asked the representatives of any of the companies when US consumers would actually be able to buy a machine that could record, the answer, with one exception, was vague; representatives of the Japanese companies stated that it appeared impossible to get the product out of Japan. Only TEAC at CES announced a firm delivery date, in July, for their $5400 R-1 recorder. But then, they were only intending to import five samples, presumably hoping that the high price and the low quantity would make them too small a target for the RIAA, who apparently intend to carry out their threat to take legal action to prevent the sale of consumer R-DAT recorders in the USA. Professionals, of course, are already using R-DAT recorders, either pro models or "gray-imported" consumer machines. Arabesque Records, for example, is using Sony pro machines to record vocal and orchestral music in Europe.

If consumer DAT machines seem more to be examples of "vaporware" than hardware at present, a product which also seemed to fall firmly into that category was the Final Technology LP player. As the Cheapskate mentions elsewhere in this issue, SCES did see the Final demonstrated, though not to the US press—only the overseas contingent. Perhaps it won't be too much longer before people will be able to buy one!
Notwithstanding the protestsations of those who (correctly) point out that LPs played on a high-end turntable give better sound than CD, the silver disc has undoubtedly been the cause of a major revitalization in the sales of mass-market hi-fi. Yet even considering that over three million CD players of one sort or another were sold in the US last year, there seemed to be little excitement at the show over silver disc. One make, Japan's NEC, didn't even have a CD player in their "high-end" range, explaining to me that they wanted to concentrate on more exciting new technology, such as surround-sound processors for video. (To be fair, their range of surround-sound processors and amps including surround-sound processing seems well thought-out, and very affordable, we have asked for samples for review.)

The general feeling was that sales of both players and discs were starting to stagnate, the main sticking point being the high price of software. This leaves the hardware companies attempting to pump up player sales either by introducing "new technology" at the premium end of the market—true 18-bit linear converters from Sony, Onkyo, and Technics, a second generation of Yamaha's "Hi-By" pseudo-18-bit converters, DACs operated in push-pull from Denon—or by the concentration on additional convenience features at the lower end. The most popular such feature at CES was a player's ability to handle a cartridge holding either six or ten CDs, with all tracks on the discs accessible via random-access programming. Magnavox, Technics, Sansui, Kenwood, Onkyo, and Yamaha all introduced such models at CES, following the lead set two years ago by Pioneer. Dealers I spoke to, however, while feeling that such CD "changers" would become the norm for the non-audiophile market, thought as one man that CD player sales would continue to stagnate until disc prices drop. And until they drop, the feeling is widespread that the record industry is making too much profit from CD. Factory-gate CD prices have dropped to just over $1, while the wholesale price to record retailers of even a relabeled label is still around $7. As PolyGram's Ton van Engelen put it in *Billboard* in April: "Record companies will sell CDs for as much as they can get for as long as they can get it."

The other trend in product design apparent at the Zoo was that just about every Japanese company is now producing a premium range Onkyo has their "Grand Integra" line, Sony has "ES," Sansui "Vintage," NEC "Renaissance," Pioneer (who weren't at CES) "Elite," and so on. (Denon, Yamaha, and Nakamichi have already positioned themselves in the high-end volume end of the audiophile market, of course.) It would be nice to think that these companies, hitherto dependent on the mass market, are rediscovering the high end because of a renewed commitment to sound quality. Certainly better sound quality is a feature of these products, but the real reason, I am sure, is that the main Japanese brands are suffering from heavy competition at the low end of the market from products made in Taiwan or Korea. When you sell on price alone, then you become vulnerable to competitors with inherently lower overheads. All you can do is to shift your emphasis upmarket, the higher price allowing you to build in a larger profit margin for both manufacturer and dealer.

Should the American high-end companies worry about being steamrolled by the Japanese, with their marketing expertise and massive financial resources? I think not. As one dealer pointed out to me after being sold to very heavily by representatives of one brand, it was very tempting to go with the proposal, being offered the franchise for the premium line with the promise that the local equivalents of 47th Street Photo or Crazy Eddie would have the same products for sale at half the price. But experience told him that six months or a year down the line, particularly if the distributor had too much stock on hand, he would find himself being undercut on his "exclusive" models by the discount houses after all. No, he concluded, better to stick with the US and UK companies who have proven their loyalty to their retailers. And there is another factor that may affect the corporate policies of the big Japanese electronics manufacturers: they are becoming less and less dependent on the manufacturing of products to make their profits. The Japanese parent companies being cash-heavy, these companies are increasingly making a considerable degree of their annual profits from investments in the Japanese stock market and manipulations of foreign currency. In 1987, for example, according to figures published in *The Economist*, Sony in Japan made nearly 63% of their overall profits from such "nonoperating" investment activities.
Dan wanted to play me the demo disc of the show, Thomas Dolby's *Angels ate my Buick* (Manhattan CDP 7 48075-2), but I persuaded him also to put on the Angel "Studio" CD of Sir Adrian Boult's 1978 recording of The Planets with the LPO. All I can say is that Dan's decibels sound bigger than anybody else's. Other products launched by Krell were their two MC cartridges, the KC-100 and '200, and the PAM-7 dual-monoaural (including power supply) preamplifier, which replaces the PAM-5. A footnote to my listening to the Krell/Martin-Logan system: the UK Krell importer, Ricardo Franassovici, put on a CD which wiped me out. If you can get hold of it, Eddy Louis's album on Nocturne NTCD 101² has soul despite being totally electronic. Check out "Blues for Klook": some monster bass guitar playing beneath the chorusing, phasing, and equalization!

Also seen at the Betsy Rosenfield Gallery was the resuscitated Sequerra tuner, compete with its oscilloscope display of the FM spectrum. A company called the Davidson-Roth Corporation bought the rights in 1984 to manufacture this classic tuner design, but I can't help thinking that the expected price,

² Nocturne Records, Media 7, 29 Rue de Courbevoie, 9200 Nanterre, France. If this disc is not available in the US, then maybe one of our advertisers should make it so.
SUMIKO, INC. GIVES BIRTH TO SEXTUPLETS

BORN: May 15, 1988
TIME: 7 µseconds
WEIGHT: 6 grams
PLACE: St. David's
CITY: Berkeley, California, USA
NAMES: A T, B vdH, S vdH, IA T, IIB vdH, and IIIS vdH

Sumiko, Inc. is delighted to announce the arrival of sextuplets. Bursting on the scene are three fresh faces from each side of the family: Talisman and Alchemist. They are instantly recognizable by the characteristic drooping snout that has marked their forbears. Distinguishing features include the van den Hul type I styli with which they are shod, and a red badge on the brow of each little critter. Blessed with fine lungs — surely the result of new high-energy magnets and ultra light coils — they are of remarkably sweet disposition. We invite you to listen to them all at a nursery near you, your local Sumiko, Inc. dealer.

SUMIKO, Inc.
P.O. Box 5046, Berkeley, California 94705 (415) 843-4500
Keith Johnson explains the operation of his filter and DAC circuitry for the Spectral CD player.

$8500 ($9175 with wooden sleeve), might be too rich even for the rich audiophile's blood. Are there enough FM stations broadcasting a high-quality signal? Not in Santa Fe, there aren't. But maybe if you pick up WGBH in Boston, or WFMT in Chicago . . .

To move from the East Coast to the Left Coast, Spectral also introduced a $6000 player, the SDR-1000, designed by that renaissance engineer, Professor Keith Johnson. Immaculately finished, featuring preamp facilities, and stuffed with printed circuit boards, the Spectral player features optocouplers to isolate the digital carryings-on from the DAC and analog circuitry, and 4x oversampling and digital filtering but with two Philips TDA-1541 DAC chips per channel. Each is used with its two halves, normally used one-per-channel, in push-pull. As departures from linearity will be identical in both halves of the monolithic chip, push-pull operation should cancel them out, giving, Spectral claims, the 18-bit resolution promised all along by the use of 16-bit DACs and 4x oversampling.

The digitally filtered output from the DAC board can be listened to “raw;” but Keith's design attention has also been on an attempt to put right what has gone wrong at the record-
Developing a driver for optimum performance under transmission-line loading requires lateral thinking. The TDL bi-radial unit has the power handling to withstand this acoustic environment, yet the speed to provide more articulate bass. As John Borwick remarked in 'Gramophone', “the effect with programme material containing really low frequencies is impressive and musically rewarding”, whilst “the bass had a tightness which added definition all the way up the scale...”. Also reporting on the TDL Monitor, Martin Colloms in 'Hi-Fi News' stated that “the bass remained clean at full power, and well differentiated from the mid and treble. Cathedral organ could be reproduced at impressive levels, with fine weight accorded to the pedal registration; but by contrast, its reggae performance was not to be sneezed at.” In conclusion, he suggested that “if extended bass is important to you, then you owe it to yourself to hear this speaker”.

**bass obbligato...**
became musical. The miking problems were still there, but could now be heard through. The Spectral CD player will be available in the late Fall: Larry Archibald swears he is going to buy one—not for review, just to enjoy music!

One final paragraph on CD-player design—sorry—to be seen at CES: the emergent trend is for a CD transport to be used with either a separate DAC box or a preamplifier incorporating high-quality DAC sections. The latter is the way the Japanese are going, following the lead given by Denon with their excellent DAP-5500 digital preamplifier. Both Yamaha and Technics launched preamps with DAC stages, featuring “Hi-Bit” and true 18-bit circuitry, respectively. The best-sounding such unit, however, I felt to be the American Theta, designed by the genial Mike Moffatt. Much in evidence around the show, the Theta digital preamp enabled Apogee Acoustics to get a truly impressive sound from their Diva full-range ribbon speakers, driven by the Canadian Classe DR9 class-A power amplifiers (soon to be reviewed in Stereophile). Bobby McFerrin had never sounded more like a complete chorus! The Divas are now available in hand-painted trompe l’oeil finishes, such as “marble” or “mahogany,” but more importantly from the viewpoint of sound quality, the show saw the launch of the electronic crossover for the Diva, which has a digital readout in dB of high- and low-pass levels. (Like Spectral, Apogee had invested heavily in one of the large rooms in the convention center rather than put up with one of the closet-sized hotel rooms that the CES organizers deemed acceptable for the high end.)

The English have gone for the separate-decoder-box philosophy. Arcam launched their $550 Delta “Black Box” at CES, which uses a custom LSI (Large-Scale Integrated circuit) for decoding the serial datastream, and Philips 4x oversampling, 16-bit DACs. British Fidelity produced some delightfully musical sounds, courtesy of clarinettist Gervaise de Peyer (a transcription of Schubert’s Arpeggione” sonata, on Chandos 8506), from a Denon CD player feeding their “Digilog” DAC box via optical cable. This unit uses an outboard power supply and features the complementary design talents of Tim de Paravicini and Martin Colloms. It will be available in August at $800. (The rest of the system consisted of their MC4 speakers bi-amped with MA 50 power amplifiers.) And Cambridge Audio, as well as upping the numbers stakes by introducing a revised version of their CD1 player with 32-bit, 16x oversampling (phew!), showed the DAC2 outboard decoder, which uses the 16x oversampling, 16-bit circuitry from their CD2 player. (Cambridge products are now distributed in the US by Celestion Industries.)

Ohm introduced an inexpensive range of speakers based on this “egg” HF module.

So to analog—at last! Everyone from Stereophile who visited the Rowland/Avalon room enthused over the sound—and the music. Playing as vital part in this system’s sound as were the $11,800 Avalon Ascent speakers was the Rowland Research Complement cartridge. A Japanese-made MC descendant of the Decca designs, there is no cantilever as such, the stylus being mounted at the apex (nadir) of a vertical U-shaped piece.
"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.

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September, 1987

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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."

Suona
December, 1987

MAGNEPLANAR MG-2.5/R

MAGNEPLANAR
1645 Ninth Street
White Bear Lake, MN 55110

* Speaker photographed with magnetic structure removed.
of wire, the two horns of the U being butted against rubber doughnuts to give vertical compliance. Each arm of the U carries a coil, consisting of just 16 turns of wire, which moves in an intense magnetic field, giving an output of 0.2mV/cm/s. Limited in availability and priced at $2500, the Complement offers the direct-sensing, "fast" ability of the Decca, coupled with the low distortion and high transparency of a good MC design. The bass was the tightest, best-defined I have ever heard at a show.

Linn also introduced a new cartridge, the MM K-5, a $150 derivative of their popular K-9, while Sumiko showed new Talisman and Alchemist models, all fitted with van den Hul Type I styli. Attracting more attention in the Sumiko room, however, was the SOTA Cosmos turntable. At $3500 in white ($4000 in black), this is SOTA's best shot at the final turntable, using a Du Pont-developed artificial marble, Corian, for the plinth and a proprietary mat material developed by engineer Warren Gehl, called by SOTA "Vinyl-forMat." This mat is said to have the perfect properties of perfect coupling between the LP and the mat material, perfect damping, and perfect flatness, and will be offered as a $500 option on the STAR turntable. A $400, presumably slightly less perfect, version will be available for the standard Sapphire and other turntables. The Cosmos was being demonstrated with the French YBA electronics (see later) and the final version of the SOTA Panorama speakers, projected price in oak, $1295. I listened to an album by vocalist Johnny Hartman and, to say the least, was impressed—though the small room proved a problem, not just due to the acoustics but to the crush of people who kept getting in the way of the sound.

Lewis Lipnick will enthuse presently—not momentarily, TWA and American Airlines stewardesses—on the flagship VPI TNT turntable. But what excited me in Harry and Sheila Weisfeld's room was the HW-19 Junior. There is a lack of entry-level high-end turntables, so the JR, at $600 sans arm or $900 with the Audioquest arm, fills a gap created by the limited availability of the AR turntable and the limited distribution of the Rega Planar 3. OK, the Linn Axis is pretty widely available, but I rather regard that turntable as an "exit-level" product; i.e., people who buy it remove themselves from the upgrading path and live hap-

VPI's $600 HW19 Jr turntable.

Gildmund Apologue loudspeaker.

While on the subject of turntables, I must mention Gildmund. Not that they didn't heavily feature LP players in their Hotel Nikko suite—they did launch the ST4 integrated player, which combines a simplified Studio chassis with the new T4 tonearm—but the combination of their stunningly beautiful Mimesis electronics with the launch of their "ultimate" loudspeaker, the $39,500 Apologue, I found to be irresistible. Now the Apologue
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is an exit-level component. Buy a pair of these—you need a $5000 deposit and be prepared for at least a 12-month wait—and it is hard to see that you will ever buy another pair of loudspeakers, especially considering that you would probably have to design a room around their looks. Idiosyncratically styled—see my photograph—by Italian artist Claudio Rotta-Loria, the Apologue uses drive-units from Focal and Dynaudio mounted in five enclosures hung from an adjustable frame in the manner of the Wilson WAMM. The two bass cabinets effectively use a moving-coil woofer as a dipole, but with the backwave absorbed in the enclosure, while much use is made of Goldmund’s “mechanical grounding” principle to ensure maximum rigidity. An unusual aspect is that the sensitivity is of Klipschorn caliber, at more than 100dB/W/m. A trivia item: Goldmund has bought the Swiss Stellavox company, the manufacturers of perhaps the world’s finest analog tape recorder. (Stellavox already assembles some of the Goldmund electronic components.) Could we one day see a Goldmund-designed, Stellavox-manufactured R-DAT recorder?

Big news from Mark Levinson Audio Systems was the balanced line-level input board and the outboard phono input for the No.26 preamplifier, the No.25. Powered from the No.26 power supply, the No.25, which has a projected price of around $1500 ($ ± $500), has Camac in/out sockets, but MLAS is also looking at alternative tonearm terminations, including XLRs. The No.25 boards are the same as in the fully loaded 26, but the separate enclosure grants a further step forward in performance. No.26 owners can buy just the No.25 enclosure and the balanced line input boards, giving the best of both worlds for the minimum additional expenditure. According to Madrigal’s Mike Wesley, “We thought it [the balanced input for CD] would be better; we didn’t know it would be that much better!” (He’s a little bit biased, of course.)

I have been aware for some time of the French YBA amplification—beautifully finished, and incorporating some strong design ideas from engineer Yves Bernard Andre, particularly regarding the role of the line transformer, the minimization of cable lengths, hard-wiring as much of the circuitry as possible, and the mounting of the TO3 output devices, all of which rid the design of “transistor” sound—and wondered if it would become available in the US. Well, Sumiko has taken on the line, consisting of two preamps, at $6000 and $3000, and two power amplifiers, also at $6000 and $3000, and was making an excellent sound with it at CES. Unusually, the top preamp, the YBA1, uses a plug-in transformer module for the MC input.

Conrad-Johnson’s line of amplifiers is mentioned in Tom Norton’s report. But as interesting was the announcement that, following the Virginia company’s funding of Andrew Litton’s 1987 Gershwin recording for RPO Records, they have just financed a recording by engineer Kavi Alexander of Water Lily Acoustics, of violinist Ruggerio Ricci performing a collection of various composers’ interpretations of themes by Paganini. Paganiniana will be distributed both by Water Lily and by Conrad-Johnson.

YBA’s impressive Model 1 power amplifier in the Sumiko room.

Contributing to one of JA’s best sounds at the show: the 35W Klimo Kent monoblock amp in the Audio Advancements room.

I mentioned earlier that the show was a musical desert. But I found welcome relief in the Audio Advancements room, where Hart
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Huschens was producing what I felt to be one of the best sounds at the show. A pair of small two-way speakers from Switzerland using Focal drive-units, the SR Boleros, were being driven by a pair of the Klimo Kent mono 35W tube amps from Germany, with a front end which included the Melos CD player and the Klimo Merlin tube preamp. Nothing exaggerated, nothing "hi-fi," just music. Hart is also distributing the Morch unipivot tonearm from Denmark.

Thiel's $1090/pair CS1.2.

I visited the Thiel room hoping for good sound, but there was so much business being done that I didn't like to interrupt by asking for some music to be played. One day we'll see the ultimate speaker from Thiel, but the CES saw the launch of a revised version of their CS1, one of Stereophile's safe recommendations in the $1000 speaker stakes. The CS1.2, which will sell for $1090/pair, replaces the older model's tweeter with a metal-dome unit and features a new woofer with a cast magnesium chassis, polypropylene cone, and a magnetic circuit said to reduce distortion levels. The front baffle is now gently sculpted and rounded to minimize diffraction effects from the tweeter, and the whole package looks very promising. I may not have heard the '1.2 in Chicago, but I am looking forward to auditioning a pair in Santa Fe.

Cutaway of KEF's Uni-Q drive-unit, showing the coaxial, coplanar tweeter.

It is now traditional for KEF to announce the fruits of the past year's R&D labors at a breakfast in Chicago. This year was no exception, and it seemed that the entire US press corps had turned out at the unearthly hour of 8am to hear Laurie Fincham and David Inman discuss and demonstrate the new KEF C-series of speakers. One of the few developments at the show which I would term revolutionary rather than evolutionary, these speakers incorporate a new full-range, complex drive-unit that acts as a point source. Basically a two-way unit, the HF dome/magnet assembly is placed where the dust cap of the woofer would otherwise be. A concept presenting considerable production-engineering problems, a breakthrough was the development of a neodymium/iron/boron magnet for the tweeter which was small enough to fit the space available yet powerful enough to render the tweeter sensitive enough to match the woofer. The result is a physically coincident and time-coincident two-way unit that should have the smooth off-axis dispersion of a full-range point-source.

Why is KEF's new "Uni-Q" driver revolutionary? A conventional multi-way loud-
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speaker will have off-axis dips and peaks in the crossover region due to interference between the sounds from different drivers. In other words, the path lengths to the listener’s ears from two drive-units producing the same signal will be different. In addition, the activities of two drive-units rarely match in their crossover region. Take a typical two-way design using an 8" woofer where the tweeter handles the frequencies above 2kHz. In the octave below crossover, where the wavelength of the sound varies between a foot and six inches, the woofer will be very directional. The tweeter, however, with its typical diameter of 1", will be radiating pretty much into a full hemisphere in its first octave above crossover, resulting in first a broad dip, then a broad peak in the response off-axis below and above the crossover frequency.

While neither of these factors affects the anechoic response on the intended listening axis, which can be made to appear flat, in a real room, where the sound heard will include reflections of the off-axis sound from nearby walls, the result will be a degree of coloration dependent on the severity of the off-axis anomalies and proximity of the walls.

With the new KEF drive-unit, one would expect the subjective result to be precise image focus, due to the time-coincident nature of the driver, coupled with a tolerance of room positioning and a lack of the traditional sweet spot for a neutral tonal balance. One could almost hope for the moving-coil equivalent of the classic Quad ESL-63, but the proof will have to be in the listening. The smallest speaker in the range to incorporate the Uni-Q drive-unit is the bookshelf C35, which can be used either vertically or horizontally, due to the symmetrical dispersion. The stand-mounted C55 adds an 8" woofer to extend the bass response to 48Hz; the larger cabinet of the floorstanding C75 extends the bass even further; while the top model, the C95, couples the Uni-Q driver with KEF’s “coupled-cavity” bass system, whereby an internal woofer fires into a cavity connected to the outside world by a duct, which acts as the drive-unit proper.

Every show features at least one idea which seems ridiculous but, the more you think about it, the more puzzled you become. Either it’s a great step forward, or it’s just weird. Such was the announcement of the M1000 Power Drive, from Monster Cable. The Power Drive RCA connector features a heavy, crosscut shield connection which Monster terms the “Turbine.” It also carries a piggyback, collett-locking banana-plug socket; when used at the power amplifier end of the pre-power connection, it allows the return/ground/negative/black speaker connection to be made at the point where the signal enters the power amplifier, rather than at the traditional speaker connector. Monster says that this reference of the speaker ground to the amp’s input ground rids the signal of the deleterious effects of the various spurious ground currents that flow within an amplifier’s chassis. The sonic result is a “faster, cleaner, more coherent signal, with a feeling of dimension and space which must be heard to be appreciated.” I’m looking forward to hearing it.

Monster’s Power Drive is a logical development of the classical good-design concept of using star grounding within an analog amplifier: the fewer the ground reference points, the less effect any spurious voltages developed in the ground connection will have on the signal. But there are two points which disturb me. The first is that high currents flow into an amplifier’s negative speaker terminal, which is usually, in a double-rail design, connected directly to the common terminal of the storage capacitors. The internal grounding of the input RCA socket may not be beefy enough to handle these currents, which in itself will develop an error voltage proportional to the resistance of this pathway. Second, while I am sure that the Power Drive does just what it is said to do, not one amplifier designer will have listened to his products in this manner when carrying out the final voicing, the decisions on what to do and what not to do regarding choice of passive parts, etc. In theory, the Monster connection will optimize the amp’s performance; in practice, it may knock a finely balanced design off the peak of the performance pyramid. We shall see.

Finally, I must report on what I felt to be the best sound at the show: Spectral gave up some of their time to allow Harmonia Mundi USA’s Robina Young to play copy master tapes of some of the recordings she has produced in the US featuring American artists and recorded by Peter McGrath. Robina and Peter record exclusively in analog, using Peter’s 30ips Stellavox, even though most of the sales will be of the CD version. As well as a stunning...
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Water Music from San Francisco’s Philharmonia Baroque Orchestra (to be released in September as part of a celebration of H-M’s 30th anniversary), they played a recording that got a rave review in Stereophile in June, countertenor Drew Minter singing Handel from Arias for Senesino (HMC 905183): almost as good as the real thing.

Almost. —John Atkinson

Representing the way “real” music is going, Casio’s blown synthesizer uses recorder fingering but is otherwise totally electronic. Will a MIDI interface remove the need even for a human player?

THE MUSICIAN

Another year, another Summer CES, and another schlepp to the windy city to see another display of high-end audio goodies. If my tone of writing sounds a bit jaded and sarcastic, it is. This year, the organizing officials at the show, in their eternal wisdom, decided to put the high-end crowd in with the rest of the zoo at McCormick Place and McCormick Hotel. It just didn’t work. I know that the Americana Congress, where ‘real hi-fi’ had previously enjoyed a certain amount of autonomy and blessed isolation, does not have a sprinkler system. Big deal. It didn’t seem to bother the Fire Marshall in the past. But in my opinion (as well as many others’), the McCormick Hotel and environs was not a good choice. The magic was gone from the high end. The small rooms and overly crowded conditions prevented serious listening, and there weren’t nearly enough places where manufacturers, distributors, retailers, and editorial press could sit down together and talk about products. These conditions forced some manufacturers (such as Krell, Martin-Logan, Goldmund, and others), who had always previously shown product in the same location as everyone else, to display their wares all over the city of Chicago, creating a significant inconvenience to those who attempted to cover the entire show.

I preface my report with this tirade because I had exactly two days in which to try to see everything in the high end. Obviously, I didn’t succeed. Not even close. And my show assignment from JA, to write an article about the music different manufacturers chose to play at CES, and how it sounded, depended on my visiting as many exhibits and speaking with as many people as possible. I was very disappointed with the relatively few manufacturers and products I was able to see (I probably spent more time in cabs than at the show), and would like to apologize in advance for a somewhat truncated view of high-end offerings. Unfortunately, I had a concert with the National Symphony in Washington the evening of the first day of the show, so I couldn’t leave until early the next day (Sunday).

I arrived at O’Hare (what a mess!) and got a cab to the Chicago Hilton, where B&W was giving a breakfast/product introduction to which I had been invited. They were presenting their newest products, the 500 Series speakers, but didn’t even have the hardware there! I received a press kit and a pretty good breakfast, but no music. A bust. Then into a cab to McCormick Hotel, to pick up my show badge and greet the Stereophile Staff. Everyone was complaining about the dismal conditions with which the high end had to contend. The
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general consensus was that this year's show was a real disappointment; attendance was down, and there really wasn't much in the way of great sounds coming from anyone's room. Nevertheless, I dutifully set forth to find any shred of musical facsimile within the bowels of CES.

My first stop, Eminent Technology, was encouraging. Bruce Thigpen was playing some very nice acoustical guitar material at realistic (meaning not hideously loud) levels. He preferred a low-key presentation, without the constant bombast that has become the norm at these shows. He chooses recordings that show the strengths of his product, but which, at the same time, provide a certain degree of musical enjoyment (I wish some of the surround-sound manufacturers would realize that helicopters and motorcycles don't have anything to do with high-end musical reproduction). We both agreed that CES is not an ideal listening situation, nor is it meant to be. It is more of a showcase by manufacturers for retailers than a command performance for the press.

Nevertheless, Bruce picks his source material carefully in order to show off his tonearm's ability to capture natural harmonic and frequency balances, as well as three-dimensional imaging. Looking through his library, I saw several familiar recordings, including Chesky's remastering of Fritz Reiner's Chicago Symphony performances. He did admit that his choices of material were somewhat self-serving; if you have to be stuck in one room with constant sound for four days, it certainly makes life less stressful if it is pleasant to listen to.

On to Telarc's room (more like a cubicle). At first I thought I had wandered into the wrong place; there were only a few people looking around and filling out order forms. Last year it was so crowded you'd have thought they were giving things away! In the past, show attendees could purchase recordings at significantly reduced prices on site. This year, if anyone wanted the same deal, they would have to order what they wanted and receive the goods later. I finally found out what the story was, from Telarc's staff. The official edict from the show organizers blamed security problems with over-the-counter sales in previous years for the sudden curtailment of this rather nice perk for those at the show. But rumor had it that since the purveyors of X-rated movies had had their wings clipped, and couldn't sell their software (probably not the suitable term, in this case) at the show, everyone else in McCormick Place had to abide by the same rules.

My visit to Telarc wasn't a lost cause, however. Glynn Wilson (Telarc Sales Dept.) and I had a great conversation about their recent overseas recordings, and what enormous successes they have been for Telarc (they are probably one of the few classical labels enjoying significantly positive commercial feedback nowadays). We talked about conductors and their quirks, and I told a few off-color conductor jokes (the professional orchestra musician's equivalent of ethnic stories).

After making a quick, obligatory visit to the main floor at McCormick Place (where most of the mass-market audio and video manufacturers put on extravagant displays), I retreated across the street to the comparative quiet (although it wasn't) of the high-end exhibits in the McCormick Hotel. I saw several totally forgettable displays of blash-sounding electronics and speakers playing musical repertoire usually reserved for elevators. I then stumbled upon Richard Chilvers in the TDL room, showing off his magnificent Reference Standard Monitor Speakers. The sound was fabulous, and I spent about an hour listening to a wide range of material. I am an organ fan, and Dupre's Symphony in G minor for Organ and Orchestra, Op.25 (Telarc CD-80136) was stunning. I asked Chilvers about his choice of repertoire for the CES, and he strongly felt that quality of sound, as well as of performance (amen!), is important to effectively demonstrate product. He had a wide range of material, from small to large ensemble, covering jazz, pop, and classical. We had an interesting discussion about the various or-

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3 This is something I heard from just about every manufacturer at the show. It wouldn't make much sense for a subwoofer manufacturer to play recordings of piccolo concerti.

4 A few members of the high-end audio press (not Stereophile, I should add) actually believe that their divine presence at CES is the raison d'être for the high-end exhibits.

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chestral playing styles within the British Isles, and I realized that Chilvers was just as knowledgeable about musical performance as loudspeaker design.

Next, up to Dahlquist, and a listen to the DQ-20 Speakers. Nice sound, but there were so many people talking and running around that I couldn't really hear enough to make a judgment. The musical material was schlock, so I assumed that the people from Dahlquist did not consider quality of repertoire to be of importance. When I tried to ask a few manufacturer's reps about their choices of recordings to play at the show, they looked at me as if I were some kind of screwball. It's too bad; they actually make a pretty good sounding speaker.

I just had to go see what Madrigal (manufacturers of Mark Levinson electronics and distributors of Meridian, Carnegie, Accuphase, Audiomeca, and Jadis) had to offer. Into a cab, and up to the Lennox Hotel. It was the middle of the afternoon, and the Sunday afternoon traffic going north on Lakeshore Drive was horrendous. When I finally arrived, most everyone had gone out to lunch, or to other appointments. I caught up with Sandy Berlin and Mike Wesley of Madrigal in the Lennox coffee shop, and had an interesting discussion about their new products over lunch (I'm in the middle of a review of their No.23 power amplifier, one fabulous piece of audio equipment!).

The rest of the day was spent visiting various displays throughout the hotel. Nothing worth mentioning, except that the rooms and hallways were crowded and stuffy. It really was no fun at all. Upon returning from dinner (about 10pm), I bumped into Jeff Rowland in the hotel lobby. He asked me where I was going, to which I replied "to bed." But he had a better idea. Although the show day was long over, his staff and a few friends were going to listen to some music up in the Rowland Research room, and why don't I come up too? Up I went, and had a great time. Ron Johnson, marketing director of Rowland Research, was there, along with some of Rowland's dealers. David Chesky had just arrived, and we all enjoyed a late-night listening session. The thing that impressed me the most, aside from the incredibly good sounds that I heard, was that everyone in the room was there to listen to music, not hi-fi. We heard Chesky's remas-

Close-up of the three drive-units used by Avalon Acoustics: a 1" titanium-dome tweeter; 2" dome midrange; and a woofer using a Kevlar/Nomex honeycomb diaphragm material.

tered CD of Dohnanyi's Variations on a Nursery Song, Op.25, and the LP of Stravinsky's Song of the Nightingale. It was a unique and fascinating experience to see people usually involved with the retail and manufacturing side of the high-end industry take time out to listen to music for music's sake. David Chesky, if you didn't know, is also a professional performing musician and composer (I have a tape of his Trumpet Concerto; it's quite a good piece), who, just like yours truly, has one foot firmly planted in the music world, the other in high-end audio.

The sound in Rowland Research's room was the best I heard at the show, and the most musically satisfying so far at any CES. The system consisted of a VPI turntable, Air Tangent tonearm (early version), Rowland's cantilever-less Complement Cartridge, Marantz

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81
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CD-94 CD player, feeding a digital signal to a Theta DS Pre-Digital Processor, Coherence One Preamplifier, a pair each of Model 7 power amplifiers, and Avalon Acoustics Ascent speakers. The speakers have been reworked and redesigned since the January Las Vegas show, and sounded clearly superior. Rowland Research, by the way, has just acquired Avalon Acoustics, so we should be seeing some interesting developments from this product line.

Audio Research's hybrid D-125, used by Theta to show off their DS Pre-Digital Processor.

Next morning, and a breakfast with the entire Stereophile crew. Everyone was complaining about the disappointing state of affairs of the high-end exhibits, and looking forward to a (hopefully) better show in Las Vegas next January. After our meeting, I hoofed it over to the Palmer House, where Mike Moffatt and Neal Sinclair were showing off their Theta DS Pre-Digital Processor. Used in conjunction with a Marantz '94 CD player, I had the opportunity to audition the sound with and without the digital processor. The results with the processor were clearly superior, resulting in a smoother, clearer, more focused and spacious presentation. Neal and Mike had their system (Thiel speakers driven by an Audio Research D-125 amplifier) in much too large a room. The amplifier ran out of gas long before realistic volume levels could be achieved, so an otherwise excellent-sounding exhibit was compromised. I can't wait to get my hands on a Theta DS Pre. At $4000, it sure ain't cheap, but initial audition confirmed that this product is something special.

Next, over to see Sal Demicco at Discrete Technology, at the University Club (corner of Monroe and Michigan Avenue). Sal had a pair of my favorite speakers, B&W 801 Matrix Monitors, on active display, and they sounded fine indeed. I also noticed that he had built an after-market bass-alignment filter for the 801s, that he claims sounds significantly better than the one supplied with the speakers. As soon as I can get hold of one of these (he promised me one within a week or two), I'll let you know how successfully it achieves its promised performance.

After a cup of coffee and a chat with Sal (he is one of the nicest people in the high-end audio industry I have had the pleasure to meet), I took off to see the Krell/Martin-Logan exhibit in an uptown art gallery (a 20-minute cab ride). Gayle Sanders and Dan D'Agostino were both there, proudly showing off their wares. The system consisted of Krell electronics (including a new CD player!) driving a pair (four pieces) of Martin-Logan Statement speakers. To say that the sound was impressive would be a gross understatement. It sounded really good, but the overly reverberant room masked some of the low-level information, and blurred transients. There were also too many tire-kickers walking around, creating an atmosphere that was not conducive to serious listening. Nevertheless, Krell and Martin-Logan managed to produce a magnificent soundstage with staggering dynamic contrasts. If dynamics, frequency extension, and sheer visceral impact are your priorities, and you've got the bucks laying around (and I mean big bucks), this system is custom-made for you.

It was getting late, and I decided to take one last stab at the McCormick Hotel high-end exhibits. Although he didn't have an active display on hand, the new VPI turntable that Harry Weisfeld was showing more than made up for the lack of music. The looks of his new TNT turntable were music to my eyes. Gorgeous.

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The four-grand price tag is not ridiculous in this case. If I had the room, and my wife's MIF (Marriage Interference Factor) on something of this size weren't so high, I probably would have ordered one on the spot.

After poking my head into more forgettable, horrible-sounding rooms, I found one last manufacturer who was making some nice sounds. Steve McCormack, of The Mod Squad, was showing his Prism CD Player. When asked about recorded material that he chooses for CES, Steve felt that "subtle pieces don't work at the show; they don't bring in the crowds." He is, undoubtedly, correct, but this doesn't mean that recordings of thunderstorms, earthquakes, helicopters, and atomic bombs should be regular fare at CES. He suggested that it is possible to select impressively recorded program material that is also musically valid. Unfortunately, his views are not shared by the majority of exhibitors, who either don't know or don't care enough to take the time to find musically and sonically satisfying source material. It is a mystery to me how some of the horrible sounds I heard during my two days at the show could come from people who consider themselves purveyors of high-end audio electronics. They have, in my opinion, as much reason to be at the show as I have dancing Swan Lake.

That evening, Stereophile hosted their semi-annual cocktail party, and just about everyone who is anyone in the high end was there. The general consensus was that the show was a dismal failure. Except for the Chicago Symphony concert that some people had attended the night before the show opened, there was little to suggest that high-end audio had anything to do with musical reproduction. True, Rowland Research, Krell, Martin-Logan, and a handful of others cared enough to present great sounds, but this still couldn't make up for what ended up being a mostly tiresome waste of time in a trade show that could well have been featuring plumbing supplies. As a matter of fact, that probably would have been more interesting. —Lewis Lipnick
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a few in hotels which would accept them. But most seemed to cope.

I definitely missed most of the main floor of the "zoo" at McCormick, except for a few prefabricated audio "rooms," some striking new video monitors from Sony, and some nifty little pocket-dictionary/thesauri from Franklin. I want (crave, desire, covet, thirst after) one. And I only made one or two of the "off-campus" demonstrations. What I'll attempt to cover here will emphasize new or unfamiliar products, with only an occasional excursion into the more familiar — when the mood strikes me. So, on to new dimensions of sight and sound, with only a very brief glimpse of some important new video products before moving on to the major subject at hand.

**Sony** showed a prototype of a 43" Trinitron direct-view (not projection) set — no word on whether it comes with a fork lift. Also several 32" models to be available in the Fall from around $2800. Sony (and apparently other manufacturers as well — but I didn't catch them) were showing a prototype IDTV (Improved Definition Television). It had a bright, line-free picture. But, like a Toshiba set shown at previous shows, it also had slightly fuzzy edge detail; perhaps the natural limitations of NTSC were merely more apparent with the scanning lines removed.

**Tera**, a new company based in Natick, MA, had equally striking 27" and 31" monitors. Little information on them as yet, but they were, if anything, more impressive than the Sony's; the latter were apparently driven with studio video recorders, the Tera with a midrange Pioneer laser-disc player. NAD has a new 45" rear-projection set. I didn't see it, but word is that it's strong competition for the Pioneer sets. Word also has it that NAD is discontinuing their direct-view monitors and will concentrate on rear-projection.

**Amrita Audio** is not a new name, but is an unfamiliar one to most audiophiles. Their Reference Standard, a large, three-way system using Dynaudio drivers, was making impressive sounds driven by Boulder electronics. It was in the **Boulder** room that I became aware (and obtained a copy) of a superb sampler CD from **Dorian Recordings** — a new classical label (CD only, I believe). The sampler is not for sale, but 16 CDs are set for release soon. The sonics on the sampler are of first-rate audiophile caliber; this is a label to watch out for.

The heavily revised **Avalon Acoustics** loudspeaker (new midrange, woofer, crossover, slightly redesigned cabinet, higher price) was running hard for best sound at the show. It was certainly near the top, in my estimation; there wasn't a more delicate, detailed, open soundstage to be heard in town short of the Chicago Symphony. The overall transparency was exceptional. So, at $11,800, was the price. You do get fantastic build quality for your money: the cabinet is 1½" thick, the front baffle 6"! **Avalon Acoustics** is now a division of **Rowland Research**. Rowland was also using their new, cantilever-less moving-coil ($2500) for analog and a Theta outboard digital processor ($4000) for CD. I'm certain the associated equipment was making a substantial contribution to the overall high caliber of sound.

![Image](https://via.placeholder.com/150)

**Carver's M-4.0** solid-state amplifier is said to have the same transfer function as his humnongous **Silver Seven** tube amp. Will it sound the same, though?

**Carver** has redesigned their "Amazing" loudspeaker with a new tweeter and higher (6-8dB) sensitivity. Which means it's a new loudspeaker and past reviews are now OBE (Overcome By Events). It may be better, but the display was not conducive to serious auditioning. Also on tap — an "Amazing Junior," a smaller version of the original. Price and availability are not specified. Also two new Carver amps, including a 4.0t at about $800 which is said to completely replicate the sonics of Carver's $17,500 **Silver Seven** tube amp.

Hmmm.

Plenty of news on loudspeaker stands at the show. If you've seen the heavy stands used for the Vandersteen 2C, you've seen the **Sound Anchors**. The same company now makes a variety of stands for different products, including the B&W 801 and Celestion SL600. **Celestion** also introduced the S Stand in two heights (18" and 24") at $290/pair; it's based on the technology used in the SL700 stand.
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Celestion's $1500 SL12 features dual woofers in separate sub-enclosures formed by the H-bracing of the cabinet.

New speakers from Celestion included the SL12, a taller, double-woofer version of the SL6S (the latter also improved into the SL6Si), and the SL600Si, which features an improved crossover over its predecessor, with separate ground paths for tweeter and woofer, and terminals to allow bi-wiring/bi-amping. The SL12 will be available in the Fall at $1500/pair. And before I leave the subject of stands, **Chicago Speaker Stands** is about to introduce a new material, called NAVCOM, as an isolation layer between its stands and the loudspeaker. You'll be hearing more about this material, which the developer, Steve Sims of Sims Vibration Dynamics, argues is superior to Sorbothane. It will be available in many forms for isolation and damping. Both Sims and Monster Cable will introduce their own versions of isolation feet using the material.

Conrad-Johnson PV9 preamp atop the prototype C-J CD player.

**Conrad-Johnson** introduced two new preamps: the PV8 at $1685 and the PV9 at $2950. Also new: a big brother to the MV50 power amp, the MV100, 90Wpc, $2950. **Pride of place in their exhibit, however, was given to the Premier Seven two-box preamplifier.**

**Dunotech** has a smaller version of the Crown Prince in the PCL-500 Marquis; smaller and shorter than the heir, at 58" high and 158 lbs., it has the same symmetrical driver configuration (although not the same drivers). I didn't catch the price; Dunotech was sharing their room with W&W Audio (makers of the Wadia outboard digital processor), and no Dunotech personnel were on hand when I was there. The W&W rep thought they cost about $500 each. Right. He clearly had no idea what loudspeakers go for these days. My educated guess, and it's purely that, is $3000+/pair.

**Krell** was set up in an art gallery across town with **Martin-Logan**. The latter was showing the revised Statement, which is now considerably larger and more expensive (at $40,000/pair including electrostatic screens and subwoofer panels) than the version shown...
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Wilson Audio Specialties' WATT™ loudspeakers; the Model 7 amplifier from Rowland Research.
at the New York Stereophile High End show, Krell introduced their cartridges—two models, with the top-of-the-line KC-200 selling for $1100—and showed a prototype of their CD player. The latter, at $5000, is the middle of three models planned by Krell Digital, a separate company spun off of Krell. The Statements cum Krell were producing very impressive sounds, although the acoustics in the bare-walled/bare-floored gallery were doing their best to make a counter-statement.

A distribution company known as Panther Enterprises distributes a new line of cartridges for Benz in Switzerland (manufacturer of the cartridge bodies for the van den Hul MC-One and MC-10), three models ranging from $895 to $1299. Panther also distributes True Image Electronics. The latter’s new MOSFET mono power amplifiers ($4900/pair) were convincingly demonstrated through the Focus High Definition Monitors ($1450/pair). It was, in fact, among the best-sounding rooms at the show, and probably the least expensive loudspeaker among the top group.

There weren’t as many new companies making their first forays into the CES wilds as usual, perhaps because of the new (and more expensive) display arrangements. One that did show was Precise Acoustic Laboratories. Their principal drawing card is that their loudspeakers were designed by Keith Johnson of Reference Recordings. Precise Acoustics is apparently a separately managed subsidiary of Onkyo, and the loudspeakers use all Onkyo drivers (Onkyo is apparently one of the top-volume suppliers of OEM loudspeaker drivers in the world). The models range from the Monitor 10, at $1500/pair, to the Monitor 3, at $280. The 10 was impressively open and unclostered throughout the mid and upper ranges, but the bass was a bit troubling (the room?). It seemed to be a stretch to refer to the others as “monitors,” but the demonstration conditions—with five pairs of loudspeakers positioned near the walls in a small room—were far from ideal. The various models in the line did, however, appear to lack a “family resemblance.” This may still, however, be a line to watch, if the designer keeps his hand in and the bean-counters keep theirs out.

I always reserve plenty of time to visit the Shahinian Acoustics room at shows. Not only because Dick Shahinian invariably puts on an impressive demonstration, but because he brings a wider variety of superb symphonic recordings than all the other high-end audio companies put together (only a very slight exaggeration). It’s the one room at the show where you will hear music. I never come away without a list of a few must-have recordings—this show’s inside tip: a Chandos CD of Moeran’s Symphony in G minor. Shahinian has finalized his flagship Diapason loudspeakers ($5700/pair), vastly improved over the prototypes shown in Las Vegas. They clearly need more room to breathe than the small hotel room offered, but there wasn’t a more awesome reproduction of full symphonic orchestra at the show. Omnidirectional (or, more properly, multidirectional) loudspeakers are Shahinian’s clear passion, and no one has taken that design to a higher level of perfection. You may or may not agree that it’s the right approach (and many audiophiles don’t), but the Diapason must be heard by anyone claiming to know what’s going on in high-end loudspeakers.

Spectral’s CD player: “a way to appreciate the quality of the CD in a way that has not been possible before,” according to Rick Fryer.

Krell wasn’t the only high-end company showing a CD player. Spectral has leaped into the breach with the SDR-1000 Reference Playback Disc System, at $6000. For your money you also get an integral line-level preamp, with volume, balance, aux, and tape inputs. But you’ll need an outboard preamp if you plan to use LP. I wouldn’t be surprised to see Spectral offer the same technology without the high-level preamp goodies in a “low-end” model at a later date. But that’s mere speculation.

I already mentioned the Wadia outboard digital processor from W&W Audio. This $6500 device uses 64x oversampling. I haven’t had the chance to digest the technical brochure yet, but the high rate of oversampling...
When AUDIO MAGAZINE Wanted To Hear The APOGEE DIVAS At Their Best,

In the Best Of Audio '88 issue Anthony Cordesman said, "A dealer ultimately has to be judged by his ability to create good systems at a given price level. . . . I mention this because I was struck by the fact that the Divas performed exceptionally well at Sound By Singer."

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Two of TJN's "intrepid keepers of the Stereophile booth": Laura Chancellor (left) is amazed by the juggling ability of Shipping and Receiving Clerk Daniel Reilly.

is said to push the high-frequency spurious above 2MHz, eliminating the need for output filtering.

I've made no attempt to be exhaustive here; CES is simply too big for that, and some of what I failed to cover will be reported on in other reports. CES has a way of frustrating the best individual efforts at coverage, leaving one at the mercy of mysterious forces. Yours truly made a dinner appointment to meet the Cheap-skate and several others at a favorite restaurant that had gone out of business since last year. JA and LA were frequently seen wandering off in a daze from one press conference to
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Natural Sound.
Infinity celebrated their 20th anniversary at the show: two of the company’s three founders, Cary Christie (l) and Arnie Nudell (r) are seen here with Tom Friel of the CES (center). (The third founder, John Ulrick, an expert in switching-amplifier design, now runs his own consultancy company, working for, among others, Sumo.) For lovers of trivia, Infinity’s first product was the Servo-Statik 1 loudspeaker, which sold in 1968 for the then astonishing price of $1795/pair.

Another LL was forced by other commitments to try to see it all in two days. (I had to do that once myself. You either have to be highly selective or else run in, grab the literature, ask the price, and listen for two minutes, leaving the dazed exhibitor to wonder why you hate his products.) The Cheapskate was last seen mumbling something about hating Hi-Fi (you’ll get over it, Sam, I guarantee it). A vote of thanks is due to the intrepid keepers of the Stereophile booth, who managed to keep spirits up while furiously selling subscriptions and suspenders (red, with Stereophile logo), and keeping the nut-bowl full.

Much as attendees profess to be worn down by it all, they keep coming back. The attraction of CES, at least of the high-end audio sector, is only partly seeing the new goodies; it’s primarily the opportunity to have a four-day encounter session with others who share a passion for music and the hardware that serves to bring it into our homes.

—Thomas J. Norton

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Stereophile, August 1988
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I'd never been to a CES before, S or W. Granted, there are better ways to do it than my 2½-hour once-over-hardly (I was still discovering whole clutches of new exhibits on my way to the airport shuttle), but such a swift descent into the maelstrom from the airy heights of Northern New Mexico, Laid-Back Land of Manana, was culture shock of a rare and heady kind.

"Wow!," thought the 8-year-old within, as the endless McCormick Place aisles stretched out like lanes on the bottom of a gigantic Olympic swimming pool, encrusted with all manner of mutant transistorized sea-growths, "Lookit all this neat stuff!" Meanwhile, the 37-year-old curmudgeonly misanthrope I have become sniffed and curled his lip: "Who needs all this junk? Why are these people smiling at me so hungrily? And—good lord!—real live bimbos! In inch-thick makeup and push-up bras! Ick!"

I started trudging the halls of the McCormick Center Hotel, where the high-end was entrenched. This seemed normal enough, with crowds and people/space ratios similar to those of the two Stereophile shows I've attended. (I later found out that Monday's leisurely atmosphere and humane ratio of attendees to room, hall, and elevator capacity were all bad news to the exhibitors, who wanted, of course, mobs of people, not to mention the opportunity of complaining that rooms, halls, etc., were too small. You can't win.

In all the hundreds of exhibition rooms I visited, all with music bearing away through an insurer's nightmare of expensive equipment, I saw plenty of people looking, examining, feeling, and touching the hardware, but I never saw a single person actually seriously listening to the stuff. Not that I blame them—no one even considering spending the kind of money asked for most of it could afford to take seriously any sonic conclusions reached from listening under such wretched conditions with so many unknown and unchangeable variables. Made me wonder why the high end, if its much-vaulted standards are proposed at all seriously, exhibits at CES at all. Certainly no-one I spoke to thought it worth their while in any substantial sense. It was more a feeling of seeing and being seen, of reaffirming connections and professing the corporate flesh. I could much more easily understand dealers snapping up equipment because it looked impressive than because it sounded so. In the case of the latter, how could anyone possibly know? At CES, seeing, not hearing, is believing.

I was dazed by the millions of dollars spent on displays bigger than my house, the hotel fees, the schmooz-a-thon dinners and cocktails, all those plane and cab fares. As I prowled the premises, my frown clearly read, "Is all this really necessary?" Somehow, US hi-fi manufacturers managed to survive and thrive before CES (the first show was in 1968). It's telling that, whenever I brought this up in conversation, I was met with a pause, a sigh, reluctant agreement, and this admission: "Yeah, well, God knows I'm not doing any business here. But then I never do."

Why were they all there? Everyone I spoke to had resigned themselves to showing at CES because—well, because everyone else was, because it was expected of them. Because, in this business, that's simply what you did once or twice a year. Because other companies and dealers would wonder what had happened to them if they didn't. Their equipment displays? Mere props, excuses, toys, to play with while examining the real, invisible exhibit: bucks.

No quarters here—if you don't make a profit, you don't survive. My point is that the industry now seems addicted to CES, to all those huge advertising and promotional budgets (read write-offs). And like all addictive drugs, this one is just as easily confused with survival itself. You've got to, you need to show at CES. Don't you?

Business really easier this way? I don't think so. Discussing CES with JA after our return to Santa Fe, I expressed my frustration with picking anything positive to say about the show, about the maelstrom. Quality of the McCormick Place main halls which featured the maddening bimbos + the block with cheese-take-and-bulletin-standard American business practices. JA shrugged. "Yes, but that's a given. Everyone at CES says, 'Yeah, but that's business, man.'"

This nail-biting is just one way of doing business, and I don't envy J.J. at stereo.

—Richard Lahner
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The Perfect Pitch
Alvin Gold

I've just had a type-three close encounter with a miniature loudspeaker I have to tell you about. It's called the AE-1, and it comes from a company called Acoustic Energy. If I'm proved correct, it's going to redefine what we may expect to achieve from a small loudspeaker. But, not to waste an opportunity, let's take a quick guided tour of the market for miniatures. The AE-1 can wait—just remember the name.

I don't know the position in the States, but in the UK there are two seminally influential miniature loudspeakers which have held their position since the year dot. One is the BBC-inspired LS3/5a, the other is the Linn Kan.

For many people, the case for the LS3/5a as the state-of-the-art miniature is unanswerable. It's interesting that despite being one of the longest-standing loudspeakers in current serial production, it continues to raise more heat in debate than almost any other loudspeaker.

The ingredients are classic of the genre because the LS3/5a created the genre. The box is a heavy, ultra-rigid (partly by virtue of the tiny dimensions needed to enclose the 5-liter volume), and effectively damped sealed box which is home to two drive-units of KEF extraction. One is a standard, well-made, close-tolerance, soft-dome tweeter, the other a small Bextrene-cone driver which does the major part of the work. The two are married by a very sophisticated, complex, and power-robbing crossover with a 16 ohm characteristic impedance. The result? A low-sensitivity, low-coloration box with no deep bass, an excess of upper-bass "bloom" (in classic BBC tradition), a slightly forward midband, a complete inability to handle any power to speak of, and an unrivaled ability to cover its own tracks (James Michael Hughes, Britain's very own Enid Lumley and a friend to boot, first said that).

On power handling, the numbers tell a thousand pictures. For a nominal 16 ohm impedance, Hi-Fi Choice lists its sensitivity as 81.5dB/W and power handling as 50W for 96dB SPLs in normal rooms (with a tailwind and a lot of luck), again a nominal figure. As for that upper-bass bloom, well, the story goes like this: the BBC wanted the LS3/5a as a transportable monitor to fit into very restricted spaces—such as an outside broadcast van, for example. But they also needed to be able to hear if the deep, low rumble of a concert hall's air conditioning was bleeding into the mics, and the bass was allowed a rather bloated character to facilitate this.

The story may or may not be apocryphal, but it deserves to be true—it's how the system sounds. As for compression—well, have you heard much FM radio recently? While certain rather xenophobic pundits like to suggest that the BBC is above using compression (a very senior DG engineer once told me the same thing about their classical record releases!), most radio broadcasts only too clearly end up sounding compressed. It's my experience that many broadcast engineers wouldn't recognize compression if it came up and gently squeezed them in the buttocks (with apologies to Frank Zappa).

And this is the loudspeaker that is still held up as being archetypically accurate and natural! It isn't accurate, and it's doubtful if it was ever meant to be. What its rather fat, squashed, and lazy characteristic has given it instead is an unrivalled, beauteous, ravishing, goddam bloody niceness. I have the same contempt for niceness in hi-fi components as I do for the often expressed view that real music is, or should be, "nice."

To escape from the capital sin of niceness, the Linn Kan was born, and quickly redefined the parameters by which miniatures were judged. What Linn did, if memory serves right, was to buy up a batch (50?) of surplus LS3/5a enclosures, stuff in their standard tweeter (in those days the Scanspeak 19mm model) and the LS3/5a's KEF-derived Bextrene-cone bass driver, and align the system for near-wall use. This time, the crossover was a much simpler network with greater power-handling ability. It was also far less power-hungry than its forebear, which almost by definition invested it with greater efficiency. It also had very much better power handling. The result was that the Kan could go a lot louder and with much greater dynamic in-

Stereophile, August 1988
tegrity than the LS3/5a, and that small-scale information was more coherently presented. While the LS3/5a sounded subtle but really wasn't, the Linn Kan, which didn't, was. (Follow?) The Kan had and still has a rightness and a sense of timing, along with an innate poise to which only a select minority of loudspeakers, even now, can aspire.

There was a tradeoff, however. The Kan, as many of you will know, was horrendously colored. The midband was balanced forward to an extent that even the recommended near-wall positioning could do very little to dent, and there's no doubt that this made the Kan very music-fussy, being suited to certain types of rock, funk, instrumental, and some other small-scale and solo musics, but much less successful when presented with a full orchestra, or even a voice or instrument capable of covering a wide area of the audio frequency band. The Kan's innate lack of balance would produce clear shifts in timbre and ambience as the music progressed. This species of inconsistency is not easily ignored.

As it evolved, some of the Kan's rough edges were smoothed off and the system began to sound more civilized and together. It also made many friends, though very few of them were former LS3/5a lovers. In time it has accrued an air of respectability to go with its newly acquired good manners, but there was only a certain amount of stretch in the original design, which never completely lost sight of its origins.

There have been and are other miniatures, of course, of which one of the most important is the Ariston QLN1. The Ariston, built in Sweden, started life as the QLN some years ago, taking the form of a small, truncated pyramid containing a pretty standard small-cone bass driver and tweeter. The shape was designed to eliminate internal standing waves, but the cabinet was horrendously difficult to make and the speaker therefore sold at a horrendously high price. It was characterized by an overly hi-fi presentation, with a ripe bass and recessive midband leading to a sophisticated, ultra-spacious but rather uncoordinated and dynamically flat-sounding transducer—one for which the supply of drive-units proved to be a problem. The QLN then vanished. Vromph (or, as they say in Germany, vromanpah).

The next time I saw the QLN was while visiting the new Ariston factory in the Scottish highlands a couple years back. I wondered off with An Other and stumbled across a pile of the distinctive cabinets. It quickly transpired that Ariston had acquired rights to the design (and also to Electrocompaniet, of which there has been little subsequent visible activity in the UK, at least) and was in the process of tooling up for worldwide sale in a considerably improved form. The promises have been honored, but in a move certain to dent their credibility as purveyors of exotic equipment (which the QLN certainly was), they've actually taken the parallel step of reducing prices substantially.

The new QLN looks similar to the familiar oldie except that the bass unit now sports a bright yellow fiberglass cone with a textured straw-like finish, the driver being made by SEAS. There's one visible difference too, but only if you look around the back: in place of the standard 4mm sockets there are four brass 4mm terminals suitable for bare wire or plugs, and configured for US-style bi-wiring, which in the last year or two has become all the rage here.

There are a number of other differences too, but the other really important one concerns the nature of the woodwork itself. Originally it was fiberboard, but the new QLN is made from an Ariston proprietary material called Q-board, a laminate of fiberboard with a central visco-elastic layer which acts as a very effective deadening layer, reducing microphony considerably. I've seen this demonstrated to my complete satisfaction using little squares of the stuff; it really does what is claimed, and is used also in the Q-deck record player, an Ariston budget Dual-beater which, as I predicted a few issues back, is carving itself a healthy niche.

That's the QLN, which sounds better than ever and just as seductive. It's a natural foil for the LS3/5a and the very antithesis of the Linn Kan. The changes detailed, however, have given the model a whole new sense of purposefulness; for the very first time it gives a good impersonation of crispness, depth, and evenness; and I don't think there's any real loss of euphony and no reason at all for any loss of empathy. The old QLN was woefully insensitive, barely producing a squeak with ordinary 100W amplifiers, but the new one is much improved, though still about 3dB below the industry norm.

All the loudspeakers we've discussed thus far are expensive, but their prices fade into insignificance next to the Acoustic Energy, which...
costs $700 in the UK ($1500 in the US), or roughly twice as much as the QLN, the next most expensive model in this micro-survey. I cannot with hand on heart say that the AE-1 is value for money, but if you want the best small loudspeaker there is, you have no choice.

The story goes like this. Acoustic Energy was set up to produce a loudspeaker aimed primarily at the studio market, a genuine miniature but with real balls to challenge the preeminence of the weedy little speakers that engineers presently stick on top of their consoles to hide from them the crimes they are committing. History shows that Acoustic Energy failed this prime objective, in the short-term anyway, and although a handful of famous rock stars, producers, and other freeloaders and has-beens whose names I've temporarily forgotten do use AE-1s in their studios, the main broadcast organizations see no advantages. The high-fidelity market, however, is less conservative and more willing to give new products a fair crack of the whip, and in a very short time, the AE-1 has created quite a buzz here.

Acoustic Energy AE-1 loudspeaker

With its 22mm wall thickness, the AE-1 has an immensely strong acrylic-covered box with an internal capacity less than a LS3/5a or Linn Kan, and is vented via two front-facing ports with gas-flowed profiling to reduce turbulence. A plaster-like material is poured inside and rolled around, drying into a smooth curve at the rear which eliminates parallel internal surfaces. Shades of the QLN by alternative means. The really exciting part, however, is the bass driver, a novel laminated aluminum-alloy cone unit with a metal-cone center cap and a massive motor assembly, designed and developed by Acoustic Energy with help from the North London firm Elac.

The bass unit is coupled to another Elac unit, the increasingly familiar 1" metal dome, probably the best and least metallic-sounding metal-dome tweeter available today. The same tweeter is used by Musical Fidelity and Monitor Audio, along with a number of other predominantly small manufacturers. However, the unit has been extensively reworked for the AE-1 with a reduced-mass voice-coil giving a higher out-of-band resonant frequency.

The two air-movers are married by a complex 13-element network featuring air- and iron-cored inductors with generous power ratings, and provides an 18dB/octave slope on the tweeter and a 24dB/octave slope on the woofer. There's no getting away with the quite gentle slopes often used with "lossy" traditional diaphragms, which almost switch themselves off outside their nominal bandwidth and which are far too highly self-damped to sustain any real high-Q resonances. Metal cones and domes are, by nature, piston-like devices, and when they do go off, do so in fairly dramatic fashion. Hence, out-of-band behavior has to be strictly controlled. Wiring on production speakers is made from six individually insulated solid cores of 0.4mm diameter.

In the US as in the UK, you've become familiar with metal-dome tweeters which are rapidly gaining market shares at the expense of the traditional cloth, paper, and plastic units. But the simple fact is that most metal-dome tweeters sound awful. Often they consist of polymer domes with a vapor-deposited metallic coating. With others, the voice-coil former is not in thermal contact with the metal dome itself. There are other wheezes too, but the outcome is depressingly consistent: sharp, brittle sound quality and relatively poor power handling.

The Elac dome is in direct intellectual line of descent from the Celestion tweeter familiar from the SL6 and its successors, and is, inherently, extremely smooth and well-behaved. The (ventilated) voice-coil former and dome are in one piece, the latter therefore acting as
a heatsink, radiating heat built up in the coil which immeasurably adds to power handling. But the Elac unit successfully overcomes a major shortcoming of what I’ll call “real” metal domes (to distinguish them from the metalized and other varieties) by offering the efficiency of a high-order Elac-equipped system, which generally works at about 88.5dB/W/M. The first HF breakup mode on the latest sample is creeping ever closer to 30kHz, and (almost) out of harm’s way. When poorly integrated, the unit can sound a little papery and fussy (never metallic, by the way), but when well integrated it is very sweet, surprisingly refined, and has bags of detail.

The bass unit I can’t tell you much about except for the obvious, which is that by sharing major design attributes with the tweeter, the system as a whole is capable of offering to music a seamlessness and coherence that is rare, to put it mildly. None of this is what impresses me most or first about the AE-1, however. In conversation with the AE-1’s designer, I discovered that the first design goal happens to coincide with something I have held dear for a long time, which I have written about extensively, yet which often has been swept under a rug as a loudspeaker problem that doesn’t really exist. I refer to compression. Compression in loudspeakers is manifested in a number of ways, the most common of which is a simple change in timbre and spatial perspectives with changes in volume. Of course, it is important to distinguish this from the equivalent problem in amplifiers.

I’m convinced that an important reason why panel speakers often work so well is their intrinsic freedom from compression due to heating (the major mechanism in traditional units), because the drive-unit is, in effect, rolled out flat and can dissipate heat with ease. Of course, most flat diaphragms don’t often work in push/pull, so there is a compression (and harmonic-distortion) mechanism built in which is related to excursion by the inverse square law. Cone units can overcome the latter by suitable design of the magnetic circuit, but the heat buildup in the closed area of the coil is inevitable, resulting in dynamic temperature and impedance changes with both short and long time constants. Well-designed metal domes and cones can overcome this, and, judging by the evidence of the Acoustic Energy, with remarkable success.

The AE-1 has an 88dB/W sensitivity, and is designed to handle—and I mean handle—something like 200W. But those are just numbers—the reality is quite extraordinary. The AE-1 will indeed soak up power like a bottomless vessel swallowing water, but from one point of view there’s no need. The system sounds so naturally open and detailed that quite low volume levels are fully sustainable, with no urge felt to increase the volume simply to make things audible.

Having said this, and although it really wasn’t necessary, those who like loud volume for the sheer, sensual joy of wallowing in it will find in the AE-1 a supremely poised design that goes loud without complaint or holding back. And however loud it goes, within very wide limits, there is absolutely no strain, no noticeable compression. Just an easy, natural wash of sound at a level where other speakers would be in severe distress. One decibel louder, and the bass cone hits the end stops, and that’s all there is.

As astonishing as the dynamics of the AE-1 are, so too is its bass extension, which has depth and fullness quite out of line for a speaker this size. It doesn’t achieve weight through upper-bass excess like an LS3/5a, but through sheer evenhanded ability, the only perceptible shortcoming being a certain loss of detail and clarity in the bottom half-octave or so.

And that, folks, is the Acoustic Energy AE-1. It should be used with big amplifiers because it can make good use of high powers (I used a Musical Fidelity A370), not because it needs them. It does need a little wall loading (it sounds best about 10° or so from the adjacent wall), and it needs height because the speaker doesn’t sound quite right if listened to from above the tweeter axis. Most of all, it needs a good-quality stand; the best I came across, by a long shot, is a stand actually designed for a quite different model—the Celestion SL700. This is a tall, very heavy pedestal stand of great rigidity and excellent self-damping, spiked and coned and even coming close to matching visually. It is not available on its own at present though, and would cost a lot of money if it were! Well, maybe Celestion, who ought to have made the AE-1 first but didn’t, will relent. The AE-1 deserves no worse.

1 Celestion announced two stands based on the SL700 stand at the June CES.
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APOGEE DIVA LOUDSPEAKER

Arnis Balgalvis


Manufacturer: Apogee Acoustics, 35 York Industrial Park, Randolph, MA 02368. Tel: (617) 963-0124.

Call it preoccupation, fascination, or preference, but I have a warm feeling for planar loudspeakers. It all started at Bud Fried's City Line Lectronics store some 25 years ago. Already bitten by the hi-fi bug, I was frequenting audio stores—just looking, as they say. It just so happened that the system they played for me that day consisted of the Decca London cartridge, Quad tube electronics, and the Quad Electrostatic loudspeaker. In mono, no less.

What I heard was, for the first time, exactly what I had imagined and hoped for: the sound of my dreams. It was all there—the sound was transparent, warm, liquid, and, most of all, music to my ears. And this sonic imprint of freedom, presence, and coherence has stayed with me for years.

Since that day of revelation I have owned single Quads, stacked Quads, Koss 1As, Acoustat IIIs, and Quad ESL-63s (which I modified very extensively). Martin-Logan CLSes and Apogee Duetta Mk.IIs have also had pleasant stays in my listening room. I have been observed in the company of Linn Isobariks and KEF R105s, in my own house no less. (They were moments of weakness, when I succumbed to the temptation of loudness and dynamics.) But I kept the faith, returning every time to that good ol' planar sound I love so much.

My experience with Apogee products has been favorable, to say the least. The first real "ear opener" occurred at the home of Hy Kachalsky, the president of the Audiophile Society. Dave Reich from Classe Audio was there to demonstrate his DR-3 amplifiers; the speakers then in residence were the Scintillas. Some members had stayed a little later than
usual and, after the official business, we let it
all hang out. Well, this was one of those magic
events where everything fell into place; the
sound was simply first-rate.

In 1987, I joined the staff of Stereophile, just
before their High-End show hit NYC. Of
course, I attended. It was no accident that I
found myself in the Apogee room more often
than anywhere else. I finally got to hear some
of Jason Bloom's rare and excellent recordings
from his famous record collection. I don't
mind telling you that I was duly impressed by
the music and the speakers, a pair of Divas.
When I later found out that Apogee got the
Best Sound of Show award, it was no sur-
prise—I would have voted for them also.

Apogee has come a long way. It all started
with a bang in 1983, with the release of the
Apogee Full-Range Ribbon Speaker. This was
a gigantic effort that set off reverberations, not
only because each speaker weighed in at 300
(!) pounds and stood 81" tall, but, as Apogee
was quick to point out, it was a full-range rib-
bon.¹ Now the electrostats and other planars
had competition from yet another venue.

The original Apogee was not without prob-
lems, however. As good as this all-out effort
was (the new speaker certainly put Apogee on
the map), it presented some difficulties to the
user, making it a product for a chosen few. It
was a three-way system with impedances in
the low to very-low range, with a sensitivity
right in line with the impedance—very low.
You guessed it, the problem was finding an
amplifier that could swing enough volts and
drive enough amps into this load. Expense and
physical considerations aside, the amplifiers
required to power this speaker had really not
been designed yet. At that time only a couple
of amps had the guts to tackle an assignment
this tough, considerably limiting the choice
of applicable candidates. This idiosyncratic
speaker was headed for a showdown with the
status quo.

There followed a progression of other full-
range ribbon models, decreasing in size with
each new release. Amplifier designers also did
not sit on their hands: new models could look
at low and complex loudspeaker-impedance
loads without flinching. I strongly suspect
that, just as Edgar Villchur changed the direc-
tion of power-amplifier design when he in-
roduced the Acoustic Research acoustic-
suspension speakers, Apogee similarly exerted
an influence on the power amplifiers of the '80s.

Fortunately, each new Apogee model carried
a lower price tag and was significantly easier
to drive. The Scintilla was the first model to
follow their initial three-way flagship, with the
Duetta and the Caliper following at yearly in-
tervals. They were priced at $3500, $2780, and
$1650, respectively.

Then, just when customer needs and price
points seemed covered, and the technology
exhausted, Apogee announced the Diva. Once
again the speaker is a three-way, full-range rib-
bon, but most of the similarities end there.
This time around the impedance is civilized,
the frequency response is vast, and the sen-
sitivity is respectable.

The Divas are representative of the con-
tinuous evolution undergone by high-end pro-
ducts. Like numerous other excellent products,
the Divas' performance has been carefully
honed over the years, their predecessors pave-
ning the way. Thanks to these "point men," the
technical and conceptual logjams can be
cleared up. I'm sure timing is also a large part
of the picture; availability of suitable materials
and techniques today is more in tune with the
requirements posed by sophisticated products.

As far as appearance is concerned, the Diva
is unmistakably a member of the Apogee fami-
ly. The elegant, trapezoidal outline is intact; the
inside edge is vertical, the outside edge slanted.
It's all there, except that everything is
bigger. The Divas are 72" tall, 31" wide at the
bottom, and 26" wide at the top. The basic
speaker housing is only 2½" thick, and is
aligned vertically by a support structure that
protrudes another 6.5" at the front and extends
10" in the back. Each side weighs 150 pounds.

Viewed from the front, the very narrow rib-
bon closest to the inner edge is the tweeter.
The next, slightly wider, element is the mid-
range ribbon, while the very large trapezoidal
surface taking up most of the radiating surface
handles the low frequencies. Apogee claims to
cover a frequency range of 25Hz to 25kHz with
this three-ribbon array. A separate crossover
network, with crossover points at 600Hz and

¹ As I pointed out in my original review of the Caliper (Vol.9
No.7), only the mid and treble drivers of Apogee speakers are
true ribbons in that they are not under significant tension other
than that provided by their own weight. Though the con-
ductor of the bass-driver design common to all Apogees covers
the whole area of the diaphragm, as with a ribbon, that
diaphragm is actually under tension, being suspended along
all four edges like a thin metal drum skin. —JA

Stereophile, August 1988
12kHz, splits this spectrum into three portions.

A classical ribbon loudspeaker consists of a strip, or ribbon, of conductive material loosely suspended in a strong magnetic field. When current is passed through the ribbon, it sets up a magnetic field of its own which interacts with the constant flux field set up by the permanent magnets, causing it to move. Should the current be alternating, the ribbon will vibrate and reproduce the sound that this current represents. (If Apogee's Leo Spiegel reads this, he is sure to wish that things were really this simple. In the real world, problems permeate the design: low resistivity, resonances in the ribbon and the structure supporting the ribbon and magnets, flux nonlinearities, and material fatigue are just a few of the trouble spots.)

The woofer portion reacts slightly differently since it is not surrounded by a magnetic field, but is merely immersed in a flux. The woofer magnets are located behind the woofer ribbon; when the woofer conductor moves, it encounters a flux density of lower intensity as it moves away from the magnets. This single-ended design is subject to nonlinearities at large excursions.

The nature of the Divas' design mandates a heavy support structure to provide an extremely positive foothold for the magnets. Since any movement here translates directly into distortion, substantial rigidity must be provided in the frame holding the magnets. Fortunately, all this weight works to the advantage of the vibrating ribbons. Being extremely light in weight—that's to keep the moving mass to a minimum—the ribbons are not likely to energize resonant modes and cause standing-wave disturbances in the heavy-duty structure of the support frame. The ratio of the stationary mass to the vibrating mass should be as high as possible to provide a firm and unyielding foothold against which the ribbon can be free to move. This is especially true in a free-standing, vertically cantilevered design such as the Diva, where only the lower end is planted firmly on the ground. At 150 pounds/side, this should hardly be a problem.

But sheer weight is not enough to keep the Divas securely positioned, as far as Apogee is concerned. Just to make sure, they provide four 10-32 pointed screws in the support brackets. These adjustable spikes serve double duty. First, a very intimate contact can be created to anchor the speaker to the ground, and second, the adjustable spikes allow the speakers to be brought into precise vertical alignment.

The tweeter and the midrange ribbons, in their full-length vertical slits, are long enough to act as line sources, providing a polar radiation pattern with excellent horizontal dispersion characteristics. A line source contributes minimal vertical dispersion, but there is a downside to this benefit. At distances of 10' to 15', the listener is restricted to a seated position. Standing up will put him above the high-frequency dispersion limit, where an obvious rolloff is encountered.

At this time I would like to bring up the soul of the Diva—the crossover. Up to now, none of the Apogees featured the frequency-dividing network except to call attention to the "seamless" manner of concealing the effects of the crossover points.

The Diva's passive crossover components are packaged in separate boxes measuring 17" W x 13" D x 3" H, their intended placements right behind each speaker. The crossover assembly, isolated mechanically from the speaker, sits on the floor supported by four large rubber feet 1¼" high. It consists of two independent networks, one routing the portion of the spectrum below 600Hz to the woofer, the other feeding frequencies above 600Hz to the midrange and tweeter ribbons. Another sub-network splits the signal between tweeter and midrange at 12kHz. (Crossover frequencies are nominal, due to the 6dB/octave slopes, and there is wide overlap between the drivers.) Crossover construction is very impressive: huge inductors, banks of capacitors, and resistor arrays are connected by heavy-gauge wires from Monster Cable. Runs of SYMO speaker cable complete the connections to the three ribbons in the main speaker housing, while pairs of five-way binding posts are provided for anchoring cables to and from the crossover.

For normal operation the two crossover sections are paralleled, bi-wiring being the recommended way to accomplish this. Nothing more than a stereo amplifier is then necessary. Apogee does, however, suggest a 100W minimum for each speaker. The next step would be to bi-amplify the Divas using the existing passive crossover, one amplifier being connected directly to the woofer ribbon, the other to the network shared by the MR and HF ribbons. If
that's not enough, Apogee showed a dedicated electronic crossover for the Diva at the June CES. As far as I'm concerned, bi-amping is the way to go. However, the arrival of the perennial deadline prevented me from delving into bi-amplification for now.

The passive crossover provides switches for controlling the levels of each ribbon, giving the user a chance to tailor the response to taste. Four switches are included for setting the levels of the woofer, midrange, upper MR, and tweeter. With the exception of the upper MR, the response changes in each case occur as an across-the-board 2dB increment for the desired range.

For example, the MR switch in the Plus position (fig.1b) moves the contour of the midrange response up by 2dB at every point along its response characteristic. The same increment applies to the woofer and tweeter responses. The Upper MR switch is different. It initiates a response change commencing at 1.5kHz. The response curve then swings 2dB in the selected direction, taking full effect from 5kHz–20kHz (fig.1c).

When it comes to impedance, the Divas really come through. Apogee has obviously worked hard to make amplifier selection a simple task, and the stigma of the Scintilla requirements is history. The impedance is specified not to exceed 4.5 ohms, and never to dip below 2.6 ohms for the whole 20Hz–20kHz range (fig.2). Welcome news, indeed.

Fig.3 shows the Diva's frequency response at a distance of 1m measured with a ½-octave warble tone. The microphone height was 47.5°.

**Discussion**

The following equipment was used for this review: For analog, Ortofon MC-3000 and Krell cartridges, Air Tangent tonearm, VPI HW-19 Mk.II turntable, The Well-Tempered Turntable and Arm, and a Brooks-modded Oracle Premiere/SME V/Alpha Genesis 1000. An Arcici "Lead Balloon" turntable stand was

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**FIG. 1**

A: SW1 woofer electrical gain  
B: SW2 midrange electrical gain  
C: SW3 upper-mid electrical gain  
D: SW4 tweeter electrical gain

**FIG. 2**

**FIG. 3**

Stereophile, August 1988
there to steady the turntables. On the digital side, the Euphonic Technology ET650PX CD player, and the Onkyo Integra DT-2001 DAT machine did excellent jobs. The preamps consisted of the Meitner PA-61 and the ARC SP11 Mk.II, while the Krell KMA-100 Mk.II and Meitner MTR-101 powered the Divas. Interconnects were by Meitner, speaker wires by SYMO and Meitner.

These speakers have set my foot tapping more often, sent shivers up and down my spine, got me immensely involved, and projected a sonic ambience more beguiling and gripping than any other speaker in my experience.

But, you say: at $7500 a pair, they damn well better do all those things real good! Absolutely. But I'm not done yet.

Are you aware that, at $7500, the Diva is one of the lowest-priced top-echelon loudspeakers? Sound Lab A-1s, Duntech Sovereigns, Martin-Logan Statement, the IRS Beta and IRS V from Infinity, and, of course, the WAMM are systems costing more, even much more. In the context of the high-end marketplace, therefore, I feel that the Apogee Diva loudspeaker should be considered a Best Buy.

Outrageous? Hear me out.

The Diva is generally less cumbersome, its drive requirements are simple, the $7500 price puts it at a distinctly advantageous price point, and its overall capabilities are at least on a par with every one of the other systems.

But how can I claim that a speaker over 6' tall and weighing 150 lbs/side is not complex? Simple. With the exception of the Duntechs, which weigh at least twice as much, competing systems are two pieces per side. Only the Sound Labs leave a similar footprint, but, of course, only when the woofer panel is discounted. And don't forget the high-voltage power supply for powering the electrostatic panels. All things being equal, it's an added complexity. Nor do I think I'll hear any argument that the IRS V, the IRS Beta, the Statement, the full-blown Sound Labs with the electrostatic woofer, and the WAMMS aren't far more complicated.

Complexity aside, how about the sonics? I like to be in a position to definitively back up my contentions, but in this case I fall short. My firsthand exposure to the other systems ranges from none (the WAMMs) to show conditions (the Statements and Infinity Betas) to show-room auditions (Infinity IRS). Only the Duntech Sovereigns have been examined with reasonable care at three different locations.

It would seem not unreasonable to expect a $40,000 speaker system, as is the case with the IRS, to clearly blow away a speaker costing $7500. What experience I have had, however, does not support this premise. Without a doubt, there are areas of performance—deep-bass response and loudness—where the IRS is obviously superior to the Divas. But in other areas the law of diminishing returns appears strictly enforced, because the Divas more than hold their own in imaging, spectral balance, soundstage presentation, and timbral accuracy.

On the good side of the $7500 price point, my expectations are exceeded by a wide margin. Here the law of diminishing returns appears to have been legislated in favor of the Divas. For example, I feel that the Divas are indeed roughly twice as good as the $3000 Duetta Mk.IIs or the $3500 Quad ESL-63s. In both cases the Divas cover a significantly wider frequency spectrum, most noticeable at the low frequencies. On top of that, they are significantly more dynamic, can play much louder, and are every bit as satisfying musically. I concede that, set-up-wise, the ESL-63s have the upper hand, but that's about all. They cannot compete when it comes to conveying the impact of large-scale performances or imparting the feeling of power.

When it comes to amplification requirements, a fancy lady like the Diva is surprisingly easy to keep satisfied—performance anxiety should not be a concern here. I achieved excellent results with the Meitner '101, the Krell KMA-100 Mk.II, and the Mirror Image amplifiers (the larger stereo units). By high-end standards, these are reasonably priced electronics, and yet in each case the results were outstanding. Notice that quality performance was achieved with only 100Wpc stereo amplifiers. The other speaker systems start with a requirement of four amps minimum: two for the woofers, and two more for the mids/tweeters.

Sad to say, not everything comes up roses, even with the Divas. You would think that after parting with over $7k for a pair of Divas, everything would be marked Paid. But, no! Yet to be covered is a good news/bad news scenario.

By now, I should think that you would have a realistic sense of the good news. This speaker

Stereophile, August 1988 109
can do more things better than any other loudspeaker I have had the pleasure of using in my system.

The bad news: You can only get the good-news performance if: a) the right environment is provided, and b) if you pay your dues during the set-up phase. By the way, the legal tender for settling dues is mucho TLC.

More than any other component, speakers can make or break a system. This is one component that is at the mercy of existing room acoustics. Sure, there's RPG, ASC, and Sonex. I have Tube Traps and Sonex in my listening room doing good jobs. But I'm inclined to believe that these are mere remedies, not cures.

Up to now, many designers have recognized the inherent advantages of dipolar radiators, but without quite knowing what to do about rearward radiation. Apogee's engineers have taken the well- tried dipole principle, and used the back wave to their advantage. First, they restructured the radiation characteristic so that the front and back polar patterns were equal. Line-source ribbon drivers take care of that. They then bounce the rear radiation off the wall behind the speakers by precisely controlling the speaker/rear wall relationship. This exercise in sonic trigonometry yields vivid soundstage presentation. When this is coupled to a speaker in which the basics have been refined to a remarkable degree, we are dealing with a special product.

The Divas are particular when it comes to the "stage," if you will, for their performance. Be forewarned that if certain minimum requirements are not met—and don't hesitate to consult the factory on that—the Divas will not be in good voice.

Some important considerations:

The Divas should be positioned with their rear surfaces absolutely parallel to the wall behind them, and four to five feet in front of it. Whatever distance is found to be sonically best, replicate it to an accuracy of ¼" for each speaker. The wall itself, besides being vertical, should be very solid and as bare of any ornamentation as possible. That is, no drapes, wall rugs, pictures, paintings, or plants are allowed. Only the amplifiers are conceded a spot behind the speakers should you desire, as I do, to keep the speaker cables short, and run long interconnects.

Since each speaker is 31" wide, allowing the recommended 7' of space between them results in a width of over 12' for the speakers alone. Another important requirement: My experience leads me to believe that, just as the Divas like an unobstructed space behind them, they want room to the sides as well. My suggestion, therefore, is to provide at least 2' to the nearest side wall.

The listener can be as close as 7' to the speakers, and let's provide another 2' behind the listener. Adding all this up, we come up with a room at least 16' wide and 14' deep. These are not to be interpreted as ideal room dimensions, but are only suggested minimums. Anything larger is likely to be an advantage; anything smaller is a possible liability.

We do get a break as far as ceiling elevation is concerned. Fortunately, tall dipole speakers radiate mostly along a horizontal plane, making the height of the room not critical. A normal 8' ceiling should do just fine.

Here are two examples of what I went through during my Diva initiation rites.

Originally, I had planned to locate the speakers in my usual basement listening room. To get better acquainted with the Divas, they were first set up in another room. The speakers were positioned in front of a 13' wall, and played into a space 24' long and 9' high. Unfortunately, a set of louvered doors was located in the middle of the front wall, exactly where they were not wanted for this venture. The Divas were compromised right from the start, but I didn't realize it until much later. The next room soaked up much of the bass, and the louvers did little to help imaging.

Sono
cally the results were unacceptable. No amount of fussing improved the sound much above "satisfactory." Things did not gel as I knew they should, and could, until I moved the Divas into the basement.

Moral #1: Proceed with caution no matter how much you covet the Divas. Analyze the situation before you get involved or, worse, commit yourself. Remember, superstars are demanding and capricious.

The speakers ended up 6' to the left and 4' forward from their original position, the distance between the speakers also increasing from 80" to 86". Though fully aware that my listening-room layout is somewhat unusual, I was astounded by the resulting change in sound. The bass turned boomy, the image became diffuse, and the response lost most of

110

Stereophile, August 1988
its smoothness. It seems that I had forgotten
the original set-up pains, and didn't know how
good I had it. To be fair, I did have the Duet-
tas to guide me the very first time around.

I returned the speakers to their original posi-
tions and, sure enough, things improved. But
not enough. This was good sound, but that
feeling of certainty along the lines of focus and
smoothness was not established.

Just to be sure, I went over the adjustments
and zeroed in on absolute verticality for both
speakers. And I do mean absolute. A good
carpenter's level is mandatory here; nothing
else will do.

This TLC yielded better results than I ex-
pected. The stage expanded, at the same time
filling up with seemingly no room to spare. A
sonic hologram of the performers materialized.
It had a clearly defined shape, with very real
boundaries this time around. At this point I
just sat back and soaked up the good sounds.

Moral #2: Take Apogee's word for it, and do
read the directions. Don't be too smart for
your own good, and call the factory. I said
mucho TLC, and I meant it. Remember, once
the set-up is complete you're home free. Your
enjoyment will be worth the trouble.

End of bad news.

The Diva is not a snob. While very much at
ease with arias (of course), requiems, cantatas,
symphonies, and other upper-crust repertoire,
it also is able to let its hair down and boogie.
Just keep the tunes coming, be they rock, pop,
jazz, or New Age. The Divas are truly A-to-Z
speakers—Albinoni to Iggy Pop to ZZ Top—
they can do it all.

Loudspeakers have the ability to influence—
and very subtly, at that—the prevailing musical
tastes of the listener. Gross examples of such
polarizations are classical vs pop, large en-
sembles vs intimate groups, or vocal vs in-
strumental. The talent of the Diva is so multi-
faceted that it does not seek out specific se-
lections. It's more like a good actor's ability to
lend credibility to any role he is asked to play.
The Diva can sing and dance to any tune.

The more I listen, the more I sense that
whatever limitations exist, I should not blame
the Divas. That by no means implies that the
Divas are perfection itself, but I do feel that my
exploration of this product so far has been
limited by the ancillary equipment.

The great variety in associated equipment
is not listed for show. The intent here is to coax
the Divas into revealing their true character.
By nourishing the speaker with signals where
the colorations are diversified, it is assumed
that it will be easier to separate out the con-
tribution that the Diva makes, and not confuse
it with associated equipment problems. I did
not want to penalize the speaker for a fault
originating in the test equipment.

The Sound
I don't mind telling you that this review has
been very trying. On the one hand, I just want
to sit back and take in every single note of
musical bliss the Divas are able to summon: on
the other, I want to tell this tale of good for-
tune to as many people as possible, so that
they too may be able to partake of this delight.

For me, the desirable aspects of good
loudspeaker performance are on full display
here: transparency, soundstage, detail, focus,
dynamics, spectral balance, loudness—it's all
there. Yet each time I list another characteristic,
I feel I do disservice to the Divas. Attempts to
analyze and pick these speakers apart, even in
complimentary terms, will not convey the
spirit of this speaker.

The strength of these loudspeakers is their
ability to communicate the essence of a
musical event. It's an all-inclusive concept that
suffers considerably when broken down to its
component parts. Instead, we have to think in
terms of the performance as a whole, and
recognize that the constituent aspects have to
act in concert, reaching us properly propor-
tioned and mutually enhanced. Only then are
we in a position to fully appreciate the sig-
nificance of these loudspeakers.

But I'll strike a compromise. Let's say that the
basics are all present and accounted for, and
I'll try to concentrate on a few of the more in-
volved performance aspects such as spectral
balance, dynamics, and soundstage.

In general, slogans originating with the
manufacturer do not sit well with me. As far
as I'm concerned, they're all self-serving pro-
paganda; I dismiss these attempts at influence.
In the case of Apogee's reference to "seamless"
I will, however, make an exception. I simply
can't think of a more apt description of the
crossover's non-contribution. I know it's there
to act as traffic cop for routing the proper fre-
frequencies to each driver, but the discontinuities
normally associated with crossovers are
nonexistent, resulting in admirably smooth

Stereophile, August 1988
response transitions from one driver to the next.

The transition from the woofer to the midrange ribbon is handled in a most satisfactory manner, and is one of the most remarkable aspects of the Diva. It is a joy to hear the characteristic of the woofer match that of the midrange. Many high-performance speaker systems choose panel speakers for the upper ranges, leaving the lowest frequencies to dynamic-cone units; a well-trodden path, as we all know. Those low ends go deeper, have more sock and loudness. But wherever I go, whatever I read, the conclusion in most cases is the same: loss of continuity and coherence.

This particular transition point has been a quest of sorts all through my adventures with planar loudspeakers. I have spent many hours trying to mate a woofer to a planar loudspeaker, mostly working with Quad electrostatics. To no avail—I have yet to find a woofer system that I liked. One or both of two problems always reared their ugly heads: If it wasn't the crossover coloration, the woofer discontinuity was sure to get in the way. My need for maximum transparency always won out, and I opted for the purity that only a single speaker could deliver.

The Divas handle this extremely difficult task very well, raising my esteem of these speakers considerably. Avoiding dissimilar drivers in this critical region eases the burden significantly, but I feel that the crossover is really the other half of the success story.

It all shows up in the Divas' expert handling of the whole spectrum. The midrange is extremely smooth, open, and transparent; not unexpected, judging by the performance of the previous models. But now the bass joins the midrange to enhance these qualities. Add to that the very impressive sound-pressure levels that can be enjoyed at frequencies where only subwoofers dared to tread. No, the Divas will not do 16Hz with ease. They will, however, manage to pump out some very respectable subterranean sounds, adding not only body and foundation to large ensembles, but hitting home with vigor on bass drums and rattling windows when dealing with organ outbursts.

If you're thinking raw power—don't. That's not the Diva style. Everything is tidy, transparent, and controlled. Some might call it reserved, or even deficient, but I call it refined. Rather than settle for a response that extends and distorts, I prefer a limitation. Even though the lowest octave is subdued, everything leading up to it is coherent and refined.

I encountered no problems at the other end of the spectrum. The treble extension is obviously very generous, and I was very gratified by the newfound air and etched transients.

The Divas also shine dynamically. Their capacity to handle musical material at louder levels has been upped markedly. Assaults of full orchestral sweeps or the indignities of heavy metal are handled with such remarkable ease that I consistently found myself playing everything at increased levels. I can only reason that the quality of the overall reproduction was performing to a much higher standard. The normal distractions, in the form of constricted dynamics, annoying discontinuities, spectral balance limits, and soundstage disorientations, have been suppressed, allowing essential musical cues to dominate.

As good as the Diva is, it has limits. When it comes to hitting home with ultimate impact, such as rim shots and vigorous bass and kickdrum assaults, the Diva holds back. Even though I hear undiminished detail and coherence, the slam has been tamed. At this point in our relationship, I have not heard the Diva do what its dynamic cousins are famous for.

But I've saved the best for last. As far as I'm concerned, the Divas present a soundstage that is simply phenominal. Again, it's the total presentation that dazzles. This includes the overall soundspace that seemingly pervades the whole stage in front of the listener, and billows forward from there to envelop the listener as well. At the same time, individual performers do not get lost in this expanse, and are featured prominently. It's a stunning display of immediacy, and in my experience, the best.

Vivid images materialize and confront the listener. Each is usually enveloped by a sonic glow, and enhanced by a palpable roundness. The instruments are locked in space laterally and depthwise thanks to some remarkable focusing abilities. If there is an error in the rendition of size, it is toward the large. This is a very slight exaggeration at times, and applies mainly to single instruments. For a speaker this size, that's a compliment.

The panoramic presentation of the Divas is, in my experience, peerless. They operate with a sweep so broad that it's startling at times. Add
to that a keenly developed sense of depth, and
we are talking grandiose. At first, I thought that
the Quad ESL-63s had a way of immersing the
listener in the soundstage, but the Duetta Mk.IIs bettered them by a healthy margin. The
Divas go one better. A cut or two of an or-
chestra at full tilt, or sounds of the big bands,
will put this point across spectacularly.

Conclusion
The search is over. Congratulations, Apogee!

SYNTHESIS REFERENCE
LOUDSPEAKER SYSTEM

J. Gordon Holt

Four-way dynamic satellite/woofer system. Frequency range: 25Hz-35kHz. Nominal impedance:
Maximum amplifier power: 300Wpc. Dimensions: woofers, 14" W by 16" D by 69" H; satellites, 10" W by 10" D by 44" H. Weight: satellite, 70 lbs; woofer, 125 lbs. Price: $6800/pair, including
electronic crossover. Approximate number of dealers: 50. Manufacturer: Synthesis division of
Conrad-Johnson, 2800 R Dorr Ave., Fairfax, VA 22031. Tel: (703) 698-8581.

The top model of the Synthesis line, the Syn-
thesis Reference System, is a five-piece four-
way dynamic system which requires biampifi-
cation. Each subwoofer unit houses two custom-built (by Gefco) 10" long-throw
woofers in a tall, tapered enclosure having two
2"-diameter reflex ports with 9"-long ducts.
The woofer enclosures are internally braced
from front to back and side to side for their en-
tire height with a pair of 1"-thick MDF baffles.
The satellites are smaller versions of the woofer enclosures, each housing a Focal 7" bass/mid-
range cone, a Dynaudio 1" dome tweeter, and a
Fostex leaf ribbon super tweeter. Each en-
closure has a single 1 ¼"-diameter ¼"-long port at the rear. (¼" doesn't qualify as a duct;
it just happens to be the thickness of the cabi-
net's wood panel.)
The electronic crossover supplied with the
system has an active low-pass section and a
passive high-pass section, which is exactly as
it should be, there being as little in the chain
to color the signal to the main speakers as
possible. Controls are provided for woofer
level and to adjust for different upper-range-
amplifier input impedances. (Having no elec-
tronic buffering, the crossover frequency of

As far as I'm concerned, the Diva is a clear-cut
Class A component. The vacancy in this pres-
tigious position of the Recommended Com-
ponents listing for loudspeakers has been too
conspicuous too long. I hope that the guiding forces at Stereophile see it my way
and, as Aretha Franklin—another Diva—
would sing, "second this emotion."

1 Almost everyone pronounces this brand name incorrectly.
It is "Fo-cal," not "Focal."

Stereophile, August 1988

113
was the fact that, when the power amps were turned on, tapping the cones on both the satellites and the woofer units elicited no bass sound at all, indicating an unprecedented freedom from LF resonance of any kind. As it turned out, this was not a misleading indication.

System setup was simple and relatively straightforward. The best location for the woofers proved to be right against the rear wall, at \( \frac{1}{3} \) -intervals across it. The satellites, initially placed about 3' in front of the woofers, produced a rather poor soundstage from there—the instruments never "detached" from the loudspeakers—and had to be moved farther forward before they would float a decent image. The final location was about 6' from the rear wall, with the speakers toed-in toward and subtending an angle of about 60° relative to the listening seat.

Equipment used for my tests included the Ortofon MC-3000 cartridge and T-3000 step-up transformer, the Well-Tempered Arm, a SOTA Star Sapphire turntable, Sony CDP-705ESD CD player, PCM-F1 digital tape system, Revox A-77 15ips open-reel tape deck, and the Threshold FET-10 preamp and line controller. Power amplifiers included Threshold SA-1s, a Mark Levinson No.23, and a pair of Motif MS100s. Audio interconnects were Monster M1000s, speaker cables were MIT Music Hoses, 8TC Kimbers, and LiveWire Clears. The listening room is extensively treated with ASC Tube Traps, for standing-wave control, and program material for my tests included some of my own and others' original PCM and analog tapes, and CDs and analog discs from Sheffield, Opus 3, Telarc, EMI, and Reference Recordings.

Cable connections are at the bottom of the speakers, an arrangement I am coming to abhor because of the difficulty of making spade-lug connections to the speakers. I suppose I can see the reason for this: speakers designed to be placed out in the room, away from the rear wall, are generally finished on the rear, and they do look tidier if there are no terminals breaking up the rear surface. But if manufacturers are going to continue doing this, the least they could do is allow a large enough recess around the binding posts so that heavy cables (like the LiveWire Clears) can be easily attached perpendicular to the posts. As with the PSB Stratuses, which I reviewed in Vol.11 No.5, the best solution with the SRS is to use banana-plug adaptors, preferably of

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\text{Synthesis Reference System loudspeaker}
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the locking variety (Monster's X-Terminators, for instance) so that heavy wires won't pull the plugs out of their sockets.

Initially, the Synthesis Reference System was connected up with the Mark Levinson driving the bass towers and my standard SA-1s for the upper range, using the Kimber cables for both. (These are Synthesis's preferred cables, and eight of them were supplied with the speakers.) The result was not encouraging. Although the bass, properly balanced out, was superb, the upper part of the range was steely-hard. I have reason to believe this is the intrinsic sound of these speakers.
The SA-1 and Levinson No.23 are probably close to being neutral through the midrange. That is, they are more forward than most solid-state amplifiers and less forward than the best tube amplifiers. With either of these, and any speaker cables I had on hand, the SRS was practically unlistenable. I also had on hand a pair of Motif amplifiers, and substituting one of those for the SA-1s effected a transformation of the sound, making it much richer and more musically natural. What happened? You guessed it: The Motif has a rather laid-back brightness range, which neatly complements the speaker's aggressiveness in that area. One must conclude that the system's designer(s) were not using the most neutral electronics for auditioning it. But the SRS can be made to sound much better than that, through the careful choice of upper-range driving amplifier and speaker cables. Even with the Motif amplifier, the Kimber cables did not "ame" the RS's hardness enough for my tastes. The MIT Music Hoses were better, but the humongous LiveWire Clears really made these speakers shine.2

Although it may seem like strange usage, the word most descriptive of the sound of this system is "tidy." Every driver seems to be immaculately harnessed and under precise control of the amplifiers at all times. This is particularly noticeable in the SRS's reproduction of disc surface noise, which comes through with every imaginable pitch, rather than with that constant pitch-sameness which is a dead giveaway that a diaphragm is ringing. The result of this control is that ticks and pops are reduced to minimal obtrusiveness. They happen and they're gone, just like that. And because they happen at the loudspeakers rather than behind them, where the music is, it is easy for the ear to listen past them and ignore them.

The Synthesis Reference reproduced dynamic contrasts like few other speakers. Of the other direct-radiator systems I've heard, only the Nelson-Reed 8-04s have more dynamic range than these, and only by a small margin. The SRS's efficiency and freedom from dynamic compression makes it easily capable of reproducing such ear-blasters as a full drum set at live-and-in-the-room levels without a hint of strain, and with tremendous visceral impact. Listening to something like that, you almost get the feeling you could end up with a bruised liver! The same ease and volume capability make these speakers ideal for reproducing large-scale works for full orchestra, chorus, or large pipe organ. There is never a hint of hardness, and even at levels of ca 105dB (which is very loud), there is never a hint of strain or of encroaching hardness. In fact, the only area where I could fault the SRS is in the midrange, where there seemed to be a certain deficiency of gutsiness—balls, if you will—which robbed orchestral crescendos of some of their power. Again, it was the large brasses—the trombones and tubas—which suffered most, coming through with an atypical lightness that made them sound physically smaller than they really are.

The most uncolored sound from the satellites is heard on an axis midway between the tweeter dome and the midrange cone, but because the speakers have appreciable front-panel tilt, this dictates either listening to them from quite closeup or from a high seat. (The tendency to design for too high a listening height is becoming all too common these days.) Even on the proper axis, the SRS has a slight deficiency of midrange output, which was determined (with the aid of a 1/2-octave equalizer) to amount to about -1dB through the 800-2500Hz range. The EQ almost corrected for the lack of subjective power, but not quite. Additional boosting of this range with the equalizer, however, led to fairly pronounced coloration.

The SRS presents imaging that is extraordinarily precise and stable, and, when the speakers are placed well away from the rear wall, so is the reproduction of depth. Audibly, the speakers do seem to disappear when optimized for soundstaging. The stage appears behind and between the loudspeakers, with ambience flanking it to beyond the physical placement of the speakers.

By far the most impressive thing about this system, though, is its low-frequency performance. I have never, ever, heard such deep, smooth, detailed bass in my listening room—not even from the VMPS SuperFlower 11a/R, which held the record for low-end performance until the Synthesis came along. No system I have ever heard has equalled, let alone surpassed, the SRS's ability to define the in-

2 I used to think the MIT Music Hoses were clumsy-fat at ¾" in diameter. At 1", Audioquest's LiveWire Clear cables are not merely obese, they're obscene!

Stereophile, August 1988 115
dividual vibrations of a bass drum head or a bass viol's strings, and this is the first time I have ever heard a scale from a double bass in which every note seems to have the same weight. Aside from the obvious benefits this bestows on orchestral music, another surprising (to me) result is that, for the first time, a complex bass line in, say, a jazz work can be easily recognized as a melodic line rather than just a rhythmic accompaniment of thuds. Bass drum? It's gotta be heard to be believed! It had real pitch and a gut-shaking impact I have previously experienced only at live concerts. Even on bass-heavy Telarc, the bass drum was obviously fully under the control of the system; it was still too prominent, but there wasn't a trace of spurious hangover. The SRS's bass performance must, as of now, stand as a resounding rebuke to those who are convinced it is impossible to get high-quality low end from a bass reflex system! JA, for example.

Judging by the quality of bass the SRS woofers deliver, I have the feeling they may constitute something that audiophilia has been seeking for almost 40 years: a woofer that will mesh with electrostatics. With the possible exception of Sound Labs' new woofer walls, which have yet to hear under decent conditions, no full-range electrostatic has ever been able to reproduce really extended, tight bass. The classic Quad ESL, for example, is so notoriously deficient in deep bass and LF signal-handling capability that it has prompted many owners to experiment with add-on subwoofers, though none has ever worked very well. The problem, consistently, has been that typically slow woofer cones just don't "mesh" with the great agility of electrostatic diaphragms. The quality of bass would change noticeably as the sound crossed over from the electrostatic to the cone(s), and most electrostatic owners were more bothered by this discontinuity than they were by the electrostatic's inherent LF limitations. I did not get the chance to try the SRS woofers with my reference Sound Lab A-3s prior to writing this report, but will certainly do so as soon as I can get to it, and will report the results. Synthesis does not currently sell the SRS woofers and its crossover separately, but I feel they should seriously consider doing so. I cannot think of another speaker system whose bass performance would not be improved by crossing-over to these towers.

All in all, then, the Synthesis Reference System is a superb loudspeaker. In fact, it is (I believe) so close to theoretical perfection in so many ways that I feel almost curmudgeonly in criticizing its less-than-impressive tonal accuracy. But since I don't mind being labeled a curmudgeon, I won't hesitate to say that that is the speaker's major weakness. Major? Okay, what are the others? I believe there is only one. The system does not have quite the liquid transparency and exquisite detail of such full-range electrostatics as my (current) reference, the Sound Lab A-3, which also happens to be more neutral through most of its range and only costs $450 less. But in every other respect—bass range and detail, dynamic range, imaging, depth, spaciousness, attainable output, and sheer visceral impact—the Synthesis Reference System easily surpasses the A-3s.

But will the SRS become my new reference speaker system? No, for two reasons. First, it must be bi-amped, which for my purposes (the testing of power amplifiers, among other things) is an inconvenience. Second, I also review records on my reference system from time to time, and for that I need speakers which are a little more felicitous through the midrange than the Syntheses. If neither were the case, I would be sorely tempted to switch. But if I did, I would have a hard time deciding whether to use as the satellite speakers the Nelson Reed 8-04s, with their rather rough high end,3 or the Synthesis units, with their somewhat gutless midrange. Any which way, though, I expect to end up using the Synthesis Reference subwoofers as the low end for any system I will be listening to in the foreseeable future for enjoyment and for record reviewing. Almost a worldbeater, but not quite.

**Afternote:**
I did get a chance to try the SRS woofers with the Sound Lab A-3s before the closing date for this report. The results were at once better than anticipated and just a bit disappointing.

The nice things first. It was a very agreeable shock to hear, for the first time, awesomely deep, visceral, floor-shaking low end setting off the A-3s' crystalline midrange and high end, and the 110Hz crossover relieved the A-3s.

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3 Messrs. Nelson and Reed have assured me that current 8-04s have a much smoother high end than the version I tested. I shall report on that when I hear it in the privacy of my own home.

Stereophile, August 1988
of so much high-energy signal that it was possible to get a peak level of 104dB from them before any trace of strain became audible. And, perhaps for this same reason, the system's dynamic range seemed markedly greater than previously. And, for the first time, the addition of cone woofers did not degrade the low-end detail of an electrostatic. Instead, it improved it markedly, with no audible discontinuity between the electrostatic sheets and the woofer cones. The transition was as seamless as one could want.

And now, the flip side. The quality of the A-3/SRS bass was a bit of a disappointment. Not that it was bad, or even mediocre; it was very good. It just wasn't superb, not quite as super-detailed as with the SRS upper-range satellites. I can't complain too bitterly, though, because this combination gave the best bottom I have ever heard from an electrostatic top.

Why, though, should the LF detail have been better with the SRS satellites than with the A-3's, even though both were crossed-over from the woofers at 110Hz? Obviously because not even 24dB/octave rolloff is enough to keep a small amount of midbass energy from getting through to the upper-range speakers, an area of behavior in which the A-3 and the SRS satellites differ greatly.

All electrostatics of practical size suffer from front-to-back cancellation, due to the interference of rear-surface sound waves with the opposite-phase front-surface sound waves. The effect causes a progressive rolloff of the low end, setting in at the frequency at which the front-to-back path is one quarter the length of the sound wave.

The usual way of offsetting this LF rolloff is to design a broad LF resonance into the diaphragm. (Sound Lab uses several of them, staggered in frequency to provide a very broad, shaped hump.) The resonance increases bass amplitude, but the offsetting cancellation does not offset the overhang due to the relatively slow release of stored energy. The result is the ill-defined bass that seems to characterize every electrostatic which has any low end to speak of. (The Sound Labs B-1 woofer is an exception; because of its very large area, and its recommended placement directly against the upper-range speakers, front-to-back cancellation is slight; little, if any, diaphragm resonating is needed to flatten out the bottom.)

THE ELITE ROCK TURNTABLE
AND EXCALIBUR TONEARM

Dick Olsher

Elite Rock turntable  Elite Excalibur tonearm

Two-speed turntable with viscous cartridge cantilever damping applied at the headshell. Price: $900 without arm, $1800 with Excalibur arm. Manufacturer: Elite Gramophones Ltd., Unit 2

Stereophile, August 1988
In appearance, the Elite Rock turntable looms much less impressively than its name would suggest. It’s not that I was expecting the Rock of Gibraltar, but certainly something much more massive would have satisfied what expectations I did have. The base, in basic black, measures 16" x 12.8" x 4.4" and weighs about 5 pounds—clearly not a massive platform. Visually, the base is dominated by a much heavier platter, riding on a belt-driven sub-platter which in turn hangs from sits on a fluid-damped inverted bearing. The rationale behind this is to place the platter’s point of suspension at its center of gravity for mechanical stability. Speed changes (33 1/3 and 45) are accomplished manually by repositioning the belt onto the appropriate V-groove on the motor pulley, the pulley being exposed for easy access. Taking in the entire ‘table at a glance, the overall effect is of a supine gnome carefully balancing a platter on his hands and feet. I’m not suggesting that this is an ugly ‘table. Far from it, I actually find it quite cute.

Having established that the “Rock” appellation does not refer to its appearance, I can tell you that it quite accurately describes the composition of both platter and base, which consist of a very stiff gypsum filling inside a steel chassis for the base, and an aluminum shell for the platter. This material, aside from being low in cost, provides a rigid and acoustically inert environment for the cartridge and tonearm. A plastic mat is bonded to the top of the platter to match the acoustic impedance of vinyl, thus providing a reflection-free sink for acoustic energy generated by the stylus. There is no sprung or floating subchassis. The only isolation from structural or airborne vibrational energy is achieved by sitting the entire assembly on three Sorbothane feet symmetrically arranged around the ‘table’s center of gravity. I’ll have more to say about the efficacy of this arrangement later on.

The most innovative feature of the Elite Rock, and one which has unfortunately caused quite a bit of dealer and customer resistance, is the use of a trough filled with silicone fluid at the cartridge end of the arm, together with a paddle/outrigger assembly to dampen arm/cartridge and headshell resonances. The trough, of course, swings in and out over the platter to facilitate placement and removal of the record. The paddle is normally glued to the headshell, except that it is an integral part of the Excalibur tonearm’s headshell. The outrigger, in the shape of a hollow metal pin, is located at the end of the paddle and actually rides in the silicone fluid bath. Its height is adjustable so that it does not scrape bottom in the trough. (The amount of damping will also be proportional to the wetted area.) Prior to play, the trough is swung over the record and the outrigger is positioned in the trough for the long ride across the surface of the record.

All of these innovative touches are the result of years of research carried out at the Cranfield Institute of Technology which, according to JA, is a UK equivalent of our MIT. The technology has been made available to Elite Gramophone under license; that the technology has been commercialized is entirely due to Max Townshend’s commitment to and belief in the ‘table’s conceptual validity.

The silicone fluid in the trough acts as an essentially pure mechanical resistance, where the velocity of motion is proportional to the applied force. In comparison with an electrical network, where current is analogous to velocity and voltage to force, the current flow through an ideal electrical resistor is similarly proportional to the applied voltage. Or, in terms of the well-known Ohm’s Law: I = V/R. Therefore, at the very low velocity associated with the DC radial motion of the tonearm across the record, the opposing force is quite small and the fluid offers minimal hindrance to motion. At tonearm/cartridge resonance, however, the high-velocity vibrations meet a proportionately larger opposing force which causes them to be dissipated in the fluid as heat. The action of the outrigger in the silicone fluid is similar to that of a boat floating in water. To keep the boat moving at a constant velocity, the engine must work to overcome the resistance of the water. Yet the same boat may be moved slowly and with surprisingly small force in still water and dead air.

Linear mechanical resistance is actually not very easy to come by. For example, rubbing friction, as in pivot friction, is generally nonlinear. It is true that such friction also causes energy to be dissipated as heat, but,
unlike pure mechanical resistance, it changes greatly in value as the velocity is varied.

To my knowledge, William Bachman, in 1951, was the first to recommend viscous damping to control arm/cartridge resonances. His design provided damping in both horizontal and vertical planes by use of a viscous fluid (petroleum or silicone oil) film in shear between a ball pivot and socket surface. Bachman also pointed out two other advantages of such a damped arm. First, having damped the vertical plane, the rate of fall of the arm is slow enough to offer stylus protection against accidental dropping of the arm. Second, a similar retarding effect in the lateral plane increases resistance to lateral shock and, in his words, arrests the tendency of the arm to function as a seismograph.

The novel feature of the Rock is that it makes damping possible right at the cartridge/headshell interface where resonances are generated in the first place. And it works. Putting my ear close to the cartridge revealed that needle talk was extremely well damped and muted in intensity. Using the Shure Era IV Test Record’s arm/cartridge resonance test, I was unable to detect the resonant frequency either visually or audibly—something I’ve almost always been able to do with other arms.

It is one thing to confine the arm/cartridge to a safe range of, say, 10-12Hz, above the excitation energy of record warps and below the audible threshold. But it is just as important to keep the amplitude of the resonance as low as possible. High-Q resonances are impossible to control without the application of excessive tracking forces, and it is difficult to isolate the system against the excitation of these resonances in the first place. Random impulses may contain harmonics that readily excite such resonances. I’ve read that records played through a low-Q system will appear to have less surface noise compared with a high-Q system. The Rock certainly supports such an assertion. The surface-noise floor of the Rock/Excalibur was consistently very low — lower, in fact, than that of any other ‘table/arm I’ve heard. Scratches, ticks, and pops were simply less obtrusive; that’s good news for folks like me who listen very little to CDs (I’ve now gone six months without a CD).

At this point you might be getting the impression that damping is a panacea and that more is synonymous with better. That this is not the case was eloquently shown by R.E. Carlson way back in 1954. His basic point was that while damping is important, it must be used in moderation because there is a price to pay. If records were perfectly flat and non-eccentric, arm/cartridge inertia would matter not at all. However, in this imperfect world the dynamic behavior of the arm becomes an important consideration. The stylus will be called upon to rapidly follow the contours of warps. The leading edge of a warp will push the cartridge up, and the inertia of the arm will keep it from responding instantly. Thus the tracking force will increase on the up-slope of the warp, and for a massive arm this may lead to excessive forces and plastic deformation of the groove wall. On the down-slope of the warp the opposite happens. The arm has to rapidly come down to maintain groove contact and, again, because it cannot respond instantly the tracking force will be reduced—sometimes to the point of groove skipping. Carlson’s analysis shows that dynamic behavior of the arm/cartridge can be ascertained from the ratio of the tracking force to the effective mass of the arm/cartridge. For example, say you have an arm/cartridge with an effective mass of 10 grams and a tracking force of 1 gram. The greatest possible vertical acceleration of this combination is 0.1g, where g is the acceleration due to gravity. Doubling the tracking force would increase the acceleration to 0.2g. The most effective way to do this is to lighten the arm, but then you have to increase the compliance of the cartridge. The vertical acceleration of the arm places an upper limit on the warp radius of curvature it will track. The key point is that the normal variations in tracking force are aggravated by damping. The damping causes the arm to resist while being pushed up, and the rate of descent is also slower. Thus, to obtain equivalent acceleration in a damped arm that is otherwise identical to an undamped arm, the tracking force has to be raised. In the case of the Monster Cable Alpha Genesis 1000 cartridge, I had to elevate the tracking force from 1.8 grams (which I had used previously) to 2.0 grams before obtaining satisfactory performance with The Rock/Excalibur. The increased tracking force eliminated a slight glare from the upper mids and lower treble.

Is this a reasonable price to pay? I think so. But I would have thought Elite off their Rocker had I been forced to go beyond 2 grams.
because of accelerated record wear and stress to the cartridge suspension.

My Rock came supplied with an Excalibur arm. This is a moderate-effective-mass arm of good construction quality. The arm tube is a thin-walled stainless-steel pipe, internally damped with foam. The bearings are claimed to possess a very large contact area. As is typical of other "audiophile" arms, it is completely uncalibrated. Initially, I had intended to try other arms with the Rock so as to focus in on the sound of the 'table in isolation. But when I discovered that this would involve gluing a paddle to the headshell, I lost my appetite for the idea. And since the best approach is for the paddle to be integral to the arm, I'm inclined at this point to regard the Rock/Excalibur as a system. Undeniably, the Excalibur works very well with the Rock, and I'm not about to glue anything to my SME V to investigate such a combination.

Setting Up

The Excalibur arm provides little in the way of operational amenities. Its rigidity and structural strength might have been quite attractive to the Knights of the Round Table for whom Excalibur, the sword plucked from a stone by King-to-be Arthur, held magical powers. It's quite possible that these ancients would have enjoyed setting up this arm. I certainly did not. To begin with, there is no provision for azimuth or fine VTA adjustment. (See my review of the Wheaton Triplanar arm in Vol.11 No.1 for my views on the importance of azimuth adjustment.) The VTA is adjustable by sliding the arm pillar up or down as required. So far, the Excalibur is no worse or better than a host of other arms. But what really irked me was the clumsy procedure necessary for tweaking overhang. The headshell is drilled out for fixed-location mounting of the cartridge, so that the only way to fine-tune the overhang is toiddle with the position of the base plate. What a pain in the base!

A screw-in clamp is supplied for mechanically coupling the record to the platter. The plastic clamp works in conjunction with a metal washer which is placed on the spindle underneath the label. The clamp can be screwed on to the spindle quite tightly so that some control can be exercised at the record periphery. I found this clamping arrangement extremely effective in ensuring vinyl/platter contact, even for moderately non-flat records. Of course, no clamp, or record weight for that matter, is in principle as effective as a properly engineered vacuum system. But there's a limit to what $900 can buy.

My sample of the Rock arrived sans dust cover. I believe one is available, but I would not have used it in any event. A dust cover merely serves as an antenna for acoustic feedback—a pathway for coupling acoustic energy to the 'table's suspension. From a purist standpoint, I feel it best not to use one.

It didn't take me long to adapt to the Rock's ergonomics. After only several LPs, the routine of manipulating the trough became almost second nature. I don't see this as a major issue; the tedium involved in keeping the platter and record dust-free and in keeping the stylus pristine seem to me to far outweigh the nuisance involved in working the trough. And in case you're wondering, I have not as yet spilled any silicone fluid onto a record. Barrling an earthquake, I see no likelihood of this. It's even difficult to do deliberately, and only a complete klutz would succeed in doing such a foul thing.

The Sound

The phono front end, consisting of the Rock/Excalibur plus Monster Alpha Genesis 1000 cartridge, was auditioned with both the old Quad ESL and with Dahlia-Debra loudspeakers. Both Cardas Hex and TARA Labs Space & Time II speaker cables were used. The Threshold FET-10 preamp and Wingate 2000A power amp completed the reproduction chain.

I already mentioned the low noise-floor of the Elite Rock. Another hallmark of this 'table was its ability to retrieve inner detail. There was a consistent impression of detail popping into focus. Audience noise on live recordings was clearly resolved, as was hall reverber. Orchestral nuances were clearly revealed. After a while, the feeling that the Rock was leaving no stone unturned grew to the point where I became convinced that at least this aspect of its performance is about as good as it gets. Image and pitch stability were also excellent, Rock-solid if I may be permitted another pun.

A synopsis of what the Rock does so well may be gleaned from the "Goodnight, Irene" cut of the Weavers' Reunion at Carnegie Hall—1963 (Vanguard VSD-2150). The soundstage was wide and natural, with stable and precise
image localization. And the audience participation was clearly resolved—something that many front ends have a hard time doing right. The upper octaves were smooth and detailed—but only after I increased the tracking force to 2.0 grams. The transparency of the midrange and image specificity in general were very good, but not quite in the class of my reference SOTA/SME V front end. Also, the depth perspective was consistently reduced to the point where the overall soundstage presentation bordered on the two-dimensional. Relocating the Rock from its perch on top of a wood cabinet to the Lead Balloon Isolation Stand (by Arcici) brought significant improvement in these areas. The Wilson Audio recording of the Brahms Sonata for Violin and Piano, with David Abel and Julie Steinberg, possesses remarkable soundstaging—especially so considering that a pair of widely spaced Schoeps omnis were used. With the Lead Balloon in the system, the image palpability had greatly improved—not quite as 3-D as my reference front end, but maybe up to about 2.5-D. Image focus and midrange transparency also improved to the point where the residual losses in these areas compared with my reference were very small indeed. A relisten to the chorus on Laudate! (Proprius 7800), as well as to the Opus 3 Test Record 1, confirmed these findings. I conclude that the Rock's rubber feet do not provide adequate isolation from structurally transmitted vibrations.

About 10 years ago a rash of turntable-isolation devices hit the market. Most of these consisted of an inert platform with either rubber or spring feet. As Joe Grado pointed out many years ago, the resonant frequency of the assembly (table plus isolation device) is dependent on the mass of the table and the compliance of the feet; it is clearly impossible to tune these devices to accept more than a narrow range of tables without screwing up the resonant frequency. Fortunately, the Rock works very well with the Lead Balloon.

The bass quality of the Rock appears to be its most controversial area of performance. This is a distinctly ominous statement; let me hasten to add that the bass character is tight and very well extended. It's more a question of balance. Through the Quad, the lower octaves were very tight and airy, but rather lean, resulting in a somewhat threadbare midrange. With the Dahlia-Debras the balance was much more acceptable, but then these speakers feature a highish-Q bass alignment. The bass performance of the Genesis 1000 cartridge in the Rock/Excalibur was reminiscent of that in the Wheaton arm. In both cases the bass and lower mids lack some heft compared with the SME V.

So who's right? JGH thinks the powerful bass of the SME V is, in reality, a bass emphasis. Judging analog bass reproduction is a really tricky business. Being unfamiliar with the master tape and the bass equalization used, and having to work around the limitations of the cartridge, are difficult problems to overcome. JGH acknowledges these practical obstacles, but his gut feeling, based on some 30 years of experience in live recording and reviewing, is that the SME V indeed errs in this respect—there's too much bass. I think JGH may be right on this, but I also think that the Rock/Excalibur errs in the opposite direction, being overdamped in the bass. If your system is presently bass heavy, introducing it to the Rock may very well right the tonal balance. On the other hand, if you feel that the balance is just right, the Rock may upset the apple cart.

**Conclusion**

Although the Rock/Excalibur is not the best 'table/arm money can buy, in most subjective performance aspects it challenges or equals the best money can buy. At $1800, the combination merits a strong recommendation, though it unfortunately is not the bargain it is in the UK. I can only stress that it is good enough to compete with any 'table/arm combination, cost no object. With the set-up reservations noted above concerning the Excalibur arm, the Elite system strikes me as a beautiful concept and a nifty piece of engineering. Ato the Lead Balloon, its losses in midrange transparency, image specificity, and soundstage depth are slight. I believe its low noise-floor and remarkable resolution of low-level detail are the state of the art. The unique ergonomics did not get in my way, but the overdamped bass quality did. Again, I should emphasize that the pitch definition through the lower octaves is excellent, and that I've never gotten deeper bass from the Quads. It's just a question of balance. If you can live with the resultant tonal balance, the Elite Rock/Excalibur front end is worthy of inclusion in the finest audio systems.
Rotel is an Japanese company (with, peculiarly, a strong English design input) that specializes in cost-effective audio equipment, their objective being the best sound for the money. Somewhat like Adcom, they spend money on design and quality of internal components, rather than the bells and whistles that many competitors offer. As a matter of fact, Rotel equipment is often dismissed as “neither fish nor fowl” on this side of the Atlantic, solely because of its low visual profile and marketing approach. Although I haven’t heard all their products, those I have have surprised me with their musicality and lack of mid-fi “blahs.” Until now, I haven’t perceived Rotel as a company that went after the finicky audiophile market, as Adcom has. But with the introduction of the RCD 820BX2 CD player, they have obviously decided to throw their hat into the ring with the rest of the high-end gang.

Technical highlights
Like many other “audiophile-designed” CD players, the 820BX2 uses a Philips chassis and digital circuitry, in this case the 460. It is supplied with a direct-access remote control that does just about everything anyone sane would desire (so who says audiophiles are sane?). Although the feel of this player is more substantial than some of the earlier Philips machines, the flimsy loading drawer and overall finish of the unit still leave something to be desired. Rotel basically left all digital circuitry intact with this player, concentrating on the analog stages. The additional analog board was designed by Stan Curtis of Cambridge Audio, and was later tweaked by Tony Mills, Product Development Manager at Rotel. Among other improvements, Curtis added an independent 5V regulated power supply for the D/A converter, thereby isolating it from the original Philips power supply. Tony Mills went on to replace the original ICs with better-quality parts from Signetics, as well as having Philips stiffen the basic power supply in the stock units sold to Rotel. All components on the additional analog board are of highest quality: Mullard 1% film resistors, Suflex type 2% filter capacitors, and Ashcroft polyester-film 4.7uF output coupling capacitors.

In a phone conversation with Mills, I asked about the problems inherent in the Philips 16-bit chips, and how Rotel was dealing with this in their players. He told me that Philips has apparently rectified the sonic deficiencies plaguing the earlier chips, and the most recent machines received from Europe exhibited none of the shortcomings of the earlier units. He also stressed that, since Rotel is building this product to a specific price, they have attempted to include the finest-sounding parts at the lowest cost, without compromising overall quality.

Sonic & musical characteristics
I used Krell and Mark Levinson electronics in my listening sessions for this review. The Krell system consisted of a KR82 preamp feeding a pair of KMA-200 amps, via 5m Cogelco Yellow interconnects. My B&W 801 Series Two Matrix Monitors were set on 10° stands (that I designed and had made locally), bi-wired with 10 pairs...
of Krell The Path speaker cable. Both amplifiers and preamp were placed on separate 20-amp dedicated circuits. The Mark Levinson system included a No.26 preamp driving a No.23 power amplifier (also on separate 20-amp dedicated circuits) via 5m of balanced HPC interconnect. The No.23 was bi-wired to the 801s with 12' of CPC speaker cable. Interconnects from CD players to preamplifiers included Cogelco Yellow, Distech Platinum and Blue, Straight Wire LSI, and van den Hul D-102 Mk. II. Although the Krell and Levinson systems differed considerably in all sonic parameters, results with the three CD players discussed here remained consistent. I really don’t want to get into the question of Krell vs Levinson at this time; that isn’t the issue here. Besides, since I’ll be reviewing the No.23 in an upcoming issue, it wouldn’t be fair to let the cat out of the bag.

In order to put the 820BX2 in perspective, I decided to compare it with two other similarly priced, well-known, and reputed units, the Sonographe SD-1 ($695) and Denon DCD-1500 II ($675). The Sonographe is built on the older Philips 14-bit, 4x-oversampling chassis,1 and has been extensively revised (damping of drive assembly and additional analog output board with discrete, high-quality parts) by Bill Conrad and Lew Johnson. The Sonographe does not have a built-in remote control, but one can be added at extra cost. The Denon is representative of the medium-priced machines currently coming out of Japan, has virtually every feature necessary (and some that are not), and is built like a tank.

My first impressions of the 820BX2 were neither positive nor negative. “Another decent-sounding, also-ran CD player enters the arena . . . so what.” But after extensive listening, I began to realize that this player had a clarity and focus that several more expensive machines (mostly of Japanese manufacture) lack. Many Philips-based CD players I have auditioned seem to create an irritating “mist” or “grundge” that surrounds voices and instruments, and is clearly evident with high-quality reference systems.

This problem was notably absent with the 820BX2, which may help explain the unusually open and spacious presentation of musical material. But there appeared to be a negative tradeoff here: a slight midrange emphasis, or “presence rise,” kept the 820BX2 from being totally neutral. The overall sonic character of the upper midrange was not “bright” or “glassy,” per se, but a slight overemphasis of sibilants and high-frequency transients from instruments such as triangle, glockenspiel, piccolo, and cymbals was evident. The 820BX2 was also very sensitive to interconnect cables (although one would assume that the output coupling capacitors would ameliorate some of this interaction). Of all the interconnects I tried, the Cogelco Yellow (from Krell) came out the winner, followed by (in order of sonic quality) Distech Platinum, van den Hul D-102 II, Distech Blue, and Straight Wire LSI. The Cogelco Yellow and Distech Platinum did the best at smoothing out some of the pronounced sibilants and upper-midrange transients, while also lending an illusion of fuller harmonic textures and better bass extension. Although I heard cable differences with the Sonographe and Denon, the character of the musical program material didn’t change in such a drastic manner as with the Rotel.

The 820BX2 was a much more musically-sounding player than the DCD-1500 II, even though the latter had a smoother overall quality of sound. But smoothness doesn’t necessarily mean better. As a matter of fact, with the Denon, music sounded like it was being heard through a large vat of Jello. It wasn’t offensive, but at the same time was not at all like real music. I suppose that in the context of a $1500 system, the Denon would fit right in. But it sure doesn’t with the likes of Krell, Levinson, and B&W. True, it is a tank, and will probably mechanically outlast both the Rotel and Sonographe, but I could not live with it. Sort of like having an eternal head cold, or dirty windows. Forget the soundstage (which isn’t bad) and harmonic integrity (I can’t hear enough to make a determination). It isn’t music . . . period.

On to Rotel vs Sonographe. Here we have a much more valid comparison. Soundstage reproduction of the Sonographe was deeper than the Rotel, although there was less delineation of hall size and stage dimensions than with the 820BX2. There was also slightly (and I mean slightly) more ambience retrieval than with the Rotel (such as reflections coming off the stage walls and ceiling). The Rotel placed the performers further away than the Sonographe.

1 C.J.’s David Fokos tells me that they have a large number of these Chassis stockpiled; the Sonographe SD-1 will continue in production for some time yet.

—JA
graphe, but more clearly delineated the separate instrumental and vocal lines. This was well illustrated in the spectacular performances (musically and sonically) of the Faure and Durufle Requiems with Robert Shaw conducting the Atlanta Symphony Orchestra and Chorus (Telarc CD 80135). The Rotel more successfully defined the sections of the chorus (soprano, alto, tenor, bass), but seemed to unnaturally highlight individual singers within the ensemble. The Sonographe gave a warmer, fuller, rosier picture of the proceedings, but "concealed" the separate vocal lines, taking a lot of the excitement away from the performance.

While the Sonographe's darker and more covered sonic signature obscures a little too much of the music for my taste, it is a sound that will unquestionably soothe the savage breast. But when it comes to critique a performance, I'll reach for the Rotel. As a matter of fact, I'll even go so far as to say that the Rotel is the first player I've heard since the CAL Aria Revised (with which nothing has yet competed) that can successfully unravel the most complex orchestral and choral passages, and reproduce the unpleasant "beat" and "difference" tones created by large groups of instruments or voices. For someone who is not a musician, however, this may not be desirable. As I've said before, live music from the performer's point of view doesn't always sound pretty and nice. There are nasties in live music (like when the brass section directly behind me unloads with a triple fortissimo blast), and the Rotel reproduces them very accurately.

Bass reproduction (one of my favorite subjects, since I happen to play the lowest non-keyboard instrument in the orchestra) was excellent on the Rotel. The 820BX2, however, did not have the rich, alluring, midbass fullness that came with the Sonographe. Both machines had deep, visceral impact, but the Rotel better delineated the leading edge (or lack of same) of low-frequency attacks. Differences between bass tuba and contrabassoon, for instance, were more honestly conveyed by the Rotel, as well as kick drum vs bass synthesizer (as evidenced in "Higher Love" on Steve Winwood's Back in the High Life, Island CD 25448-2). Instrumental and vocal harmonic reproduction on the Rotel was fairly neutral, but recordings produced in overtly bright acoustics, or EQ'd on the hot side, could sound a bit sparse and brittle. This may be a drawback, but if the recorded program source suffers from excessive digititis, or the engineer used poor choices of microphones and EQ setups, why shouldn't it be clearly heard? It's the old question again of "garbage in, garbage out?" Maybe what you don't know really can't hurt. Subjectively, one could say that the Sonographe leans toward the sound of the old Carnegie Hall (with its warm glow that made everything and everyone sound good), and the Rotel gives the listener a performance in the newly redone Carnegie (clearer, brighter, more transparent and neutral). Which is better? You be the judge.

But what about the overall musical impact of the two contestants? The Sonographe gives material weight to the sound that adds palpability to the performance. But it wears rose-colored glasses. The Rotel is more detailed and transparent, but less full and warm. Although the Sonographe is easy to listen to, the Rotel, in this musician's opinion, more honestly reproduces the fine nuances and harmonic textures present in live music. Neither of these machines really competes with the Revised CAL Aria, but at half the price, one shouldn't be surprised.

Conclusion

The old phrase "you get what you pay for" rears its ugly head in this case. The Rotel RCD 820BX2 is an excellent CD player—for the price. But if you're going to use it in a $7000+ system, something in the CAL Aria/Mod Squad Prism league would probably be a better choice. On direct comparison with the established Sonographe SD-1, however, the Rotel comes out on top. It is not as solidly built as many competing Japanese units, but musically it clearly outperforms the Denon DCD-1500 II. If you can't justify spending more than $750 for a CD player, don't mind fiddling with interconnects, and prefer transparency, detail, and slightly cool harmonic presentation, the RCD 820BX2 should probably be a candidate for extensive audition.

2 And you thought I only listen to classical music! When I come home at night after playing Beethoven and Brahms for two and a half hours, you don't think I'm gonna listen to Bach, do you? As one of my colleagues in the National Symphony brass section says, "there's nothing better after a concert than putting your feet up, opening a beer, firing up the audio system, and listening to some real down-home sounds."

124
Stereophile, August 1988

The original Stax Lambda-Pro headphones and their companion SRM-1/Mk.2 FET power amplifier set new standards—both for sound quality and price. At $800 for 'phones and amp, they cost two to three times as much as the previous "most expensive" headphones, yet garnered universal rave reviews and sold well. I doubt that anyone who bought a pair has been disappointed with the investment (which now runs around $1200).

The Stax Lambda-Signature headphones and SRM-T1 direct-drive amplifier are Stax's attempt to improve on what seemed to be near-perfection. The headphones have 1um diaphragms, one-third thinner than the 1.5um drivers in the Pro 'phones, while the amplifier's output stage uses vacuum tubes. (The driver stages are still FETs.)

The Signature headphones are a kind of dark metallic olive brown (very handsome) with a milk-chocolate cable! The amplifier is about 50% wider than the Mk.2 version. The extra width permits three headphone jacks, with two dedicated to high-voltage 'phones. (This extra jack vastly simplified my review, and may encourage some owners to buy an extra set of headphones.) The front panel has tobacco-gold lettering on a black background.

Since no one likes waiting for vacuum-tube equipment to warm up, Stax provides a preheat switch for the tube filament. The filament warms up at half-power through a series resistor. Pressing the main power switch shorts the resistor and the tube comes to operating temperature almost instantly. (I would judge...)

1 Errol Lumley reports: "I made speaker cables out of Hershey Kiss wrappers. They gave the most tasteful reproduction I've ever heard!"
the sound comes on about 0.1 second after hitting the switch.)

I urge owners to press the preheat switch at least one minute before turning on the amp, and to leave it on for a few minutes after turning off the amp. This gentle warming eliminates the initial heavy current inrush that overheats the filament. (Old timers will remember the brief bright glow from the rear of a table radio when first turned on.) In addition, applying high voltage to a cold tube slowly destroys the cathode. Tubes can only get more expensive; there's no sense in hurrying yours to an early grave.

Two headsets and two amplifiers gives four possible mix-'n-match combinations. Fortunately, the apparent sound quality of each component seemed to remain constant, regardless of which amplifier drove which headset. At no time did the sound of a particular headset seem to complement the sound of a particular amplifier.

The one-third-thinner diaphragms led me to expect a corresponding increase in transient "snap" and attack. This wasn't quite the case. The most obvious improvement was a gain in openness and airiness. There was more detail and delicacy to the highest frequencies. This did not appear to be due to a tipped-up top end. My own recordings, made with "flat" mikes, sounded more like live sound (or, more precisely, what live sound sounds like in front of a pair of mikes). This observation was confirmed by the way these 'phones handle loud brass instruments. The Pros were noticeably harder and hasher-sounding, despite the fact they sound duller on less-aggressive material. QED.

Another significant improvement was the more forward quality of the midrange. The Signatures were somewhat less "backed-off" than the Pros. Voices had slightly better focus and detail.

The Signatures displayed a recording's ambience more clearly, though I suspect this is due more to the differences in spectral balance than to any inherent superiority. The Pro's bass was its weakest point. There was too much, and it was woollier than one would expect from electrostatic headphones. The Signature's bass was of no better quality, but it was in better balance with the rest of the range (probably due to the more-forward mids and livelier top).

The difference in sound between the amps came as a bit of a surprise. You'd think the FET amp would be (relatively speaking) harsh or brittle, and the tube amp to be soft, mushy, or dull. Quite the opposite. The FET amp sounded dark, sweet, and rounded-off next to the tube model. The FET amp was also noticeably flatter and more two-dimensional than the tube model, with a diminished sense of ambience. The tube amp had a wider and deeper soundfield, with a greater sense of each instrument existing in its own space. There was a better sense of the hall and the performers' acoustic relationship to it.

Dynamics were slightly better, too. Rapid level shifts seemed less squashed, and loud passages were handled with somewhat less strain. Although the Signatures cannot play at quite the ear-splitting level of the Pros (which is why they are not called the "Pro-2"), they can still play plenty loud enough. Only those hellbent on destroying their hearing will be disappointed with the Signature's MOL.

As with the SRM-1/Mk.2 amplifier, changing from the cables supplied by Stax to a pair of Diotech Silver Plus cables produced a noticeable improvement in top-end airiness and openness. However, given the improved resolution of the Signature 'phones and SRM-T1 amplifier, this may be too much of a good thing, especially with closely miked or hash-sounding recordings. Although you should consider using an interconnect other than Stax's, I advise listening carefully and not rushing into the purchase.

Speaking of amplifiers... readers have accused me of not giving enough information about the correct way to hook up equipment in my reviews. So that there's no misunderstanding, I'll spell it out. A Stax headphone amplifier would normally be connected to one of your tape monitor outputs. You would use the tape copy switch to transfer the output of a recorder in the other monitor circuit to the Stax amp. Although the Stax amp could be connected to the main preamp outputs, this would place an extra volume control and gain stage in the signal path, and force you to turn on the preamp to use the headphones.

When I reviewed the Lambda Pro (Vol.10

2 This was in the review of the Yamaha DSP-1. I made it perfectly clear that the DSP-1 should be connected to the main preamp outputs. The article was so long I guess some readers passed out before reaching the end.

Stereophile, August 1988
No.9), I commented that the chain of my Denon 2000Z preamp, Hafler XL-280 amp, and Acoustat Six speakers was more realistic and less mechanical-sounding than the Pro/SRM system. "Heresy!" I thought as I wrote it. Direct-drive electrostatic headphones ought to be better-sounding than just about any combination of power amp and speakers. Yet I left the comment in, because I really felt it was accurate.

I'm glad I left it in, because it was accurate. The Signatures have less of a "mechanical" quality than the Pros. It seems the listener is one step closer to live sound, and that there are fewer electronic links in the chain of reproduction. This difference is especially noticeable on classic older recordings made with vacuum-tube recorders.

You aren't obliged to drive either model of Lambda headphones with a Stax SRM-series amplifier. Stax has several other options. There is the SRA-14S preamp (not tested), which includes preamplification for all types of phono pickups, including Stax's own condenser models. The SRD-P (also not tested) is a battery-powered amplifier, intended primarily for live recordings (or yuppies who are really "into" their Discmen). It comes with an AC adapter for home use. Finally, there is the SRD-7/Professional transformer/bias supply for use with your own amplifier, a considerably less-expensive alternative. I have not tested it (and probably won't) because it introduces the driving amp as a variable.

The differences between the Pro and Signature Lambdas are significant, but nowhere near as great as the differences between Class A and Class B headphones. Therefore, they both remain in the top group, with your choice based on budget, or preference in high-frequency reproduction and midrange "presence."

The Signatures are unquestionably the best headphones around (unless there's some great product I've missed). If you don't mind their often too-honest portrayal of bad material, they are enthusiastically recommended.

NORTH OF THE BORDER

John Atkinson reviews two Canadian loudspeakers, the Camber 3.5 and Image Concept 200


I like reviewing loudspeakers. The more you become familiar with the art, the greater the sense of anticipation as you open up a pair of cartons. A visual inspection of the speaker always reveals a challenging mixture of the familiar and the new. The size of the cabinet is always the first clue—has sensitivity been a design priority or was low-frequency extension uppermost in the designer's thoughts? You espy a known drive-unit—has this tweeter's propensity for upper-presence sizzle been tamed? You find a reflex port on the rear panel—has the temptation to go for a "commercial," under-damped bass alignment been successfully resisted? You spot factors which intuitively seem wrong for precise stereo—a wide baffle lacking any kind of absorbent covering for diffraction control; a grille frame which puts acoustic obstacles in the way of the waveform emerging from the tweeter. Will the speaker's
positive attributes elsewhere compensate for the expected loss of image focus? And what has been the designer’s attitude to that most important but unseen component, the crossover network? Does it use audiophile-caliber parts? Has it been made as simple as it can be and still do the intended job, resulting in maximum transparency? Or is it unnecessarily complicated, perhaps maximizing flatness of on-axis response at the expense of the sound’s liveliness?

And always at the back of your mind as you prepare to fire the speakers up for the first time is the most important question—will this speaker prove to be a winner? Will it offer such a finely managed balance between inherent problems and positive attributes that it redefines what should be expected at its price point? Does it offer more than the expected amount of music for less than the expected number of dollars?

The two models coming under the microscope this month emanate from north of the border. The Canadian loudspeaker industry has benefited enormously in the last few years from having the measurement, testing, and listening facilities of Canada’s National Research Council in Ottawa made available to it on a commercial basis. Unlike the US or even the UK, where a new speaker designer has pretty much to rely on his own resources, having to invent his own test procedure as well as design the product, the Canadian equivalent can have his loudspeaker tested under standard conditions, quickly indicating whether he is on the right track or not. (He still, of course, has to rely on his own talent to get on the right track in the first place or to get back on it if it appears that something is amiss.) So far, I have yet to hear a Canadian loudspeaker that redefines the state of the art from the top down, but, as Will Hammond of KPFF’s “In-Fidelity” radio program has pointed out, the impact on the Canadian industry of having the benefit of the NRC’s laboratories to hand results in better affordable loudspeakers. To generalize perhaps a little too sweepingly, for the same price the customer used to pay for a not very distinguished performer, he now gets a very much more competent design, with perhaps some areas of performance hinting at true high-end sound.

Do either of these contenders fit this categorization? We shall see. In the meantime, the test procedure followed that established for my previous loudspeaker reviews: each pair was used both with a Krell KR52/KSA-50 combination and the Linn LK1/LK2 remote-control amplification system. Source components consisted of a Marantz CD94 CD player used via its optical digital output to feed a Marantz CDA94 outboard DAC unit, and a Linn Sondek/Ittok/Troika combination sitting on a Sound Organization table. Interconnect for the Krell system was Monster M1000, with Monster M1 speaker cable. The Linn system was used with Linn interconnect and speaker cable. All loudspeakers were carefully positioned for optimum performance, and in addition to a rigorous listening test, with no other speakers in the room, each pair of speakers was used for an extended period of everyday use.

The frequency response of each speaker was measured in the listening window—spatially averaged to minimize room standing-wave problems—using a ½-octave waveletone generator; the nearfield low-frequency response of each speaker was also measured with a sinewave sweep to get an idea of the true bass extension relative to the level at 100Hz. The change of impedance with frequency and the voltage sensitivity (using ½-octave pink noise centered on 1kHz) were also measured.

Unfortunately, this review took place while the Atkinson household—including its four cats—was in the process of moving house. The listening sessions had to be broken into two distinct periods. The first, which were quite extensive and included all the measurements, took place in my old room, with whose acoustics and idiosyncrasies I am, of course, very familiar. The second, briefer set of listening sessions was in my new room—full details to appear shortly in our “Matter of Taste” series—and were carried out both as a check on the first series and to see how the new room differed from the old. (After setting up the new room, I first did extensive listening to and measuring of my reference Celestion SL600s in it, to calibrate both it and my ears.)

In addition, William C. Taylor of California, the winner of the drawing at our Santa Monica show in April, visited Santa Fe during the review period and I called upon his ears for a formal listening test, auditioning these and other loudspeakers. I have indicated in the text where he and I are in agreement and where we differ in our views on the speakers tested.
Camber 3.5A: $669/pair

In Vol.10 No.7, I reviewed the least expensive model in the Canadian Camber range, the 1.5, and found that, while not perfect, it offered a respectable performance for just $339/pair. The 3.5 is considerably larger but retains the basic reflex-loaded two-way formula. The tweeter is a 1" plastic-dome unit from the Danish Vifa company, with the dome recessed behind a very short flare and with ferrofluid in the voice-coil gap. As with all the Camber models, the woofer is made by Camber and is constructed on a substantial diecast aluminum basket for maximum rigidity. The polypropylene cone is driven by a high-temperature, black-anodized, aluminum-wound voice-coil, and the woofer is reflex-loaded by a port, 2.5" diameter and 3.5" deep, offset to the nearside edge of the cabinet. The tweeter is also offset, but to the outside edge. Camber recommending that the 3.5s, which come as a mirror-imaged pair, be positioned this way. This asymmetry spreads out in frequency the deleterious effects of diffraction and reflection from the cabinet edges. Both drivers are rebated into the front baffle.

An unusual amount of design attention has also been paid to the enclosure for what is basically a relatively inexpensive loudspeaker. The 20mm high-density particle-board walls and baffle are braced by two horizontal H-braces, one just below the tweeter, the other just below the woofer, while a third brace is wedged between the rear of the magnet woofer assembly and the rear baffle. As this is oversized by 0.5mm, it pushes the front and rear baffles into a slightly bowed shape, which is said to reduce the level of vibrations in these boards by 90%. The positioning of the braces divides the cabinet walls into three unequally sized portions, to spread the frequencies at which resonances would otherwise occur. Internally, all the walls are covered with 25mm thick acoustic foam to further damp vibrations. The only sign of cost-cutting is the vinyl finish, available in simulated walnut or black: a real-wood–veneer finish quadruples the cost of the cabinet to the manufacturer, and the use of vinyl represents a saving which will not adversely affect the sound quality.

The crossover is hard-wired and uses custom-wound inductors, and plastic-film capacitors rather than the usual reversible electrolytics. Slopes are second- and third-order Butterworth. Signal connection is via knurled binding posts inset on a sloping panel on the cabinet rear.

The sound: Plateau-Camber recommends that stands be used; not having the appropriate Camber stands ($69 extra) to hand, I used 16" open-frame, spiked Heybrook stands which placed my ears at tweeter height, the axis I felt to give the best balance between midrange and treble. I usually remove speaker grilles when auditioning. However, Camber has bevelled the edges of the particle-board grilles to minimize diffraction effects and recommends that they be kept in place. This I did, though there was slightly more top-octave “air” without the grille, and the already good imaging improved further.

Taking the good aspects of the sound first, the 3.5s' stereo soundstage was wide, deep, and well-defined. Centrally placed vocalist images were stable with frequency, while the layers of the orchestra, on appropriate recordings, were reasonably precise in definition. The midbass was also well defined for a ported design, with good differentiation between bass guitar and kick drum. The only times the midbass seemed to lose control was when hit with high levels of plucked double bass, when it became too loose. It was also easy for the left
hand of the piano, particularly on recordings made with spaced omni microphones, to become too rich. Subjectively, the bass seemed more extended than was suggested by the in-room measurements, with good weight apparent down to the bottom notes of the double-bass and bass guitar, around 41Hz. The upper bass, however, was less clear, and there also seemed to be a relative lack of weight to the sounds of tenor instruments such as the cello, though, paradoxically, male voice had a little too much chest tone, a gruffness that seems inescapable with bass-reflex designs. Bill Taylor was more bothered by this than I was, feeling that male voice became too "rumbly," though he did comment favorably on the strong low bass.

The midrange seemed relatively low in coloration for what is basically an inexpensive design. A midrange warmth below 1kHz, however, lent trumpet more of a cornet tonality, and also pushed some piano notes forward, making them a little too clangorous. This was particularly noticeable in scale passages that also went above 1kHz, where the forwardness was contrasted against a lack of energy in the region just below crossover.

The treble was the area where I was least happy. Not that it was unpleasant—far from it—but there was a presence-region hardness which made level-setting problematic. Below a certain threshold, strings were a little wiry but acceptable; above that threshold and the sound became too hard. This also accentuated the throat sound of female voice a little too much for my tastes: listening to Kiri Te Kanawa's collection of Auvergne song arrangements by Canteloube (London 410 004-2), I was drawn in to the music by the wide, deep soundstage but was then forced to turn the volume down when the singer entered, so forward was the presentation of her voice. On typically multimiked orchestral recordings, this hardness led to additional confusion and a lack of treble transparency.

The high treble was characterized by a slight emphasis at the top of the penultimate octave, which added both a little sibilance to voice and a not unpleasant sparkle to triangle and tambourine. However, it also emphasized LP surface noise, suggesting that the Camber 3.5A would be a better choice for a CD-based system. Above that region, the response fell off quite rapidly, particularly off-axis.

Measurement: The plot of impedance with frequency (fig.1) shows the characteristic pair of reflex humps in the bass, the port appearing to be tuned to 46Hz. The impedance is pretty benign, rarely falling below 8 ohms, meaning that in conjunction with the high sensitivity—my measurement was a little higher than spec at around 92dB/W/m at 1kHz—the 3.5 should be very easy to drive. The nearfield LF extension, measured midway between port and woofer, is dramatic, being 6dB down at 31Hz, but this promise is not kept in-room (fig.2), the response falling reasonably sharply below 50Hz. The bass appears to be a little underdamped, there being a slight rise in the nearfield around 63Hz.

The midrange is smooth, though a rising trend is apparent from 200Hz to 4kHz, which may correlate with the propensity for upper-midrange hardness I heard. Another way of looking at the shape of the curve is to note that the lower mid octave, from 200-400Hz, appears a little shelved down, correlating with the lack of lower midrange heard, for example, with the cello. The top ½-octave of treble rolls off sharply in-room, particularly away from the tweeter axis, as is often the case with these largish dome tweeters. There is also a little too much energy apparent on-axis at 12.5kHz and 16kHz. While doing the measurements to produce this graph, I was struck by the excellent

![Fig. 1 Impedance](chart1.png)

![Fig. 2 Spatially averaged, ½-octave in-room response](chart2.png)

Stereophile, August 1988
pair-matching—rarely more than 1dB difference between left and right—from the lower midrange upward, where the room effects will not be significant. This indicates good quality control both of the drivers and of the finished systems.

**Conclusion**: Camber's 3.5A is a well-engineered and solidly constructed example of the classic two-way bass-reflex loudspeaker, with what appears to be an excellent bass/mid driver and a well-braced, rigid enclosure. Its high sensitivity and easy impedance suit it for use with relatively low-powered amplifiers, though these should have a tight low end to provide adequate control of the mid and upper bass. It offers outstanding stereo imaging capability for its price, and decodes a considerable degree of depth in appropriate recordings. I was less impressed by its Vifa tweeter, however, finding, as I have found in other models using versions of it, that it can be a little coarse in the lower region of its passband, to the detriment of treble transparency, and rather wispy in the bottom of the top octave.

The Camber 1.5 was an easy recommendation, due to its low price. Its bigger brother is harder to assess, due to the presence of some very strong competition in its price class, notably from the Spica TC-50 ($550/pair), Snell Type Q ($780), Magnepan SMGa ($495), Siefert Maxim IID ($599) and British Fidelity MC2 ($595), all of which have smoother, less aggressive, but more transparent highs. The 3.5 will be less system-fussy than any of these thoroughbreds, however, and will do better with inexpensive ancillaries. It also has better low-frequency extension; if that, coupled with its excellent imaging, is important to you, you should definitely check out the 3.5A.

**Image Concept 200:**

**$1000/pair**

Image is one of the loudspeaker brands manufactured by the Canadian Audio Products International group, the design aim being to produce high-quality sound at a relatively affordable price. The Concept 200 is the top Image model, and consists of a handsome, floor-standing tower with twin 6.5" woofers above and below the tweeter. This latter, a ¾", hyperbolic soft-dome unit, is the result of a long development program, and is said to couple good HF extension with wide dispersion. The woofers feature a filled-polypropylene cone, with the PVC surround both glued and stitched to it. The drive-unit array is set offset from the cabinet center to spread out in frequency the deleterious effects of diffraction and reflection from the edges, and the speakers are supplied as handed pair. The crossover, with a nominal frequency of 2kHz, is hard-wired and said to be time-aligned. Signal connection is via recessed five-way binding posts on the cabinet rear, just above the large, 4" diameter, 5.25" deep, reflex port.

All things being equal, the larger the cabinet, the lower in frequency and potentially the
more audible the resonances of its panels. Though a large cabinet undoubtedly confers a higher sensitivity and deeper bass extension, these are often obtained at the expense of greater levels of midrange coloration. With a speaker like the Concept 200, extra effort has to be taken in the construction of the enclosure. The 200 features what is called by its designers "Impact-Braced" technology. This high-tech nomenclature describes a bracing system whereby the side panels have additional grooved panels fitted to them, the edges of which get closer to one another toward the cabinet rear. A wedge is then driven into the ever-narrowing space between these panels to produce a very rigid construction. This technique also eliminates parallel surfaces within the enclosure, which should minimize internal standing waves. As a final touch, the cabinet is loosely filled with fiberglass wadding.

The Image 200 is not a particularly expensive loudspeaker, considering its size and complexity, so something has to be economized on in order to keep the price affordable. As with the Camber 3.5, the enclosure has a black woodgrain vinyl finish. However, perhaps because of this speaker's bulk and weight, I found it to be a little fragile. The review process always involves a fair amount of moving around and handling, more than a speaker would normally get. I do try to be careful, but in the case of the Concept 200, two of the corners suffered cosmetic damage, the vinyl fracturing and peeling away. I would suggest additional care if you do have to move your '200s relatively often.

The sound: The instructions for the speakers mention optional spikes: small holes are drilled in the speakers' plinths to take these, but they were not supplied. I stood the '200s on Tiptoes, therefore, and sat down for some serious listening. My first reaction was a double-take — with the Images toed-in to the listening position, the treble balance was very similar to that of the Camber 3.5s. There was more lower-midrange energy, however, giving a more even balance. Like the Cambers, the mid-treble was somewhat exaggerated in level, adding too much sizzle to hi-hat cymbal. However, due to the Image tweeter's wider dispersion, I could flatten the treble response by facing the speakers straight ahead, something that would have given too little top-octave energy with the Cambers' larger tweeters. This positioning did pull the soundstage out to the sides a little too much, so the taming of the overall treble forwardness has to be balanced against the degree of soundstage center-fill.

Now soundstaging is one of this speaker's forte(s). As good laterally as the Camber, if not quite approaching the holographic standards set by the Celestion '600s, it threw a convincing image depth, with more of the recorded ambience audible. This accurate representation of recorded space represents quite exceptional clarity for a design with a conventional soft-dome tweeter, though it doesn't reach the standard set by the alloy-domed Monitor Audio R952/MD or the Acoustic Energy AE1 mentioned by Alvin Gold elsewhere in this issue.

As mentioned earlier, the treble with the speakers firing straight ahead was relatively flat, though there was still a tendency to harden at highish levels. There was also a trace of lisping audibility on voice, indicating problems in the 10-12.5kHz region. Bill Taylor mentioned in his listening notes that the treble had a tendency to sound gritty on female voice, taking on a slight edge. I found it to exaggerate the octave above the open E-string of the violin. I have to say, though, that this is still relatively good behavior for a soft-dome tweeter, which tend always to spit and sizzle a little too much for my liking when compared with good metal-dome units, ribbons, or electrostatic drivers.

The midrange was evenly balanced, though a slight "eee" coloration was noticeable on piano and voice, pushing some notes forward in the image. Despite Image's claims for cabinet rigidity, both front and rear baffles, as well as the side panels, were found to be quite lively between 320Hz and 370Hz; I suspect that these resonances may correlate with the coloration noted.

It was in the bass, however, that the Image 200 really came into its own. This is the best low-frequency extension that I have ever heard from a loudspeaker costing less than $2500. There was flat bass to 32Hz, which added terrific weight to organ pedals — the synthesizer bass on the "Mountains of Things" track on the superb Tracy Chapman album (Elektra 9 60774-1) was positively Stygian. And, unusually for a ported design, there was very little mid- or upper-bass exaggeration. Male vocalists had normal-sized chests! Such good bass performance is not obtained without paying

Stereophile, August 1988
a price, of course, and the tradeoff chosen by its designer was to make the Image 200 relatively insensitive for such a large enclosure. Both amplifiers I had available were a little underpowered to drive the 200 to satisfyingly physical levels, but a good 100W model should, ahem, really "kick ass," as you Americans are wont to say.

**Measurement:** Fig. 3, the plot of impedance with frequency, shows the Image 200 to be a reasonably constant load through the midrange, reaching a minimum of 4 ohms in the upper bass, but then varying little. A 6 ohm impedance overall would be nearer the mark than the 8 specified, which in conjunction with the low sensitivity—I measured around 85-86dB/W/m at 1kHz—will mean that owners of the Concept 200 should use beefy amplifiers (in current terms) with at least 50W to hand. Of typical reflex shape, the curve reveals the port to be tuned to 31Hz, suggesting good bass extension.

Measured in the nearfield, output from the lower woofer dropped to ~ 6dB at 44Hz, but this will be augmented by the output from the port on the speaker's rear. Fig. 4, the spatially averaged in-room response, shows the LF to reach down into the nether regions, not reaching 6dB down with respect to the 1kHz level until 20Hz! The unevenness seen in the midbass is probably a room interaction effect, the slight peak at 40Hz being a room resonance. The curve is then relatively smooth through the midrange, though there is a lack of energy in the octave below crossover, with then a little too much energy in the room in the lower part of the tweeter's passband.

The actual shape of the curve in the treble is almost identical to that of the Camber 3.5A, despite the latter's very different tweeter. Perhaps this is the response to give the best result in the NRC's standardized listening room? I found the treble response to be actually flatter off the tweeter axis, suggesting that the Concept 200s will sound most neutral facing straight ahead rather than toed-in toward the listener. The tweeter also appears quite smooth, although there is a hint of "character" between 10kHz and 12.5kHz.

**Conclusion:** The Image Concept 200 has an unusually large enclosure for a $1000 loudspeaker with pretensions to high-end sound, and its designer has chosen to use this volume to maximize bass extension. This speaker offers the deepest bass per dollar of any in this price class, and will satisfy organ-music lovers in particular. This is not to say that other aspects of performance have been neglected, as its soundstaging capability is also excellent, levels of midrange coloration are relatively low, and the treble, while not approaching the transparency of the better metal-dome units, is nevertheless smooth and detailed. Recommended, at the lower end of *Stereophile*'s Class C category.

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**FOLLOW UP**

**The PKR&D-modified Acoustat 1+1**

To refresh your memory, Phil Keck modifies Acoustat loudspeakers. In my review in Vol.11 No.4, I found the 1+1s he had modified startlingly clean and transparent. And the spatial resolu-
tion was truly worth writing home about. The major fly in the ointment, however, was a significant tonal-balance anomaly: a wide recession in the upper mids, 2-4dB deep, and ranging from about 1 to 4kHz. Allowing for the fact that the problem may very well be inherent to the stock Acoustats, I was nevertheless determined to give Phil a chance to fix things. And because he thought he could do something about it, I fired off the interfaces to him for modification. This is a report on the outcome.

Even after a quick initial listen, it was obvious that Phil had done something worthwhile. The sound was even cleaner and less electronic than before. The soundstage was still utterly transparent and tightly focused. Yet the dull and lifeless upper mids and presence region were still in evidence. The range from about 1 to 5kHz still sounded comatose. I did remeasure the speakers and discovered about a 1dB improvement between 1 and 3kHz. This is a step in the right direction, but I would like to see another 2 to 3dB in this area.

Phil also enclosed four strips of foam which I was to stick on the inside of the frames, butted up against the front panels, the idea being to suppress any cavity resonance that might be present. As Phil points out, the resonant frequency between frame members turns out to be 1465Hz. With Phil's OK I mounted the foam on the back side of the panels because there just was not enough of a lip to do it on the front. I also experimented with the brilliance control and the tilt of the panels. None of these things had any significant effect on the tonal-balance problem. The biggest improvement resulted from standing up, when the balance was much more lifelike—both subjectively and objectively. So if you are over 8' tall or don't mind sitting on a bar stool when listening to music, I can certainly recommend this product to you.

My gut feeling is that the problem is in the stock speaker, an important possibility that bears emphasizing. As things stand now, I could not live with Phil's 1+1s, but from what I've seen of Phil's work I can certainly recommend his services. There's new life in store for that tired old Acoustat that you have been wondering what to do with. (PKR&D can be contacted at 2370 Grande Vista Pl., Oakland, CA 94601. Tel: (415) 436-7297, 10am-4pm PST, Monday-Thursday.)

**Ohm Walsh 5 “Revised” loudspeaker**

The folks at Ohm would love to have us believe that there is no place like Ohm." I know Dorothy believes that, but last time I listened to the Walsh 5 there were enough things wrong with it to spoil the Ohm-coming. To be sure, there was plenty of imaging magic; you might even say that, indeed, "there's no space like Ohm." But a slightly opaque and colored midrange seriously curtailed my enthusiasm for the speaker. All puns aside, I firmly believed back then that this was a speaker on the verge of greatness. So when Ohm let it be known late in 1987 that the Walsh 5 had been revised, I was naturally more than interested in a relisten.

I was unable to specifically pin down the nature or extent of the modifications, but even after a quick initial listen my impression was that the speaker had been significantly improved. The midrange was smoother and considerably more transparent. I suppose that transparency and disdain of boxy colorations are acquired tastes; years of intimacy with electrostatics have made me quite intolerant of muddled, resonant boxes. The art has advanced greatly in the last 50 years, yet dynamic moving-coil manufacturers are still boxing box resonances. Heroic enclosures like the one used in the Celestion SL600s are a step in the right direction. Not surprisingly, the mini-monitors, the miniature boxes, are the least boxy-sounding because of the reduction in panel area: there is simply less radiating surface. Unfortunately, most little boxes are bass cripples. A good example of this is the ProAc Tablette. Its lack of bass and gratuitous brightness conspire to give it an artificial sense of transparency which many people like. I know I liked it. But JGH, Mr. Tonal Balance, was appalled: "violins sound like toy violins," he would complain. But Gordon, what do you expect from a castrato anyway?

The revised 5s impressed me as pushing closer to mini-monitor clarity and transparency, the best that box speakers have to offer. Another way to put this is that while they're not in the class of the best planar designs in these respects, they are quite respectable.

Shortly after the revised 5s arrived in Santa Fe, I was visited by John Strohbeen and Don Bouchard of Ohm. Mr. Strohbeen insisted that all of the absorptive panels be removed from

Stereophile, August 1988
my listening room so as to convert the dead-end/live-end arrangement to a live-end/live-end acoustic. He felt that this would help establish a more realistic soundstage, and, based on my experience with the old 5s, I was inclined to agree. The next day proved quite frustrating as we labored to eliminate a lower-midrange "ah" vowel coloration which was painfully obvious on the Lesley Test. We experimented with breaking up the room's standing-wave modes as well as with a variety of speaker placements. What helped the most was to position two large particle-board panels in the shape of a "V" (the point of the "V" facing the listening position) between and slightly behind the speakers. This alleviated the problem but did not entirely eliminate it. I suspected that the culprit was the room itself, particularly the wall resonances—sheetrock panels are capable of significant resonant energy output in the lower mids. If you don't believe me, simply bang your fist on the wall. What you'll hear is the sound of the wall singing over a fairly narrow resonance. And wall resonances will routinely be excited by sound impulses from the speakers. It would really be nice to have a resonant-free listening room on a concrete slab and with concrete or stone walls. However, for most of us stuck with less than the best, the only solution is to control the resonances through sound absorption.

The first step was to reintroduce the fiberglass side panels into the room. The impact of this was quite dramatic: the lower-mid colorations were almost completely squelched. To be sure, the expansiveness of the soundstage suffered, but the spatial extension of instruments tightened up. The increased focus was actually more to my liking, compared with a wider but overblown stage.

Next, I removed the felt pads from the back of the speakers' "cans." The pads are provided to control rear dispersion and are probably useful in controlling undesirable reflections from wall placements. But when the speaker is removed from the rear wall, the pads serve no useful purpose and appear to hinder rather than help. In fact, without the pads the sound became more spacious and transparent—as though a muffler had been removed from the reproducing chain. Replaying Laudate! (Pro-prius 7800), it was also obvious that midrange resolution had improved. For example, it was now possible to better resolve hall reverberation.

Finally, the particle-board panels were removed and the rear absorptive panels were repositioned so that the room was configured as normal. The soundstage moved a few feet back, but I was left with very little in the way of timbral errors to criticize. Lesley's tonal quality was now right on. Cleo Laine's vocals (Live at Carnegie Hall, RCA LPL.1-5015) had also markedly improved compared with the old 5s. Comparing the two versions in the same room and under the same conditions, the old 5s sounded opaque and recessed. The midrange textures of the revised 5s were simply purer and much more transparent. However, the upper mids were still somewhat laid-back—even with the presence switch all the way up or in the flat position. At least with the speaker removed from the back wall, the region between about 1.5 and 3kHz measured and sounded 2dB down. This valley was even broader on the old 5s (I failed to call attention to this previously). With a suitable amp, however, this need not be a subjectively bothersome effect. The Cochran Delta Modes highlighted the tonal-balance deviation quite readily, but with the Wingate 2000A Series III the 5s exhibited plenty of midrange bravado and verve. The Persuasions (No Frills, Rounder 3083) virtually came alive in my listening room. So please note that the sonic impressions noted above and below are based on the Wingate amplifier.

At least once a year JGH gets on his soapbox about the importance of recommending amps and speakers as a combination because of the large potential for synergistic or antagonistic interactions. Class A speakers and a Class A amp chosen at random do not necessarily add up to Class A sound. It appears to me that many audiophiles have had a hard time accepting this. Here is a perfect example of this: the Wingate complements the Walsh 5 exceptionally well, while the Class A Delta Modes fare far worse.

Two additional minor problems require elucidation. The first one bothered JGH more than it did me. JGH, who had lived for a long while with the old 5s in his video room, also participated in the initial listening sessions with the revised 5s. He complained of a slight thinning out of the lower mids, as in tuba timbre lacking sufficient heft and body. John Strohbeen did not contest this point at the time, so it was not entirely surprising when Ohm sent
along two new cans just as I was finishing up with the revised 5s. These cans were experimental to the extent that they contained two crossover networks. A switch on the back of the cans allowed me to change from the old to the new network, which supposedly provided more of a boost in the lower mids. The extent of the boost turned out to be about 2dB from 150 to 300Hz. Certainly, with the new network the sound was, as expected, fuller and mellower. The surprise was that it was also a little smoother and cleaner through the mids. Because the new network is a step in the right direction, I presume that it will be standard equipment in all future production.

The final cavil has to do with the upper octaves. As good as the 5s had become, they still failed to match the sweetness and treble transparency of my electrostatic references, the old and new Quads. The treble of the 5s was consistently slightly grainy when compared with the best. But keep in mind that I've really never heard a dome tweeter that could hold a candle to the Plasmatronics helium tweeter, or, for that matter, even the Dukane Ionovac tweeter.

As was the case with the old 5s, I was unable to achieve very smooth deep-bass response from the new 5s. This is not due to any fault of the Ohm speakers, but to the generic problems of bass reproduction in a small room. In a concert hall there are hundreds of standing-wave patterns in the bass octaves. When added together spatially, the multitude of modes smooths out the frequency response. In contrast, there are very few bass modes in a small room. It is this sparsity of modes that yields serious dips and peaks in the room response; any full-range loudspeaker will have a tough time in a small room. And, other than liberal tinkering with an equalizer, which is a can of worms in itself, bass-heavy speakers and small rooms don't mix well.

In my room, the best bass extension for the Walsh 5s appeared to be associated with rear-wall placements. However, I chose not to do this because of the penalty to be paid in terms of imaging. In order to test the bass of the 5s under favorable room conditions, they were set up downstairs in JGH's listening room. Positioned against the rear wall and driven by the Threshold SA-1s, the Walsh 5s’ bass was excellent in terms of extension, dynamic power, and definition. I remember JGH going gaga over the bass quality from several of his CDs, and declaring the bass reproduction as the best he's ever heard in his listening room. There was clean output into the low 30s, and our biggest problem was clipping the Thresholds on sustained low-frequency passages. Again, however, soundstage focus and depth did suffer from wall placement.

So the bottom line is quite favorable: the Walsh 5 is a full-range speaker that is quite clean and images very well. On the debit side, it is quite room-sensitive and will require considerable experimentation to achieve a proper balance between imaging specificity and bass extension. Midrange transparency and clarity are not quite in the class of the best planar designs; neither is the treble as smooth and transparent. But to their credit, the revised 5s do manage to achieve very low levels of boxy colorations, and compete very well with the best dynamic designs money can buy. Soundstaging is another strength and joy, and at their best the 5s can set up a very palpable illusion of the original performing space. With wall placement, the bass, as mentioned earlier, is deep and powerful. Choice of amplifiers is critical. The best choices would be slightly forward designs that tend to complement the 5s' slightly recessed upper mids. Because the 5s need lots of current drive into a 4-ohm nominal load and a slightly forward-sounding amp, solid-state designs naturally come to mind. The Wingate 2000A certainly worked extremely well, but I would imagine that many other solid-state designs would also work well.

With the above caveats, the revised Walsh 5 with the new crossover network (I certainly hope that Ohm offers these mods as a retrofit to owners of old 5s) strikes me as a GAS: a Great American Speaker—one of the best American box speakers made, a clear Class B choice, and a clear vindication of the Lincoln Walsh driver technology. In its present incarnation, it is one of the few dynamic speakers that my jaded electrostatic taste buds could live with.

—DO

NAD 2600A amplifier

That which was very good in the beginning hath become even better.

My original review of the NAD 2600, which appeared in Vol.10 No.2, gave this solid-state amplifier high marks for high-end cleanliness and output capability, but marked it down a

Stereophile, August 1988
bit for a slightly gutless low end and a laid-back, somewhat lifeless upper midrange. Since then, NAD has made several small but, they feel, significant changes to the unit, and they sent me one of the current production units (re-named the 2600A) for a quick re-listen.

Although I cannot recall any instance in which a year's worth of in-production modifications failed to improve a product, I was not prepared for the extent of improvement I heard in the 2600A. Although no one in the business still seems to know why some solid-state amplifiers sound withdrawn and others don't, NAD has somehow managed to divest the 2600 of all of its laid-back quality. The new one sounds lively and upfront, almost but not quite to the point of hardness. The high end is not quite as silky-smooth as it was, but it is still more than acceptable, albeit on the dry side. I don't have the first review sample of the 2600 on hand for comparison, but my review of that suggests that NAD has also done something to improve the low end. It is now tight and beefy, with great impact and solidity and not a trace of the slight slackness I heard in the original. Only the highest-priced humongous (re-named not beefy, with great impact and solidity and not a trace of the slight slackness I heard in the original. Only the highest-priced humongous from Threshold, Krell, and Mark Levinson surpass the current NAD 2600A in low-end performance. Depth reproduction remains a little less impressive than the best I've heard (only from the top tube amplifiers), and spaciousness too remains unchanged—that is, still impressive. And, as before, the 2600A has truly remarkable headroom, sounding at times more like a dual 300-watter than two 150W channels. Even in "hard-clipping" mode it handles momentary overload nearly as well as my reference Threshold SA-1s, no slouches in that department.

It should not be surprising that the improved NAD 2600A still does not have the liquid transparency, sweetness, openness, and disarming ease of the Thresholds. If any manufacturer could equal that for a tenth the SA-1s' price, all the makers of our Class A recommended amplifiers might just as well close their doors and get into the insurance or real-estate businesses. In its $800 price class, though, the 2600A now stands as one of the most neutral power amplifiers around.

This is the way more high-end manufacturers should be doing things. Instead of introducing a new model to replace the 2600 a year after it was introduced, NAD has stuck with the basic design and concentrated on refining its performance, resulting in an amplifier that is significantly better than the original version, for only $50 more. Recommended, in Class C.

—JGH

**CD Saver**

In Vol.10 No.8, I gave a niggardly endorsement to a product called CD Saver, a laser-optical disc-scratch remover sold by a firm called Buff Stuff (PO Box 43128, Upper Montclair, NJ 07043). I felt it was of much more value for LaserVision video discs than for the CDs it is ostensibly intended for. My view, which seemed to make sense at the time, was that CD players have extensive error-correction provisions, while LV players do not, so scratches on LVs cause worse problems than scratches on CDs. It turns out I was not entirely right about that.

I had forgotten at the time that the Sony 705 CD player I use has unusually potent error and tracking correction. I have since learned that many players are very weak in both departments, frequently locking up or muting on tiny surface blemishes that don't faze my 705 at all. With these, CD Saver is, literally, what it is called.

I borrowed (from a friend) a player which had acted up on a number of his discs, and asked also for a selection of the bad discs for treating with CD Saver. Of these, six had visible blemishes—nicks and scratches, including a fairly deep one on which the player went into muting and then shut down. Two of the discs had no visible flaws.

None of these CDs acted up at all on the Sony. After treating them with CD Saver, I then tried them on the borrowed player again. Five of the slightly damaged discs played flawlessly, and the one with the deep scratch played through without shutting down the player, and with only three momentary mutes. An additional treatment reduced that to two mutes, but two more treatments accomplished no further improvement. The discs without visible blemishes were, as I had expected, unaffected by the treatment. Each still produced a single mute on the borrowed player.

So I recant. CD Saver can be as useful with CDs as with LV discs, but its value for CDs will depend on how susceptible your player is to the effects of surface marring. (A 30m1 dispenser-container of CD Saver costs $10.95, including S&H.)

—JGH

Stereophile, August 1988

137
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Stereophile, August 1988
When my wife first told me about it, I didn't even want to look at the house we have now lived in for 17 years. "Too expensive," I maintained. But she ultimately convinced me that a look, at least, would do no harm. When I saw the beautifully finished basement, I knew I had found the ideal listening room: a relatively large area of about 700 ft², with wood-paneled walls, tiled floor, and a textured plaster ceiling about 7 1/2' high. One hand-clap suggested that the live acoustic would lend power to an amplifier and presence to any good system.

And so it has proven. Although it took a while to find the optimum positions for my speakers (with so many reflective surfaces, resonances and reverberation can be problems), the sound had an immediacy and liveness that, in most listening areas, are difficult to attain. Only a pair of Dynaco Mark III power amplifiers and a Dynaco PAS-3 preamp remain from the system I moved in with 17 years ago, but the equipment I have subsequently added has in no way changed my delight in a room to which the real-estate agent who showed our house should be forever grateful.

At one end, in corners of the narrow wall sitting horizontally on shelves about 4' off the floor, are a pair of Music and Sound Imports MAS-925 II speakers, which I like for their open high end and deep, solid bass. Indeed, with some material the power of that bass has caused the paneling on the wall to resonate. Wiring is from Music and Sound Imports: 12-
gauge Music-Line speaker cable between the 925s and the Mark IIs, and MusiCable Interconnects between the Mark IIs and PAS-3. The turntable is a simple Technics SL-D1 all manual, direct-drive unit fitted with a Music and Sound Imports Econocoil (high-output, moving-coil) phono cartridge. CDs are played on a Sony D-55 Discman, which feeds into an auxiliary input of the PAS-3. I also use an old Realistic turntable (whose speed, though unadjustable, has proven quite accurate) with a Shure SC-35 heavy-duty broadcast phonograph cartridge with elliptical stylus for listening to 78s. The cartridge's output is split with Y connectors, the left channel of the SC-35 being fed into the left and right channels of the PAS-3's "Special" input (which has ideal equalization for older European 78s) and the right channel of the SC-35 into the two channels of the preamp's Tape Head input, which gives a reasonably good equalization for newer 78s. Both of these basic curves (as well as those of other inputs) can be modified with a Realistic 10-band-per-channel graphic equalizer connected through the tape loop of the PAS-3. Such a connection permits isolating the equalizer from the system when desired.

Four tape decks complete things: two modest Technics M218s suffice for the little listening to and copying of cassettes I do. Far more essential to my work as Curator of the Toscanini Collection at Wave Hill, and as a producer of broadcasts for a local station and for National Public Radio's Performance Today, are two reel-to-reel machines with 10" reel capacity: a Teac 3300 (quarter-track, 3.75 and 7.5ips) and a Teac 3300-2'T (half-track, 7.5 and 15ips). The system has no tuner save for the one included in the Sony D-55 (no great loss, considering the dismal state of classical-music broadcasting in the New York metropolitan area).

With the exception of the two power amplifiers, which sit about 4' above the floor in an out-of-the-way, well-ventilated corner, all of the equipment is housed in a cabinet placed against the wall to the left as one faces the speakers and about 20' back from them. Owing to the fine dispersion of the 925s, I have not had to seek an optimum listening point, their stereo imaging being almost as well defined from either extreme side of the room as from its center. When listening for extended periods, however, I usually sit about 25' back from the speakers, midway between the two long walls.

For all its virtues, the room poses one problem: it's not soundproof. We live in the path of planes approaching and leaving La Guardia Airport (about 15 miles away). Consequently, monologues that I record for broadcast require careful checking to ensure freedom from extraneous noise, mostly from jet engines and helicopters. For this and for determining the smoothness of tape splices, I listen over a pair of Sony MDR-77 headphones, which provide insulation from potentially distracting and confusing outside noise.

My friends chide me, of course, about having resisted transistorized electronics. I have, to be sure, brought home a few transistor power amps. In subtle yet nonetheless audible ways, they offered slightly better detail and a marginally tighter bass. But this greater clarity—one might call it a sharper etching—came with a less musical, almost acidic timbre that seemed in its peculiar way less lifelike than the timber projected by the Mark IIs.

Admittedly, clinging to the Mark IIs and PAS-3 poses special problems. Tubes have become increasingly scarce and expensive and—worse yet—of variable quality. Recently, for example, I traced a slight "motorboating" in the left channel of my system to a defective 12AX7/ECC83 tube in the preamp. Two new replacements created new problems, one tube being noisy, the other microphonic. Finally, a third replacement (all three, incidentally, from the same manufacturer) restored optimum performance.

Then, too, tube efficiency and quality erode with time, sometimes so gradually that the resulting impaired reproduction is scarcely, if at all, apparent. To guard against this, I take periodic voltage readings to verify that the amps are operating within the limits of normal values. But it is the ear that is the best guide. Consequently, with a small, select group of discs, I re-audition the system two or three times a year, checking the clarity and definition of key details that are difficult to reproduce and that on some systems are blurred to near obscurity.

Those who hear a good deal of live chamber music in the home (or in a very small hall) will know that one of the most difficult sounds to record and reproduce accurately is the "buzz" of the cello, a timbral coloration generated by high frequencies. Thus to check that the amps
are pure on top, I listen to the opening of the Beethoven Op.59 No.1 performed by the Talich Quartet (Caliope CD Cal-9636). Here the cello, especially in the first movement, is captured with exceptional realism; any time its "buzz" becomes veiled, moribund tubes seem indicated. To check for transparency, Stravinsky's second recording of his own Symphony in Three Movements (just reissued on CBS CD MK 42434) proves especially useful as it has wind and brass details that are often fudged when response is not wide and linear.

To verify low-end response, I begin with Karajan's 1966 Berlin recording of the Brahms Haydn Variations (DG 138 926), where the bass line in the concluding passacaglia is captured with uncommonly clear solidity. The opening measures of this section, for example, should reproduce with a weight that is felt as well as heard, and any hint of boominess suggests faltering tubes. This recording, incidentally, is well-suited for checking stereo imaging. Even through my old (long-departed) AR3s—speakers not known for exceptional dispersion—this recording displayed remarkable dispersion and clarity of instrumental placement.

One other disc I use to check bass response is Carl Weinrich's recording of Bach's Passacaglia and Fugue in C minor for organ (Westminster 14043, deleted). Here the statement of the opening theme ends with a low pianissimo C that should sound hushed yet weighty, with the note being almost physically as well as aurally discernible. Finally, if I suspect transients are losing crispness, I listen to some solo piano and a few cymbal crashes from various recordings.

As all this may suggest, my primary concerns are with music, not sound for its own sake. Although fully aware that good reproduction enhances musical pleasure, I have never turned to a recording solely because of its excellent engineering. With a heavy reviewing schedule swelling the size of my record collection, my major concern now is building still another cabinet to house CDs. Should that fill to capacity, my beloved basement may shrink to nearly unusable proportions. And finding a new listening room in a new house—not to mention having to move more than 10,000 discs and tapes—remains something I'd rather not even contemplate.
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When the critic of Le Temps, Pierre Lalo, wrote "I neither hear, nor see, nor feel the sea," he was unconsciously defining the criteria for judging a performance of Debussy's La Mer—though in fact he was condemning the work itself, after attending the first Paris performance on October 15, 1905. Even wider of the mark was the judgment recorded in the Boston Daily Advertiser, in 1907—"a Gallic picture of the sea is apt to run more to stewards and basins and lemons than to the wild majesty of Poseidon."

Ernest Ansermet was more perceptive: "It is a picture of the sea without ships, without human beings, an impression of the emotions that one might feel when gazing, without distraction, at the open waters." He saw Debussy's aim as to create an impression in his music, a reaction to all of the suffocating principles outlined by Richard Wagner.

It always disappointed me slightly to learn that the score, the "Three Symphonic Sketches"
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that comprise La Mer, was completed in March 1905 at Eastbourne—one of the most conservative of English south-coast seaside towns. In September 1903 Debussy had written of his passionate love for the sea, saying that "chance" had led him away from his destiny to be a sailor. By then he had started on the work, holidaying in Burgundy: "you might say what I am doing is like a landscape painter working indoors . . ."

The three movements are entitiled "De l’aube a midi sur la mer," "Jeux de vagues," and "Dialogue du vent et de la mer," although originally (i) took a name from a Mauclair short story and (iii) was called "The wind makes the sea dance." In structural terms a scherzo is framed by a symphonic Allegro and finale which recycles themes from (i) and (ii). I see that the analytical note Pierre Boulez wrote for his 1968 New Philharmonia recording (CBS) now appears only in German in the CD booklet—Boulez draws attention to the parallelism of the endings of (i) and (iii), what he called the rhetoric of the culminating point, in contrast with others of Debussy's orchestral works, eg the abrupt ending of Iberia. Structural form apart, it is what Boulez called "the infinitely flexible conception of acoustical instrumental relationships... a new and personal type of sonorous universe" that gives La Mer its powerful appeal.

It might seem that only the ultra-high-fidelity recording will allow us to experience the music properly at home, but no, while there are recordings that do work on that basis—the 1983 Philharmonia version conducted by Tilson Thomas, for example—paradoxically the most exciting recording of all, perhaps, dates back to 1936. This is one of various extant Toscanini recordings, not with the NBC Orchestra, but a live performance in the Queen's Hall, London (destroyed in the blitz) given with the BBC Symphony Orchestra: at a pre-war peak (EMI 291345 1, mono LP).

Toscanini was so violently opposed to the idea of the gramophone that he refused even to consider the 78s made by running machines in relay, and with overlaps. The material remained archived until last year. In a piece written for the May 1980 issue of HiFi/RR by Andrew Keener (a few years before he was to go on to produce one of the best of modern versions) there is a comment on the NBC La Mer from Studio 8H in 1950. He observes that the listener is "won over by the unique combination of warmth and singing, beautiful lines... one can tell by the style of attack that the orchestra is producing the real thing" (he is talking of the lack of pianissimi in the recording itself). Toscanini's readings were by no means carbon copies: the outlines of a 1953 New York live performance by the orchestra (on Fonit Cetra) are the same, but matters of detail are quite different in feel—notably in the drawing-out of the close of the second movement. The 1942 Philadelphia acetates, salvaged by RCA, were probably even more atmospheric and refined at that point.

It is a testament both to the conductor and to the composer that you hear so much instrumental color in these restricted historical recordings.

How far should the record producer go to compensate for the deprivation of visual effects, which help make up the concert-hall experience? I remember debating the point with Szell's producer at Cleveland, Paul Myers (now working there with Dohnanyi, for Decca). His argument was that, when the bank of eight divided cellos takes up the proud theme in (i) Fig. 9 Un peu plus mouvemente (ie, midway through the movement), there bass to be some balance compensation.

Fuzzily impressionistic in quite the wrong way, Eugene Ormandy's 1973 Philadelphia recording for RCA (a quadraphonic production by Max Wilcox) goes too far in pulling forward the cellos. The listener feels, if anything, affronted. In Myers's own '68 Cleveland/Szell recording it seems everything is on elastic strings; the surge of burnished cellos is no more dramatized than the pull of English horn against two cellos in the lull before the climax that ends (i). I like Szell's La Mer, yet it is surely Wagnerian in style. Compelling though it may be as an orchestral performance, it fails the P. Lalo test.

So, ultimately, do the two Giulini recordings. I only caught up with the earlier, Philharmonia recordings (1962, Kingsway Hall, Walter Legge producing) as an EMI "Studio" CD (CDM 769 1842); the Los Angeles version is now on a "Galleria" CD. As an analog LP (DG 2531 264) it offered ravishing sound, rather distant in balance. These two recordings exemplify the distinct phases in the Italian conductor's music-making: in the later one he loves Debussy's score too passionately, almost unable to relinquish the passing effect. This is, for me, the more convincing account—or is it that digital
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mastering has coarsened the Philharmonia La Mer? Certainly, there the orchestral virtuosity displaces the essence of the pieces themselves (though other reviewers hold this realization in high regard).

On CD, the Thomas Z. Shepard production for Boulez (MYK 42546) comes up well, with sparkling clarity that befits this analytical, probing account. This is more faithful to the analog recording than the intermediary "Great Performances" LP transfer. The reading is rather soberly objective, and Boulez clearly sees La Mer as a pointer to Jeux (1913)—his album note shows the lie of his sympathies here—which is also on the CD, plus L'apres midi d'un faune.

The same coupling on EMI (CDM 762 0122), with Serge Baudo and the London Philharmonic, was produced in 1986 by Andrew Keener, working at the resonant Church of All Saints, Tooting. Attending the sessions, I was amazed at the reverberation there: the sound you hear on the CD is a fair reflection of the amplitude it gives the sound. (The "Eminence" LP transfer hardly does justice to this digital recording.) Of course, it has to be taken into account by the conductor, too, in order to preserve clarity. In my view La Mer works less well than the coupled (slower) works. I find the big fortissimo passages too tiring. Some beautiful areas, but difficult to live with.

The venue for David Mottley's CBS production, Philharmonia/Tilson Thomas (LP, D37832; CD, CD37832), is not disclosed, but sounds like Abbey Road. Dynamic range is wide, and fortissimos have a hard, powerful edge that gives a certain severity to the reading—in contrast to the much more sensitive quiet playing. The end of side (LP!) is slightly cut back and loses realism. But in general this is a superb example of multi-miked engineering.

One of the first recordings to appear on CD, the Philips coupling (with Three Nocturnes) by the Boston SO under Sir Colin Davis (LP, 6514 260, deleted; CD, 411 433-2) offers a smooth, distanced perspective. Dynamics are subdued, muting the drama. Playing is excellent, and Davis's conducting is self-effacing, although his reading is deeply sympathetic. The sound is more boldly sculpted in Haitink's 1977 Concertgebouw recording (Philips 412 920-1, analog LP), a fine reading with orchestral character quite different from the Boston. There's an element of caution here, a sobriety that frustrates the desire for sheer excitement, but the players respond wholeheartedly to the scoring, and so the P. Lalo test is passed (just).

Ansermet occupies a unique position in the history of recording. He built up the Decca/London catalog in the 20th century music in which he excelled, and the Victoria Hall Geneva recordings were always at a technical forefront. (This made up for the fact that the Suisse Romande was a rather fallible ensemble.) Their 1969 La Mer was transferred to CD (414 040-2), exposing the thinness of string tone, but Ansermet's individual and authoritative manner is also revealed: his account has rhythmic stresses imposed that you won't find elsewhere. Essentially this is an expressive "ralentisando-style" reading, evocative nonetheless.

The selection of the 1978 EMI (quadraphonic) BPO/Karajan La Mer for Mobile Fidelity treatment shows more the arbitrariness of their classical catalog choices than any special musical merit. Between the two other recordings with the Berlin Philharmonic, this one is essentially for the student of Karajan's conducting: a heavy, almost distended reading, nowhere as satisfying as the great classic 1965 DG. That is now available on CD (423 217-2), combining both of the older LP program couplings—Bolero, Daphnis (Suite 2), and L'Apres-midi. The sound has come up well on CD, and the magical atmosphere of this refined and eloquent realization is evident from the start. In December '85 these artists made a Philharmonie Hall digital version (DG 413 589-2). Here the big climaxes are cleaner than in the CD remastering of the 24-year-old alternative; but (with Michel Glotz producing) this is more of a synthesis of sounds, with focus changing all the time. It's hard to evaluate the performance with so much going on. If you have a CD player, the mid-priced DG reissue is the one to get—better still, find the analog LP original (138 923).

There are, of course, other recordings I have not mentioned. Some—the Barenboim/DG, Cantelli, the old Paray/Mercury—I would like to have heard; others—the Slatkin/Telarc, Solti and Maazel on Decca, Previn on EMI—have lesser repute. With regard to the decimation of the LP catalog, I'd suggest Toscanini/BBCSO as the LP choice; for CD, the first BPO/Karajan (with reservations over sound); and for good sound combined with interesting performance, Boulez or Tilson Thomas.
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BRAHMS: Variations on a Theme by Haydn, Op.56b

Murray Perahia, Georg Solti, pianos; David Corkhill, Evelyn Glennie, percussion

CBS M 42625 (LP), MK 42625 (CD), Tony Faulkner, Peter Jones, engs.; Steven Epstein, prod. DDD. TT: 46:11

Superbly recorded in the warm ambience of the Snape Maltings concert hall in Suffolk, England, this release pairs one of today's most distinguished senior conductors with his equally distinguished younger pianist colleague. Sir Georg, of course, began as a pianist, and, seemingly, in the autumn of his career, is interested in spending at least a small portion of his activities back at the keyboard. The results here are for the most part highly felicitous, particularly in the well-integrated Bartok Sonata, which features not only the usual graphic rhythmic angularities but a welcome sense of lyricism, even in the fast outer movements. I've been fond of quite a number of recorded performances of the Sonata: Bartok and his wife, made in the early 1940s; Vladimir Ashkenazy and Malcolm Frager, made for Melodiya in the Soviet Union in 1963 and never imported here; and Martha Argerich and Stephen Bishop Kovacevich on a 1977 Philips disc which ought to be a prime candidate for a CD issue. The Solti/Perahia duo, with two excellent percussionists, can be added to the list with pleasure, although I have somewhat mixed feelings about the very warm but decidedly expansive view of the Brahms/Haydn Variations. There are, to be sure, some wonderful moments—a fine Var.6 and the really graceful little to Var.7 among them, and the pianists are especially good at clarifying Brahms's cross-rhythms—but the over-interpreted performance sounds as though the players are attempting to wring every last ounce of expression out of the score, so lovingly (almost too lovingly) is everything rendered. The result, even in the finale, is that forward momentum suffers.

—Igor Kipnis

BEETHOVEN: Piano Sonata in B-Flat, Op.106
(“Hammerklavier”); Andante Favori, WoO 57

Barry Douglas, piano

RCA Victor Red Seal 7720-2-RC (CD), 7720-1-RC (LP),

Mark Vigars, eng.; Jay David Saks, David Frost, prods.

DDD. TT: 56:56

When the gods of ancient Greece imparted any gift to the mortal world, it was always accompanied by an equal and opposite hardship. Gifts work pretty much the same way today, even for big-time piano-competition winners. Along with instant fame and opportunity comes the burden of living up to expectations of epic dimension.

Barry Douglas won Moscow's 1986 Tchaikovsky Competition. Not only was he the winner; he was the first non-Russian to take the prize since Van Cliburn in 1958. He became the instant Great Western Hope. So the brassy young Irishman cast off caution and chose for his first commercial release Tchaikovsky's Piano Concerto No.1, the traditional notice-serving that a pianist has “arrived.” A fairly bold gesture.

Now, in an even gutsier move, comes his second recording—Beethoven's torturously difficult "Hammerklavier” sonata. No one under 40 is supposed to have the tools or the enlightenment to take on this piece. Sounds like hubris, the classic “overweening pride”
that begins all tragic endings.

Or does it sound more like courage? Douglas knows as well as anyone that disfavor earned now could put the kabosh on whatever thoughts he had of an olympian career. You've got to admire his pluck.

You've also got to admire his playing. Both on these recordings and in a concert at the University of Florida three months after the taping session, Douglas proved that he is a pianist of astonishing technical strength. The sheer physical power and nearly flawless fingerwork of his playing are overwhelming. His passionate ardor and ability to excite listeners is at full maturity. But...?

But he is only 27 years old! It's doubtful anyone could learn to play so much so well so soon and still have had time to reflect on the music very deeply. That's one of this virtuoso's few shortcomings: penetration.

The depth and profundity of the "Hammerklavier" are not fully revealed. In the fervor of athleticism, much of the poetry is dealt with in an almost cavalier manner. The closing chords of the opening allegro are rushed as if in relief at reaching the end of the movement. The ethereal mood of movement three demands just a bit more patience and a bit less preoccupation with sustaining the architectural whole.

On the other hand, the opening of the final movement is transcendent, and the tension created later on is built withmarvelous sensibility. Throughout, there is almost note-for-note precision.

Some of that precision was abandoned in the fourth movement of Douglas's concert performance. Instead, he lent the music an intensity akin to Sviatoslav Richter's legendary live recording of Pictures at an Exhibition. This quite moving, exciting display was tempered slightly in the studio recording.

Both live and recorded, Douglas's "Hammerklavier" left plenty of clues that through those miraculous hands will someday flow the heart—the marriage of soul and body—that seems to be beyond him now.

The Andante Favori, which in concert seemed to have been forced into an ill-fitting Romantic mold, takes on a lighter, more appropriately intimate cast here. It is a very satisfying performance.

Nowhere on the CD, though, is there even a hint of Douglas's rich, orchestral tone. The sound is crisp, light, and somewhat forward. Overall it is of above-average quality, but it is obvious that it was done in a studio. The LP version comes closer to concert-hall reality: The piano is fuller and more robust, with a greater sense of depth and air. It doesn't sound so much like a studio job. Regardless of medium, Douglas's wonderful manipulation of coloristic shades and his fullness of timbre probably could never be captured on tape, and that's a shame.

Whether it was wise to record a work of such spiritual depth so early in the artist's career is a question that time will answer. Douglas can light an inferno. He plays with a passion that may suffer from innocence now, but that may very likely light the heavens in years ahead.

—Robert Hessen

BRAHMS: Symphony 1
Herbert von Karajan, BPO
DG 423 141-1 (LP), 423 141-2 (CD), Michel Glotz, Gunther Hermanns, engs.; Gunther Breest, prod. DDD. TT: 44:17

BRAHMS: Symphony 2; Variations on a Theme by Haydn
Herbert von Karajan, BPO
DG 423 142-1 (LP), 423 142-2 (CD), Michel Glotz, Werner Meyer, Gunther Hermanns, engs.; Gunther Breest, prod. DDD. TT: 59:30

These comprise fascinating releases, not because they are completely successful, but rather because they are a microcosm of the many (often contradictory) traits that have stamped Herbert von Karajan as an especially controversial figure. This Brahms First (the conductor's fifth recording of the work) has many of the features that have led his detractors to find him too "neutral" a musician. Everything is beautifully played, yet the entire performance, especially in the outer movements, sounds characterless, with little of the tension, contrasts, and developing drama that the music requires. In part, this failing results from an excessively homogenized sonority in which blended choirs neutralize color. But it also stems from Karajan's failure to dig into the music, to accent sharply, and to bring out its stark, craggy edges. Everything is simply too smooth, polished to a point where the high gloss conceals the essentials underneath.

Karajan has always proven a more sympathetic interpreter of the Brahms Second and does not disappoint in this new version, also his fifth studio recording of the work. The melodies sing and are beautifully shaped, textures are well-defined, and there is a rhythmic give and take, especially in the first movement, that suggests an apt ebb and flow in music that was composed near—and is certainly redolent of—the sea. And Karajan avoids the trap of accelerating in the coda of the finale. Instead, by maintaining the broadly sustained tempo established at the start of the movement, he makes this conclusion a proud peroration in which the gentle second subject emerges in triumphant affirmation, completing a transfor-
mation of character as radical as any that might occur in the theater. And it is just this kind of drama with which the sonata form is most concerned. In both symphonies Karajan, quite wisely, ignores all repetition repeats.

Karajan’s third recording of The Haydn Variations crowns this new release. Here are nearly all the virtues that will, I believe, ultimately earn for the conductor recognition as one of this century’s great musicians. Balances are unusually judicious, and voice-leading is directed toward clarifying color, harmony, and structure. Particularly noteworthy in this last regard is Karajan’s treatment of the closing passacaglia, where the bass-line—the harmonic backbone of what is a miraculous set of small variations within a larger one—remains sharply defined, even when it ascends into middle registers. Furthermore, when the opening bucolic theme returns at the close of the work in grand festive dress, Karajan permits the brass to cut through with previously unmatched power, thus making this climax especially compelling by having held something in reserve for the close. In short, these Haydn Variations, if somewhat more broadly paced than the conductor’s magnificent 1964 recording, are nonetheless about as fine an account of Brahms’s exercise in perfection as one is likely to hear.

I have left the issue of sound for last because, like Karajan himself, it may well prove controversial: close, very clear, with a deep, powerful bass and biting brass, it makes tremendous impact both in LP and CD editions. But its closeness is synthetic, never suggesting a concert-hall reality. The perspective is two-dimensional, often claustrophobic, the triangle, for example, in the Variations sounding as if played by the concertmaster rather than a percussionist standing in the rear. Interestingly, too, this flaw is magnified on CD, which, because of its quieter background, reveals the close, glossy sonority with greater glare. Those who find such engineering pleasing may well consider the CD containing the Second Symphony and Variations an unqualified success.

—Mortimer H. Frank

DAVIES: Violin concerto
DUTILLEUX: L’arbre des songes (The Tree of Dreams)*
ISSAC Stern, violin; Andre Previn, RPO; Lorin Maazel, l’Orchestre National de France*

This CD contains two major additions to the violin concerto repertoire by the foremost composers of their countries, Henri Dutilleux (France) and Sir Peter Maxwell Davies (UK). Both pieces were commissioned for Isaac Stern, and were recorded shortly after the first performances in 1985-86. Though very different in style and form, these lyrical, accessible pieces become eloquent vehicles for both composers in the hands of Stern, who brings a high degree of commitment to his usual impassioned, intuitive playing.

Dutilleux’s title, literary as usual, refers to his principle of not so much developing as varying the basic musical materials, much as roots and branches grow out from the trunk, and to his goal of “enchanting” the listener, ie, transporting him to the “far-off world” of dreams (artistic vision), to quote the Baudelairean title of his cello concerto. (To my ear, the piece evokes a magisterially filmed sequence of tableaux recalling Van Gogh’s starry nights.)

The Maxwell Davies is more personal, and perhaps more problematic; personal in that this somber, meditative piece makes many allusions to Scottish rhythms and melodies, and is intended to portray the composer’s adoptive home of Orkney, at Scotland’s desolate northern extremity. According to Davies’s notes, the slow movement should conjure up the spirit of Orkney, “where cries of moor and sea-bird, wind in heather and the distant wash of the Atlantic are the only sounds.” (This spiritually questing piece was conceived to be performed in the awe-inspiring 12th-century cathedral of St. Magnus, its resonant acoustics even having been factored into the composition.) Dr. Johnson seems to have summed it up when, describing his visit to the wilds of Scotland over 200 years ago, he remarked that a man who has not felt the power of desolation of soul of such a place could not truly reckon his own place in the world.

Recording quality is good, though not distinguished. In the Dutilleux, the soloist is spotlighted in front of the orchestra, recalling how CBS disfigured many Stern recordings of the 1960s. The composers’ excellent notes enable the listener to get to the heart of these beautiful pieces. Recommended with enthusiasm.

—L. Hunter Kevil

J.C.F. FISCHER: Works for Harpsichord
William Christie, harpsichord
Harmonia Mundi 1901026 (CD). Jean-Francois Poreefract, eng. AAD. TT: 46:30

This is another of Harmonia Mundi’s musique d’abord recueelles; my only regret is that it is only 46:30 long. Johann Caspar Ferdinand Fischer (1665-1746) is not one of the best-known writers for keyboard, but this may well be due (as the notes here suggest) to the rarity of surviving editions of his work. On the basis of this, and others of his harpsichord writings,

Stereophile, August 1988
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I cannot advance any other reason. His music is sweet, melodically inventive in the French style, and no whit inferior to Lully, Couperin, or whomever else you might name in this vein. William Christie is a skillful, expressive exponent of this nigh-forgotten writing.

The harpsichord used here (by William Dowd) is a big instrument sonically, with a surprising amount of power in the lower register, and Christie's registrations make good use of the available tone colors. Jean-François Ponte-fract does a better job with this analog recording made in 1979 than he does for Kenneth Gilbert in 1986, at full price and DDD. Very definitely recommended.

—Les Berkley

MAHLER: Symphony 6; 10 (Adagio)
Giuseppe Sinopoli, Philharmonia Orchestra
Deutsche Grammophon 423 082-1 (2 LPs), 423 082-2 (2 CDs), Klaus Heiman, eng.; Gunther Breest. prod.
DDD. TT: 129:17

How can an artist do so many things right, and still come out mediocre? Sinopoli's Sixth has many things going for it. The conductor obviously listens with open ears to many currents of music-making, and especially Mahler interpretation. He has excellent control of the superb Philharmonia players, brings out detail and nuance written into the score, and even pays homage to Mahler's early interpreters by injecting portamento and microscopic tempo adjustment, as was the practice in their time. Further, perhaps in acknowledgement of the current expansive practice of today's foremost Mahler interpreter, Leonard Bernstein, Sinopoli conducts a Sixth which may be the slowest on record. Yet Sinopoli fails to tie this tight, dark symphony together, has no clear vision of its expanse.

The opening march is just a run-through, impressive bar-by-bar but lacking the requisite inevitability and horror. Its slowness comes off as affectation, a missing of Bernstein's point. The tempo adjustments are half-hearted attempts at "authentic" performance, lacking the gonzo conviction and great heart of those very interpreters—such as Mengelberg and Mahler himself—Sinopoli means to emulate. He conducts the Scherzo with skill, not a note of this difficult movement out of place; perhaps it is because of his polish that there is no strain, therefore no sense that the classical line of reasoning has gone astray, about to collapse of its own weight.

The Andante is passionate, Sinopoli's slow, romantic conception recalling Brucknerian Adagios. But such Bruckner has no place in a whole reading of the Mahler Sixth, and so Sinopoli fashions another beautiful, isolated—though large—ocean in the sea of Symphony. His Finale maintains more interest in symphonic argument than the first two movements; but again there is precious little to arouse the passions.

Mahler's symphonies are so eclectic, so disparate in texture and ambiguous in argument, that the conductor must realize something extra-musical to hold the structure together. In short, a successful Mahler performance must be about something. Sinopoli's Sixth is about nothing. What is this symphony about? Consider that it is unusual among Mahler's symphonies in having four movements, a first-movement exposition repeat, and rondo-like development: clearly the composer is shadowing the Classical form. Consider the Scherzo, an artful distortion of traditional Landler, with duet-metre bars interpolated among the triple to lend a sinister, entropic quality. Mahler the provincial Jewish outsider must surely have seen the darkness at the far side of the German-Austrian Enlightenment; he may have been abusing Viennese classicism to argue that it was precisely the accomplishments of Haydn and Beethoven, not to mention Goethe, that lit the intellectual path toward German national consciousness. Combine this with the re-emergent feeling of Volks, represented by the rustic brass bands that appear so often in Mahler's symphonies, add a fillip of that most dangerous sensibility, nostalgia, and you have all the perhaps-unwitting collaborators in the rise of modern Teutonic militarism. I find it difficult to listen to this work without thinking that it is about World War I, even if written almost a decade before.

Jascha Horenstein understands this in his Unicorn performance of the Sixth, recorded live with the Stockholm Philharmonic. Though lacking the pyrotechnics of some other recordings, Horenstein's uniquely portrays the death of Enlightenment. The opening march moves along as slowly as Sinopoli's, but doesn't plod, conveying blank horror at the faltering worldview. Should the sound of Horenstein's LPs not be good enough, consider Bernstein's New York performance, reissued on CD coupled with his magnificent Eighth. While the young Bernstein's tempos are doubtless too fast for a literal view of the music, the reading is breathtaking and dramatic, his merciless Banshee no less terrifying than Horenstein's scorched-earth army.

Sinopoli's performance of the Adagio from the Tenth, at 32:40, lasts almost half again as long as most others. Again, he is the careful craftsman, leaving nothing to chance. His measured tempo reinforces the music's romantic roots and heightens contrast with the great nine-tone dissonance—that climax which
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Schoenberg disciples recognize as the decisive breakdown of classical tonality. Yet again, despite all his polish, the performance has little character, no connection with the historical currents that carry the music. Worst of all, Sinopoli’s tempo distortions are so unnatural that no sense of line can survive.

It would be foolish to assert that Mahler’s symphonies cannot be played slowly to great effect. While some recorded evidence suggests that early performers such as Walter and Mengelberg were sometimes brisk, Bernstein, Horenstein, and Barbirolli have given later landmark performances which happen to be slow. Sinopoli fails because he brings none of the intellect necessary to relate the historical necessity of these works, and no great personality to compensate for what he doesn’t understand. The result is just more unremarkable output from the relentless Mahler production line operating this last decade at the major record labels, further evidence that there are simply too many Mahler records today.

—Kevin Conklin

**MOZART: Piano Quartets Nos. 1 & 2**

Richard Burnett, fortepiano; members of the Salomon String Quartet

Amon Ra CD SAR 31 (CD). Gef Lucena and David Wilkins, prods. DDD. TT: 61:53

This is a magnificent release in every respect. one that demonstrates that Mozart can be superbly served on authentic 18th-century instruments without sounding precious or affected. Most immediately impressive is the cogent projection of the music’s wide-ranging ethos: the Sturm und Drang intensity of the opening movement of the First Quartet; the virile exuberance of the initial movement of the Second; the pert, perky humor of both finales; and the gentle, song-like delicacy of both slow movements. Typical of the musicianship that influences these readings are many tasteful and subtle inflections of rhythm that produce welcome contrasts and avoid even a hint of rigidity. Note, for instance, the holding back of the tempo in the humorous part-exchanges that prepare for a return of the main theme in the finale of the Second Quartet. Only musicians with sure senses of the music’s spirit and direction can make such an adjustment without rupturing the overall line.

With Richard Burnett and the Salomon Quartet members using period instruments, the sonority here differs from that produced on modern ones; strings have less weight, a slightly more nasal tone, and are played with a considerably narrower vibrato; but they never honk or acquire the pinched unpleasantness often encountered in other “authentic” presentations. And fortepianist Burnett makes clear that, despite the relatively small tonal and dynamic range of his instrument, pointed nuances in color and volume are possible. The entire production benefits from some of the most intelligent engineering I have encountered in some time, the microphone being positioned, for once, far enough away from the performers. As a result, the fortepiano never sounds larger than life, the strings are free of edginess, and the breathing of the instrumentals (often an ugly intrusion in many digitally produced recordings of chamber music) remains inaudible. All of Mozart’s repeats are honored, not only those of expositions, but of developments and recapitulations as well. A most imposing release.—Mortimer H. Frank

**MOZART: Serenades**

No.6 in D, K.239 (“Serenata notturna”); No.7 in D, K.250 (“Haffner”)

Sir Charles Mackerras, Prague Chamber Orchestra


As was the case with his recent Telarc recordings of Mozart’s Symphonies Nos. 36, 38, 40, and 41, Sir Charles Mackerras’s accounts of the festive “Haffner” Serenade and charming “Serenata notturna” prove disappointing. In the main, they suffer from what might be termed the adverse effects of the “authenticity” movement. Although the conductor uses modern instruments, he includes a harpsichord in the ensemble. Not only is it harmonically redundant, it is given synthetic, control-room clarity that it would never have in the hall. And the hall itself is far too resonant for this repertory, blurring detail and producing a blended sonority that neutralizes the piqourcy of Mozart’s colorful orchestration, horns, in particular, losing much of their bite. But what proves most damaging to these readings is a prevailing lack of nuance. Everything proceeds on one slick, efficient level, with Mackerras’s lack of subtlety ultimately yielding blandness. Granted, such a style may be preferable to one encumbered with plodding tempos and fuzzy mannerisms. All the same, many instances occur where the conductor seems to miss the musical point, a prime case being his glossing over the deliciously witty pizzicatos in the finale of the “Serenata notturna,” which here sound bloated and humorless. The solo violin of Oldrich Vlcek in the “Haffner” is stylish and free of excess vibrato, but is not enough to redeem the whole. Telarc’s sound, qua sound, is impressive, with natural timbres and arresting presence, but with its big-hall acoustic, it seems more aesthetically apt for Bruckner than for Mozart.

—Mortimer H. Frank
The Bulgarian Marta Deyanova, previously heard on Nimbus in Scriabin and Shostakovich Preludes, impresses with an extraordinary, all-encompassing technique. Only rarely, however, as in the fourth and sixth preludes of Op.23, did I feel that she was telling us about both the composer and herself. In other words, the inward quality is seldom to be discovered, and without that Rakhmaninov (Nimbus has adopted the spelling of the new Grove's) can turn into so much superficiality and noise. Tenderness (as in Op.32 No.5) seems to elude her, as do the myriad coloristic and dynamic distinctions one can hear in the recorded playing of some of the greatest pianistic personalities in this repertoire: among them, the composer himself and Benno Moiseiwitsch in the past, Horowitz and Richter in more recent years. One should note, however, that although the 24 preludes have been available on CD before, all recordings but Constance Keene's (on Protone CD 1101, 72 minutes) take two discs; Nimbus's almost 77-minute-long CD is, thus far, the longest I have encountered, and features unspectacular, not overly close-up, but agreeable piano reproduction.

—Igor Kipnis

WAGNER: Der Ring des Nibelungen

(Hans Hotter (Wotan); Astrid Varnay (Brunnhilde); Wolfgang Windgassen (Siegfried); Ramon Vinay (Siegmound); Regina Resnik (Sieglinde, 3rd Norn); Gustav Neidlinger (Alberich); Paul Kuen (Mime); Josef Greindl (Fafner); Hunding, Hagen); Ira Malanik (Fricka, 2nd Waltraute, 2nd Norn); Hermann Uhde (Donner, Gunther); Maria von Ilosvay (Erda, Schwertleite, 1st Norn); Erika Zimmermann (Woglinde); Hetyt Plumacher (Weiglunde); Gisela Zitz (Flosshilde, Siegrune); Natalie Hirsch-Grondahl (Gutrune); Gerhard Stolze (Froh); Erich Witte (Lohe); Ludwig Weber (Fasolt); Bruni Falcon (Freia, Ortlinde); Brunnhilde from the Rhine (Gerhilde); Lisa Sorrell (1st Waltraute); Liselotte Thomamuller (Helmwige); Silvia Plate (GrimerGerda); Ericha Schubert (Rosweisses); Rita Streich (Waldvogel); Clemens Krauss, 1953 Bayreuth Festival Orchestra & Chorus; Rodolphe Productions RCP 32503.5 (7 CDs, mono). Distributed by Harmonia Mundi USA. ADD. TF: 14:55:49

Yes, that’s right: The total playing time of this 7-CD set is 14 hours, 55 minutes, 49 seconds—more than two hours of music per disc. How come is that? Simple: As in their single-CD release of Fidelio earlier this year, Rodolphe Productions has laid down over an hour of their monophonic master tape on the left channel, then another hour on the right. Not only that, they include a nifty little three-position (Left, Right, Stereo) switching box shrinkwrapped with each copy of this Ring cycle, just in case your preamp lacks a Mono button (as does mine). Those with Mono buttons can just push them, turning their balance knobs all the way to the Left or Right to hear the respective signals out of both speakers. The little patch box, though hardly of audiophile construction, works just fine.

The Swedish company Bis wanted to try mono double-tracking a couple of years ago, but Philips nixed the idea, leery of anything that even hinted at less-than-total compatibility with current playback hardware. As it was, Rodolphe was turned down by many Philips-associated CD pressing plants before W. Germany's Sonopress agreed to do the job.

This recording, a radio transcription originally available through Laudis/Intercon (who licensed it from Vecchi Produzioni) as four individual sets totalling $299.70 (15 CDs at $19.98 each), is a considerably better buy at Rodolphe's list price of $119 (7 CDs at $17 each). I haven't had the chance to compare the two versions, but with recordings of this vintage and with such a discrepancy in price, I doubt if I'd cavalier anyway.

As long as I'm waxing technical right off the bat, let's talk about the sound first (aficionados of the human voice, hang on; it's worth the wait). The vocal sound is remarkably clear, alive, and open for an early-’50s mono radio transcription—or even for a contemporary recording—and has a very "live," intimate feel. Unfortunately, the stunning vocal presence is mostly at the expense of the orchestral sound, which is pretty raunchy. The strings, harps, and some winds come through clearly enough, but the brass are quite distant, and the whole orchestra sounds cramped and stuffy. While listening, I had a lot of fun trying to guess the mike placement; at first, because of the vocal/orchestral disparity, I assumed that the mike(s) were in or near the prompter's box. But then, just before Siegfried's entrance from the Rhine in Act I of Gotterdammerung, we hear a horncall that the score indicates as "backstage"; in this recording, it sounds about 6" away. I concluded that the mikes were hung quite far back and out of sight (this was one of Wieland Wagner's bare-stage productions); only the strings would have had even the slightest opportunity of being recorded with any immediacy. The brass, at the bottom of Bayreuth's sunken, covered pit, are lucky to be heard at all.

This all takes a turn for the better midway through Act I, scene i of Siegfried, however; after a particularly obtrusive edit (there are a number of these), the orchestra is suddenly richer, fatter, larger, with almost full-voiced
brass. Evidently the engineers fine-tuned the recording technique as they went—Gotterdammerung seems to improve steadily throughout (though the performance was so gripping I had trouble concentrating on its sonic standards). Still, there are a few problems: there's a 2-second dropout in Siegfried, Act III, starting 3:16 into track 2; and the opening timpani roll of Act I isn't there at all: the tape begins with the bassoon duet. But enough technoniggling—let's talk about the music.

Clemens Krauss's conducting will hold few tempo surprises for those who cut their teeth on Solti's Decca Ring, and the timings are close: Krauss's Rheingold and Walkure a few minutes shorter than Solti's, the rest a few minutes longer. But the feel is entirely different: lean, taut, sinewy, and tensely worked, Krauss's dramatic sense is at the same time less epic and more desperate than Solti's, making for electrifying musikdrama. There is no sense of some preconceived musical dogma imposed on the cycle, as in the recordings of Boulez and Karajan,¹ but of sparse, bracing, all-business conducting. In a word, it's exciting. An example: When was the last time you heard a Norn scene that did more than put you to sleep? Krauss's is downright thrilling, believe it or not; but then, with von Ilosvay, Malaniuk, and Resnik, you could hardly miss.

And the singing, the singing... From Erika Zimmermann's first notes as Rheingold's Woglinde, you realize you're in for a singers' paradise. No doubt about it—vocally, this is the most satisfying Ring I've ever heard. Here are many of the same principals as in the Decca Ring, but ten to twelve years earlier, and in their prime: Hotter, Windgassen, Neidlinger, Resnik. And Astrid Varnay, solid as a rock, is the most musically, dramatically whole Brunnhilde on record. Her consistency of attack and tone in these live performances puts many multi-taked studio recordings to shame, and her voice has all of Nilsson's strength without that almost inhuman, able-to-pierce-steel-at-50-paces edge. Varnay and Windgassen sing the hell out of the closing Siegfried duet, and Varnay is gripping in Gotterdammerung's Act II orgy of betrayal and revenge. It's as true of her as it is of Krauss: they can get across as much sheer excitement and drama as Nilsson/ Solti without leaving the music behind.

Windgassen fully embodies here the youthfulness he only sketched in the studio ten years later, blasting clear-voiced through passages he later approached much more gingerly. For once, we've got him acting and singing in equal bounties; Windgassen's attempts to remember Brunnhilde just after taking the forgetfulness potion put me on the edge of my seat. But then, he always took interpretive chances no other Heidnienor would even consider. Neither he nor Kuen (Mime), though, seem able to beat their hammer in time in the forging scene, even with Krauss's obvious slow-downs in tempo to accommodate them.

Hotter, too, another great operatic actor, sings, ah, rings around his later recorded self; his three Wotans are much less avuncular than with Solti, much more forceful, even hotheaded. I kept expecting to hear the wobbles and bobbles I'm so used to after 20 years of the Decca Ring, but no—strong, full singing every time.

Nor can I say enough good about Josef Greindl's Fafner, Hunding, and his almost respectably manipulative Hagen. The singer's sheer intelligence is palpable. Hermann Uhde, as Gunther, is stronger, nobler than most, not the weak, pathetic dupe that Fischer-Dieskau, for all his sensitivity, would have us believe him to be. And it turns out that Gustav Neidlinger actually toned down his harrowing portrayal of Alberich by the time he recorded the role in the studio years later. Good thing, too—though I have no technical complaints, it just may be that Wieland presented a set-less cycle because Neidlinger had already chewed all the scenery to pieces.

A quick run-through for the rest of the cast: Paul Kuen is a lively, sniveling Mime in the familiar mold, and takes his singing a little more seriously than Stolze did in the role. Ramon Vinay and Regina Resnik, as Siegmund and Sieglinde, are both rather fruity-toned and heavy-voiced here, dark and not overly lyrical. Vinay, in fact, sounds in Act I like he's forcing himself through the role. Resnik, a matronly, unsympathetic Sieglinde in Act I, loosens up considerably in II, but she's in fine voice throughout. Ira Malaniuk, unremarkable though more than adequate in the Rheingold Fricka, is insistently outraged in Walkure Act II, perhaps my favorite scene in the Ring for sheer emotional and dramatic logic delineated precisely by Wagner's music. Her Gotterdammerung Waltraute, too, goes down like a good meal. Not as perfect as Christa Ludwig would later prove in both roles, but I have no complaints.

Quickly, quickly: Erich Witte brings a fresh innocence to Loge that we're not used to, especially when cast against Gerhard Stolze's nasty, nasal, overly sibilant, gangsterish Froh. Maria von Ilosvay is a lighter-voiced, more youthful,

¹ In refreshing my memory for this review, I listened to the Karajan Ring for the first time in almost 20 years; I was astounded anew at the mis-casting, the awful recorded sound, the offhand orchestral playing, and Karajan's entirely wrongheaded chamber-music approach. And it seemed such a good idea at the time...
womanly Erda than I’ve heard, blissfully banishing memories of endless Katisha-voiced contraltos over the years, and Rita Streich sounds much more at home as the Waldevogel than Sutherland ever did. The weak spots are Bruni Falcon as Freia — often on the brink of losing control, she drops several lines completely just before the giants’ first entrance — and Natalie Hinsch-Grondahl’s Gutrune, uneven in voice and character, her tone swinging widely between maternal alto and stilled soprano.

All in all, I wonder why this astounding recording languished in some Italian vault for the 35 years before its first “official” releases on Laudis and Rodolphe (it, and another, inferior recording of the same performance, were available as bootlegs for a while). It can hold its own with any Ring on record, in print or not, and, as far as I’m concerned, blows Karajan, Boulez, Knappertsbusch, and Goodall out of the Rhine. And such a deal!

If you love Wagner and/or thrillingly great singing, and won’t miss stereo, a democratic orchestral balance, or a translated libretto (it’s German only here, I fear), pick up the Krauss Ring before Philips decides it doesn’t like double-tracked mono CDs after all. Great stuff.

— Richard Lehmann

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Larry Smith, Susan Ferre, Huw Lewis, organs; Joseph Schreiber, Independent Choir


In his 1981 book Facing the Music, Harold C. Schonberg, former music critic of The New York Times, set forth Schonberg’s Law: “Through the decades there has been a glacial shift in tempos. Musicians today are prevailingly slower than they used to be. In recent years we have arrived at the point where slowness and even lethargy seem to be equated with profundity. And all that is wrong.”

These three collections of organ music pretty much assure us that Schonberg’s Law is still on the books. Like all self-respecting generalizations, of course, this Law is not universal. There are exceptions on these three CDs as well as in the larger sphere of contemporary performance. But anyone who has heard, for instance, Josef Hofmann’s Chopin after becoming accustomed to present-day interpretations will begin to understand what Schonberg was getting at: A slower tempo does not guarantee profundity, but it sure does invite insipidity.

There is an unmistakable sameness in the playing of all the organists involved on these recordings, and this homogeneity is due to a general slowness in tempo. On the Thomas Murray/Direct-to-Tape (DTT) disc, Elgar’s “Imperial March” becomes an imperial halt. It seems aimless and impeded. Handel’s Water Music selections are plodding and joyless.

The other Murray (Michael, on Telarc) has arranged his program in roughly chronological order, including consecutive pieces by Soler, Marcello, Purcell, and Widor that never snap out of a listless, ponderous state of drowsiness. They are followed by a Bach Prelude and Fugue in e (BWV 533) that sounds almost as if it had to be coaxed out of the organ.

This plague of enervation is, for the most part, missing from the all-Vierne disc on VQR, though portions of Symphony 3 have their moments of unovercome inertia.

There is a distinction, certainly, between slow playing and slow music, and many of the compositions on these CDs are slow music. Louis Vierne is represented on two of the three discs, and his style is frequently sedate and meditative. Both Michael Murray (Telarc) and Larry Smith (VQR) play Vierne with great understanding and sympathy for the music.

The outstanding performance of Vierne, however, and the most glorious music on any of these programs, is the Messe Solennelle for Two Organs and Choir on VQR. The organs, gallery and transept, are played by Susan Ferre and Huw Lewis, respectively, and the Independent Choir is conducted by Joseph Schreiber.

Vierne, nearly blind all his life, was a student of Franck, and the master’s influence is evident in the pupil’s music. Messe Solennelle stands elegant in its simplicity, anticipating Neo-classicism in its economy of means and lack of adornment. There is a pervading sense of glory in humility — triumph without the flam-
boyant pomposity of Vierne's contemporary late Romantics.

The Independent Choir, wherever it's from (no indication in the notes), is a superb ensemble, and conductor Schreiber has nurtured both precision and fervor in their singing. Ferre and Lewis are their equals at the organ.

Vierne's music often consists of long threads of melody sewn into huge fabrics of slowly progressing monolithic harmonies. On Telarc, Michael Murray captures this strangely moving simplicity in beautiful performances of "Meditation" and "Prelude" from Twenty-Four Pieces in Free Style. The one concluding works on this disc, Marcel Dupré's "Cortège and Litany" and "Final" from Seven Pieces, are also strong exceptions to the general Law of Lethargy otherwise evident on these recordings.

Thomas Murray on DTT also shows streaks of brilliance. Leon Rogues's transcription of Debussy's "La fille aux cheveux de lin" ("The Girl with the Flaxen Hair") is surprisingly effective, and Murray plays it with the injections of mystery and romance that make it a compellingly evocative organ piece. Two selections from Firmin Swinnen's Longwood Sketches, "Dewdrops" and "Sunshine," are also very successful; the first due to a hypnotic spell and unusual tone colors, the second due to its—surprising!—'velviness.

If you were to choose among these discs based on musical content, I think the easy first choice would be the all-Vierne VQR with Messe Solennelle and, as a nice bonus, Larry Smith's fine playing of Symphony 3. The Messe is so beautiful and so little known that it will be a revelation for many listeners. The Telarc and DTT get only marginal recommendations. If you're an avid organ fan, you may want them both, but don't expect uniformly riveting performances.

What about a choice based on recording quality? From first track to last, the Telarc offers the greatest combination of you-are-there, tactile tone colors; outstanding ambience; and absolutely stupendous revelation of tonal decay and natural reverberation. The image is a mile wide and almost as high and deep. This was recorded in the world's largest Gothic cathedral (New York's St. John the Divine), and it sounds like it. The opening fanfare of track one, Dunstable's "Agincourt Hymn," will send you to your knees in thankfulness. Judging from most organ recordings, it is difficult to present an image of cathedral depth without losing the brassy bite of wind speeding through pipes. Telarc shows it's possible to have both. This CD comes as close as any recording I have ever heard to recreating real music in its real space.

The VQR—Symphony 3 only—is a close second. It has the same virtues as the Telarc, though to a lesser degree. The Symphony was recorded at Girard College in Philadelphia, while the Messe Solennelle was captured in Detroit's Blessed Sacrament Cathedral. In the latter, we get a huge, ambient atmosphere at the expense of some detail, especially in the choir voices and lower organ registers. It is still a stunning recording, suffering only from direct comparison to the Symphony and the Telarc jobs.

The Direct-to-Tape effort, though not up to the previous two, is excellent as well. But it also loses detail and tone-color accuracy while presenting a slightly more distant perspective. Again, the shortcomings are only slight, and bothersome only in contrast to the other discs reviewed.

To the credit of all involved with these three releases, none is a "sound spectacular" with hi-fi reproduction its sole aim. They are serious attempts to present music as music and not as sound effects. Their failings are also serious in that they often deprive the music of its vitality. But when the artists are on target, the results are very satisfying. As creations of the audio arts, each is magnificent, but not all are equal.

—Robert Hesson

VIRGIN CLASSICS' FIRST RELEASES

MOZART: Symphonies 32, 35 ("Haffner"), & 36 ("Linz")
Jukka-Pekka Saraste, Scottish Chamber Orchestra
VC 790702-2 (CD). Mike Hatch, eng.; Andrew Keener, prod. DDD. TT: 68:58

SCHUBERT: Symphony 9
Charles Mackerras, Orchestra of the Age of Enlightenment
VC 790708-2 (CD). Mark Vigan, eng.; James Mallinson, prod. DDD. TT: 59:30

BRAHMS: Piano Quartets 1 & 3
Domus
VC 790709-4 (cassette). Mike Hatch, eng.; Andrew Keener, prod. DDD. TT: 76:25

TIPPETT: Concerto for Double String orchestra, Fantasia Concertante on a Theme of Corelli, Songs for Dav
Nigel Robson, tenor; Sir Michael Tippett, Scottish Chamber Orchestra
VC 790701-2 (CD). Mike Clements, Mike Hatch, engs.; Andrew Keener, prod. DDD. TT: 70:55

SONGS CATHY SANG
Linda Hunt, mezzo-soprano; Diego Masson, London Sinfonietta

It was quite a difficult task to "select five of the best releases" from the first batch of recordings I received from Virgin Classics, as they all had something good to offer. I couldn't make a fair assessment of Andrew Litton's Mahler Symphony 1, with Lieder eines fahrenden Gesellen, my appetite having been whetted.
by Lewis Lipnick's extensive article on Litton's recording of Elgar for Virgin (Vol.11 No.5), as my CD copy was badly marked and, consequently, very noisy.

Not so the recording of Mozart by the young Finn, Saraste. His approach to these symphonies is very sound—dynamics and points of articulation are faithfully observed, phrasing is stylistically shaped, tempi are sensitively judged, and internal balance of instruments finely weighed—and there is still a fine sense of vitality and enjoyment here, details of both performance and recording contributing to the integrity of these interpretations. If I must criticize, it is at the upper strings' ubiquitous wide vibrato, and at the resonance of the recording, which both seem a little heftier for these Classical gems.

Mackerras's Schubert 9 may not only be the first recording of this work on authentic instruments, but also the first performance as Schubert would have heard it. By the time the Symphony received its premiere in 1839 under Mendelssohn, his musicians would probably have been using very much improved wind and brass instruments, and newly developed string techniques. While the difference in sound is not as startling as that on Norrington's Beethoven 9 (Vol.11 No.4), it does reveal some beautiful scoring that glows with a warmth and clarity rarely heard in modern performance. Mackerras has also solved the problem of relating the tempo of the Andante introduction with the subsequent Allegro non troppo by observing Schubert's original Alla Breve marking for the opening. With this he leads straight into the first movement proper, without acceleration, and while this makes for a fairly stolid march through the movement, momentum is never lost and the beauty of this orchestra's neat, crisp articulation can be enjoyed to the full. The slow movement, perhaps, shows off best the wonderful but never overpowering brass writing here, while the Scherzo and Trio dance as never before, all capped by the boundless energy of the Finale. Why has it taken so long, I wonder, for musicians to realize that works of the Classical and Baroque eras are going to make more aural sense when performed on the instruments for which they were conceived?

Domus, the highly acclaimed English chamber group, treats Brahms's Piano Quartets 1 and 3 with an almost symphonic breadth and proportion, such is their command of a wide palette of instrumental color and their formidable power of expression. Yet they never lose sight of the intimacy of this form, playing as if lost in each other's thoughts, intuitively speaking the same musical language and shar-
ing the same sense of purpose. Every profound emotion that Brahms experienced during the composition of these pieces is here quite plainly exposed to public scrutiny, not only through their performance but also via a recording that maintains the individuality of each voice while blending them in superb chamber-music balance. I was a little troubled by the warmth of the sound on the review cassette I received, but I should imagine the coolness of CD would bring this into perspective. I await eagerly the release of Quartet 2, which Virgin has promised.

And what a coup to have persuaded Sir Michael Tippett to make his first recording in 15 years; this is, in fact, his first-ever recording conducting the Concerto for Double String Orchestra and Songs for Dov. I was quite moved by his autumnal reading of the Concerto, one of his earliest masterpieces, now treated in the twilight of his life with a serenity that not only pervades the slow movement but overflows into the youthful high spirits of the outer movements, softening their zest and vigor with a mellowness lent by the passage of time. I found myself wondering how Sir Michael could have wanted such a deeply personal statement to become public domain. The complexities of his Corelli Fantasia unravel themselves without any force of hand here, the string soloists in jubilant voice leading the finely rehearsed orchestra, without ever losing their way, to one of the most intricate polyphonic climaxes in twentieth-century music. Songs for Dov is something of a revelation too, with Nigel Robson realizing a refreshingly new interpretation to that set down by Robert Tear, for many years the yardstick against which all other performances have been measured. All three works are recorded with a clarity and balance that does them full justice.

Yet I am tempted to say I have left the best 'til last. Songs Cathy Sang could be called a tribute to the late Cathy Berberian—it contains works by Berio, Cage, and Pousseur that were written especially for her, and ends with her own Stripsody, an amazingly witty "glossary of onomatopoeia used in comic strips." The stunning singer here is Linda Hurst, who specializes in twentieth-century music and has worked with many of its leading composers. Her friendship with Cathy Berberian and (her husband) Berio stand her in good stead for these performances. While her voice isn't as weighty as Berberian's, it is capable of the same immense variety; she can bring the same smile to my face, and to her audience's (as witnessed by the laughter in the live performances here), in translating the tones, pitches, whispers, and speech asked of her by Cage in his Aria, and

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Berio in Sequenza III: conniving, coquettish, aggressive, sexy, and provocative, and the quiet background of CD is the perfect medium for them. But then, I don't think I have ever heard such intoxicatingly beautiful singing as in the first of Berio's Folk Songs, "Black is the Color," and such sensitive inflection in the remaining ten. The London Sinfonietta is also wonderful here, its own tone-colors captured with such freshness, clarity, and presence—I've run out of superlatives! —Barbara Jahn

KEITH JARRETT TRIO: Still Live
Keith Jarrett, piano, Gary Peacock, bass; Jack DeJohnette, drums

My Funny Valentine; Autumn Leaves; When I Fall in Love; The Song is You; Come Rain or Come Shine; Late Lament; You and the Night and the Music; Someday My Prince Will Come; Billie's Bounce; I Remember Clifford
ECM 1360/61 (835 009-1, 2 LPs; 835 009-2, 2 CDs*). Martin Wieland, eng.; Manfred Eicher, prod. DDD. TIs: 84:38, 98:23

Keith Jarrett seems to have unerring instincts in balancing his many extreme forays in different musical directions. In the past few years he's released multi-disc sets of solo piano, clavichord, and drum and flute improvisations, plus more trio recordings and, by the time this review sees print, Book I of Bach's Well-Tempered Klavier. Certainly in the present release, this wide-ranging experimentation has kept...
him from cliches—this is some of the freshest, deepest jazz trio work you will ever hear (though collectors of the previous Standards recordings will not be surprised).

Each edition of the Standards series has been better than the one before—Still Live does nothing to break the pattern. This is the sixth release of Jarrett’s on-again/off-again trio, the fifth under his own name (the first was Peacock’s 1977 Tales of Another, ECM 1101), and the fourth devoted entirely to jazz standards, that seemingly bottomless well of American show and cabaret tunes that makes up the formal foundation of jazz.

Jarrett’s choice of sidemen remains inspired. Gary Peacock and Jack DeJohnette have for years been two of the most sensitive, melodic, and powerful exponents of their instruments; in them, Jarrett has found and nurtured a musical telepathy unparalleled in jazz. An absolute statement, but one which I have yet to hear contradicted.

Though Jarrett insistently disavows musical influences of any kind, the spirit of Bill Evans has, ever since 1983’s Standards Vol. I, been consistently conjured in this series. (It doesn’t hurt, of course, that Peacock was Evans’s bassist.) But more important, Evans’s intensely lyrical romantic impressionism, light on blues and heavy on oblique harmonic implication (though nothing was ever “heavy” with Evans), finds full fruition here, even as Jarrett transcends it.

That avoidance of the blues is what is most striking. The songs in which you’d most expect to hear it—“God Bless the Child” from Standards Vol. I, or “Funny Valentine” here—are instead wistful, distractedly melancholic. There seems to be a refusal to confront the darker passions directly, a substitution of doubt for despair; but throughout it all, astoundingly, a vigorous joy in music. As Jarrett has said, however (I paraphrase here), “Music as an expression of emotion is music at its lowest level.” More tellingly, when I think of “God Bless the Child,” the rendition that comes to mind is Jarrett’s, not Holiday’s.

But the passions of rhythm, harmony, light, and sheer song are here in plenty. This is evident in every tune, but perhaps most so in “When I Fall in Love,” an achingly tender, yearning, questioning reinvention of this song. The long (17:33) “The Song Is You” drives hard and clean, bearing witness to the awesome power of these three musicians’ telepathic bonds and elegant eloquence—this playing is all information, no fat. Then a deliberately slow, relaxedly churning “Billie’s Bounce,” the first Parker tune Jarrett’s recorded. Though true throughout Still Live, it is never more apparent than here how everything Jarrett, Peacock, and DeJohnette do is always rooted deep in whatever tune they’re playing. The night before the first Standards sessions, back in 1983, Jarrett took the other two out to dinner to discuss the music they were about to record; all agreed to record only standards whose words they knew well, to assure themselves that they would be playing to and through the heart of each song. From what I can hear, that policy is still on the books.

But not quite all is “standard” here: Between the familiar ends of a medley that begins with “You and the Night and the Music” and closes with “Someday My Prince Will Come” are eight minutes of improvisation called “Extension” and “Intro” that recall Tales of Another and Nude Ants. This is the only time there is a significant departure from the root song itself, and Jarrett accordingly claims compositional credit and separate listings and, on the LP, separate timings as well. DeJohnette’s oriental-filigree drumming here, crystalline lattework in delicate counter rhythms, must be heard to be believed. Then Peacock’s wind-milling solo follows in “Someday,” sound for the joy of sound, followed in turn by the double-jointed swinging of all three. This is a much freer, looser way with the song than Miles Davis’s, and more exuberant. The closing bars are so many raindrops falling in a milky lake.

An audiophile recording this is not. DeJohnette’s drums and Jarrett’s piano are as wide as the distance between your speakers, only Peacock’s bass maintaining any sort of realistic soundstage placement. Ironically, it is only this instrument which suffers in the otherwise impeccable transfer to LP. There, the acoustic bass loses entire dimensions of fullness, roundness, depth, and rosiness of tone, fully blooming only on CD. Piano and drums are virtually identical in both formats. It is, after all, a digital recording, and the 10-minute “Billie’s Bounce” is available only on CD; hence my recommendation of the latter.

And my recommendation of Still Live in any format—strong, pure, uncompromised jazz in the grand old mainstream tradition.

—Richard Lehnert

JANE SIBERRY: The Walking

I came to Jane Siberry’s music pretty late in the game. This is her fourth album, and the third released by a major label—No Borders Here

Stereophile, August 1988
and *The Speckless Sky* were released by Open Sky/Windham Hill a few years ago. Hadn't heard 'em! Didn't need to. On the basis of *The Walking* alone, it was clear Siberry is one of the most important singer/songwriters we've got.

Had to laugh when I read Reprise's promo sheet: "Siberry began drawing critical comparisons to such artists as Laurie Anderson, Joni Mitchell and Suzanne Vega, in a sometimes misleading attempt to get a handle on the core of originality that informs her music." Easy to say in hindsight, Reprise—fact is, I mentioned every one of those immensely talented women in my notes, trying like hell to "get a handle" on Siberry. Want to hear? OK. For about five seconds, I was going to start like this: "If you think Suzanne Vega borders on the fey, her terminally whitebread voice never having left prep school, wait'll you hear Jane Siberry." I know: cheap, demeaning. How 'bout this?: "She reminds so much of the guitarist/dulcimer Joni Mitchell of *Blue*, the piano Joni of *For the Roses*—an aching delicacy to her lightest of voices, sort of an entirely contemporary Blossom Dearie." Gropping? You bet. "This is the music Laurie Anderson might make if she could let go of her mirror-house irony, and if she were a musician." Hmmm.

Then there's the Pop Sociology angle, with pipe and slippers: "The New Preciosity, I suppose—it's a touchy balance to strike, bringing out the child in spirit, words, melody, and vocal quality all at once. It's to Siberry's credit that she's able to do this consistently throughout *The Walking*. 'Lena Is a White Table' sums up so much of this—a dialog between two Janes, it has the fascination of listening to twin wispy-voiced sister space cadets (the 20th century's version of over-sheltered Victorian virgins) who every once in a while come out with some profound observation sung in a voice like Jack Bruce." Ungainly, but I can live with it.

The No-One-Says-It-Better-Than-The-Artist-Herself Bit: "Her music is essentially dramatic, operatic. But her aesthetic [get this guy!] is best summed up in her own words, from the title song: 'the waiting and constantly / an endless shift of sitting through / the facts, the fey / you never know for sure.'"

That's how you end the review, of course. But then there's the frustrated-poet critic (me) waxing poetic in the only way he now knows how—critically: "A combination of the specificity of dream images and floating timelessness, equally of dreams. Songs of slightly missed connections [dot dot dot] 'The Lobby' is a song of cycles and false beginnings, starting seven times as the singer is sent back to the top of the stairs again and again. Her progress is slow, hard-won, but never absolutely sure, never to be taken for granted: 'so i go down to the lobby / and everyone's still there / and they say take off that foolish hat / put down that chair / and they say this is your darkest hour / this is my finest moment / you can't leave him like that / he'll be okay / so i go down to the lobby / i know it / i know it.' All to a falling, elegiac melody that has the same sense of American tragedy as Jim Kweskin & Mel Lyman's version of 'Old Black Joe.'" I mean, is this guy for real?

Fraid he means it, folks. Jane Siberry has as much wit and courage as anybody singing these days, and strong dramatic and musical talents to clothe them in. She brings out the girl-child of an obviously mature woman with some wisdom, and in "Red High Heels" catches the moment one realizes one's in love better than any song I know—including the sweet pain of trying to prolong a moment that you know must eventually, like all moments, pass. Delicacy, strong fragility—"Chime the feet / dry the sand / clouds collect out at sea / start to run / this pink shell / this grey span / and a thousand pardons trail behind."

But "The Bird in the Gravel" hit me hardest: "I was walking through the dry leaves / it was very strange / they hadn't changed their color / all the leaves were green / i don't mind when it's over / i don't mind when it's all done / it's just the moments in between / just before it's gone." What's she talking about? Life? Summer? Making love? Nuclear war? Doesn't matter—the song supports all these readings, and to a melody reminiscent of Mitchell's "That Song About the Midway" without ripping it off.

"the yawning when the world shifts"—it's poetry, and good poetry at that. You'll have to take my word for it that the music is spare enough to let the words shine through, and tuneful enough to stay in my head for the last few weeks (no mean feat for modern pop). And these are long songs—up to 10 minutes, the album nearly an hour long—and concise at that.

Look, I'll shut up—you go out and buy *The Walking*, and be willing to take seriously a talented writer/musician taking herself with a serious grain of salt. Be willing to sit down and listen. Enough "ambient" music; Jane Siberry is an artist.

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1 Since then I've picked up the two earlier albums and, while they're striking enough on their own terms, *The Walking* has "Major Statement" written all over it. For those few already familiar with Siberry's work, *The Walking* bears strongest resemblances to Borders's "Dancing Class" and "Map of the World," and Sky's "Vladimir" and "Empty City."
NEIL YOUNG & THE BLUENOTES: *This Note's for You*  

Legendary singer/songwriter and guitarist Neil Young is still going through changes. And we can all be thankful for that!

His last few albums ran the gamut of '50s rock (*Everybody's Rockin'*), to country music (*Old Ways*), to raw, rough-edged (the record company's term) rock (*Landing On Water*). For 1988, Neil has rediscovered the blues, or at least a form of California garage practicing—bar-band blues/rock. He calls it "New Power Swing." As with all his previous outings, Neil knows his stuff.

From the first horn riff of "Ten Men Workin'" (an ode to how hard he and his band play the blues), to the title track (a clever admonition of other stars who sell out by rewriting their hit songs for TV commercials), and the soulful "Coupe de Ville" (about a car and a girl), this is one slick, well-done album. A lot of credit has to go to the six-man horn section: Steve Lawrence, Ben Keith, Larry Cragg, saxes; Claude Cailliet, trombone; John Fumo, Tom Bray, trumpets—who make this record come alive. By the way, Ben Keith has recorded with Young since *Harvest*, 16 years ago.

Speaking of recording trivia, *This Note's For You* marks Neil's return to his original label, Reprise, where he launched his solo career 20 years ago. Neil is currently putting the final touches on a new CSN&Y album being recorded at Neil's studios in his northern California ranch. Hope it's as well-recorded as this one—both LP and CD are great. The choice is up to you.

When Neil and his Bluenotes were on tour recently, one reviewer complained that the band repeated one or two songs during the set. Guess he never sat and relaxed for a spell listening to a great bar band, and never spent a few hours in Chicago listening to the blues. Too bad, because either experience might have helped him appreciate what Neil Young has done on his latest outing. Don't make the same mistake—give it a listen. —Gary S. Krakow

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Editor:
We are grateful to Gordon Holt for the time and effort expended in evaluating the Synthesis Reference System, no small task for a system of this size and complexity. We are, of course, pleased by such a positive reception for the Conrad-Johnson Group’s finest loudspeaker system, and especially gratified to have aspects of the system’s performance favorably compared to the live concert experience. I do wish to comment on two of the reservations expressed.

Like any reference-quality system, the Synthesis Reference System is highly revealing of the character of the components which precede it in the audio chain. The system has been carefully designed using both Conrad-Johnson Premier and Motif electronics, components which have a reputation for musicality and neutrality (consider, for instance, Stereophile reviews in Vol.7 No.8, Vol.8 No.7, and Vol.10 No.9). With these components and suitable sources we find no “steely hardness” in the system. I do not find it surprising that such a character was noted with the SA-1 amplifier. That statement is not intended as an indictment of the SA-1. I merely wish to emphasize the fact that a reference-quality audio system is, in fact, a system; its elements must be jointly selected. An arbitrarily selected assortment of “recommended” components is likely to fall far short of reference quality. As Gordon indicates, the Synthesis Reference System is capable of stunning results when combined with suitable electronics.

Set-up and room placement can be critical factors in the results achieved with any loudspeaker system, and the review alludes to efforts made in this area. The final positioning of the monitors about 6’ ahead of the woofers was selected to optimize imaging performance, but I suspect that this came at the expense of a slight lack of weight—contributing to both the “lightness” in large brasses and to a slight tendency toward brightness. I conjecture that moving the monitors to within about 4’ of the wall would have improved the tonal character of the speakers at the expense of some deterioration of the soundstage. The latter could then be corrected by the addition of damping (eg, a rug or wall hanging) to the wall behind the speakers. This approach has proved successful in other installations.

The design objectives for the SRS were to create a highly dynamic, full-range loudspeaker system with deep, yet honest, bass response, which could at the same time project a stable, sharply focused stereo image. We are delighted to have Gordon Holt recognize our success in achieving these objectives.

Lew Johnson
Conrad-Johnson Design, Inc.

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Editor:
We appreciate the comprehensiveness of the review of the Rock. With very few exceptions, we concur with Dick Olsher’s appraisal. We noted that Dick had commented that he would have had to “glue” his cartridge to his SME V. We supply an outrigger that attaches to all tonearms with conventional screws. The paddle is attached to the outrigger. We also find that the Rock and its damping trough will ameliorate unwanted resonances with a wide variety of tonearms. Specifically, we find that less expensive arms behave remarkably well with the Rock, supporting the contention that this is an incredibly cost-effective system. Bass “character” as discussed by JGH and DO is not likely to be resolved. We choose to describe the bass offered by the Rock/Excalibur system as having proper attack and control. As Dick mentioned, “pitch definition through the lower octaves was excellent” and he “never has gotten deeper bass from the Quads.” Given a quality subwoofer, we have found the Rock excels in its ability to produce a remarkably fast attack and maintain subtle detail in the lower bass register.

Lee Landesberg
President, Terpsichore Imports

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an objective description of a product where correlations were accurate and observations were backed up by what I can confirm to be fact. Perhaps I can lend further insight into the design process of the 3.5.

Our objective is to match our products well to the characteristics of the ancillary equipment that would predictably be in the same price class. Areas such as: power output, source quality and type, damping factors, loud sensitivity, current rating (peak and continuous), all had bearings on the design; even the average length and gauge of speaker cables was taken into account! (What else should the designers do, assume 24 gauge or 0000 gauge?) This is where JA’s observations are right on target. We believe few speakers will sound better than the 3.5 with the equipment most likely to be used with it. I feel JA’s closing line to be the most important of all. A recommendation to check out our product; this, then, gives the consumer a short list to evaluate with the equipment of his/her choice.

Hans Ard
Vice President of Operations
Plateau Camber/157807 Canada Inc.

NAD 2600A power amplifier

Editor:
We are delighted with your follow-up review of the NAD 2600A power amplifier. Six long months of hard work went into making this amplifier a reality. We thought your readers would like to know exactly what changes were made to have a direct bearing on the sonic performance of the amplifier, but have very little effect on conventional measured parameters.

1) All the ceramic capacitors that were in the signal path have been replaced by high-quality polypropylene film types (or silvered mica for very low values). Ceramic capacitors can suffer from high-frequency non-linearity and even microphonic effects.

2) Supply decoupling capacitors to the “middle” stages of the amplifier have been increased by 20 times. This improves the ability of these stages to reject supply-borne ripple and distortion—particularly at low frequencies.

3) Supply decoupling capacitors to the input stages of the amplifier have been increased by over 200 times and have been additionally bypassed by low-loss film capacitors. This reduces the impedance of this power supply right across the audio frequency band, thereby reducing the level of supply-induced distortion.

We believe your readers will also be interested in the fact that this same technology has been used in producing two lower-powered (and lower-priced) amplifiers. The NAD 2400 power amp is rated at 100Wpc into 4 or 8 ohms and will retail for $598. Also, the NAD 2100 power amplifier is rated at 50Wpc into 4 or 8 ohms and will retail for $398. The same sonic purity evidenced in the 2600A will be present in both of these new amplifiers. We expect them to be available in September 1988.

We look forward to JGH reviewing the “baby brothers” of the 2600A when they are available.

Peter Tribeman
President, NAD (USA), Inc.

PKR&D Acoustat 1+1 loudspeaker modifications

Editor:
Before shipping off the modified Acoustat 1+1 to Stereophile, we had in mind that you would have an unmodified pair on hand so that you could report on the respective improvements of the interface and the Panel Mods. Readers would then have known what our efforts had wrought. The Great Audiophile in the Sky, however, had different plans in mind. Now readers only know from Mr. Olsher’s comments that the modified Acoustat 1+1s “have several performance aspects...that struck me as being of world-class caliber”; have a “superbly transparent soundstage”; “instrumental focus or image specificity was also exceptional”; “stock Acoustats possess many electrostatic virtues—but not this level of detail and spatial resolution”; “startlingly clean and transparent”; and they’re “utterly transparent and tightly focused.” And that there is a 1-3dB very broad dip from 1-4 or 5kHz.

On an absolute basis, which is the case here, keep in mind that most speaker specifications are within ±3dB. One could say then that the modified 1+1s’ response is ±1.5dB. Nevertheless, I’m exploring two additional avenues which I believe will reduce this dip further. I’d like Dick to be satisfied too. Also, this characteristic has never been mentioned as being a result of the modifications by anyone who has had them done. I’ve only heard the highest praises as feedback. (Speaking of which, a 2+2 owner believes his modified speakers to have
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bass response which "blows away" that of the Infinity IRS system! It is quite impressive.) So if you like your 1+1s at all, you'd love them after the Mods.

In addition to the improvements noted by Dick, the reach of the high and the low frequencies is extended on all models of the Acoustat speakers. Besides smoothing out a small upper-midrange peak on some models, this is the only way in which the frequency response is changed by the Mods. Keep in mind, too, that this frequency-response characteristic that concerns Mr. Olsher is that of the 1+1s, and also that changing placement of a dipole speaker in a room significantly alters its tonal balance. Each of the other models have their own particular balance of characteristics.

Even with Mr. Olsher's high personal priority of absolute flat frequency response (better than \( \pm 1.5\)dB), he said: "On an absolute scale, Phil Keck's 1+1s score very highly in their strong suits and compare very well in these areas with my personal ESL references, the Koval-modded old Quads [known for superb midrange—PK] and the Audioscopic ES-240s (only slightly modified)." So if you happen to value lucidity, focus, transient accuracy, freedom from distortion, and imaging a little more highly than he does, and if you're like everyone who has had the Mods done, your ears would tickle your spine with pleasure after these improvements to an already fine speaker system.

Phil Keck
PKR&D

**Ohm Walsh 5 Revised loudspeaker**

**Editor:**
Thank you for the follow-up on the "revised" Walsh 5. I am happy everything was considered an improvement. Since you have no Class A speakers presently on your "Recommended" list, we are happy to have earned a Class B rating.

We will make all these changes for all customers. I still feel the changes are less than moving the speaker a few feet in a given listening room. So present owners can remove the rear felt and see if they feel it helps. If they believe the earlier problems mentioned by DO are apparent in the speakers, we will make the modification on their drivers for \$450/pair plus freight to and from the factory.

All current production incorporates all the changes except the felt because it is a user-changeable modification. Incidentally, the current retail price is \$5000/pair.

John Stroheben
President, Ohm Acoustics

**Naim NAIT 2**

**Editor:**
Isn't accuracy what it's all about? We, the manufacturers, strive to build components which reproduce sound as accurately as possible; and we (and the public) depend on you to report on the industry and state of the art as accurately as possible. Well, we're doing our bit—why has J. Gordon Holt failed us again? In his Vol.11 No.6 report "Once Upon a Time in Santa Monica" (aptly titled; it does read like a fairy tale to this Show participant), he refers to the NAIT II (actually named the NAIT 2) and notes that it "can be used alone to drive any of Naim's power amps." In fact, I stressed to Gordon that one of the exciting features of the NAIT 2 is that it can be adapted to be used as a preamp with either the NAP 90 or NAP 140; but, that we do not recommend that it be used with the NAP 250 and that it cannot be used as a preamp with the NAP 155s.

I will refrain from commenting at any length on his parenthetic editorial comment regarding the "(ridiculous?)" wattage, as I trust this was only his ill-chosen way of expressing his astonishment that we are capable of producing such amazing sound quality at such low power levels. I would hate to think that it was a negative comment stemming from complete ignorance of our design parameters and philosophy.

Alexis A. Arnold
General Manager, Naim Audio

**Orpheus 808 loudspeaker**

**Editor:**
Recent examination of the returned speakers indicates that the Orpheus 808s reviewed by John Atkinson in the June 1988 issue were not set up according to manufacturers' instructions—that is, the bases were not attached to the speakers.

I also received from Stereophile the bases for speakers #80812AB, which were stolen from John Atkinson's home. Why weren't these bases taken along with the speakers they were
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Audio Advisor pairs the ES-1 with the new PT-5 arm from Audioquest — a straight, medium mass arm with a rich champagne finish and high quality bearings. The AQ PT-5 couples rigidly to the armboard, yet is easily height-adjustable. The PT-5 comes with excellent internal wiring and features viscous (fluid) damping for use with low-compliance cartridges.

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Stereophile, August 1988
supposed to have been attached to? Inspection of these bases reveals no thread marks on the bottom, and the bag containing hardware is unopened. These bases, quite obviously, were never attached to the speakers.

Atkinson had the speakers in his possession for about a month before they were stolen. During our telephone conversation on March 15, he informed me that, although he had done some initial listening and had conducted “phase tests,” the review was, however, incomplete and he requested that I ship a second pair. All this, with the speakers sitting directly on the floor?!

Examination of the second pair of speakers and bases, #808113AB, revealed no thread marks on the bottom of the speakers. The cloth is in original condition, and shows no signs of penetration by the wood screws.

Atkinson mentions in the review that the 808s do come with wood bases featuring integral spikes. He does not state, however, whether the bases were actually screwed on to the speakers. Clearly, they were not. Why not?

The bases are absolutely essential if the 808 is to deliver its designed performance—they provide time alignment between the tweeter and top woofer, and they decouple the speakers from the floor. The carpet-piercing spikes anchor the speakers for improved image stability, and act as conduits for channeling stored acoustical energy away from the speakers—a vibrational ground, if you will.

My measurements indicate (yes, John, I do use test instruments) that, with the speakers sitting directly on the floor, there is a large hump in the midbass region and the treble becomes quite peaky—all to the detriment of the midrange. Sounds familiar? This is exactly what Atkinson heard and measured in his review!

Atkinson’s review is an intentional misrepresentation of my product with the sole purpose of falsely discrediting the 808. In so doing, he not only discredits himself, but also the integrity of Stereophile. I demand that this “review” be retracted.

Louis Montesano
President, Orpheus Loudspeakers

Ob, dear: “intentional misrepresentation...falsely discrediting the 808...,” what we have here, dear reader, is an attempt to counter the effect of a negative review by im-
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Stereophile, August 1988
wrote the review. The 808s were then disassembled from the bases and returned to Mr. Montesano, along with the bases for the stolen pair.

In my subsequent telephone discussions with Mr. Montesano, no mention was made of the "base-less" hypothesis; indeed, Mr. Montesano implied that the considerable degree of midbass boost was how he liked the sound. I suggested that the best way for Mr. Montesano to respond to my negative findings was to send me a "Manufacturer's Comment" letter to appear in the same issue as the review. He replied that he was too busy to write a response, and that he didn't regard it as important for his letter to appear in the same issue. I suggest, therefore, that when Mr. Montesano saw the review in print, he realized that he had missed the optimum opportunity to answer my findings. As he had received the unopened box containing the pristine bases for the stolen pair of speakers, he decided to use that fact to make up out of whole cloth a refutation of the review's findings. And as to his assertion that the review speakers bore no woodscrew marks in their bottoms, in the words of Mandy Rice-Davies, one of the prostitutes who brought down Britain's Conservative government in 1963, "he would say that, wouldn't he."

I stand behind my review. Regarding the sound of the Orpheus 808 loudspeakers, if you are still interested despite my considerable reservations, I would suggest you listen for yourselves—except that the Orpheus speakers are only available via mail order from Mr. Montesano.

—JA

TARA Labs speaker cable
Editor:

It is with great disappointment that I must inform you that Sound Connections will not be distributing the Space & Time products [reviewed by DO in Vol.11 No.7]. Problems with supply from the manufacturer make it impossible to do so... I extend my apology for the disappointment to you and your readers. Stuart Marcus President, Sound Connections International, Inc. TARA Labs' new address is: 4445 Cartwright Ave., Toluca Lake, CA 91602. Tel. (818) 766-6929.
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Stereophile, August 1988
### ADVERTISER INDEX

| Acoustic Sciences Corp | 142 |
| Adcom | 20 |
| Amrit Audio | 24 |
| Apogee Acoustics, Inc | 30 |
| Arcti | 96 |
| Ariston | 40 |
| Artch Electronics | 166 |
| Audio Advisor, Inc | 76, 172 |
| Audio Breakthroughs | 178 |
| Audio Group | 180 |
| Audio Influx | 186 |
| Audio Nexus | 186 |
| Audio Prism | 142, 182 |
| Audio Research Corporation | 32 |
| Audio Resource | 80 |
| Audio Stream | 29 |
| Audio Today | 54 |
| Audioquest | 34 |
| Aural Symphonics | 170 |
| B & K Components | 195 |
| Belles Research Corporation | 165 |
| Berning Company | 96 |
| Boffi Vidikron USA | 22 |
| Boulder Amplifiers | 184 |
| British Fidelity | 188 |
| CSA Audio | 168 |
| Cardas Audio | 146 |
| Celestion | 16 |
| Chadwick Modifications | 186 |
| Chicago Speakerworks | 190 |
| Clarity Audio Systems | 184 |
| Conrad-Johnson Design | 2 |
| Custom Electronics | 168 |
| D'Ascanio Audio | 148 |
| Definitive Hi-Fi | 90 |
| Energy | 18 |
| Esoteric Audio | 42 |
| Euphonic Technology | 154 |
| Gala Sound | 144 |
| Gold Aero | 166 |
| Hal's Stereo | 189 |
| Hansen Ltd. Christopher | 84 |
| Havens & Hardey | 192 |
| Hi Fi Answers | 138 |
| Hi Fi News & Record Review | 98 |
| High End Audio | 176 |
| High End Hi Fi Show | 88 |
| Hills Products | 146 |
| Kimber Kable | 186 |
| Leonard Radio | 78 |
| Lyle Cartridges | 190 |
| M & Y Company | 176 |
| MFA Systems | 161 |

| Magnepan | 68 |
| Magnum Dynabab | 160 |
| Maplenoll | 152 |
| Martin Logan | 50 |
| McIntosh | 38 |
| Meitner | 26 |
| Mod Squad | 141 |
| Monitor Audio | 44 |
| Music & Sound | 165 |
| Music By Design | 190 |
| Music By The Sea | 174 |
| Naim | 60 |
| Natural Sound | 94 |
| Nitty Gritty | 148 |
| Optimal Enchantment | 52 |
| Packburn Electronics | 189 |
| Parasound | 162 |
| Philips Electronics | 9, 10, 11 |
| Pioneer Electronics | 46, 47 |
| Precise Acoustic Laboratories | 6 |
| Preston Trail Audio | 188 |
| Professional Systems Engineering | 184 |
| Reference Sound | 192 |
| Rotel/B & W | 48 |
| Select Sound | 190 |
| Shelley's Stereo | 82 |
| Sound & Music | 192 |
| Sound By Singer | 92 |
| Sound Board | 174 |
| Sounds Alive | 192 |
| Speaker Builder | 182 |
| Speaker Shop | 186 |
| Stax | 57 |
| Stereo Exchange | 72, 74 |
| Stereo Shoppe | 188 |
| Stereo Unlimited | 175 |
| Sumiko | 64 |
| Taddeo Loudspeaker Company | 182 |
| Take 5 Audio | 180 |
| Taiwar | 28 |
| Teac of America | 36 |
| Techron Industrial Products | 70 |
| The Sound Concept | 178 |
| Threshold Corporation | 168 |
| Tiare Acoustics | 184 |
| Transducer Developments Ltd. | 66 |
| True Image Research | 154 |
| Upscale Audio | 86 |
| Vampire | 152 |
| Vandersteen Audio | 196 |
| Wheaton Music | 187 |
| Wizard Industries | 170 |
| Yamaha | 14 |
Round Up the Usual Suspects
That may seem an odd title (I just finished my umpteenth viewing of Casablanca, on cable this time, and it still brings tears to my eyes), but that was pretty much the intellectual content of JGH’s recent “As We See It” in Vol.11 No.6 (June). Now, JGH and I get along pretty much as we always have: he attacks “digi-phobes,” I attack digital’s shortcomings; he rails at audiophile sound, I exemplify it (when I’m really on a roll); he finds reasons why equipment won’t work in a particular application, I struggle to get it to work. Nevertheless, we’re good companions, and, I would say, have no small amount of affection for each other.

The above-referenced editorial, though, got me angry. That’s right, angry—something that almost never happens! This anger has two sources: first, JGH let all those small manufacturers off the hook for selling you unreliable products, the purported excuse being that they can’t really afford to alpha- and beta-test their products before release. You, in effect, become the beta test site—uncompensated, I might add. Second, JGH seemed to denounce those manufacturers who take the trouble to make sure their product won’t break—having the temerity to issue five-year warranties, of all things—and then charge for their trouble (frequently charging almost as much as companies who don’t take this trouble).

It’s almost as if the government, in pursuing the case of Oliver North et al, had rounded up the attorneys working on the case instead of the folks involved in Iran-Contra! If you look at the actual prices of their gear, you find that the “super-reliable” companies cited, like Levinson and Threshold (I don’t feel that Cello, at its young age, belongs in this august company—I would choose Conrad-Johnson or Krell), market products that are most competitively priced—you may not be paying anything extra for their reliability, if you compare products of comparable sound quality. And, without a doubt, you can pay much more for products that break more often.

What about the struggling young companies who can’t “afford” to test their products thoroughly? Bull ticky! I’m sympathetic to the problems that new, small, and frequently undercapitalized companies face—Stereophile could safely have been categorized just that way not too long ago—but no way are we going to recommend products from companies that use their customers as guinea pigs. Nor is it necessary. There are many small companies that follow a conservative approach to design and production, and whose products rarely break: Classe, Klyne, BEL, and Wilson Audio Specialties are names that come to mind. Behind each company is someone who really believes that expensive products should never break. All that magazines, consumers, and dealers need do is resist the urge to buy the “latest and greatest” when it comes from companies that have just arrived on the scene or have had bad reliability records.

Wanna know who they are? Just read the pages of Stereophile, and other such magazines, for examples of products delivered defective, or which have broken during testing. Ask other audiophiles. Ask your dealer—he’s particularly suspicious of lines he’s just taken on. In general, behave with caution; you’ll be well served in the long run.

And so will the rest of us. One development of the last eight years is that there are far fewer just-started-up audio companies handled by responsible dealerships. Those dealers found themselves losing money and customers when expensive products kept needing repair, usually back at the factory. Now we all benefit: when a new company starts up, they have to stay in business with only a few dealers, proving their financial stability as well as the reliability of their product, before winning general acceptance. For the same reason, Stereophile very rarely reviews products that have virtually no dealers and no track record. In general we prefer to wait, just as the better dealers wait. Sure, it’s a harsh test, and no doubt there are excellent products which never get made because their inventors didn’t pass the test. But if a company is that fragile, would you want to stake five or ten thousand dollars on the off chance they’ll succeed?

Larry Archibald

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