IS MUSIC IN DANGER?

by J. Gordon Holt

When I attended the Audio Engineering Society convention in October (my first time in over eight years; full report inside), I was impressed by the incredible technology now available to composers of music. I was also dismayed, however, by the extent to which so-called purist audio, as well as "acoustical" music, have been consigned to oblivion by the pro audio community. It was clear, both from the exhibits and the many conversations on which I eavesdropped, that audio professionals are no longer concerned about fidelity, in the sense of trying to reproduce sounds accurately. A "real" sound has become to them merely raw material of no value except as (continued inside)

DENON DIGITAL DAZZLES GRAVES

by George Graves

"This won't take long" I thought, as I opened the box containing the new Denon DAP-5500 "digital preamp." For many audiophiles, I guess I'm supposed against Japanese components. Whether this stems from long (and unhappy) associations with Pioneer and Panasonic equipment in my conscience youth, (continued inside)

TANTALIZING TRIPLANAR TONEARM

by Dick Olsher

While brushing my teeth this morning, it occurred to me that there are significant similarities between a toothbrush and a tonearm cartridge. The bristles would be analogous to the cartridge and the brush handle to the tonearm. In either case it is the brush or end of the device that does all the work. The bristles track the contours of your teeth in search of hazardous plaque deposits, while (continued inside)

JARRETT ON KIPNIS

Any recording of the complete Fantasies is bound to be an unusually rich musical experience, partially due to the improvisatory nature of much of the writing (which can act as a kind of "thickener" of basic ideas). This may mean, for some listeners, that listening to this entire recording straight through (all 65:59 minutes) could be the wrong way to approach it. Still, this particular kind of richness, if handled with vitality and delicacy, can be anything but boring. Often, an artist who is not an improviser will go too far toward what he thinks is an improvisatory rendering of a written work. This can be smelled by an actual impro- (continued inside)

KIPNIS ON JARRETT

Our is an era when nearly all performance, especially as heard — no, blasted — in contemporary, nonclassical music, tends to emphasize the very lowest extreme of the decibel spectrum. To play the clavichord, that softest of all keyboard instruments, whose early history runs from the 16th century through the early 19th, is therefore a bit of an anomaly. Unless one has heard the instrument live, it is impossible to imagine how soft it really can be. Think of a rec- (continued inside)

CAL ARIA II GETS LIPNICK HOT

by Lewis Lipnack

As Dick Olsher reviewed the original CAL Aria player in Vol.10 No.7, the following is a combination of follow-up and full review. Although I have not had the opportunity to extensively audition the original Aria, the musical attributes of the revised player justify significant attention. And since I am not going to go over most of the physical description and technical discussion addressed by (continued inside)

WHERE IS BAY AREA BLACK VINYL?

by Kevin Conklin

If the situation in the San Francisco Bay area reflects conditions elsewhere, these are bad times indeed for the vinyl Long Playing record. The acceptance of the medium is excellent, and inventories of new vinyl are dwindling at even the most musically enlightened mass-market
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    Publisher Larry Archibald muses in print on the state of the industry

JANUARY 1988 VOL. 11 NO. 1
February (Vol. 11 No.2) has, among other things, a loudspeaker emphasis. There will be reviews of the diminutive but expensive Wilson WattBs and of Spica's new Angelus, which promises a lot of performance at its $975/pair price, while Thomas J. Norton takes over the wheel of Stereophile's quest for good, affordable speakers with reviews of three contenders, including the Kindel Purist I.T. We couldn't persuade Dick Olsher to review loudspeakers this time around, but he did listen to the revised version of Bedini's 150/150 amplifier and spent a lot of time with a class-A amplifier from WinGate which promises to upset the established pecking order.

George Graves, in the meantime, got his hands on an R-DAT machine from Luxman-Alpine, and set off to record his local symphony orchestra, comparing the results with those from a trusty Revox open-reel machine as well as a "traditional" Sony PCM processor/VCR combination. Were the results as expected? It depends on what you expected!

And in response to numerous requests from readers, we will publish a design for a passive preamplifier to fit between a CD player and power amplifier.

There are, of course, a number of works in progress due to appear in the next two or three issues. Among a plethora of reports planned on components in general: Dick Olsher is up to his earlobes in loudspeaker cables and subwoofers; JGH will review cost-no-object loudspeakers (we keep trying to persuade him that there's more to high end than his beloved Sound Lab electrostatics); Bill Sommerwerck is spending his winter writing the definitive report on surround-sound decoders for video—you will be surprised by how much they can degrade the front-channel sound; I am wrestling with my heritage, trying to come to terms with British amplification from DNM and a complete system from Linn Products; new reviewer Arnis Balgalvis will be reporting on the Meitner electronics, the Apogee Divas and The Well-Tempered Turntable; and Lewis Lipnick is temporarily taking time off from reviewing to put together a complete report on a classical recording session—the politics, the engineering, the choice of program, and the performance. In the Music Section, interviews with Michala Petri and Ofra Harnoy are in the works, as well as continuing coverage of the Mahler and Bruckner cycles by Inbal and Wand, and Frank Zappa on CD. Part II.

And remember: as Stereophile appears every month, it can refresh the parts left untouched by other high-end magazines! —JA
When I attended the Audio Engineering Society convention in October (my first time in over eight years; full report on p. 58), I was impressed by the incredible technology now available to composers of music. I was also dismayed, however, by the extent to which so-called purist audio, as well as "acoustical" music, have been consigned to oblivion by the pro audio community. It was clear, both from the exhibits and the many conversations on which I eavesdropped, that audio professionals are no longer concerned about fidelity, in the sense of trying to reproduce sounds accurately. A "real" sound has become to them merely raw material of no value except as something to be processed, manipulated, folded, bent, and spindled to produce any sonic effect except the original one. About a third of the products displayed at the 83rd AES convention were tools for doing that.

The second third of the exhibits consisted of equipment for creating music-type sounds from scratch. There were synthesizers galore, as well as electronic pianos, electronic clarinets, electronic guitars, electronic saxophones, electronic harps, electronic drum machines, and devices for converting the sounds of acoustical instruments into audio signals without an intervening soundwave stage. What about ambience, or reverberation? You get that from a black box called a room simulator.

As of now, anyone with a few grand (or good credit) for the necessary hardware in his basement can become a record company, producing everything from the musical ideas to mass-produced cassettes for public sale. The likelihood that much of the resulting product may not be worth one's time of day is irrelevant; what is relevant is the effect all this will have on the music scene as we know it. That reasonable facsimile thereof) and hear what a melodic line sounds like played by a flute, an oboe, several violins, or any completely new kind of sound he may have devised and stored on a floppy disc for future use. He can transpose, modulate, or harmonize any individual note or phrase or entire statement, all automatically with a few keystrokes.

If he can't read music, he can work on a synthesizer keyboard, correcting mistakes as he goes, and using the computer to record every note. Then, he can punch a few other keys and
Definitive.

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sit back while the system prints out the finished music score on paper—ready for Xeroxing in small quantities or for printing in vast quantities.

It is easy to see the effect this is going to have on the music publishing business. The publisher's printing and distribution system may still be needed (although a computerized music score can be sent cross-country by telephone), but his typesetting services won't be, and most composers and arrangers will be thankful for that. Until now, all the notes on a printed score had to be keyed in or handset by a typesetter, which affords a golden opportunity for so-called entry errors. These typos in music scores are a much more frequent occurrence than non-musicians realize, accounting for a significant amount of wasted rehearsal time during which players must pencil-in corrections. The typos do not occur when the computer prints out the score that has been personally auditioned and approved for musical integrity by the composer. This is then simply photocopied for the printing press. If there's an error in it, the composer has no one to blame but himself.

Actually, our electronic composer doesn't even have to bother with a music score. The means exist now for him to create a performance of his music via the computer, bypassing not only the music publisher but also the arrangers, performers, and recording engineers who have traditionally been the composer's pipeline to his record-buying audience. Using a MIDI\(^1\) setup, he can assign different parts to different electronic sound generators, instruct each as to its entry cues and volume levels, then punch a key or two and let the system play the entire composition all the way through while he records it on tape, all ready for processing and public release on CD and cassette. And if he's not concerned about CD, he can even do his own mass-production at home, with a bank of cassette decks. In other words, it is possible for one person to be his own composer, arranger, performer, and record distributor.

All this gives new meaning to the term "computer literacy." Someone who is a computer illiterate at the close of the 1980s is going to be effectively separated from the means of making music. The complexity of the technology required to write music electronically means that a flair for composing will no longer be the sole requisite for doing it. A composer will also need a certain amount of technological know-how. This will undoubtedly exclude a lot of potential composers, including, inevitably, some who might have become the immortal greats of the late 20th century.

Musicians have always tended to be non-technical people, often taking a perverse pride in claiming they don't know which end of a screwdriver to hold. Such people are going to find an increasingly rough road ahead for their composing. The electronic revolution in music-making is going to limit the number of people who are able to do it, or force them into collaborations with techies who can execute their musical wishes—musical interpreters, as it were.\(^2\)

It is also apparent that the days of the "live" music performance are numbered, at least in the area of high-tech music. The public rock concert is not likely to disappear from the music scene; there's too much emotional payoff for audiences and performers alike, not to mention the financial payoff to the performers. But the nature of those concerts will change dramatically. Increasingly often, they will be "live" performances only in the sense that the stars are onstage in person; their performances will be canned. In order to sound as good in person as they do on records, touring recording artists will be forced to play their synthesized recordings through the PA system while mouthing the lyrics and faking the playing, as is already accepted practice in MTV music videos. They may in fact have no choice but to do it this way, because modern recording techniques are already making stars out of performers who can't even play their instruments very well.\(^3\)

Recording Engineer/Producer magazine recently cited a case where, during an album project by a well-known rock star, his heavily edited lead track got trashed by the MIDI con-

---

1. MIDI is a standardized digital "language" by which a number of electronic instruments can be synchronized and individually controlled.

2. This is not unheard of. The aging Frederic Delius was too blind to transcribe his own music, and hired a young Eric Fenby to do it for him.

3. According to a drummer friend of mine who owns a percussion shop in Bristol, England, this increasing emphasis on electronics and computers to produce recorded music is paradoxically going hand in hand with an increase in sales of real, acoustic instruments. Never in non-classical music has there been such a quality gap between what is heard via playback media and what is heard live.

---

Stereophile, January 1988
B&W's Model 801—the recording industry's Reference Standard Monitor—was the inspiration for innovation. Dramatic developments in technology and enclosure design have led to this state-of-the-art ten years on. This magnificent successor sets the new standard for professional and home user alike. With no commercial compromise. Rich in matrix technology, 801 Series 2 registers accurately even beyond audibility. Phenomenal sound Clean and utterly uncoloured. Outstanding imagery with tight unbooming bass. An instrument destined to occupy a special place in world esteem.
controller, and he was called on to play it over again, on the spot, for a retake. Faced with the prospect of actually performing live, he caved in, "consumed the rest of his recreational pharmaceuticals," and canceled the session. This illustrates how modern recording technology can become, not just a crutch, but the means for doing a musical performance.

I must say I view the prospects of the coming electronic music revolution with very mixed feelings. I admire the inventiveness that goes into the design of this high-tech instrumentation, and I applaud anything that will reduce the tedium of a creative activity. I am particularly pleased at the prospect of new, unheard composers who may be able to offer their work to the record-buying public without the approval or endorsement of some record-company bigwig whose criterion for releasing anything is its appeal to the lowest common denominator. But I decry some of the other things I see growing out of this.

I think the passing of the creative middleman—the performer or conductor—will be a tragic loss to music, because he has traditionally brought renewed vitality to works which would otherwise become tedious with repetition. (Many composers' performances of their own works are uninspired.) And, speaking as a lover of real orchestral music, I see this explosion of electronic music-making as a threat to one of the most glorious sounds known to civilized humanity.

Symphonic music has always had little appeal to the American public. On major-label recordings, it has been subsidized by sales of pop records and recorded with equipment that was on hand to produce the real money-makers. With 100 musicians playing at music-union recording rates, it is absurdly expensive to record an orchestra, and the record companies would be delighted to find a cheaper way of doing it. There are already synthesizers which can sound somewhat like massed violins, cellos, tubas, and clarinets, and their ability to imitate real sounds is improving every year. It's just a matter of time before some record-company executive decides the sound of a symphony orchestra can be faked well enough that "most record buyers won't know the difference." I don't look forward to that time.

---

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Stereophile, January 1988
Digital High Fidelity Systems including Compact Disc, FM Stereo Radio, Amplifiers, Active Loudspeakers, Full Remote Control and Multi Room distribution systems.
Where have we been?

Editor:
I recall early 1971 and the boredom of Laredo Air Force Base, Texas. One escape was music (or the reasonable facsimile thereof) from my Dual 1219/Sherwood integrated amp/Advent speakers. Another was reading Stere'no' Review. Each month I would eagerly await the new issue, only to be left with an empty feeling. (Similar to being forced to listen to that system now!) Was I just too ignorant to understand this Hirsch fellow, or was it all just techno-double talk? Well, I let my subscription expire due to lack of readable material.

Fast-forward to 1987. Stereophile, where have you been all my life? Reading your magazine was almost like viewing the Grand Canyon for the first time. Your opinions exhibit considerable dynamic range with excellent mental imaging and good focus on the detail. Humor is slightly dry and crisp in the upper registers, but with fine overall transparency (especially in the bass). Sonic integrity is well-defined and presented with depth and resolution across the entire sound-page. Highly recommended.

Terry M. Combs
Dallas, TX

PS: Does anyone out there have an opinion of the Magnasphere Gamma loudspeakers?

Our advertising strategy!

Editor:
Congratulations on your new network advertising strategy!

On the Oct. 14, 1987, broadcast of The Equalizer, a copy of Stereophile, Vol.10 No.3, was revealed on a desk being searched by Edward Woodward, the show's star.

My only suggestion would be to have the cover face the camera on your next appearance!

Robert M. Allen
Reno, NV

Our covers

Editor:
How are we to interpret the cover of your October issue? Perhaps that under some opium haze the compact disc will lead us to the Emerald City, only to find out, when we get there, that true happiness has always been with us in the ruby and hot-air balloon (i.e., tubes).

Roger Gillespie
Rochester, NY

Our purple patches

Editor:
Bewilderment seems the only proper response to Richard Lehnert's recent mind/body excursion in Stereophile (Vol.10 No.7).

Lehnert gives a new, ironic twist to the term psychoacoustics, as he guides us on a New-Aged, looking-glass tour of audio history from mystical monaural up to dread-inducing digital. The dread, you'll recall, is produced by the "expectation of sonic degradations that never come." And down this road lies more, always more.

Lehnert's right about one thing—his sonic pathway is not easily traversed by rational, linear-addicted Westerners. But if one perseveres, and gingerly passes Lehnert's tottering arched metaphors and purple patches moist beneath one's feet, the rewards are there. For the enlightened, nirvana is a surgical procedure, simply obtained by "aural archetypes . . . directly implanted in the mind."

Music, I suppose, is involved somewhere in Lehnert's dotty amalgam . . . Well, not simply music, but "the voice of God" or "the climactic word of God arrowing out of diaphanous stereophonic clouds."

In fact, one such projectile of "condensed musical energy hit me squarely in the breast," Lehnert unblushingly relates. His internal organs all atwitter, he's as boastful as a man struck by lightning.

I had planned this letter to be more detailed, but it seems such a dispiriting exercise. With the loss of Anthony Cordesman's wonderful reviews one month, and the prospect of further addlepeated essays the next, the only solution may now be to stop reading, dim the lights, and enjoy the music.

Steve Witt
New York, NY
Rebirth of the Analog Record

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Our obscene jargon
Editor:
I am flabbergasted at your recent inclusion of Richard Lehnhert’s article, “Mono, Stereo, Digital” in Vol.10 No.7 of Stereophile.

The article was nonsensical, unintelligible, and pointless (i.e., no discernible point was made, or, as far as I could tell, offered).

Further, no rational person could believe that Mr. Lehnhert, or anyone else for that matter, actually communicates with such obscene jargon. Webster’s Ninth New Collegiate Dictionary defines jargon as: obscene and often pretentious language marked by circumlocutions and long words.

I wasn’t impressed and I’m sure many other Stereophile readers feel similarly. We would prefer fewer pages in Stereophile to such an assault on our intelligence.

By the way, good review of the Magnepan SMGas (Vol.10 No.7). Keep up the (by and large) good work.

John C. Smith, Jr.
Wilmington, DE

Our rewrite policy
Editor:
I am getting tired of reading rewrites of articles by Ken Kessler and Alvin Gold for Hi-Fi News & Record Review and Hi-Fi Answers, articles I have read in the originals. I like both those writers, but please publish only new material.

Marc Richman
Washington, DC

Our English domination?
Editor:
I am upset by the almost total takeover of what was once a good magazine by English writers. I refer to the domination of the pages of Stereophile by writers such as Martin Colloms, Alvin Gold, and Ken Kessler. If I want to read what these guys think, I will buy Hi-Fi News & Record Review or Hi-Fi Answers, but I buy Stereophile to find out what American writers have to say. So, please, get rid of the English writers, and let’s have more contributions from the likes of Tony Cordesman.

And please: no more reviews of inexpensive loudspeakers.

Elliott Mennen
Brooklyn, NY
It puzzles me that, to judge by our mail, so many people do feel that Stereophile is dominated by UK-based writers. Perhaps it is the fact that the contributions of Alvin Gold, Ken Kessler, and Martin Colloms have very high profiles in the magazine (as should be expected, considering that all are professional writers). It can’t be the amount they contribute to the magazine, as analyzing the contents of Volume 10 of Stereophile, published in 1987, shows that out of over 1100 pages of the magazine’s editorial matter, just 17% came from English writers, about the same amount that was contributed by J. Gordon Holt alone! Certainly I am English, but as I live and work in these here United States, my contributions surely must be counted as American.

And I certainly do not regard the role of Stereophile as being only concerned with what American writers have to say. If there is any one field other than music or the visual arts which is truly international, then it is sound reproduction. Across the world, people play the same music on the same equipment with pretty much the same ends in sight. The cutting edge of high-end design is not confined to the boundaries of any one country. Similarly, relevant comment comes from writers everywhere, regardless of their nationality, and my vision of what Stereophile should be doing includes keeping its readers—predominantly American, naturally—as informed as possible. I want to give you width as well as depth. If this means using an English writer such as Martin Colloms to provide insight into the connection between what is measured and what is heard, because I have yet to find an American writer with the appropriate engineering knowledge who is not totally committed to the Stereo Review philosophy that all audible differences are due to frequency-response aberrations, then so be it.

Regarding the amount of material that is duplicated in hi-fi magazines, this can be embarrassing—though it has happened less often than Mr. Richman implies—and Steve Harris, the Editor of Hi-Fi News & Record Review, and I try to avoid any such conflict. That it happens, however, is sometimes unavoidable, and I take the view that the majority of Stereophile’s readers, who do not subscribe to English magazines, would prefer not to miss something as potentially significant as Alvin Gold’s discussion of the putative benefits of solid-core cable in Vol.10 No.4.
Write or call for a brochure and the name of your nearest dealer.

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DIMENSIONAL PURITY
And it has been the case that something first appearing in Stereophile then appears in other magazines; such is the nature of the hi-fi publishing business. —JA

Our obsession with CD
Editor:
After nearly a decade's absence, I returned to the fold of Stereophile readers a few years ago. My newfound interest in video prompted me to rediscover the passion I had had for audio in the 1970s.

At first, I found Stereophile to be very helpful in bringing me up to date and helping me upgrade my system. But as time marched on, my enthusiasm began to wane. When renewal time came earlier this year, only one factor prompted me to continue reading: the insightful, literate reviews by Anthony Cordesman.

Of course, as soon as I renewed, Cordesman vanished. My money already spent, I decided to stick with the magazine. But it is becoming harder to do so with every new issue.

Two points really irritate me. First is the magazine's obsession with CD. Yes, I have heard CDs, and I can understand at least some of the enthusiasm for them. But until CDs sound markedly better than LPs, I cannot see any reason to pay more than twice as much for a CD than an LP, other than sheer gadget craziness.

Needless to say, I was therefore appalled when Vol.10 No.7 arrived heralding "Record Reviews! Expanded Music Coverage." I counted a total of zero real records reviewed in this issue; the magazine's "expanded coverage" is worthless for those of us still interested in the best possible reproduction of a recording.

I am no more excited with the endless succession of reviews of expensive, mediocre CD players. If you find a great one or a very good inexpensive one, fine—but there is no need to review every player available in the free world, especially when most of the players have been superseded by the time the reviews appear.

The second point that is getting to me is your recent glut of low-end component reviews. The barrage of CD-player reviews and your reams of reviews on ultra-cheap speakers and cartridges do your magazine a grave disservice. I know of no one who reads Stereophile who really gives a damn about $400 loudspeakers. Unfortunately, most of the rest of your recent reviews are of products few of us can even dream of affording. What about the great middle ground—the components appropriate to the systems of the average Stereophile reader (like me!): the Dahlquist DQ-20, the Infinity Kappa speakers, the Audio Research D-115 and SP9, the PS Audio 5.0... the list goes on and on.

I hate to give up on Stereophile, but you're not leaving me much choice. I suspect I am not the only reader who may soon be defecting.

Thom Lieb
Riverdale, MD

Why no LPs?
Editor:
I would like you to answer a question. Recently I went into a record store and found that all the LPs had been removed from prominent display. In their place there were layers upon layers of cassettes and CDs!

I am one of those who, while interested in CDs, does not plan on throwing out my collection of LPs. I hate cassettes!

Like many who are eclectic in their tastes—Sinatra, Springsteen, and Bach—I have invested much in LPs and in sophisticated machines with which to play them. I resent, therefore, what appears to be a push by the record industry to phase out the LP.

Harry Anderson
Hoosick Falls, NY

99% on target
Editor:
I don't usually write to publications, but I do feel it is a privilege to be one of your subscribers. Stereophile is the most informative and well-written publication on the market today, and this comes from a person who has sold audio and enjoyed music for 15 years. The people of Stereophile should be commended on the work they do; so give yourselves a hand. Stereophile is 99% of the time on target!

James Vincent Ferro
Massapequa, NY

Please don't change
Editor:
I too liked the old Stereophile better than the new one. Please don't turn into Audio or Stereo Review in a quest for ad revenues. Also, please remember that many of us are not
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technically literate; perhaps you could publish a primer to audiogabble, so that John Atkinson's writing would be intelligible to the uninformed.

A query — in this year's Summer CES report (Vol. 10 No. 5), both Lewis Lipnick and Martin Colloms raved about the sound in the Kinergetics suite; both mentioned that the speakers were Spica TC50s. I own a pair of the Spicas, but find the triangular boxes lack bass. Did Kinergetics' Spicas have the Spica subwoofers? When you reviewed the Spica bass modules in Vol. 9 No. 5, you were not enthusiastic about them. Have you changed your minds? Should I buy them or an independent subwoofer?

My personal test for a competent speaker is when I can actually hear harpsichord in a baroque continuo. You'd be surprised how regularly its quality gets lost, when it's backing a solo voice or group of instruments.

Jane Heidelberg
Clarksdale, MS

The Spica TC50s which made such a good impression at the Summer CES were coupled with the BSC subwoofers distributed by Kinergetics. A survey of subwoofers, including the BSC, is planned to appear sometime in the Spring of 1988.

—JA

The Show #1
Editor:
Congratulations on a great show. Everyone who participated in Stereophile's High-End Hi-Fi Show, from manufacturers to exhibitors, can take a bow. It was an audiophile's dream to see and hear the latest equipment under one roof. It brought back memories of when we used to have more of this type of show. It was a learning experience. But more than that, it was just plain fun and entertaining. Thanks to all of you at Stereophile.

Lew Amorov
The Bronx, NY

The Show #2
Editor:
I should like to take the opportunity through Stereophile's letters pages to thank the visitors to the High-End Hi-Fi Show in New York for making it such a pleasure to exhibit at. Their enthusiasm and appreciation fully justified the effort.

Congratulations to you for a well-organized event that I am confident everyone will consider to have been an unqualified success.

Robert Sinclair
Kevro Electronics, Buffalo, NY

The Show #3
Editor:
The show was a lot of fun for me; I'm glad I went. Hearing the Infinity IRS made it worth it all, as well as meeting all the different
THE SHAPE OF THINGS TO COME

Products recognized for their ability to reproduce music and to advance our perception of high fidelity emerge from unique companies. The community of individuals dedicated to the production of Mark Levinson components has established an unequalled tradition of excellence and accomplishment, while accepting the responsibility for refining the state of the art in music reproduction within the boundaries technology and imagination allow.

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designers. One man who really displayed an interest in talking with me both about his equipment and about music in general was Ken Stevens of Convergent Audio Technology.

J. Scott Garlan
Houston, TX

The Show #4
Editor:
I enjoyed the New York show tremendously, but your voting form lacked some categories.

• Best Music Selection:
  1: Dave Wilson in the Woodbridge Stereo Tiny Tots room
  2: Lyric's Madrigal/Mark Levinson/Magnepan room
  3: The Audio Connections Melos/Vandersteen room

• Worst Music Selection:
  1: The Martin-Logan/Threshold/Monster Cable room. While not all the individual selections were offensive, enough were.

Hugh Swanger
New York, NY

The Show #5
Editor:
My unqualified vote for "Best Sound at the Show" (software division) goes to the Chesky CD reissue of the Reiner/RPO reading of Brahms's Symphony 4: a fiery, impassioned performance, blessed with splendidly clear, full-throated recorded sound. Spin this CD and get excited about music and music-making all over again. This is why we bother!

Carter G. Cholson
Staten Island, NY

The Show #6
Editor:
Congratulations on a superb and most enjoyable Hi-Fi Show. It lived up to JGH's promises in the Show Guide and more. In fact, my wife and I had a thoroughly enjoyable autumn day in the Big Apple. We took Amtrak from Philadelphia, then a cab to the Omni Park. After a delightful lunch, we started on our grand tour—we both had a great earful.

I particularly enjoyed Lyric's exhibition of the Maggie Tympani IVA with the two pairs of Mark Levinson No.20s—talk about wretched (and listenable) excess.

I currently own a pair of Tympani IVAs, and believe me, they never sounded that good—now let's see: if I took out a second mortgage on the house . . .

I also had a chance to talk with Bill Conrad, who turned out to be much like his equipment—straightforward, warm, and very listenable.

The Japanese certainly displayed some of the best-looking, if not best-sounding, equipment. The Accuphase DP-70B, Onkyo Grand Integra, and the Yamaha Centennial pieces were all aesthetically superb.

Any complaints? Only a few picky ones: the elevators were the slowest I've ever encountered, signs telling preregistered attendees where to go were absent (why not have envelopes already prepared for preregistered show attendees?). Also, initially there was too much talking among the various exhibitors and too little with attendees (at least one exhibitor lost me as a potential buyer because he was too busy talking to his colleagues to tell me about his equipment). The NAD, Cello, and Yamaha exhibits were delightful exceptions—all three were user-friendly. One major disappointment: I failed to meet the legendary JGH, whose writing I've always enjoyed so much. I can't wait till next year's show. (How about holding it in Philadelphia? You'll love the cheese steaks!)

Thanks for making the High-End Show a highly enjoyable experience.

Michael J. Ellis
Doylestown, PA

The Show #7
Editor:
The first impression I had at Stereophile's October 1987 Hi-Fi Show in New York was the nearly exclusive male attendance. At least in recent years, Stereophile has not had an article about male/female differences in regard to hi-fi. Do women hear differently? Do they have trouble relating to hi-fi equipment? What are the most common problems that hi-fi enthusiasts have with the women in their life? Certainly this would be a subject of interest to most Stereophile readers.

The second thing that impressed me related to the relative merit of the type and array of loudspeaker elements. In the two most expensive setups I auditioned—one of which featured the $45,000 Infinity, the other the $20,000 Martin-Logan—I noticed that with money being no object, they both used cone
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woofers. Further, although the overall sound of each system was beautiful, the large array or large surface area of their midrange/tweeter sections resulted in poorer localization of voices and musical instruments than many cheaper speakers provide. The more spread-out the source of sound, it seemed, the more diffuse the imaging.

Kenneth A. Nakdimen, MD
New York, NY

The Show #8
Editor:
I had a wonderful time at the recent Stereophile Hi-Fi Show in New York and wanted to write and share my suggestions, observations, and opinions. It's difficult for me to categorize my feelings, as I'm still rather shocked at all I learned about the high end. This 12-year addict is really just getting his feet wet!

Probably my most vivid memory is the sound I heard when comparing CD with LP. The LPs in every single demo, whether tube, hybrid, or solid-state, were unbelievably quiet. No ticks, pops, surface noise, or hiss! I suspect that the quality of the LPs, along with a good record-cleaning machine, were two of the reasons.

The CDs were, in every system, very bright and almost instantly fatiguing. The Accuphase was the least objectionable, but it ain't worth $2000, let alone $8000. The technology is changing too fast for that kind of outlay.

MC cartridges all sounded "sweet" and very easy to listen to. I'm at a loss to explain this. Maybe it's all in my mind. The frequency response of the typical CD player is almost dead flat to 20kHz, whereas almost all MCs have enormous high-end peaks that start as low as 4kHz. I'll stick with the LP for now, especially considering how expensive CDs are.

Lyric's method of handling their presentation is really the only way to do it. By signing in advance for a particular time slot, you can then visit the other exhibits without waiting in line. Of course, they blew it on Sunday by adding more music to the half-hour listening period. The result was that my 1:30 audition began at 1:52. Pretty bad if you had tickets to the Stereophile two o'clock seminar. I never did get to hear the Goldmund Reference turntable. No big deal. I did purchase an incredible 'table and saved $16,000 in the process!

I was disappointed that some products advertised in your advertising didn't appear at the show. Oracle was listed, but only represented by one retail dealer, not the company itself; ditto for Merlin. Beveridge didn't even show—at least I couldn't find them. Regarding sound, the Apogees and Snell loudspeakers were very nice and the IRS sounded good.

The most embarrassing event was John Atkinson's "Stereo and the Soundstage" seminar. John played a digital recording of him banging a soda can and moving from the left to the middle to the right, the idea being to show how different mike setups affected the reproduction of the original soundstage. Unfortunately, in all cases except one, the sound never moved from behind the left speaker. (I was sitting in the center seat two rows back.) I wonder if Mr. Atkinson ever listened to the setup and tape used to see if what he was saying was really happening. I can't believe my hearing is that bad. It was, quite frankly, a hilariously incompetent presentation.

Enough pontificating; I really did enjoy the show!

Jim Treasure
Lancaster, PA

Certainly I checked the system and tape very carefully before each presentation that the differences in stereo soundstaging should be apparent; indeed the amplification used—Krell KRS2 and two KMA-100s—was incapable of being set to mono. As I tried to ensure that the balance control was centered, I am puzzled about Mr. Treasure's criticism that the presentation was effectively in mono. As I pointed out at the beginning of each demonstration, the stereo image is very fragile; the very concept of stereo replay via two loudspeakers mandates that the listener sit equidistant from both, something impossible to achieve in a public talk (which is why Dolby demands a centrally placed loudspeaker for dialog in film-sound replay, for example). Had Mr. Treasure not been seated on the speakers' center-line, then I would have said that this was the reason for his observations. As he did have a center seat, I can only assume that he is one of the 5% of the population who are not fooled by the amplitude-for-phase substitution fundamental to amplitude-only imaging. In support of this, I find it interesting that he only found one example to give
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imaging in the right-hand speaker—I wager that this was the recording I made with two spaced omni microphones, the only one to have a considerable time difference between the two channels for off-center sound sources.

—JA

Unpublished reviews?
Editor:
I enjoyed the Stereophile Show in New York immensely, even though I was only able to attend on Sunday. I am looking to upgrade my system, so limited myself to rooms within my budget range. The show was of great assistance in my selection process.

A question: What determines whether an equipment report gets published? Could you explain the editing process and provide a list of equipment that was reviewed by the magazine's staff but whose reviews were never published (including the reasons why not)?

Brian C. Watson
New York, NY

An odd question. As a consummately lazy editor, I hate working to no published avail. Consequently, almost every review commissioned since I joined Stereophile in late May 1986 has appeared in print, the only exceptions being: where the product has been discontinued in the form supplied for review; where the product would no longer be on the market when the review would have been published; where the product, contrary to my original expectations, turned out not to be available in the USA; where the copy as submitted by the reviewer failed to sufficiently inform the reader of a product's bad or good points (I do insist on a high degree of professional competence from the magazine's contributors); where the report had been submitted without the writer's being aware that the product had already been reviewed by another reviewer; and where the reviewer had left the staff of Stereophile and had specifically requested that the copy be returned to him without being published. A turntable survey scheduled for Vol.10 No.6, for example, fell foul of Anthony H. Cordesman's resignation last June.

To answer Mr. Watson's question, reports of the following equipment were submitted for publication but were "spiked," as the saying goes, for one or more of the above reasons: Yamaha LV-XI LaserVision player; Toshiba CZ-2094 TV Monitor; Kenwood KT-45 FM tuner; Goldbug Clement II and Audio-Technica AT30E cartridges; Marantz CD75 and Sharp DX620 CD players; Boulder 500 and Forte I amplifiers; Velodyne ULD-18 subwoofer system; Vandersteen 2C, Castle Durham and Pembroke, Celestion DL8 Mk. I and SL600, Fanfare Prelude, 3-D Acoustics Cube, Wharfedale 708, Spendor SP-2, Kevek ES6, Angstrom Reference and Rogers LS2 and LS6 loudspeakers. In addition, there is the yet-to-be-written report on the Van Alstine Super-PAS preamplifier (see Vol.10 No.9, p.186), which will appear sometime in the Spring. In the case of what I felt to be inadequately researched or written reports, I intend the equipment to be re-reviewed by a more objective writer. (Some of these reports have already appeared in print.)

—JA

Why no Apogee Caliper?
Editor:
Your latest update of "Recommended Components" (published in the New York Show program and in Vol.10 No.8) still fails to include the Apogee Calipers. Both your CES reports, and John Atkinson's in-depth review in Vol.9 No.7, were extremely favorable. My own extensive listening before purchase placed them ahead of speakers both in Class B (Martin Logan, Quad ESL-63) and Class C (Vandersteen 2C, Snell C/i)—as well as anything else under $2000! What's the story?

On a more positive note, I enjoyed the two seminars I heard at your New York show—JA's "Stereo and the Soundstage" and Lewis Lipnick's "The Musician in the Middle."

Matthew Carnicelli
Brooklyn, NY

Why no Nova?
Editor:
The letter entitled "Why no Van Alstine?" in the October 1987 issue of Stereophile caught my eye because I had wondered, as Mr. Avery had done about the Van Alstine PAS-3X, why the Nova CPA-100 preamplifier was dropped from Class B in the "Recommended Components" list without explanation. (It was reviewed by SWW in Vol.8 No.3 and last appeared in "Recommended Components" in Vol.8 No.8.)

I assume, based on Larry Archibald's response to Mr. Avery's letter, the reasons were
POLARIS. The promise of delicate tube-like performance is part of the allure of MOSFET amplifiers. But the promise remained largely unfulfilled, until now, because of transconductance error. In Polaris, Sumo employs proprietary active bias output circuitry to correct the problem. Dedicated servo circuitry also reduces crossover notch distortion to levels found in the very best Class A amplifiers. And the elimination of protection circuitry ensures the purest possible reproduction of music.

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either "sloth, inattention, or... lack of enthusiasm." Yes, readers suffer when such slights occur, but much more so do manufacturers (whose products' reputations often derive from favorable Stereophile or TAS reviews) when their favorably rated products are suddenly dropped for no reason.

Small high-end audio manufacturers like Nova Electro-Acoustics cannot afford the undoubtedly negative response produced by such "sloth," etc., when a reader, as a potential buyer, notices a product's removal from your recommended list, and is left to infer what he will from that "inattention."

Larry S. King
KMK Associates, White Plains, NY

There are many reasons why a product either fails to achieve a "Recommended Components" listing, or is dropped from the list. Among these are: changes in the product design which mandate a retest before continued inclusion; evidence that the review sample was atypical; the appearance of new products which necessitate a component dropping a class but then becoming too expensive to be recommended; the product no longer being manufactured or distributed; reports of unreliability or poor service; all can contribute. In the case of the Apogee Caliper, it was my decision not to include it in the list. Although the sound was intensely musical and the price competitive, the departure of the speaker from a flat, neutral response—it gently slopes down from the upper bass to the upper treble—precluded a general recommendation, in my opinion, though with care and careful system matching, it will doubtless produce excellent results.

—JA

The question of bass

Editor:

I have noted with interest the ongoing discussions in Stereophile concerning the proper reproduction of the bass, by which I mean bass reproduction which is closer to the kind of bass one experiences in live performance. While it can still be said that few loudspeakers have bass which begins to approach that of live performance—and there are many opinions as to whether this or that loudspeaker is closer—there is one important, and determining, factor: the acoustical "size" of the piston which is reproducing the bass.

Texts on the loudspeaker always begin with a piston, or driver, mounted in a true infinite baffle, a wall. Then, there is a discussion of "acoustic impedance," "acoustic radiation resistance," and "acoustic resonance." These terms all have to do with how a piston impinges on the air, i.e., with how the air load on a given piston varies with frequency.

For the purposes of this letter, I mention these terms and their significance, which is that, all other things being equal, the larger the piston, the more efficient it will be down to a lower frequency; conversely, the smaller the piston, the higher the frequency at which it will lose efficiency.

As a piston loses efficiency with lowering frequency, flat response can be maintained by increasing the piston velocity. Two methods employed in many loudspeakers are either to resonate the piston, or to equalize it electrically—or a combination of both. If done properly, the frequency response is flattened, and everyone will be happy. Or is that so?

Let us consider two extreme piston sizes. One is the true horn, which creates a piston of enormous cross-section. Such pistons do not have to be resonated or equalized. The other piston is the typical driver in an air-suspension enclosure. Since its acoustic cross-section is much smaller than that of the horn, response is maintained, classically, by resonating the piston; and, in some cases, also by equalizing it. Now, anyone who has heard the bass from a large horn, such as those found in the homes of John Crabbe and Rex Baldock in England, will never confuse it with the bass from an air-suspension enclosure!

Between these two cases lie many variations, some of which are very well recognized as superior systems because they do increase the piston size. For instance, transmission lines, which I have championed over the years, produce a large "equivalent acoustic air mass," i.e., a large piston at very low frequencies. Ducted systems can increase the effective piston size; for instance, if the duct opening is the area of the driver, or piston, the piston size can be doubled at low frequencies.

Textbook discussions do not always good loudspeakers make. However, knowing the importance of the air load—for that is what we are discussing—can help the designer make his loudspeaker reproduce the bass frequencies more accurately. Auditioners who describe the "effortless" quality of large horns or trans-
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DENON

"Look into the interior of this player reveals that Denon engineers were not taking any shortcuts whatsoever."

Germany's Hi-Fi Vision on the DCD-1500

mission lines are commenting on more accurate reproduction, even though conventional measurements of frequency response may not be very different between these large-piston systems and those with smaller pistons.

What measurements might indicate the qualitative superiority of the large pistons? Some authorities say step-function measurements. Some authorities suggest that “linearity” measurements indicate the superiority of the large-piston system. Some writers suggest that moving a lot of air a little (as with a large piston) is superior to moving a little air a lot (as with a small piston with high velocity).

I hope that my brief discussion of piston sizes will open another channel of discussion in Stereophile—unless everyone agrees completely with my discussion. Certainly, it should give the avid seeker after ever-more-realistic reproduction another avenue of exploration: he can ask his dealer to compare for him large-piston and small-piston bass systems.

Irving M. Fried
Fried Products Company, Philadelphia, PA

Why no horns?
Editor:
Hey! What’ve you got against horn-loaded loudspeakers? I love my Klipsch KG4s! The best bass for $600/pair! Let’s see a review.

D. Argentieri
Annapolis, MD

The medium or the message?
Editor:
Having been a Stereophile reader for about ten years, I appreciate the magazine as a breath of fresh air.

Recently we finally broke down and purchased a TEAC PD100 CD player. Up until that time, in the stores, I could never tell if what I was hearing was CD or the in-house amplification, etc. Being on a budget, we check CDs out of the library. Finding Britten’s Young Person’s Guide to the Orchestra with Ormandy, the same recording as a very clean LP I already owned, I decided it would be the perfect test of the CD medium. What a stunning eye-opener! The LP was very clean and open... a recording I like very much. With the CD it was as if even the very clean picture-window had been removed, so that a person could “see” the orchestra with no hindrances. Other CDs produced from high-quality analog masters yielded very similar results.

Now comes the quirk. With anticipation I took home some Telarc CDs that had been digitally mastered. The pristine clarity was there, to be sure. However, my senses began to feel unpleasant. There was nothing sonically that I could point my finger to and say “Aha, there it is.” Nothing to do with frequency response, phase response, imaging, etc., that I am used to quantifying. Just an unpleasantness that made me not want to continue listening.

Question: Is the digital information during the mastering process the same as what ends up on the CD? Or was it, perhaps, the microphones and electronics of the digital master recording session? What causes this tension?

Paul F. Becker
Spokane, WA

The message, not the medium
Editor:
I’m becoming increasingly convinced that the real problem with CDs isn’t the format itself, but just plain lousy recording engineers.

I now own what could be considered a good CD player—a Nakamichi OMS-4A. It has most of the things that we now know CD players should have—separate power supplies for digital and analog stages, discrete circuitry, etc., etc.

On this machine, some of the most recently recorded CDs sound very nice: Weber’s clarinet concertos with Sabine Meyer and the Dresden Staatskapelle on EMI, and for a pop recording, Running in the Family by Level 42 on PolyGram (analog recorded and mastered, by the way). Most of the rest of my CDs sound like crap—harsh and flat.

This leads me to the conclusion that it isn’t the format, it isn’t the machines (if you have a good one), it’s the recording engineers, who don’t know and probably don’t care about what they’re doing.

Mark J. Weaver
Baltimore, MD

Stereophile
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Hum, hiss, crosstalk, vibration: distortion in your audio signal.
Graininess, specks, flecks, jitter: extraneous noise in your video image. Garbage.
The Elite C-90 pre-amp and M-90 power amp are no-compromise components designed to get rid of it. By keeping critical signal paths as short as possible. By offering you direct CD connection. By introducing motorized volume control. Separate audio and video power transformers, and unique video processing controls like noise reduction, sharpness, and detail. By giving you the purest possible audio and video that digital technology has to offer.

In the words of audio critic Julian Hirsch in Stereo Review, "The C-90's signal to noise ratio is considerably better than that of any CD player...that makes the C-90 the true peer of any digital sound source—the only pre-amplifier we have tested that can make that claim."
The C-90 also cleans up your video. Because it not only controls up to six

*Measured by EIA method. *Based on FTC rules regarding measurement of amplifier power ratings.
video components, its video-enhancing circuits actually improve your video image. Now, even rented videotapes take on a whole new look.

But what good is a complete A/V system without remote capabilities? The C-90's "SR" System Remote gives you complete control, plus a unique Motor-Drive Volume Control that eliminates the noise created by typical electronic plume controls.

Where the C-90 leaves off, the M-90 takes over. With 800 watts/channel into 8 ohm loads, 200 watts into 8 ohms, and remarkably high current capability (47 amps) for low impedance driving, the M-90 delivers the kind of performance digital signals demand. And for unprecedented purity, the M-90 even includes its own volume control for direct connection to your CD player.

The Elite M-90 and C-90 working together. There's just no better way to take out the garbage.

For more information, call 1-800-421-1404.

ELITE BY PIONEER
Since *Stereophile* adopted a monthly publication schedule, starting with our August 1987 issue, one thing featured by all monthly magazines but missing from our pages has been any kind of news coverage. In truth, this has been because though I wasn't sure what I wanted, I knew it wasn't a traditional "New Products" column. Now, with this first issue of the New Year, we start what I hope will be a more informative kind of column, wherein correspondents from around the world will do their best to give our readers a global view of what is happening in the world of high-end audio, with rather more comment than is usually the case. We intend to carry regular letters from the UK, Japan, Italy, The Netherlands, and Germany, in addition to the USA, but to kick things off, here are contributions from Peter Mitchell, J. Gordon Holt, and myself in the USA and Ken Kessler in England.

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**USA: Peter W. Mitchell**

Many years ago JGH gave the following very good advice in these pages: Don't buy new products when they first appear on the market. Wait six to twelve months for the manufacturer to get the bugs out.

In recent years the wisdom of this dictum has become most obvious in the computer software field. Modern programs contain thousands of lines of coded instructions, and despite testing by the programmers and their friends it is virtually inevitable that a few errors will lurk within, remaining undiscovered until the program is given a thorough workout by users with widely differing applications. Within a few months, the original Version 1.0 will be replaced by a debugged Ver. 1.1 or 1.2 that works reliably and doesn't cause the computer to hang up and destroy your data. The best software companies send the improved version to all registered purchasers of Ver. 1.0, at no charge.

Audio manufacturers don't announce version numbers for their products, but the same pattern occurs. Even the best designers can't anticipate every way that a product will be used, and can't test for potential interconnection problems with all of the many companion products on the market today. As a part-time consultant to manufacturers I sometimes get to see the debugging process in action, as customers encounter unexpected problems in basically well-designed products.

For example, there was an FM tuner that was designed to be virtually overload-proof; it measured very well in the lab and behaved superbly in field tests, yet became very noisy when used a half-mile from a powerful TV transmitter. A phono preamplifier measured well and sounded fine with most phono cartridges, but went into ultrasonic oscillation when used with a particular brand of high-
output moving-coil cartridge. A power amplifier known for high-output current and generally excellent performance with reactive loudspeaker impedances went up in smoke when used with one particular speaker. (This problem was fixed by changing the value of the emitter resistor in the output stage.)

Another power amplifier worked fine in New England, where it was manufactured, but had a high failure rate in West Coast homes. (The bias current in the output stage was set by an internal potentiometer whose setting was evidently altered by vibration during shipment. The company solved the problem by adjusting the potentiometer for optimum bias, measuring the resulting resistance of the pot, and substituting a fixed resistor of the same value.) Yet another high-power amp worked fine but sounded a bit veiled to some users; this was cured by substituting better capacitors at critical points in the circuit.

Some production changes are made to fix compatibility problems; others to improve reliability; some, as in the last example, to improve sonic performance. In any case, the manufacturer usually tries to keep track of which products contain the original circuit and which the improved version. If a product is returned for service (even if for an unrelated problem), the better companies will automatically upgrade it to current production standards. Since audio manufacturers, unlike software producers, do not label their products with version numbers, they keep track of production changes by means of serial numbers, suffixes, or a coded system of colored dots on the bottom or rear panel.

By the way, reviewers usually get Version 1.0 of a new product, complete with any bugs in the design—which is why a typical "Manufacturer's Comment" in Stereophile so often says something like "Thanks for your generally complimentary review. The problems you noted have already been fixed in current production."

I come now to the point of this column: Beware of DAT. If, despite the limited availability and high cost of digital cassette machines (and their companion tapes), you still feel irresistibly tempted to be the first on your street to invest in the new medium, buy with caution. The analog-to-digital converters in some of the first-generation DAT machines have a linearity defect at moderately low levels.

Their performance is fine at high levels (near 0dB) and at very low levels (below -70dB). But from -30 to -60dB, the encoding defect in some machines produces distortion levels greater than 1%. In one Aiwa DAT that Brad Meyer and I tested, the distortion changed with level: at -40dB the signal was accompanied by a rich, buzzy spectrum of even-order harmonics, but at -45dB the distortion included many odd-order harmonics as well.

It is difficult to know how widespread this fault is, since most people test digital recorders only at very high and very low levels. (The problem has been encountered in Japan, the US, England, and West Germany, so it's not just an isolated case.) I am reminded of the first-generation CD players from Hitachi and Denon, which had a major non-linearity at about -30dB that, as far as I know, was not disclosed by any published test report! Reviewers naively assumed that if the player had low distortion at 0dB and was reasonably linear at -80dB, it must be OK in between. The defect was plainly audible in music, making hash out of midlevel woodwind and piano tones. Denon quickly stopped selling the machine and stayed out of the CD player business for nearly a year. (Today's Denon players, of course, are first-rate.)

The nonlinearity is only in the encoding (recording) circuits of the DAT; the playback decoders are OK, so prerecorded DAT tapes can sound quite good. Direct digital copying would bypass the encoding defect of course, but CDs can't be digitally copied onto any DAT. If you decide to invest in a DAT, borrow a low-distortion signal generator (or use the 0dB tones on a test CD), and test the individual machine that you're buying. Record a 500 or 1000Hz sinewave tone on the DAT at -40dB, and compare the playback against the original tone. If your machine has the nonlinearity defect, the recorded signal will sound slightly buzzy.

**UK: Ken Kessler**

Though the British are hung up on the fashionable and the trendy, it should be noted that they never really forsake a trend. It becomes

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1 This was discussed in the review Martin Colloms carried out on the Hitachi DA-1000 CD player for me in HFN/RR, March 1983. The machines suffering from this problem in the UK were sold very quickly at bargain prices. I can't remember that any of those customers complained about what I, too, found to be quite audible distortion.

Stereophile, January 1988
Your ears are acute enough to hear the ultimate reproduction that your system is capable of delivering. But does your system deliver? It won’t if you overlook one of its most important components, the interconnects.

Esoteric Audio Inter-Connects are designed to maximize the delivery of source signals. And that will aid your enjoyment of the best your system has to offer.

Ask your dealer for more details about Esoteric Audio interconnect systems or simply send $2.00 for our latest color brochure. Dealer inquiries invited.

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part of the greater whole, eventually to be taken for granted. What's so wonderful is how the trends often reappear with new vigor, years after they've become part of the status quo.

For whatever reason, there seems to be a revival of activity in—all things—the design of speaker stands. After the initial shock a decade ago, speaker stands, like other parts of the chain once thought of as passive, acquired the same kind of importance as the key components, and even non-hobbyist hi-fi purchasers are aware of their role in the fine-tuning of a system. Controversy will probably never again reach the glorious heights of 1980-82, but one of the key stand designers has been creating a quiet revolution for the past year, and the repercussions are just starting to be felt.

Cliff Stone of Foundation does for stands what Mark Levinson continues to do for electronics: he regularly pushes the price points up to new and seemingly more ludicrous heights. When everybody was struggling to convince buyers that £49 ($85) per pair was a sensible outlay for speaker supports, Stone launched one which cracked the £100 ($170) barrier. After the furor died down, people listened to the things and admitted that his Gibraltar-like stands were audibly superior to all that had gone before. Within time, £100 became the standard outlay for serious audiophiles.

Last year, Stone launched a dedicated stand with a price that was unthinkable, for it was more than the speaker it was meant to support. The Cliff Stone Designer Stand, created for the BBC LS3/5A (and suitable for other high-quality mini-monitors), clocked in at something like £299 per pair! So shocked were the industry pundits with the price that few bothered to even check whether or not they worked any better than his lesser offerings. (This is not unlike people spending six months ridiculing the cost of Dave Wilson's WATT's before actually bothering to hear what they could do. Only after the WATT's second CES appearance did observers grudgingly admit that they're one of the only real solutions for a high-end speaker in cramped quarters.) A year on, and I can name at least four serious speaker manufacturers trying to duplicate the Designer's performance, and the "silly" price is no longer an issue.

The Designer Stand is a hefty unit consisting of a spiked baseplate, four sturdy uprights, and a top plate the same size as the bottom of an LS3/5A. Gone are spikes at the top, Stone now regarding a pea-sized pellet of Blutak as the only material to situate betwixt speaker and stand. He stresses that each pellet should be centered above each upright to create the most direct energy path. What goes into each sealed upright is a secret ingredient which Stone guards with care. His "less-expensive" Foundation stands used a proprietary mixture of lead and sand; whatever it is in the Designer Stand, the result is a stand which maximizes the performance of every mini-monitor I've tried them with, including the LS3/5A, the Celestion SL600, and assorted £100-£300 "bookshelf" speakers.

Having lived with LS3/5As for about eight years, and having tried them with no less than a dozen "high-end" stands, I can say with hand on heart that they make the wee BBC designs do things that defy belief. This is an opinion shared by at least one employee at Rogers, one of the manufacturers licensed to produce LS3/5As, as well as by others whom I respect. And when you hear praise for a speaker stand from the competition, you know that the performance gains aren't imaginary.

Since the Designer Stand attained its state of grace—that being the point where people were prepared to talk about its performance rather than its price—Celestion has launched a radical, dedicated stand intended for, and supplied with their SL700. Though a single-pillar design using a three-point spike support on the top plate, the stand was probably conceived with the Designer in mind. During the UK press launch for the SL700, Celestion designers were quite open about their respect for Stone's stands; this contrasts beautifully with the accusations of lunacy levelled at Stone by many (myself included) early on in Foundation's history. The Celestion stand offers un-Stone-like refinements in different areas, but the goals are similar. Celestion has, first and foremost, styled the stand in such a way as to avoid the industrial look of most Foundation stands (though it's impossible to fault the aesthetic perfection of black LS3/5As fitted to the Designers), with matching grey Nextel finish and nice touches like knurled knobs for adjusting the height of the bottom spikes. The beautifully proportioned single upright hides a ribbed interior, suggesting care in manufacture far beyond the demands of producing an
Technology Perfected.

Every home audio component company has their own area of expertise. Some manufacturers concentrate on new inventions and patents. Others focus their efforts on reducing costs and producing lower priced components.

More important than being the first or the cheapest, Luxman components are designed to achieve their sonic best. The engineers at Luxman have dedicated a lifetime to perfecting existing technology for sonic superiority.

In the beginning.

Lux Corporation of Japan, as Luxman was originally named, was established in 1925 to design and manufacture high quality radio tuners for a fledging home radio industry. The word “lux” is a scientific measure of illumination and was immediately applicable to a company that was seeking to build a “bright” future.

From this modest beginning, the Lux engineers continued to design and develop the internal parts for audio components, and in 1934 assembled a unique vacuum tube amplifier that highlighted our state-of-the-art transformers. Our transformers delivered wider bandwidth and lower distortion than the competition, earning Lux an immediate reputation for quality and performance.

In the 1950’s, unique tube technology and the use of high quality transformers became the trademark of our quest for audio excellence.

In subsequent years, Lux began exporting to the European market and received numerous accolades for amplifier designs. In 1961, the introduction of negative feedback tone control circuitry contributed to the sonic superiority of the SQ-5B: the industry reference standard for integrated amplifiers.

The transistor revolution.

In the mid-60’s transistor technology revolutionized the audio industry, and virtually every audio component could now benefit from the increased efficiency, cost economy and higher power output of transistors compared to vacuum tubes. To audio enthusiasts, however, this new technology clearly lost the warm, sonic purity of tube components.

The long and detailed study of transformers and tube configurations enabled Lux to design transistor components that retained true “musicality”.

Then in 1975, Lux adopted the family name of Luxman and, with their debut at the Consumer Electronics Show in the United States, received immediate critical acclaim for design and performance.

The continued development of innovative circuit designs, such as DC amplification (1975), Duo-Beta circuitry (1980) and Computer Analyzed Tuning (1982), were examples of technology perfected for performance. Luxman's reputation was rapidly spreading: transistor amplifiers with the warm, musical sound of previous tube designs.

The tradition continues.

Maintaining that “tube-like” musicality while using today's technology has become Luxman's forte. In 1985, Luxman introduced the world's first hybrid integrated amplifier: BRID. .. a unique combination of tubes and FET's that epitomizes the musicality of live performances.

Internationally recognized as a sonic milestone for moderately priced amplifiers, this “BRID” design became the catalyst of a whole new level of public awareness of the sonic integrity of Luxman components.

The most recent developments by the Luxman engineering group redefine the industry standards in three distinct categories:

1. ULTIMATE POWER.

Luxman has perfected sonic reproduction with amplifiers that capture the warm musicality associated with vacuum tube amplifiers, plus the high power needed for today's digital source material.

2. DIGITAL DIRECT.

Luxman engineers have perfected the musical reproduction of digital source material by transferring the information in its digital form and converting it to analog in the integrated amplifier.

3. SYSTEM REMOTE.

Luxman engineers have perfected the convenience of remote control by allowing full system operation from anywhere in the house.

Luxman is... technology perfected.

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unribbed extrusion, and the fitting of three spikes (which look like mini Tiptoes) at the top goes so far as to include quick and easy replacement if the points grow dulled. Alas, this stand is really only suitable for the SL700, as the speaker’s underside has three hard metal discs into which the spikes are fitted. I would imagine that the SL6S and SL600 would also benefit from this stand, though one would then need rather a high listening seat in order to be on the correct axis. I hope both to see a suitably lower stand and future SL600s fitted with the necessary hardware. (One wouldn’t want to rest a softish Aerolam enclosure on sharp points.) Visitors to Stereophile’s New York Hi-Fi Show last October will have heard these new supports in the Celestion room.

At the recent HFN/RR Hi-Fi Show at London’s Heathrow Penta Hotel, Peter Partington showed me a preproduction sample of his Mk.II Dreadnought speaker stand. The Mk.I is a gem of a stand for mini-monitors, one I used prior to the arrival of the Foundation Designer, and its £109 price tag now seems quite low with the ceiling for stands having doubled. The Dreadnought is a chunky, single-pillar affair, spiked top and bottom, which the user fills with the material of his or her choice. In Mk.II form, the stand has been beefed up with external ribbing—developed completely in isolation from Celestion’s new stand. Sting would call this “synchronicity,” whereas I—a journalist prepared to make mountains out of molehills—would regard stands with ribbing (inside or out) as a glimpse of the future.

Not long after submitting this, I’ll be trying the Designer Stands with Wilson’s WATTS, and I’m hoping to receive the Mk.II Dreadnoughts for comparison. I’ll keep you posted.

Cliff Stone is also involved in the reemergence of another tweak. Stone recently launched Foundation’s first preamplifier, a lovely and affordable tube unit. Lift up the lid, and behold! Stone and designer Nic Poulsion have fitted the tubes with their own all-silicone tube dampers. This—again coincidentally—occurred around the same time that A&R Cambridge launched Audioquest’s Sorbothane tube dampers in the UK. Stone is so impressed with the gains these rings provide that he’s offering them separately in packs of four for around £6 or £7, with the possible model name of “Valve Job.” As Audio Research has been supplying tube dampers for years, and as Si-comin of France has announced a similar product (Kevlar sleeves which slip over the tubes), this trend now involves at least four suppliers. Not quite a major improvement, but definitely a ripple.

Alvin Gold has written at length (and will continue to do so) about the thaumaturgy of one Peter Belt (see Stereophile Vol.10 Nos.6 & 9). I have no intention of overlapping with AG’s column, but thought you might like to know that measured evidence of Belt’s workings has materialized. While I have yet to be absolutely convinced of the sonic improvements to be gained by clipping a polarized safety pin to my shirt or drinking polarized water, I must report that a recent cartridge survey I undertook for HFN/RR showed that there’s more to Belt than meets the ear.

I ran a couple of samples of Grado’s budget XTE+1 cartridge through Ortofon’s TC3000 test computer, the results being more than respectable for a £19.95 design. Days before finishing the survey, Grado’s UK distributor sent me another XTE+1 which had been tweaked/blessed/mesmerized by Belt. I have no idea what he did to it, but the channel-separation specifications were improved by as much as 7dB—far more than one can attribute to sample-to-sample variation—and the overall measurements were improved across the board. Sonically, the improvements were unmistakable rather than subtle, and I had a computer printout rather than earnest subjective endorsements as evidence. While I’m still to be entirely “Belted,” I no longer sneer when some tweak rabbits on about ion flow and upending CD boxes and a £700 Duracell-plus-alligator-clips.

Next month I hope to report on laboratory proof from a major UK loudspeaker manufacturer that cabinet color makes an audible difference. This company has even isolated the optimum color, but won’t reveal it until a proper AES-type seminar. All I’ve been told—by New Hi-Fi Sound’s Neville Farmer, who does know the color—is that the ultimate shading will not please the house-proud.

USA: John Atkinson

Souther Engineering, the manufacturer of a range of parallel-tracking tonearms, announced in mid-November that Peter Suchy of Erlangen, West Germany, has assumed all sales and manufacturing rights to the Souther Linear
In pursuit of perfection

These remarkable 4-way systems are the product of Fostex RP Technology, a transducer design which has been awarded more than 20 international patents. Only a few of these magnificent 2001 systems will be available at very select audio salons. For more information write.

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Arm. Suchy, of course, is the President of the West German Clearaudio company, whose distinctive MC cartridges and headshell-mounted Harmony RIAA amplifier are distributed by Souther. For the time being, sales and manufacture of Souther products will continue in the US, with arm designer Lou Souther continuing in a consultant's role until after the June 1988 CES, but Suchy plans to start additional manufacture in Erlangen. First fruit of the collaboration between Suchy and Souther is an improved version of the Souther tonearm, named, not inappropriately, the TriQuartz Improved or TQI, which was due to reach the US market in early December.

Audio Research started shipping an official Mk.II version of their flagship SP11 preamplifier in the late Fall. (Until that point, ARC had denied that a series of minor revisions to the SP11 warranted the Mk.II designation.) Said to incorporate improvements resulting from the design of the $1695 SP9 preamplifier (which readers may remember failed to impress JGH last November), the new SP11 is said to offer more "openness" and air, better definition of fine detail, an improved deep-bass response, lower levels of coloration, and better objective performance (channel separation in particular, as well as better isolation from line-level inputs when set to phono).

Price of the Mk.II SP11 has risen by $95 to $4995, while owners of existing units can have their preamplifiers brought up to specification for $95 (if the unit was purchased after August 1, 1987) or $495 (if purchased before that date), with the customer paying the round-trip freight charges. Only the preamplifier chassis has to be returned, however, the power supply remaining unchanged. For details of the update, contact your Audio Research dealer or call Leonard Gustafson of ARC's Customer Service Department at (612) 566-7570.

Things are confused still on the DAT front at the time of writing (mid-November). Sony's offer to buy CBS's Records division, part of chairman Laurence Tisch's strategy for CBS to concentrate on broadcasting— he sold the magazine division, which publishes Stereo Review and Audio, to Diamandis Communications Inc. on October 1st was accepted. The sale would seem appropriate—Sony and CBS have been record company partners in Japan for many years—but it appeared that, paradoxically, CBS Records would be allowed to continue leading the record industry's pro-Copy-code/anti-DAT campaign. It is possible that Sony will persuade CBS to release DAT software, thus breaking the record-industry boycott and precipitating a rush by other companies to jump on the bandwagon. On the other hand, they might not!

The Wall Street crash of October 19 was both good news and bad news. The weaker dollar will strengthen sales of high-end American products abroad. The reduction in the American public's disposable income, however, will undoubtedly mean fewer domestic high-end sales this winter. Couple this to the slowdown in mass interest in Compact Disc, and it will be safe to predict lower CD-player sales. Whether this will lead to depressed sales of the discs themselves seems to be down to who you ask. One interesting statistic to come out of the melee, however, is that 25%-30% of sales of prerecorded music are to the 7 million owners of CD players. This both explains the rush for record retailers to get some growth by concentrating on the alluring silver disc (to the detriment of the black, as examined by Kevin Conklin elsewhere in this issue), and means that the record industry is putting a large egg into a relatively small basket. Maybe DAT software will enable the record industry to hedge its bets. Or maybe it won't.

As I write, we've just gotten our hands on the first commercial 3" mini-CD, Frank Zappa's Peaches en Regalia. Yes, Delos did issue a 5" sampler, featuring the 2001 bit from Also Sprach Zarathustra, last September, as did A&M with a promotional Squeeze disc, but this Rykodisc disc is on general release for $4.98, in line with 12*-single prices. (If you have a drawer-loading CD player, within which the mini-CD will flop around like a just-landed fish, Ryko are offering a black plastic converter for the grand sum of 98c.) I wonder if these things will take off, however. Although carrying up to 20 minutes of music, they are pretty fiddly, especially with the need to first put them in the carrier with most players. And think about it: does the world need yet another size music-storage medium? There can't be that much difference in cost in manufacturing a full-size CD and these new litt'uns. I suspect that the difference is purely down to lowered artist royalties and mechanical copyright fees. So why not press full-size CD singles from the outset?
audible results with the finest in connecting components.
USA: J. Gordon Holt

North American Philips is targeting the yuppie trade with a new line of "high-end" products, to be sold in the US under the Philips brandname. (Until now Philips audio products have been sold in the USA under the Magnavox moniker.) Aimed at "consumers who must have every new technology on the market," the Philips components—debuted at a press conference in mid-October—include two cassette decks, a tuner, two CD players, an onboard A/D processor, four VHS videocassette recorders, a loudspeaker system, four direct-view TV sets, and two rear-projection TV monitor/receivers.

Points of interest? The FC567XBX1 Dolby-C cassette deck for $479 includes two cassette transports, both of which will record as well as play (so that, with a second machine, you can make two illegal copies at once!). Surprisingly, there is only one tuner in the entire line, the $259 FT565XBX. (What does this say about the popularity of radio these days?) The CD players include the CD770XBX ($549) and CD960XBX ($949), both full 16-bit players with 4x oversampling, featuring Philips' Favorite Track Selection, first seen on the Magnavox CDB650. This allows tracks from 227 different discs to be programmed and stored for future automatic callout. (Every CD has a unique identifying number, which can be read out during the initial index-reading phase when the disc is loaded. The identifying number calls out the track programming.) In addition, the 960 offers a digital output, via audio cable or a fiber-optic conductor, as well as four separate power supplies for the digital, servo, display, and analog sections. Both units have wireless remote control, of course.

There is also a DAC960XBX PCM processor, priced at $950, which accepts the digital bitstream from any CD player having such an output. With both optical and electrical CD inputs, plus a monitor loop for DAT tape (when and if that ever becomes available), the 960 senses what sampling frequency is being fed to it (32, 44.1, or 48kHz) and switches automatically to that frequency. D/A conversion is dual 16-bit, 4x-oversampled, and the unit is fitted with a large volume-control knob, allowing it to function as an "audiophile quality" analog line-level controller of limited switching capability and minus a channel-balance control. Outputs are fixed- and variable-unbalanced (with an absolute-phase reverse switch), and fixed-balanced at 600 ohms.

Video interest centered around the top-of-the-line Philips VCR, the Super-VHS Model VPH733TS ($1099). This features VHS-Hi-Fi sound, bar-code programming, index search (for user-placed tape markers), frame-address search, a 42-function wireless remote, on-screen function displays, 21-times search shuttle, freeze- and single-frame advance, and variable slow- and double-time play. Inexplicably, its TV tuner section is mono! The VPH735TD, for the same price, has a stereo tuner, several digital effects (strobe, multistrobe, pic-in-pie), channel search, "doublefine" slow, and VCR or TV still-frame. It also has a 54-function wireless remote, auto channel-scan with memory, auto index-search, audio dub capability, latching search (?), and 17x-normal-speed shuttle search. But it's not Super-VHS.

An impressive lineup. But, aside from the promising-looking CD two-pieceer, the equipment shown did not appear to be what most high-end consumers think of as high-end. NAP VP Ric Policicco stressed the new line's performance and "snob appeal" as purchase incentives, but it was clear that he did not see the Philips line's competition as being names such as Krell, Threshold, or Audio Research. Mr. Policicco described the new Philips line as embodying "top quality and top performance at a premium price," then cited Technics, Proton, and Marantz as the competition, which doesn't quite jibe with the description. In short, I don't think this equipment is likely to make waves in high-end audio—or video either, for that matter. It ain't what Stereophile readers think of as high-end stuff. (We were told that more-impressive Philips components would be announced in the near future. We shall see. . .)

Regardless of Philips' admirable track record in the improvement of CD D/A conversion, I came away from this affair with the distinct feeling that NAP doesn't really know what high-end home electronics is all about.

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1 Those Europeans sure love short, snappy model numbers, don't they? Look at a DG record number, for example. Do you really believe they've issued that many titles? In NAP's case, what would be the matter with calling their new tuner the PT-I, standing for Philips Tuner. Model 1? In model numbers, brevity is the soul of recall. Can you imagine someone telling a friend "I have a Philips FT565XBX tuner"? Not likely. NAP, take note.

Stereophile, January 1988
These anti-resonant chassis spacers are made with Kyocera's proprietary Fine Ceramics.

Fine Ceramics laser guide shafts hold their tolerances five times longer than other materials.

These are the CD features they'll be copying next.

3rd-order analog filters cause less phase shift than the 7th- and 9th-order designs that others use.

Since Day One, every Kyocera player has had true 16-bit oversampling.

While our supplied remote controls are great, this optional full system remote control lets you operate a complete Kyocera system from anywhere in the house.

The front fascia of all our players is brushed aluminum, not plastic.

Our real wood side panels help damp resonance. They also look good.
In May of 1983, Kyocera introduced a CD player with true 16-bit digital filters. Today, the competition's calling this circuit "the latest thing." Years ago we had four-times oversampling. This year every high-end player worth mentioning has a similar design. In September, 1984 Kyocera raised some eyebrows with the world's first Fine Ceramics anti-resonant CD chassis. Now the stores are full of flimsy imitations.

How did all these innovations happen to come from Kyocera, and not some household name? Perhaps because Kyocera's knowledge of digital circuitry comes from years of building computers for some of the best-known names in electronics. Perhaps because Kyocera is a world leader in Fine Ceramics, the technology used to house circuitry in aerospace and other advanced applications. Or perhaps because some top-rated CD players from other brands were actually made by Kyocera.

Now Kyocera has four world-beating Compact Disc Players, ranging in suggested retail price from $350 to the $800 model DA-710CX shown here. Each boasts technology so advanced, it's a preview of what the competition will be selling in 1989. After all, history does repeat itself.
Flying into La Guardia on a Thursday evening, the Manhattan skyline was to my left, but no big apples were apparent in the distance. Rather, the visual impression was of a ponderous porcupine, its quills fully erect against a leaden sky. A short cab ride later, I was deposited at the entrance to one of these quills—the Omni Park Hotel, the site of Stereophile's second high-end audio show and the first such show in New York in recent memory. As such, the Show was a media event, and it seemed appropriate to share with you my personal compilation of new and interesting products. Because my observations are highlights, I'll relay only the interesting, new, and entertaining, and spare you the sonic fumbles and musical parodies. But you should know that the latter were in very limited supply—in stark contrast to the usual fare at a trade consumer electronics show. This is only one of the reasons I prefer a consumer to a trade show, however. The main reason is that I prefer to rub shoulders with audiophiles in search of good sound in an atmosphere almost devoid of commercial pressures.

Many of the local audio dealers were well represented, with a number of systems on active display. Lyric Hi-Fi, Sound By Singer, Woodbridge Stereo, Stereo Exchange, Innovative Audio Products, and CSA Audio.
just to name a few, tried very hard to put on serious demos of recommended systems at various price points. This gave the local audiophile a convenient chance to learn about available product lines and dealer prejudices and pass judgment on the sonic merits of these various competing systems. Again, a beneficial departure from the norm of a trade show, where the emphasis is generally not on system integration.

I've attempted to categorize my observations into three main headings: loudspeakers, phono system components, and electronics (which includes CD players).

**Loudspeakers**

Loudspeaker design is still as active a field as ever and there were several noteworthy new designs on display. First, a trio of baby-sized planars, two of which are actually hybrids. A cross between old and new technology, the hybrid has the lower body of a box speaker and the upper body of a dipole planar speaker. The **Eminent Technology** LFT-IV ($1850/pair) is a full-range planar magnetic using a unique push-pull magnetic circuit that sandwiches the diaphragm between arrays of bar magnets. The Mylar diaphragm has an etched voice coil distributed over its entire area in order to obtain a uniform driving force. Visually, the model IV resembles a model III—a prototype of which had been reviewed by AHC in

![Veterans of many a show, the Shahinian loudspeaker range](image)

Vol.10 No.3—that had been sliced vertically, leaving only two panels per side. The diaphragm is electrically segmented across its width to form a three-way design. Tapered side panels smooth out and extend the bass response to a respectable 45Hz. Sensitivity is moderately low at 82dB/W/m so that a beefy amplifier will be required. The maximum recommended amplifier power is 150Wpc, but the 150W Motif amp Bruce Thigpen was using seemed incapable of generating satisfying dynamic contrasts. The good news is that the impedance is 8 ohms, tube amp compatibility is assured.

**Fostex,** very much in the professional audio market, is making a serious bid for the consumer market with their models RP1001, a three-way at $1995/pair, and RP2001, a more expensive four-way. Both feature unique woofers that lack conventional surround and a push-pull double-spider suspension. The rest of the driver complement is of the printed-ribbon type that Fostex specializes in. Visually, I found the smaller of the two (RP1001) to possess excellent spouse appeal because of its slim and elegant profile.

From Kansas with love comes **Martin-Logan’s** "Sequel" ($1995/pair)—a brand new electrostatic hybrid. A sequel to what, you ask? Well, if you took a chain saw to the Monoliths and sliced them in half vertically, you'd get a fair idea of what the Sequel looks like. Actually,

![Martin-Logan’s "Statement," powered by Threshold](image)
there are Threshold components and there is everything else

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both the woofer enclosure and the ESL panel have been re-engineered, but the speaker retains many of the fine qualities of the Monolith, including bass extension claimed to be flat down to about 27Hz. Also new from Martin-Logan is the "Statement" loudspeaker which, as you might guess, is intended to be a definitive statement in loudspeaker design. According to M-L's Gayle Sanders, what motivated the Statement was the realization that CLS customers were spending huge sums of money on biamped subwoofers and expensive electronics. It therefore seemed reasonable to offer such people a full-range system. In appearance, the Statement very much conveys the impression of an electrostatic Infinity IRS system. There are two very tall ESL panels up front and a pair of woofer towers (four woofers per side) in back. The system is biamped with the crossover set at 100Hz. The suite in which these were demoed was a cooperative effort among Martin-Logan, Threshold, and Monster Cable. Although it is impossible to make definitive assessments with unfamiliar program material, and with the obvious caveat that they really deserve a much larger room, the Statement should challenge the best there is. Certainly, at only $20,000/pair, it seems like a bargain when compared with the Infinity IRS.

Duntech's "Sovereign" 2001 loudspeaker in the CSA Audio suite, driven by Cello electronics with the assistance of the Audio Palette, delivered the most gutsy full-bodied sound at the show. It looks like an advertisement for the Dynaudio driver line, but it is one of the few speakers out there that is capable of combining brawn and heart in the service of music.

Although not exactly new, the Apogee Acoustics Diva speakers deserve an almost mandatory mention because of the excellence
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.

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A retailer looking happy—Sound by Singer's Andy Singer, who presented a series of "Meet the Designer" seminars over the weekend.

The humongous Infinity IRS Series V in one of the Lyric Hi-Fi rooms.

of the sound in the Apogee suite. Jason Bloom is a past master at coaxing the best possible sound out of his speakers. For the record, the ancillary equipment was a Basis 'table fitted with an Air Tangent arm and a Koetsu Rosewood Signature cartridge. The electronics were all Krell. Except for a slight ringing on treble transients, the sound was very clean, transparent, and tightly focused. Apogee easily gets my vote for best sound at the show.

Kudos to Lyric Hi-Fi for an excellent demo of the Infinity IRS Series V system with Audio Research gear. Definitely the most intimidating sound at the show. Another Lyric Hi-Fi highlight was the Magneplanar Tympani IVA/Levinson electronics exhibit with the new Levinson No.29 preamp and the Accuphase DP-70 CD player in the chain. The tonal balance was excellent, and certainly the best from a CD player at the show.

The best-imaging speaker at the show? That's easy! The Wilson Audio Tiny Tots (WATTS) in the Woodbridge Stereo suite won hands down. Sure they're a little bright tonally, but they surprised a lot of people with their incredible focus and spatial resolution. In fact, as a general observation the most prevalent sonic objections I had at the show had
"McIntosh . . . no other transistor amplifier is capable of reproducing as well."

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to do with a bright and forward tonal balance. There was so much of this that I suspect that this is just what the public wants, or at least what sells.

Finally, several box loudspeakers deserve an honorable mention. The Rogers Studio 1a ($1299/pair) driven by ARCAM (A&R Cambridge) electronics in a small and noisy room still managed to impress me favorably with its warmish balance and easy-to-listen-to character. The tweeter on this speaker looked awfully familiar, so I asked what it was: sure enough, it's none other than the excellent Celestion aluminum dome.

The Focus Speakers High Definition Monitor ($1450/pair), driven by True Image electronics and a Crigler Brothers modified Philips CD player, acquitted itself very well. The sound was quick, detailed, and very sweet on top. The Symdex Epsilon ($1795/pair), a three-way speaker on display in one of the Ears Nova suites and driven with Naim electronics, was very listenable and deserves to be much better known.

My visit to the Vandersteen suite was also a pleasant one. The sound of the Vandersteen 2C with 2W subwoofers and Counterpoint electronics was very easy on the ears, with good clarity and a broad-brush, moderately focused soundstage presentation.

A most unusual demonstration was put on by the folks at Music and Sound Imports. Using two pairs of the Objekt speakers, the benefits of four-channel stereo were illustrated. That's right. This was not surround sound or quadraphony; the intent was to provide four channels in front of the listener. The playback arrangement calls for two front right and two front left channels, the first pair of speakers being positioned conventionally against the back wall of the room while the second pair was about five feet in front of the

Rogers Studio 1A loudspeaker uses Celestion's aluminum-dome tweeter

first and toed in toward the back wall. The Norwegian engineer on hand who championed the concept, and whose business card I've unfortunately misplaced, explained the details behind the recording process. The recording session involved a rehearsal of the Berlin PO with Herbert von Karajan conducting. Two pairs of omni mikes were used, with the first pair positioned five meters behind and above the conductor, while the second pair was placed similarly several meters behind the first. Each pair of mikes was spaced 17cm apart with a Jecklin disc in between. The front two channels were encoded digitally via an Alpine PCM processor on the video tracks of a Beta Hi-Fi VCR. The back channels were recorded onto the audio tracks of the VCR. There was some signal processing during the mixdown where the Jecklin Transdyn process was used, but this is not essential to the basic concept at hand.

The differences between two-channel and four-channel stereo were made clear during the demo by playing the main pair of speakers only and then switching in the second pair of speakers. The increase in depth and soundstage dimensionality was very obvious when both pairs of speakers were playing. The rub, however, was that instrumental focus was not very good. This was clear on the two-channel presentation, where instrumental outlines blended together into a homogeneous blob. The feeling was never one of being surrounded
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by a soundfield but rather of peering into a soundfield from the outside, and I would think that in order to simulate a reasonable replica of the original soundfield in the listening room a number of rear and side channels would be necessary, or at least some rear-channel information a la the Ambisonics process.

**Phono Systems**

While the quantity of new products was small, there were a few innovative developments. The Meitner AT2 Turntable is bound to raise a few eyebrows and generate more than just a little controversy. You see, this table is platterless, the record being supported only at the label. According to designer Ed Meitner, the idea is to radiate the vibrational energy to the air without reflection. Meitner places little faith in the ability of suction or clamps to couple energy from the disc to the mat or platter, and claims that delayed reflections from the platter/mat cause smearing of transients and lack of soundstage focus. Why air should present the ideal acoustic impedance termination for vinyl is not clear to me. Meitner made the analogy between a 12" LP and a 12" woofer and argued that the vibrational energy in the disc will all be coupled resistively to the air. Mmm. The acoustic radiation impedance is a complex function of frequency with both resistive and reactive components where the reactive component represents back reflection. So I still don't see why there should be no back reflection to the disc when the disc is freely suspended.1

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1 I, too, am suspicious of the claim that air offers the optimum impedance to vibrations traveling in vinyl. Acoustic impedance is a function both of the speed of sound in the material and its specific gravity, and with the best will in the world, that of air is different from that of vinyl. And when you get an impedance mismatch, you get reflection—which is what Meitner claims to avoid! —JA
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* Model R352, "best loudspeaker" What Hi-Fi? Awards 1987
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One factor is clear, however. Because the disc is less rigidly held on the Meitner Turntable, stylus/vinyl resonances will be shifted lower in frequency, a change that should be audible. There is also a practical problem in playing very thin records, the old RCA Dynaflex discs for example, because of flexing during playback. A Meitner-designed unipivot tonearm partners the table, the combination retailing for a very reasonable $1550. Despite all of the above reservations, I enjoyed the sound in the Meitner suite. The speakers were Acoustat 33s—new Acoustats, apparently. The overall sound was clean, with sweet, effortless treble.

From beyond the Galaxy comes the "Dark Star” Phono System courtesy of Simply Physics Inc.—planet Earth distribution will be handled by Arcici Marketing. Imagine a system that includes a stand, ’table, and air-bearing arm engineered as a whole and retailing for under $2000. That’s value! Check this one out fast before the price doubles.

A new turntable is in the offing from VPI. A non-working prototype was shown at the show and, according to Harry Weisfeld, this one is a cost-no-object design that is intended to compete with the Goldmunds of this world. Projected retail will be around $3000.

Sao Win’s revolutionary semiconductor phono transducer was being displayed in the Audio Connections suite. The stylus is used to directly modulate the gate of a FET and is claimed to combine the best sonic attributes of Dr. Win’s fabled strain-gauge and MC cartridges. The FET 10 system comes complete with a demodulator box and will retail for $1400. The high-output level from the demodulator box, which has a built-in volume pot, obviates the need for a preamp. Thus, for the cost of a high-end cartridge, you’ve got yourself a preamp thrown in as a freebie.

**Electronics**

The English company A&R Cambridge, or AR-CAM as they are known in the US, are specialists in the tough engineering arena of producing good value at reasonable cost. I like their

UK visitors Arcam’s John Dawson with Julian Vereker of Naim Audio.
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Melos TM90 power amplifier

Delta line, which includes a stereo integrated amplifier ($699), a matching tuner, and a 4x oversampling, 16-bit CD player (the Delta 70). The emphasis is on musical enjoyment, and I recommend you give them a listen if your audio budget is relatively constrained. ARCAM products are distributed by Audio Influx.

Denon unveiled their POA 6600 monoblock amplifiers. These are a sliding-bias, class-AB design with the ability to drive very low impedance loads. On music program, 1100 watts into 1-ohm loads is possible! The price is a very attractive $700 each.

At the other end of the price spectrum are the Cello electronics from Mark Levinson—the man, not the company. Based on the sound he produced with the Duntech Sovereign speakers, I think they must be very good, and should be seriously looked at by the well-heeled audiophile.

Good and bad news from Vacuum Tube Logic. The bad news is that VTL is discontinuing the little 30/30 stereo amplifier that I liked so much in Vol. 10 No. 6. The good news is that the design is being upgraded to a 50W rating; I hope to report on it shortly.

While on the subject of tube gear, I must tell you about an amp and preamp from Melos Audio. The TM-90 amp retails for $1395, while the GK+1 preamp is only $1295. Both appear to be well constructed and to offer excellent value. I also liked the Melos CD-T CD player. Yes, it's a Philips mod, of course, but what distinguishes it from the crowd is its sweet and focused sound. At $995, this one may be a steal.

I was impressed with the new flagship CD player from Denon. The DCD-3300, at about $1700 retail, was described in full by JGH in Vol. 10 No. 7, and includes a number of refinements over previous Denon players in the areas of digital filtering and reduction of intersection crosstalk and noise interference. Other worthwhile features are total isolation of digital and analog circuit boards and the use of optical isolators for signal transmission.

Rotel power amplifier

Onkyo is breaking new ground with an 18-bit linear-DAC CD player that also features 4x oversampling. This is a massive player weighing in at 60 pounds. It is not in full production as yet, and pricing has not been firmed up, but expect a price tag in excess of $2000.

Postscript

By the end of the weekend my lungs felt as though I'd smoked a pack of cigarettes and I was well on my way to an attack of bronchitis. Is the air in New York safe? Has the EPA done any field work on ambient air quality? Time to head back to the Rockies. But my respiratory insult was mitigated by pleasant memories of visits to the City Opera and the NY Philharmonic at Avery Fisher Hall. And, of course, a new repertoire of jokes from Ken Kessler, who was covering the show for HFN/RR. Besides, any place with genuine overstuffed corned-beef and pastrami sandwiches (even the seafood in Santa Fe is better than the local Deli fare) can't be all bad.
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J. Gordon Holt
reports from the
83rd AES Convention

It's been a long time since I attended an Audio Engineering Society convention. I let my membership lapse years ago, in response to what I saw as their abandonment of serious recording practices and their hostility toward anything tainted with subjectivity. But when they just happened to hold their last show during the days of, and barely two blocks away from, Stereophile's New York Hi-Fi show last October, I couldn't resist finding out what was going on in professional audio in 1987.

The AES convention was big—not CES size, but easily filling about 2½ floors of two large hotels a block apart. There were 231 exhibitors listed in the directory, and some of the biggest exhibitors were ones you've probably never even heard of, like Gauss, Westlake, Urei, Cetec, Neotek, and Orban. Most of the exhibits were silent types, but a number of separate rooms offered active demos. In most, the sound was truly abominable, with the only two exceptions I can recall being Pioneer's $15,000/pair TAD (Technical Audio Division) TSM-1 speakers, and the two largest monitor systems from Westlake Audio. The TADs, incidentally, have a rated sensitivity of 98dB out for 1W in, and their large model is claimed to be able to handle 600W of input. That calculates out to a maximum level of 128dB, which is the volume of an auto horn from 1 foot, a gunshot from 3, or a lightning strike from 50. That's quite enough to do justice to the loudest string quartet you would ever want to hear. Oh, and if you think horn speakers can't image properly or reproduce depth, you ought to listen to the TADs. I'd be interested in Stereophile reviewing them, but Pioneer isn't.

I don't know what this says for the current state of audio, but I was surprised at the number of professional devices I saw whose color scheme featured hot pink. I always thought professional implied black and matte silver. And while I did not expect to see much at the AES of interest to high-end audiophiles, I was nonetheless surprised to find how much the field has distanced itself from most of the values and ideals we live by. Most of what I saw at AES was concerned, not with reproducing musical sound, but producing it.

Mixers
Professional audio encompasses four main fields of endeavor: music recording for the masses, broadcast TV, theatrical film production, and public-address, which these days means amplification of rock concerts. Because all of these require extensive signal mixing, it is not surprising that mixers comprised one of the largest categories of displayed products. The show directory listed 31 manufacturers of consoles for recording alone. And what mixers! Some of the boards were huge.

A relatively small firm called Trident, for example, was showing a board that must have been more than 10 feet long, with close to a thousand rotary pots, slider pots, rotary switches, and pushbutton switches. And that was only their 24-channel model. Some mixers have 64! Every input on most of the boards was equipped with at least three equal-
izer knobs, a pan pot, mike and line gain presets, several sidechain send-level controls (for feeding external processors), and various pushbutton or rotary switches. (The equalizers can be switched out, but in practice they usually aren't.)

The biggest mixing consoles have become so versatile and complex that a small team of operators is necessary to do a large-scale mixdown, as for a big-budget blockbuster film like *Return of the Jedi*. It's a tense and nerve-wracking job, during which a single operator error can require doing the whole thing all over again. Wouldn't it be great if the sound director could just run through all the effects and music cuts at his leisure, setting all levels, fades, fadeouts, and entrance cues, and store them all in a computer? Then he could just tell the computer to Go, sit back with his arms crossed, and let the system produce his original and final two-track mixdown from 150 different sources, all ready for synching with the edited film or transferring to CD. Well, the means for doing that exist now, but as far as I could tell, not all from one manufacturer.

There were almost too many computer-assisted production systems at AES to count. Some specialized in final mixdowns, some in accessing individual cues from banks of CDs or digital tape machines or MIDI sources, some in the mundane bookkeeping duties of film and record production. Most were designed to work with the Apple Macintosh computer, but the number of systems available for the IBM family showed Big Blue's increasing penetration into a field that used to be exclusively Mac territory.

At the other extreme of size and price, there were a number of portable mixers at AES that might be of interest to serious amateur recordists. *Fostex* had a whole line of them, including some with a built-in cassette recorder. The Swiss *Sonosax* firm showed an SX-PR series of 2-, 4-, and 6-channel battery-operated tabletop mixers with panning facilities, switchable LF filters, adjustable limiting, signal-level LEDs, 12- or 48-volt phantom powering for condenser mikes, a built-in test oscillator, and 10 hours of operation per battery load. Distortion is rated at a decent 0.03%. The 4-channel model measures 9" by 7" by 1¾", weighs 4 lbs, and costs $3240. *Audio Technica* also had a battery-operated portable mixer that could best be described as "cute." About the size of a motorcycle battery, the AT-4462 has four mike/line inputs with two of them pannable, two illuminated VU meters, switchable peak limiting, 12V phantom power, four adjustable-level cueing inputs, and more than 40 hours of claimed battery life. It weighs 4 lbs, comes with a padded shoulder strap, and

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can be fitted with an optional padded protecting bag. Like the Sonosax, it can also be operated from an AC adaptor. This is a natural for on-location film or video sound recording, but at a relatively modest $1295, it should prove popular with serious amateur recordists too.

Creative Toys
Film director Orson Welles once likened Hollywood to a huge toy store; whatever you want to do, there's a gadget for doing it. The same is true of today's audio recording studios. If you need anything to do anything to a sound, there's something that will do it.

There were scads of signal processors on display, analog and digital. There were devices to remove excess sibilance from overly close-miked vocal recordings, to compress dynamic range, to clip wayward transient peaks, to change a sound's pitch without changing its timing, to change its duration or tempo without changing its pitch (as when a film is slightly compressed to fit on a 2-hour videocassette), and to make things "sound better" in ways that were not clearly explained in their literature. Most of the digital processors I saw were for use in analog signal chains, because recording studios still handle signals in analog form. But each time one of these processors is used, the signal is A/D-ed and then D/A-ed again. We've learned what one set of these can do to digital sound; imagine what six of them in series before the final CD encoding will do! If you're buying recent-release rock recordings and don't much like the way they sound, that's probably one reason why; too many conversions.

Some analog devices are controllable by an external computer. Many are themselves programmable, with as many as 120 user presets which can be stored in the outboard computer and recalled from there at will. Applied Research and Technology's analog equalizer does this, as well as featuring something called Smartcurve, claimed to eliminate all interaction between adjacent equalizer control ranges.

Orban Associates, which earned its laurels pioneering parametric equalizers, has branched out into all sorts of processors. Their current catalog includes a spring reverb unit, a compressor/limiter/de-esser, and two devices intended to synthesize stereo from mono. One is automatic, cutting in only when there is no difference signal. If you listened to stereo TV during its early months, the "stereo" you heard from many programs came from this.

A number of firms were showing artificial reverb units, euphemistically called "room simulators." These ranged from spring types (in which the audio signals are used to get tensioned springs vibrating and sensors are used to collect the "reverb" from them) to fully digital ones, similar to the Yamaha DSP-1, which trigger digitally stored "recordings" of real acoustical spaces. The more sophisticated ones use digital processing, but many of them can accept only analog input signals, thus adding two more conversion stages to the system. (To their credit, the ones that can't often use 2x A/D oversampling and 4x D/A, which is better than most professional mastering processors have to offer.)

But signal processors are only the tip of the digital audio iceberg. The hottest thing in synthetic music these days is something called MIDI, which stands for Musical Interface for Digital Instruments. What it is is a set of audio-industry standards for digitally controlling and synchronizing a group of electronic music synthesizers. Because the synthesizer signals are digital too, they can be manipulated in ways that were impossible with analog processors, without having to go through a pair of conversions in the process. You can take a digitized sound, from a natural source or a synthesizer, and store it in the computer or on a magnetic disc. Then, using MIDI commands, you can call it out and use the computer to bend its pitch, change its timbre, and play back the result on cue as often as desired. You can mix a number of sounds together, and control their timings and amplitudes to produce any rhythmic pattern you wish—even to do an automatic mixdown of a multi-voiced composition. It is MIDI control, in fact, which is considered by the pros to be the most promising approach to fully automated mixing.

With a MIDI sequencer (timer and command interpreter) program for your microcomputer, you can—to quote from Opcode Systems' brochure—turn it into "a cost-effective 32-track recording studio..." That's essentially true; the only problem is, with the separate sound sources stored in computer RAM or on a hard disc, you're pretty much limited to short sequences. Producing a 2-hour

Stereophile, January 1988
A classic reborn.
Traditional wisdom holds that you don't tamper with success. But at Audio Research, the working philosophy has always been to make important progress in music reproduction available to those music lovers who care to hear the difference. So, two years after the introduction of the original SP11 preamplifier, Audio Research announces the heir to its acclaimed reference standard: the new SP11 Mark II.

New clarity, dynamics, realism. The new Mark II offers startling improvements in musical realism compared to the standard-setting original. First, there is a soundstage that extends even further beyond the speakers, laterally and front-to-back. Within this stage, instruments and voices are focused more precisely than ever before, with an uncanny rendition of proper size and location. Bass response is both deeper and more detailed, for a more dynamic foundation beneath the musical program. And, overall, you'll hear a breathtaking new clarity that simply lets a recorded musical performance through as never before—while telling you more about the quality of the transcription medium as well. The new SP11 Mark II is truly the most revealing, yet "invisible" preamplifier ever from Audio Research. And, we think you'll agree, one of the best values in high-end audio. Again. Audition it soon at your authorized Audio Research dealer.
film soundtrack under MIDI control is still pie in the sky.

**Useful Gadgets**

An English firm, **Audio Developments, Ltd.**, was showing their varied line of Port.a.flex battery-powered devices for field recording. All of them measure about 7" wide by 2" high by 5" deep, and the line includes a signal-level and headphone monitoring unit, a distribution amplifier (for feeding one source to several), a high/low-pass filter, an impedance and level-matching interface box, a compressor/limiter, and a dedicated headphone driver. All are configured for easy attachment of a shoulder strap.

Several companies were showing AC-powered stand-alone microphone preamplifiers, but a real surprise was **Lydkraft**'s small line of analog products—two equalizers, a compressor, and a microphone preamp—using tubes exclusively, with push-pull circuitry throughout. (See my report on the Audio Research M300 power amps in Vol.10 No.9 for a discussion of the merits of push-pull circuitry.) Lydkraft's devices may be high-tech tube stuff, but their styling and front-panel hardware were right out of the '50s. All innocence, I asked the attendant why anyone would want to be using tubes in this age of the transistor? "Because they sound better than solid-state gear" was his reply. Right on! Inquiring recordists have been asking us these days, "What's a good mike preamp?" This may be one of them. ($1695).

**Tapetalk**, an English company, demonstrated an ingeniously clever little gadget called the Soundstage Analyzer, which uses a 45°-rotated square matrix of LEDs to display the phase and amplitude characteristics of a stereo pair of signals. The height of the display shows amplitude; its displacement from dead center shows the magnitudes of the difference information. Off-center (panned) mono shows as a vertical line displaced to left or right of center. A stereo signal displays as two diverging lines, with their distance apart indicating the magnitude of their differences, and their height indicating their relative amplitude. Each LED fires at a level 3dB higher than the ones directly below or towards the center from it. In effect, the display tells you the same things an X-Y oscilloscope trace does, but much more clearly and with an enhanced ability to judge magnitudes. The Analyzer will also show signal overload, inadvertent polarity reversal, channel imbalance, group delay, and phase shift at a single frequency. This could be an immensely useful tool for any recordist, but I don't think it will appeal to the toy-crazy pro; it doesn't look sufficiently high-tech.

**Telex Communications** was exhibiting a remarkable little gadget with application potentials far beyond audio. Called the "Magnabyte Electronic Imaging System," it's an 8x5 1/2" liquid-crystal display in a shallow frame, that you place over the light source of a standard overhead image projector. The frame connects via an umbilical to a special circuit board that plugs into an IBM PC. When activated, the device displays data from the computer, and allows the display (via the projector) to be thrown onto a large screen for group viewing. A hand-held wired remote provides page-up/page-down incrementing, and controls picture contrast, "image reversal" (?) and image-off. Monochrome ($1295) and five-color ($1580) versions are available, and the color images I saw were razor sharp and had good saturation.

**TEAC** was showing an LV-200A LaserVision machine which records LV discs! Using special pre-formatted 12" discs, the device uses a low-powered laser to, literally, burn the data onto the special surface material. Because of the disc pre-formatting, every video frame on the CAV blank has a number assigned to it, so you can record individual frames one at a time, at any speed (for time-lapse photography, for instance, or for a collection of still photos that can be accessed one by one) or in any order. The disc can't be erased, but if you goof up and record the wrong thing on a frame, you can lock out that frame from the external controlling computer. Although the LV-200A is a laser/optical machine, it is not compatible with conventional LV players in either direction; neither will play the other's discs. Performance is not equal to that of conventionally produced LVs, either. TEAC claims "over" 300 lines of resolution at standard CAV speed, or 240 at

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1 An X-Y trace is obtained when the 'scope's horizontal input is fed by one stereo signal and its vertical input by the other. A mono signal displays as a 45° tilted line; difference information causes displacements perpendicular to that line.

2 This is the number of vertical lines, from one edge of the screen to the other, which the video system can resolve. Beyond the resolution point, the black lines and their white background merge into a uniform gray.
the LP CLV speed; standard LVs are capable of over 350 lines. The recorder sells for $25,000, the blank discs for $350 each. (A play-only model LV-200 costs only $7000.) Not exactly a videophile's toy, but perfect for the industrial user who doesn't need enough copies of an LV to justify a $3000 press run every few weeks.

Another interesting LV exhibit, which might come under the sub-category of "It's great, but whaddaya gonna do with it?", was the London Time Capsule, an interactive LV combining tens of thousands of still photos and some moving images to show contemporary London, indoors and out. A collaboration of Philips (who makes the player) and the BBC, the two-disc London set is but the first of a planned series detailing major cities all over the world. The whole system, including the London discs, will sell for around $6000 in the US. A bit steep for your average collector!

A firm called Medea Ltd. was showing something that belonged at high-end CES rather than at a professional audio show: the Wadia 4\(^3\) preamp. Equipped with the usual consumer-audio complement of inputs and controls, and probably the only gadget at AES sporting RCA receptacles, it is claimed to use "computer-enhanced digital" on its PCM input, to do what oversampling, digital filtering, and dithering have not succeeded in doing: overcome the objection that "there are just not enough samples on CD for quality sound..." Medea likens its enhancement to "that used by NASA to add detail and resolution to digital video images." I fail to see the similarity. NASA's computers get dozens of different shots of the same image to work over, and use averaging to get rid of noise and transition-steepening to sharpen edges; a CD player gets one shot per sample or, at most, four, and they're all the same. Nonetheless, Medea's approach sounds interesting enough for us to try and get a Wadia 4 for review. The below-0.001\(^\%\) distortion specs are certainly impressive enough. (One thing in their literature sounded a little ominous, though: an announcement that they would soon be making available different processing chips "to match a wide range of audiophile tastes." The audiophile "taste" is supposed to be for sonic truth. How many such truths can there be?)

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3 I'm 4 mother, apple pie, and the flag. Whadaya 4? (Sorry, I couldn't resist that.)

4 The Calrec Soundfield mike is even more versatile, but a "stereo" mike it isn't.

Welcome to the Real World
The film industry, which has the need to record recognizable dialog and sound effects, has discovered coincident stereo miking. One-piece stereo mikes are ideal for on-location recording because they're easy for one person to handle, and their stereo outputs will combine down perfectly to mono, for panning or for final reproduction in mono. At AES several firms—Sanken, Fostex, AKG, Beyer, and Schoeps—had stereo mikes on display. Calrec had a booth, but were promoting an automated mixing system. Their legendary Soundfield mike was hidden, like a retarded heir, well in the background—in its carrying case on the floor behind a large console. It had apparently been brought to the show just to prove to skeptics that it exists.

Of all coincident stereo mikes, by far the most versatile is the M-S variety,\(^4\) which delivers a sum (middle) and a difference (side) output, whose relative amplitudes can be changed in order to vary the stereo spread and the mike's apparent distance from the source—after the recording has been made. (I will be reviewing an M-S mike from Fostex next month.) Audio Engineering Associates was showing two M-S Matrix boxes which can utilize this feature, even from recordings made with other kinds of coincident mikes. The MS380TX, which includes a two-channel mike preamp, accepts the M and S outputs from an M-S mike, allows for relative adjustments of their relative amplitude, and matrixes them down two stereo outputs. The MS-38DM can do much the same thing with conventional sources. It separates out their mono and stereo components, allows the same kind of control over them, and re-matrixes them back to stereo. Compact and light enough for field work, AEA's devices can be battery powered, but are not easily fitted with a shoulder strap.

Minim, the sole manufacturer of consumer Ambisonsics decoders, was at the show trying vainly once again to persuade visitors that their multi-channel system isn't just another manifestation of dread quadraphonics. Visitors seemed neither to notice or to care. I can see why AES types wouldn't be interested; if you can't use realistic sound reproduction for TV or cinema, what good is it? But I think it's
More and more sound engineers are taking our Professional Series equipment out of their homes and into sound studios, night clubs, even concert halls. Because, right out of the box, our top-of-the-line audiophile gear meets the specs of these demanding applications.

Take our Professional Series Alpha-650 power amplifier. It delivers 300 watts per channel (650 watts mono) through rock-stable hybrid Class AB circuits. Input is via balanced-line XLR or RCA-type connectors. There's electronic protection against shorts, overheating, and stray DC. And our Professional Series EQ-30M Mono Equalizer and CO-23 Active Crossover Network add 32 bands of equalization, plus 22-point crossover capability, for taming virtually any listening space.

For a thorough demonstration of our Professional Series line, simply visit your local Nikko dealer.

Or, better yet, just take in a concert.
synchronizing of remote sync.

Stereophile, shows, emphasizes, World

automated puts 5 CDs!,

circuitry differ, like nector table.

viewed power unit, different kinds of CD players and power supply unit, has every feature a pro user could want except editability (you still need an external unit for that). It has three sampling rates, automated high-speed search for several different kinds of user-placed markers, digital inputs and outputs (yes, it will copy unprotected CDs!), automatic or manual subcode numbering, wired or wireless remote control, line-voltage selection for US, Japanese, or European power sources, switchable pre-emphasis/demphasis, and 4x oversampled D/A conversion. The portable, just a little larger than The World Almanac and Book of Facts, has most of the same features as the 2500 except for remote control. But it has something the tabletop model doesn’t: the ability to record synchronizing timecode information along the tape, to facilitate post-production editing. Neither deck is exactly cheap, though. The tabletop is expected to sell for $5000, the portable for $7000. Maybe after they sell half a million of them they’ll be able to lower the price.

Sony also makes a dedicated U-matic video-cassette deck for use with the latest version of their flagship PCM mastering processor, the 1630 (reviewed in Stereophile Vol.10 No.5 by MC). This has additional “confidence heads” that can take a second reading of each signal pass. In playback, the second head set can often restore data integrity when the first set misreads something; when recording, the second head pair can be used to monitor the recorded signal right off the tape, immediately after it has been recorded—a feature of all pro analog recorders, but one rarely found in video-format PCM machines. Also on display at the Sony booth were a number of DASH recorders—Digital Audio Stationary Head machines, which record longitudinally on ¼" or ½" tape. It’s not all that new a format, but it has now been adopted also by Studer, TEAC, and Matsushita. What’s unusual about DASH is that it will accommodate up to 48 parallel signal channels, allowing for the kind of cross-copying that pros love to do, without the inevitable quality losses that this sort of thing caused on analog tape. DASH machines include several sophisticated timecode synch functions, and also allow for electronic editing, without the need for an external editing controller (as is necessary with video-based PCM systems).

### Recording Systems

In the field of mastering recorders, there was no sign yet that analog is dead. Every recorder manufacturer was showing at least a few analog models among their digital lineup, and Studer even introduced two new ones, including a professional tabletop cassette deck. Their A-809 ¼" open-reel analog unit features microprocessor control of all transport, audio alignment, and switching systems, vernier speed adjust, digital setting and storage of tape-alignment parameters, RS-232 and parallel interfacing ports for external computer control, phantom-powered mike inputs, a built-in monitor speaker, and illuminated VU meters as well as peak-reading LEDs. The A-721 cassette deck appears to be based on the superb transport that was in the B-215 I reviewed some years back, and in fact differs from it mainly in that it uses professional input/output plugs and includes a dB-25 connector port to allow for remote control of most functions.

Sony was showing two professional DAT machines, including a battery-operable portable. The tabletop PCM-2500, which looks like a stacked CD player and power supply unit, has every feature a pro user could want except editability (you still need an external unit for that). It has three sampling rates, automated high-speed search for several different kinds of user-placed markers, digital inputs and outputs (yes, it will copy unprotected CDs!), automatic or manual subcode numbering, wired or wireless remote control, line-voltage selection for US, Japanese, or European power sources, switchable pre-emphasis/demphasis, and 4x oversampled D/A conversion. The portable, just a little larger than The World Almanac and Book of Facts, has most of the same features as the 2500 except for remote control. But it has something the tabletop model doesn’t: the ability to record synchronizing timecode information along the tape, to facilitate post-production editing. Neither deck is exactly cheap, though. The tabletop is expected to sell for $5000, the portable for $7000. Maybe after they sell half a million of them they’ll be able to lower the price.

### Replicating Equipment

When the new DAT cassette system was announced, industry observers were quick to point out that the prerecorded tapes were going to be very expensive because there was no way of mass-producing them. Now there is. In fact, Sony was showing two DAT duplicating systems, one using up to 50 slave decks for real-time duping (and priced at $250,000), the other (for only $600,000) using a scaled-down version of Sony’s Sprint duplicator. Originally designed for videotape duplicating, Sprint is a contact-printing system which transfers the image to paper or film and is capable of producing up to 1000 copies per hour.

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5 James Boyk, our piano virtuoso for the last two Stereophile shows, told me the sound quality from the mike itself isn’t all that great, possibly because of the all the extensive active circuitry needed to use it. A high-end electronics manufacturer I talked to later said they might be interested in “making a crick” at cleaning it up. Calrec, are you interested in getting your mike cleaned up?

6 Developed at a time when Beta’s popularity was declining, and not usable for copying VHS cassettes, Sprint’s half-million-dollar price attracted few buyers.

Stereophile, January 1988

67
Every once in a great while a product comes along that offers performance which rises above the current variety of clever designs and marketing hype. When this occurs the new level of performance achieved can be readily heard by both the ardent audiophile and the novice listener.

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

Oh yes, the price for such glorious performance? Well . . . that's even more remarkable.
magnetic patterns from a mirror-image master directly to the surface of the blank tape. The master tape's oxide formulation requires a strong field to magnetize it; the duping tape requires a relatively weak field. The two tapes, with their oxide surfaces in firm physical contact, are passed at highish temperature through a magnetic field which is strong enough to cause the master image to transfer to the copy tape but not strong enough to demagnetize it. The magnetic energy transferred to the copy comes from the external field, not from the master, so the mirror-image original loses none of its magnetism in the process.

Optical Disc Corp. makes a unique CD mastering system that checks each data byte immediately after it is recorded on the disc. If it detects a write error, it sounds an alarm and gives a readout indicating the severity of the glitch. Thus, a bad master can be scrubbied partway through the "cutting" process, without having to record it to the bitter end, plating it, and then playing it through before finding it is defective. The "secret" is a special coating applied to the blank glass disc prior to mastering, which allows the disc to be played without a reflective metal coating. Normally, a CD can't be played until after that coating is added.

Automation has taken over CD and compact cassette production, too. Heino Ilsemann, a German firm, displayed a Rube Goldberg contraption which does all the final packing steps of CD production. It inserts the disc-clamp hub piece, the brochure, and the album "cover" in the jewel box, then loads the CD and closes the box. All automatically, and at an astonishing rate of 3600 units per hour! Several firms were showing cassette loaders, which cut the tape from a large supply reel, splice it to the leader tapes, and wind it into the cassette housing, all at a rate of up to 600 units an hour (the claim of King Instruments Corp. for their fastest model). Some will even load prerecorded tape, cutting it and fastening the leaders at marker points recorded on the tape.

Several high-speed cassette duplicators were on display, and Gauss was running one of theirs to show how speedily and reliably it could move the master tape. Running at speeds of up to 480ips, it can't use capstans, pinch-wheels, and reels for master-tape handling; instead, it uses a large suction-surfaced wheel as the "capstan," and a flat, glass-covered table for tape storage. After coming off the play head, the tape is blown through aerodynamically shaped channels into the storage area, where it gathers in loose loops, all of which slide gradually across the table until whisked back out for another pass across the heads. It looks as if the un-tensioned tape should get hopelessly snarled, but it works. The slave decks, on which the copies are made on ½" tape, use a 1"-diameter and a larger pinch...
May you have found an aragon under your tree.

Season's Greeting
wheel to run at up to 240ips, but no flanged reels are used; the tape is loaded as a naked “pancake” on a hub.

How's-That-Again? Department
I'm not sure it's because no one knows how to communicate any more, or because pseudo-science is rearing its fuddled head in professional audio circles, but the following products struck me as being very dubious bets, at least on the basis of their literature:

The Publison Fulmost, a dual de-esser (sibilant tamer) with something called a “dual relief enlarger,” is intended to pull a vocal line out of a turgid mix. The relief enlarger “adds to the original sound a relief component which is obtained by delaying harmonic components of direct sound.” Maybe there's something to it, but you'd never know from Publison's explanation of it.

Not new but still around is a recording process called Holophonics, invented by a Dr. Hugo Zuccarelli, which claims to reproduce all the spatial and directional qualities of the original sound by recording them without using a microphone. Yep, that's what they claim. Instead of a mike, “a proprietary sound processing technique is used which captures . . . the information traveling from the ear to the brain in the recording environment.” A firm called 27th Dimension, Inc. was promoting a library of what are said to be Holophonically recorded music and sound effects on CD for TV/film post-production, and I picked up their sampler disc. The sound was actually excellent, albeit totally devoid of deep low end, but the stereo was variable—in many cases, obviously panned mono. The music, for film and TV production, was described as “expertly recorded at one of the nation's leading studios.” They were already set up to do it without microphones, I suppose. If I hadn't been hearing this sort of nonsense about some high-end audio products for the past ten years, I would have been shocked!

All in all, had I gone to AES with the single-minded purpose of seeking out audiophile products, I would have had to consider the time ill-spent, if not entirely wasted. There was little aimed at or of interest to us. But the time was not wasted. My visit was educational, at the least, if only because I now have a better understanding of why so many rock/pop recordings sound so blah. How can some reviewers rely on this stuff for equipment evaluations? It has been processed to death. On the other hand, I couldn't help coming away from AES with some feelings of envy for the people who are actually paid good money to play with all those fabulous toys. Oh, well . . .

Stereophile, January 1988
Featuring a host of firsts, beginning with the new MDT-33, Morel's high-efficiency double-magnet tweeter whose frequency response falls within an incredible $+/-0.6\text{dB}$.

Paired with the MW-164, Morel's long-throw double-magnet woofer, making its debut in a cabinet system.

Followed by the cabinet itself, a radical rhombic design angled up for greater depth and imaging.

*Duet* is pure Morel, and pure performance, from its Hexatech voice coil to its drivers.

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in search of
BLACK DIAMONDS

Where is Bay Area Black Vinyl?

Kevin Conklin hunts for the elusive LP in Northern California

Editor's Introduction: As can be seen from the "Letters" section in this issue, some readers feel that Stereophile is doing the cause of high-end audio a disservice by reviewing CDs. My philosophy for the magazine's record coverage is that it should review the kind of record that its readers can easily buy, records which are accessible and which contain good sound, records from the major artists who record music worth listening to. (It has been a long time since JGH first propounded "Holt's Law".)
The DARK STAR™ by Simply Physics

This simple phono system is engineered to retrieve the musical information stored on your records without introducing noise or resonances from the turntable or listening environment. That's all it does.

Highlights:
- Multi-layered hardwood chassis internally damped with 20 lbs. of lead.
- One-inch machined acrylic platter.
- Spring suspension system lies outside of the armboard-platter perimeter for maximum stability.
- Includes the highly rated I.S. Technology air bearing tonearm.
- Fully welded Star Base Stand provides stability, isolation, leveling, and convenience.

Complete DARK STAR™ Phono System $1250
Made in the U.S.A.
Write or call for additional information.
that the better the sound, the worse the performance, and vice versa.) I don’t feel it helpful only to cover the arcane and the obscure just because the recorded sound is outstanding—how many well-recorded drum or flamenco records do we need, anyhow?

Unfortunately, therefore, for those of us who still feel that there is plenty of high-end life in the old black disc, this policy dictates that Stereophile’s record coverage can’t help but reflect the fact that, at least as far as classical record retailing is concerned, the LP is almost defunct. It didn’t take ten years for the CD to dominate the market, as was suggested at the time of the launch of the silver disc in Japan, back in October 1982, but just half that.

Not only are record companies surprised when Assistant Editor Richard Lehner asks for the LP version of a recording for review, they often can’t supply the LP until considerably after the CD release, if at all; retailers seem interested only in the silver version. What RL has done, therefore, is to commission a series of articles to appear in Stereophile looking at the continuing strength of the LP in record stores, covering the US region by region. In this first piece, Kevin Conklin looks at LP availability in the Bay Area. Future articles will examine the fate of the LP in the New York-Boston axis, in London, England, and in the Greater Los Angeles area. —JA

If the situation in the San Francisco Bay area reflects conditions elsewhere, these are bad times indeed for the vinyl Long Playing record. Compact Disc has apparently won its marketing war with LP, consumer acceptance of the medium is excellent, and inventories of new vinyl are dwindling at even the most musically enlightened mass-market outlets, as well as in many ardent and struggling specialty shops. This is especially true in classical record sections, where Stereophile readers do most of their shopping.

However, if there is one thing that characterizes the Bay Area, that is its tendency toward diversity—some would say extremism—in points of view. One can find here sensibilities ranging from the richest Marin County and Silicon Valley Yuppies to folks of modest income in Oakland and the East Bay. Where one shops for music determines the market demand for, and therefore the availability of, a given title in a given format. In general, the closer to San Francisco a record shop is in location or in viewpoint, the more likely it is to try to carry significant LP stock.

San Francisco

The city of San Francisco is grand and beautiful, perhaps a little past her prime, and represents a surprisingly small percentage of the Bay Area’s population. San Jose is already bigger; Silicon Valley as a whole dwarfs her by comparison; and even Concord, Walnut Creek, and environs aren’t far behind. Nevertheless, San Francisco remains “The City,” a magnet for Illuminati, be they from business, the arts, or university. In San Francisco, there exist of course the mass marketers (Wherehouse, Rainbow, et al) who sell primarily the Top Fortiest of recordings, mostly on CD, and mostly from small boutiquey stores with little shelf space, for which the monthly lease rivals the health and welfare budget of some Third World countries. The real record is to be found, however, at the Tower Records stores! Most serious record buyers get new Classical records at one of the five Tower stores in the Bay area, and the San Francisco store generally has the best stock of the five.

CD titles already outnumber LPs by almost two to one, according to Kathleen Fitzpatrick, classical buyer at Tower SF. This is not, she explains, primarily the result of any Tower policy. “It’s unusual that we delete a title on our own. We continue to order everything that’s currently available. We want to service the customer.” This has become quite difficult since some record companies, notably Angel and PolyGram, have made massive cuts in their LP catalogs. Angel, in fact, releases almost all new issues solely on CD. CBS, by contrast, “has been marvelous at keeping vinyl in stock. So has RCA.”

What does this all mean for Fitzpatrick’s customers? “It makes music unavailable to a lot of students and young people who can no longer afford great performances.” She cites

1 For those of you who do not live on the West or East Coast, Tower Records is the model of what a large, mass-market record store should be. Headquartered in Sacramento, 80 miles northeast of San Francisco, Tower concentrates 45 larger, diversely stocked stores into select locations throughout California, in certain East-Coast cities, and, with their London store, in Europe. They almost uniformly have good classical, jazz, and ethnic as well as pop record stock. Tower manages to serve all but the most esoteric tastes, without catering to the lowest common denominator. As a result, Tower dominates California’s serious record-buying market.
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QUEBEC H2W 1T2
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TEL 1514 8457159
as an example the mid-priced "Angel Voices" opera series, which sold well while available, but has since been deleted in the US. She points out that these aggressive deletions are being made by Capitol in Hollywood, not by British EMI. The LPs that customers want are often still available from the UK, but the expense of special-ordering the import is too high for many buyers. "People are still looking for vinyl. I think a lot of major vendors have done a real disservice to consumers by deleting furiously."

A glance at the Pop music department at Tower indicates that vinyl is holding its own much better there. This makes economic sense, considering the young age and smaller income of the average Pop record buyer. It seems natural that the pricey CD medium be pushed first in the more affluent Classical market.

What about other stores in San Francisco? Tower's success is quite telling here; other mass marketers such as Rainbow and the Record Factory typically have much less Classical stock, with mostly current issues and warhorse repertoire on their shelves, and an even higher percentage of CDs. Smaller, independent retailers of all kinds of records are having an even tougher time. One example is Revolver Records, which has sold new and used vinyl—mostly rock, ethnic, and avant-garde—from the same location on Clement Street for over ten years. Reports owner Billy Rhinehead, "I don't carry new CDs because they're too damned expensive. I don't do enough quantity to get a price break. That means they're $9 to $12 dollars dealer cost." Indeed, the upper end of his cost is more or less the low end of Tower list price for Pop CDs, so Rhinehead is at a serious disadvantage. For the time being, he will concentrate on the used-record side of his business, where he already offers about 250 used CDs, selling for $10-$12 apiece.

Berkeley
Across the Bay in Berkeley is a Happy Hunting Ground for the record buyer. Within a few blocks of the corner of Telegraph and Bancroft, off the University of California campus, can be found a Tower Records store dedicated to classics; a lovely Classical record store, The Musical Offering; and a used-record store called Rasputin's, with an unusually fine selection of Rock, Jazz, and Classical. But despite its intellectual energy, reputation for eccentricity, and the presence of all those students, the CD wave has hit Berkeley even harder than San Francisco. The classical-record buyer at Tower Berkeley reports a CD to LP unit ratio of three to one (though what I saw on a visit to the store suggested a smaller ratio). Whatever the real stock, the reason for CD's dominance is still hard, cold economics. Customers buy 50% more CD units than LP at the Berkeley store. As to margin, there's really no contest: because of the larger markup, their dollar sales of CD are three times those of LP. "That's just where the interest is," reports the buyer. "There's only been one day since we opened that LPs outsold CDs, and that's because of a sale."

One staffer at Berkeley also brought up an interesting point about CDs returned as defective by customers. He allowed that, while CDs have a significantly smaller return rate than LPs (for which the rate isn't significant anyway), most "defects" actually reflect the inability of a given CD player to play a given disc. This presents a bit of an ethical quandary: Should the merchant, who has taken the CD back from the customer, played it on his own machine, and found nothing wrong, place the returned item back on the shelf to be bought by a new customer, who in all likelihood will have no trouble with it? Or should she go through the trouble and expense of sending the CD back to the manufacturer, who presumably will put the disc "under the microscope," determine it to be faultless, and ship it to another retailer?

The Musical Offering is an independent store run by committed and musically sensitive people, carrying exclusively Classical recordings, especially of early and Baroque music, and selling light food and drink to those who shop there. Situated directly across the street from the campus of one of the world's great universities, it draws upon one of the most discriminating and enlightened marketplaces imaginable.

Yet this store is in the process of eliminating vinyl records from its shelves. Stock has gone from primarily LP several months back to over 50% CD now. "We were trying to stock LPs, but nobody seemed to be buying them," asserts Jean Spenser, one of the proprietors. "We had a 40%-off sale for weeks, to try to move them, to raise more money for CD buying." Spenser makes this report with no sense of glee, for her husband, Joseph, runs in his spare
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time a small record label called Wild Boar, specializing in analog recordings of Baroque keyboard music. Lena Shelton, an employee at Musical Offering, has an explanation for the phenomenon, again based on marketing and economics. "People are addicts—junkies about it (CD). There's an allure to them. Very clever packaging. They're not just buying music."

The East Bay Suburbs
Fifteen miles east of Berkeley, in the Contra Costa County suburbs, is another Tower outlet at Concord, a burgeoning city of about 100,000. More than any other place in the Bay Area, Contra Costa is the kind of place where a typical slightly-above-middle-class American might settle. The Tower store here does a creditable job of accommodating its different customers (mostly teenage rock buyers and Classical record buyers older than teenage). There is good Classical stock, with much more than basic repertoire. It is also here that the victory of CD over LP in the Classical mass market becomes even more clearly apparent: the CD to LP ratio is three to one and increasing. There is simply not enough shelf space for the lower-margin items, and even the popular LP clearance racks—full of issues deleted from the Classical catalogs—are being sacrificed in order to make more space for CD.

Two blocks from Tower Concord is Sound Distinction, a good audio store catering to high/mid-fi tastes (Dahlquist, Yamaha, Polk, et al) and known in the past for stocking several racks of the best analog records (BIS, British EMI, Lyrita). When I visited the store, coproprietor Chris Channel was in the midst of a 40%-off-retail LP sale, designed, much as Musical Offering's promotion, to raise capital for CD stock. It seems that in Channel's marketplace—audiophile but not the very High End—CD is king, LPs accounting for less than 5% of sales. Channel "regrets seeing it happen," but business dictates that Sound Distinction delete LP.

South Bay and Silicon Valley
Silicon Valley, to the south of San Francisco in Santa Clara County, is as much a state of mind as a geographic location. The economic and ideological influence of all that semiconductor wealth extends at least as far north as Menlo Park and Palo Alto, across the San Mateo County line from Stanford University, and south to San Jose and beyond. Here CD is even more dominant than in Contra Costa, in part because of the area's technological orientation.

Duff GAINey is the owner of Classical Wax, an established, independent store in Menlo Park specializing in Classical and traditional Jazz records. He is in the process of reducing LP stock to 150 or so pieces of the standard repertoire from the major companies, plus Chandos, Harmonia Mundi USA, and Lyrita. He plans, however, to stock every CD issue in the current Columbia, PolyGram, and EMI catalogs, and is installing a computer system to assist in that goal. Again, the reason is the desire of his clientele. "The person who was heavily into vinyl three or four years ago is now heavily into CD." He sees another factor: his region's worship of technology. "Because of our proximity to Silicon Valley, our area is on the cutting edge of technology. I could sell DAT if it were available."

GAINey says that some of his customers do complain about the unavailability of certain LPs, especially from specialist importers. Audio Source (importers of Accent, Pierre Verany, and Proprius) has left the analog LP business entirely, and the folks at Harmonia Mundi USA, for a long time staunch analog holdouts—they still stick with analog recordings from which to master CDs—are making mass LP deletions. Even fewer classical cassettes are available. "The companies are taking out full-line tapes, and replacing them with Walkman-type EP tapes, where sometimes not even the artist's name is credited. It's very lucrative."

Tower runs a store at Campbell, near San Jose. It was here that I encountered the only self-conscious program in the Tower chain to phase out classical LPs, in less than five years. Buyer Jo Green reports that CDs already outnumber LPs on her shelves by nine to one. She confirms, as did almost every other Tower employee interviewed, that this mix of stock is strictly her decision as a Tower buyer, in keeping with the corporate office's policy of giving the local store autonomy in choosing the merchandise that best serves its customers.

The Future of the Business
What does all this mean for the future of the recording business? If the Bay Area is any guide, it would seem that the marketplace is becoming polarized. I found it quite striking to hear retailers at stores in Berkeley, San Fran-
Electrostatic. Ribbon. Planar magnetic. These well known transducer designs have accounted for some of the greatest loudspeakers. But while each has undeniable strengths, each also has its own unique faults.

The Linear Field Transducer by Eminent Technology, introduced in the model LFT-3, represents a new approach to the planar loudspeaker — one that builds on the strengths of its antecedents while eliminating many of their failings.

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More important than technology, though, is the matter of musical performance: Does the LFT-3 represent a step forward in making reproduced sound more realistic? We sincerely believe that it does — and at a price ($2700/pair) that should commend it to the attention of many serious hi-fi enthusiasts.

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 companies, in their rush to get material out on CD as soon as possible, have dug deep into their catalogs, reissuing on CD great recordings by the likes of Furtwangler, Erich Kleiber, Reiner, Munch, Knappertsbusch, Walter, Hornerstein, and Klemperer. Some of these recordings haven’t been available in any format in over 20 years. This wealth of historical riches may be short-lived because of the market demands of the DDD group. The only consistent complaint I heard from retailers about CDs being returned for refund was about historical (therefore analog-sourced) recordings returned by customers who felt cheated at not getting a “digital” recording. (I understand that the Musical Heritage Society has had similar problems with customer acceptance of analog-sourced CDs, and as a result has engaged in an educational campaign to explain the difference between DDD and ADD.) Thus the logical outcome of full market acceptance of digital may be the rapidly decreasing availability of even great performances recorded before 1980. Lena Shelton of Musical Offering explained it most poignantly: “People are into this idea of perfect noise. They don’t care who’s conducting.”

Whatever your opinion of the relative merits of CD and LP, recent developments in the Bay Area—and in the rest of the country—as far as I can determine—reflect the grand and overwhelmingly successful deployment of marketing forces even more than technological forces. It is hardly news that the objective merits of a technology (and few would argue that the Compact Disc brings some enormous benefits) often take second place to the manner in which that technology is presented to the masses. In no case did a merchant report that a store’s inventory decisions, or its customers’ buying decisions, were made because CD reproduced greater performances, or an aesthetically finer representation of music. Those are the kind of justifications one finds mostly in glossy media organs. With this as fait accompli, the actions left to educated listeners are few, since we cannot change the fact of the market. My suggestions are two: buy used and clearance LPs before the prices for these “collector’s items” skyrocket; then turn your attention toward making the CD reality into an advantage by buying only those digital discs which are faithful in sound and notable of performance.

Stereophile, January 1988
Our Modular Preamplifier System maximizes the Boulder 500's sonic clarity.

Boulder Amplifiers continues the tradition of providing professional 990 amplifier stages in a preamplifier / power amplifier combination designed especially for the music lover's home.

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To find out why Boulders are the choice of professionals and home music lovers alike, call or write for a brochure and dealer nearest you.

The Boulder 500 power amplifier delivers 150 Watts stereo or 500 Watts mono into 8 Ohms. $2875 suggested list. Your investment in the Boulder Modular Preamplifier System varies according to the modules you select.
Once again my plans have come to nothing. I had intended to rebuild my main system along the lines suggested in last month's column, suspend my disbelief, and finally come to grips with the weird and wonderful world of Peter Belt's audio accessories. But events intervened, in this case in the form of some unexpectedly tight deadlines for a review project involving turntables and arms. So in its place, I thought we'd have a quick canter around 1987 to see what was as viewed from right here in London, England. Warning: This view is highly selective.

The 1987 Non-Event of the Year Award, of course, goes to digital audio tape. After predictions from some quarters as recently as a year ago that those people who had invested in CD plants were about to lose their shirts, DAT itself floundered. The Japanese launch flopped, while the record industry put up a rabid enough anti-DAT barrage in an increasingly protectionist US to ensure that its very future is now in some doubt.

But it also seems plain enough that, even without the politics, DAT is on a sticky wicket. The arguments have been rehearsed many times, here as well as elsewhere. DAT is a superb tool for the outside broadcaster, and for a whole range of specialist and domestic applications. But it's not a long-term answer to the undoubted problems of compact disc. The Cambridge Audio CD2, discussed in Vol.10 No.7, comes a lot closer to providing some real answers, and incidentally is my personal choice for CD Player of the Year.

DAT is also far from being a suitable substitute for the volume end of the cassette trade, which consists mainly of car players and personal stereos. Some wildly enthusiastic notions were floated about how cheaply the DAT hardware and tapes could be made once production was in full swing. As it turns out, the second generation of DAT recorders now on the market in Japan (in those dealers' who managed to clear their shelves of the first!) cost as much as or more than their predecessors. Later ones will be cheaper, but forget cheap. DAT is going to remain in the yuppy class for a long, long time.

One of the jobs I've just completed is to test a group of personal stereos, some cassette- and some CD-based. Probably the most striking feature of the sound of these little beauties, all up-market machines in their own rights, was the ruthless way they murdered every vestige of dynamic range. Those inconveniently knobby bits in the music were nicely flattened, and the level of compression was enormous.

I mention this mainly because I had a call the other day from Dolby Labs re. my remarks in Stereophile a few months ago on the degradation in the sound of many cassette decks when Dolby noise reduction was switched in. They added a little snippet I didn't know about at all, which is that increasing emphasis on personal stereos in Japan has meant a rocketing demand for low-power, low-voltage ICs and microprocessors of the kind that can work from a portable power supply. In turn, it seems that, in the spirit of reducing parts inventories, many of these, including Dolby chips, are finding their ways into mains-powered cassette decks. Guess what the effect on the sound is? All together now...

All this is on the way to introducing you to the Sony TC-K700ES cassette deck, which definitely doesn't have a problem in this direction, and which gets my vote as Cassette Deck of 1987. By one of those supreme ironies, Sony chose to announce the 700 in the same press pack that announced their first DAT recorder available in the UK. That was about two or three months ago, and none of the DAT recorders appear to have made it into the shops. But you can buy a TC-K700ES. (The price in the US is, coincidentally, $700.)

I came across this new model a few months ago, and was impressed by what, on the face of it, was clearly one of the very few designs developed to meet an audiophile brief, yet did not answer to the name Nakamichi. Yes, there are a number of very elaborate decks on sale with fancy circuitry, fancier gadgets, and even fancier prices, but I'm aware that few of them offer sound quality of a standard to match their evident ambitions. The Sony is anything but complicated; indeed, by Japanese cassette-deck standards, it is almost minimalist. You
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might say it shows true British restraint and good taste. But it’s much more important to note that it’s a surprisingly convincing recorder. When they pull their fingers out, Sony can still cut the—oh, damn it, what’s the expression? Mustard? Cake? Atmosphere? Links between religion and state?

These are the features you won’t find on the TC-K700ES: twin mechanisms for high-speed dubbing, auto reverse, or Dolby HX Pro. For reasons best known to themselves, Sony hasn’t bothered with such routine up-market decoratzia as an automatic tape-alignment system. It goes on: no track search, no auto azimuth, no mike inputs, and more. Or less.

What you’ll find instead is a solidly engineered case in which a superbly built dual-capstan transport is placed amidships in a manner calculated to minimize microphony. A sophisticated and well-rated power supply sits with the transport electronics to one side and the audio electronics to the other, the quartz-referenced transport acting as an effective bar against the possibility of nasties being induced into the vulnerable low-level circuits (the technical language is unavoidable).

The Sony is a three-head deck, of course, the tape/source switch making it very easy to adjust the simple variable bias and sensitivity pots to match the source feed balance. The rest consists of high-class, wide-ranging meters, auto tape-type recognition and superb ergonomics, all tied together with the usual standard of feel associated with this brand.

Maybe you still figure Sony to be an unlikely hero in a magazine devoted mainly to esoterica with unpronounceable names from parts of the world you’ll certainly never visit. The Sony is not esoteric; on the contrary, it’s realistically priced and very practical, as well as being visually in keeping with the mainstream audio market. But it does work. The ability of the deck to stop and start with alacrity—and this applies especially in the bass—was a revelation for the cassette medium. The same applies to stereo imagery, of which the deck has an almost turntable-like depth and specificity. The electronics flow, dynamics happen as they should (with the higher-bias tapes at least), and the top end is airy and precise. Altogether, I walked away from the Sony with the clear impression that it was the outcome of a process concerned with musical ends, and not just with the usual bottom line. There’s less calculation in this cassette deck, and more commonsense engineering.

What else impressed? As a confirmed Apogee lover, I was well taken with the Caliper, which, it seems to me, is not a scaled-down anything except in looks. In fact, I felt its bass quality was rather better integrated and faster than the Duettas. I don’t know any of the other Apogees well enough to make any further comparisons, but I was gratified at a recent show to see the first Apogee loudspeakers with proper, solid, spiked stands which also allowed the speakers to stand upright. It wouldn’t have been gratifying, I suppose, if they hadn’t so clearly benefited from the mod.

Another highlight was the day I powered up after finally managing to change my Roksan turntable for a brand-new one, the original having been purchased a year or so ago when the deck was all but new. The difference between the two is little short of phenomenal, though it is plain that the sound of the new deck is in a direct line of descent from the first. Sometime in the next month or so I should be in a pretty good position to tell just how the Roksan, and others like the Linn, shape up against some of the more esoteric turntables now available; I’ll leave this subject up in the air for now.

Which brings me to my final fling—you guessed it, a tuner. The British Fidelity T1 will bring tears to your eyes. Anyone with a memory long enough to recall the original Sequerra or Marantz 10B tuners and regret that they can no longer buy anything equivalent will be much taken by this much more affordable throwback. We’re talking about an FM-only tuner, manually tuned using a well-weighted edgewise tuning knob. You tune using a center-tune arrangement cleverly configured to give an indication of signal strength. The tuning dial is long and well-calibrated, and when lit up this must surely qualify as one of the finest and most elegantly designed items in the hi-fi trade.

It’s taken almost to excess—there’s no mono switch on the tuner or the matching amplifier, evidently because it would spoil the lines of whichever it was fitted to. In the true spirit of British compromise, I’ve suggested a switch on the back; in the meantime, it sounds nothing like most synthesizer tuners. In fact, it sounds very nearly as good as it looks, which is almost as strong a recommendation as you get.
In less than a decade, high-performance cable has emerged as a critical component in any quality audio system. Since the early-1980s, MIT has been the acknowledged leader in superior audio cable. This audible superiority results directly from leading-edge computer design capability, rigorous testing and a unique understanding of the physics of cable performance.

MIT cable delivers neutrality, clarity and precise focus because it is designed to virtually eliminate "phase noise". Phase noise includes all forms of frequency and phase instability, and is an inevitable by-product of audio cable that is not phase correct. In fact, all other audio cables suffer significantly from phase noise. Only MIT cable is designed to be truly time aligned, phase coherent and thus, noise free. The result: MIT cable does not alter the sound as do other audio cables.

In a dramatic comparison of MIT's superiority, MIT ran head-to-head tests of one-meter lengths of MIT MI-330 vs. solid-core straight wire, employing a sequence of music tone bursts. Despite past regard for straight wire, and some observers actually recommending its direct application in audio cable, comparable lengths of straight wire simply cannot compete with MIT cable on crucial phase noise performance.

These test graphs, which illustrate only one of a series of music tone bursts, provide visual proof of MI-330's overwhelming phase noise superiority. From the instant each music tone is retriggered, MI-330's defined transmission is obvious. Equally important is what occurs before each music tone starts. This brief but critical time segment (to the left of the arrow in the exploded view) is supposed to be absolutely quiet.
Note that MI-330 is essentially quiet just before each music tone starts, as any audio cable must be for sonic accuracy. The length of solid-core straight wire, like other cables which are not phase correct, is noisy when it should be quiet. It is victimized by phase noise—stored energy which overrides and literally destroys quiet passages. Simply, true quiet passages cannot survive through incorrectly designed cable!

By comparison, MI-330’s quiet passages and clearly defined wave form mean that the music starts and stops exactly when it is supposed to, yielding a more holographic sound stage, intertransient silence and minimal distortion.

MIT now offers unequalled neutrality, clarity and precise focus in two cable families: MIT and PC-SQUARED. MIT is simply the finest audio cable money can buy, and includes the top-rated MI-330 interconnects and MH-750 Music Hose speaker cable, MH-650 Junior Hose and the remarkable limited edition MI-330 Shotgun and MH-750 Shotgun cable series. PC-SQUARED provides exceptional performance, approaching MIT, but at a reduced cost in PC-2 interconnects and PC-18 speaker cable.

Minimal phase noise is but one significant advantage of all MIT products. For more information on MIT and PC-SQUARED product lines, and a more technical discussion of phase noise, please write for data to:

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While brushing my teeth this morning, it occurred to me that there are significant similarities between a toothbrush and a tonearm/cartridge. The bristles would be analogous to the cartridge and the brush handle to the tonearm. In either case it is the business end of the device that does all the work. The bristles track the contours of your ivories in search of hazardous waste deposits, while the cartridge tracks the record groove transducing wall modulations into an electrical signal. I think that this is where the old adage came from: "A used cartridge is like a used toothbrush—nobody wants one!"

Because of the obvious importance of the cartridge in the scheme of things, it has been the subject of intense development and technical innovation. High-tech flourishes such as boron- and diamond-tube cantilevers and exotic stylus footprints are commonplace today, all of which serve to justify the steep asking prices of cartridges. But what about the tonearm? Just how sophisticated does it need to be and how difficult could it be to design a competent arm? This is a fair question: the price ratio of some high-end tonearms and cartridges is at least two to one. For example, for the price of the Wheaton arm you could buy two Monster Cable Genesis 1000 cartridges or one of these cartridges and a Well-Tempered Tonearm.

To compound matters, there is no universal agreement as to the important functional specifications of a tonearm. The technical simpleton will tell you that the sole function of a phonograph tonearm is to support and carry a cartridge in the proper position relative to the record at all times. I'm sure you've met this sort of guy at a party sometime. He's the fellow with the black shoes, white socks, and at least four pens in his shirt pocket. He's likely to be hanging around the punch bowl eating all the celery sticks. And there's no point arguing with him because he is obstinate and partially right. Geometrical considerations are important, and the tonearm should transport the cartridge so as to fairly closely duplicate the geometrical relationships between groove and cutterhead stylus that existed during the mastering process. This means that the tonearm should allow you to control lateral and vertical tracking errors.

Lateral tracking error is the angle in the horizontal plane between the groove, or the direction of motion, and the cantilever. Vertical tracking error is the difference between the angle which the stylus makes with the vertical when slightly lifted (the arm remaining stationary) and the angle at which the master
was cut. Because a pivoted tonearm swings an arc across the record toward the spindle, it is incapable of providing precise groove tangency. Not only that, the lateral tracking error depends on the position of the stylus across the record, increasing toward the inner grooves. It is possible to reduce the error by increasing the length of the arm, say from 9 to 12 inches, so that the arc is a little flatter. This has been tried, but it generates other serious problems because it is difficult to make a longer arm tube rigid without significantly increasing its inertia (effective mass).

It was discovered in the 1930s that, by the use of offset and overhang, it is possible to reduce lateral tracking errors for pivoted arms to about 1°. The cartridge axis is offset from the arm-tube axis by a specified angle and the stylus is made to swing beyond the spindle by a certain overhang distance. I believe it was Percy Wilson in the UK who popularized a template for optimizing such a geometry. It was only in 1941 that HG Baerwald recognized that, rather than tracking error per se, it is the harmonic distortion generated by that tracking error that should be minimized. The basic idea is to have the smallest tracking errors occur in the inner grooves. The signal/noise ratio gets worse with decreasing radial distance from the spindle because of the slower groove velocities. Therefore, any additional distortion in the inner grooves exacerbates an already bad situation.

What Baerwald aimed to minimize is a mathematical function describing harmonic distortion as a function of radial distance. For a given pair of inner and outer record radii, it is now possible to generate the required offset angle and overhang for any arm-tube length to achieve the minimum distortion criterion. A now-defunct audio critic and publisher, whose identity I shall not divulge except to say that his initials are PA, fervently promoted this alignment. This same fellow went on to claim that correct tonearm geometry was not a matter of opinion, and that for a given record geometry there was only one correct or optimum alignment. I flatly disagree. I know of one other rational alignment geometry, which is based on minimizing the "time-cumulative" annoyance factor of tracking distortion. This procedure generates two null points across the record so that the three intervals defined by these points have equal amounts of total time-integrated distortion. Having experimented with this type of alignment, I can tell you that it is, indeed, very listenable.

Two important factors should be realized about any alignment that uses an offset angle to minimize tracking distortion. The first is that it is a compromise—at least as far as the outer grooves are concerned. These grooves are being asked to sacrifice some tangency in order to help their distant cousins who reside nearer the spindle. Second, and more serious, is the price exacted by the use of an offset angle. Two significant problems arise, one well known, the other less so. The skating or sidethrust problem was first pointed out by Ben Bauer in 1945 and has to do with the frictional drag on the stylus sliding in a record groove. Because the cartridge axis is offset from that of the arm tube, a force vector is generated toward the center of the record. The magnitude of this parasitic force is dependent on the coefficient of friction between stylus and groove wall, the tracking force used, and the position of the stylus over the record. Unless corrected, the sidethrust will unbalance the forces acting on the right and left groove walls. Because of the complexity of the sidethrust, no exact correction is possible, and what is typically done is to provide a mean correction as a function of tracking force. However, it is possible to greatly change the coefficient of friction either by cleaning the record or by applying a lubricant to the surface. I've seen published data that show a factor-of-three decrease in friction following surface treatment. So if you use something like Gruv-Glide, be sure to reduce the antiskating afterward, or at least experiment with alternate settings.

Less well known is the possibility of inducing frequency modulation of the audio signal from lateral tonearm vibrations. Again, because the stylus is not perfectly tangential to the groove but at an angle to the radius, such vibrations can generate a translational motion, or scrubbing action, of the stylus in the direction of motion. Such motion will result in pitch flutter or wow similar to that of tape recorders. The proof of this effect is straightforward, and involves nothing more than obtaining a copy of the Ortofon Test Record. The tonearm resonance test bands on this record provide a low-frequency test signal that covers the range from 25Hz down to 4Hz and is cut with a constant displacement amplitude. Superimposed over the subsonic test signal

Stereophile, January 1988
is a tone complex consisting of 2349 and 2960Hz. Play the lateral resonance frequency cut with a pivoted tonearm of your choice. (I've tried this with both the SME V and the Wheaton arms.) When the tonearm/cartridge resonance region is approached, the pitch of the high-frequency tone complex is modulated rapidly up and down, giving it a warbled quality. The less damped the arm is in the horizontal plane, the more pronounced is the pitch modulation. This same track repl"ayed on JGH's system using the Versa Dynamics 'table and tangential arm (reviewed in Vol.10 No.8) produced no audible frequency modulation.

This highlights the susceptibility of pivoted arms to lateral excitation, either from record-warp energy or from record eccentricities. As pointed out by Jacob Rabinow, the inventor of the Rabco tangential arm, no record is truly circular. On the really bad ones, the cartridge can be seen to move from side to side as the 'table turns. But before you decide that pivoted arms are no good, I should tell you the rest of the story. My next experiment was to try the vertical resonance band on the Ortofon Test Record. Sure enough, frequency modulation occurred in the resonance region even with the tangential-tracking Versa Dynamics arm. This makes sense if you analyze the stylus motion. As you vibrate the cantilever vertically, you can't help but move the stylus along the direction of motion, unless of course the cantilever were perfectly parallel to the record (which is not the case). So even tangential arms are not immune from frequency modulation due to vertical excitations such as warps.

What about the harmonic distortions generated by the pivoted arms? Is this enough of a reason to go tangential? I think not. The lateral-tracking error-induced distortions are frequency-independent, and get swamped from the upper mids on up by frequency-dependent distortions inherent in the phono reproduction process. These include tracing distortion, which arises from the disparity between the shapes of the cutterhead and playback stylus, and from elastic deformation of the vinyl groove wall by the stylus. Even if tracing distortion is minimized by the use of radical stylus footprints such as "line contact," "Micro-Ridge," or van den Hul, serious groove deformation problems remain. More so because the thinner footprint exerts a lot more pressure on the groove wall than the old-fashioned spherical tip.

So we're back to the question of what parameters are crucial in the design of a really good tonearm. Accumulated experience at least has pointed the finger at the following factors: First is low inertial mass sufficient to place the arm/cartridge resonances in the "safe" region of about 8-12Hz, above the band where warp information is highest but sufficiently below the area of musical interest. Second and third are arm-tube rigidity and damping. The arm should
silently partner the cartridge, any uncontrolled resonances or torsional motion being disruptive to the signal transduction. Finally, the bearings should have minimal play and damping should be provided—at least in the horizontal plane. If the vertical bearing is undamped, it should be placed at record height to minimize the impact of vertical excitations.

The Wheaton arm meets the above criteria very well, except for horizontal damping. Visually it is an impressive arm, being both massive and well-machined. The Triplanar designation means that the arm allows easy adjustments in three planes: vertical and lateral tracking, and azimuth. The arm was marketed for a while by The Mod Squad, but Herb Papier, the arm's designer, now distributes it himself, and has tacked the "II" appellation onto the model name to denote several design improvements. The bearings have been redesigned, and feature hardened and polished needle cones. The arm is internally wired with mono-crystal wire, and the headshell is better damped. The arm-tube clamping yoke has been strengthened and the counterweight system refined.

A Few More Preliminaries
I decided early on that it would be too difficult to audition the Wheaton arm on my Sao Win 'table, simply because of the difficulty of drilling through Lucite. I therefore borrowed JGH's SOTA Star Sapphire vacuum 'table, which was fitted with a Well-Tempered Arm. I was familiar with the WTA, and in this fashion could live with my reference arm and cartridge (Win MC), and get used to the sound of the SOTA before substituting the Wheaton in my front end.

My first impressions of the SOTA-based front end were of losses in bass definition and detail and of an overall bright character to the sound. Tweaking the VTA had a dramatic effect on bass quality: the bass registers firmed up, detail increased, and resolution of plucked strings was much improved. But the brightness persisted. What saved the day turned out to be the Nagaoka record weight, what they call a GL601-II Crystal Stabilizer. With the weight in place, most of the bright tonal character vanished, and the soundstage gained considerable solidity because much of the fuzz surrounding instrumental outlines had disappeared. Together with the azimuth tweaks described next, I felt that the foregoing adjustments had refined the sound of my front end to the point of exceeding the standard set with the Win 'table.

Because the WTA also has an azimuth adjustment, I decided to experiment in order to get a handle on just how audible azimuth errors are and what they actually sound like. The Signet Cartridge Analyzer was available, but with moving-coil cartridges it turned out to be just as easy for me to use my Hitachi V-212 dual-trace oscilloscope and calculate the channel separation from the display. My test record for these tests was Audio Technica's AT-6607, which contains right-channel-only and left-channel-only 1kHz test tones. By feeding the preamp outputs to channels 1 and 2 on my 'scope, it was possible to observe the primary signal on one channel and the associated crosstalk on the other channel. Thus both right-to-left and left-to-right crosstalk could be easily measured.

Several interesting observations emerged from all of this. If by visual examination the body of the cartridge appears twisted in relation to the surface of the record, the crosstalk is a factor of at least two higher compared with the optimum alignment. It is possible to get very good right/left and left/right crosstalk specs by "eyeballing" the azimuth adjustment, but it is not possible in this way to balance out the crosstalk. The right/left and left/right crosstalk differ in magnitude, and it is not really possible to completely balance the leakage. However, when the balance is very close, there's a significant audible improvement in soundstage focus. Spatial detail is better defined; more space between instruments, if you will. This is the crucial factor. Rather than try to eke out the best possible absolute right/left or left/right crosstalk rejection, the payoff is in balancing the leakage to the best degree possible. For example, with the primary signal level at 900mV (peak to peak), the Win MC measured 20mV left/right leakage while the right/left leakage was 40mV. With considerable tweaking, it was possible to reduce the interchannel discrepancy to about 5-10mV.

Setting Up
Setting up the Wheaton arm proved to be an easy task, partly because of the precut SOTA armboard that Wheaton provided, but mainly because the procedures are well thought out. A dummy cartridge and overhang gauge are
provided and define the position of the arm base on the board. Mounting of the cartridge in the headshell is exceptionally easy: The clamping yoke is loosened so that the arm tube can slide forward until the azimuth pin clears the yoke. The arm tube may now be rotated 180° to provide a platform for the cartridge and expose the mounting screws. There are no calibrations provided for tracking force and antiskate, so you'll have to use your own tracking-force gauge and set antiskate as I did (by ear).

Only two glitches were encountered during this stage. After the counterweights are mounted, it is no longer possible to check for overhang with the gauge provided because there isn't enough clearance to swing the arm over the spindle. That's OK; I prefer to use my own alignment gauge, rather than be locked into a manufacturer's notion of optimum lateral tracking alignment. The second problem was a lot more frustrating and required some troubleshooting. Lights, camera, action! But no right channel. How could this be? Well, when a phono output is shorted to ground, this is the logical outcome. A sliver of wire soldered to the right-channel hot pin was making contact with the ground pin. Oh well, welcome to the exalted world of high-end audio!

I spent a lot of time tweaking the VTA and antiskate by ear, but only after adjusting the azimuth with a 'scope using the above detailed procedure. The utility of an instrumented azimuth adjustment became painfully obvious. The "eyeball" tweak failed to yield the full imaging potential of the cartridge. Unbalanced crosstalk was heard as a loss of focus, instrumental outlines becoming blurred and indistinct. My final differential was about 10mV, and I discovered that the antiskate adjustment also affects the interchannel balance slightly.

First Sonic Impressions (and the Death of a Cartridge)

I must confess to being totally unprepared for the massive soundstaging and imaging improvement brought about by the Triplanar arm. The solidity of the soundstage and the amazing 3-D perspective of instruments within that stage were sensations I had not experienced before to this degree in reproduced sound. This was with recordings I was intimately familiar with and had used for reference purposes many times; it was as though I was hearing them for the first time. Occasions like this demand a new vocabulary, and I would like to invoke the landscapes of the French painter Paul Cezanne in order to convey more precisely the quality of these soundstage impressions. Although considered an Impressionist in style, it is instructive to compare his paintings with those of Pissaro and Renoir. (There are several instances, in fact, where these masters painted the same landscapes.)

While short on detail, Cezanne's shapes and figures are supple, solid, and vibrant. There's more of an impression of being part of the landscape instead of just gazing at it. This is just the sort of feeling the Wheaton arm engendered. Another important finding was that the bright halo that surrounded treble transients with the WTA was now gone. (A possible explanation is the greater rigidity of the bearings.)

At this point in my testing, I was forced to switch power amplifiers because JA destroyed my Krell KSA-100 (go ahead and explain this one, John!). Fortunately, the Don Cochran Delta Mode amps returned about the same time, so I was back in business. But not for long. This time I have no one else to blame. While experimenting with lateral tracking alignment, I was in the process of twisting the Win MC body to change the offset angle when —this really happened fast—the bottom of the cartridge came loose in my hand and sheared off the cantilever. End of cartridge. A panicked call to JA, and I was on the right course again. JA just happened to have a brand new Monster Cable Genesis 1000—one of the best four cartridges around, according to AHC in Vol.10 No.5. The optimum cartridge loading with the Threshold FET-10 preamplifier turned out to be 100 ohms and 1000pF, which dampened a tendency toward brightness the Genesis had exhibited at lower input capacitance.

LA was curious as to whether the channel separation test on the Ortofon Test Record could be used to optimize the L/R crosstalk balance. In this test you compare the crosstalk with a reference signal in order to quantify the magnitude of the crosstalk. Listening with this track, it was obvious that the right-to-left separation was worse than that from left to right, but I'd really hate to base azimuth adjustments on such subjective comparison. So, on to the 'scope-based azimuth adjustment. I was able to significantly reduce the right-to-left crosstalk and get the crosstalk balance to

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within 5mV. Relistening to the channel separation test on the Ortofon Test Record, it was easy to tell that the right-to-left crosstalk had improved to better than 30dB. But again, I feel this is too crude a tool for making fine adjustments.

While I was at it, I ran the tonearm/cartridge resonance tests. The vertical resonance was very well damped and difficult to spot. On the other hand, the horizontal resonance was not so well damped, with the peak at around 8Hz.

Later Sonic Impressions
The Genesis 1000 revealed itself to be an exceptionally natural and revealing cartridge. And yes, significantly better than my long-standing reference, the Win MC. There was always lots of low-level detail and transparency top-to-bottom. Reproduction of treble transients was superb, with speed, control, and a captivating harmonic naturalness. Cleo Laine’s G-sharp above high C on the “Ridin’ High” cut on Live at Carnegie Hall never sounded so convincing. The range from the upper mids through the lower treble was especially smooth, with harmonic textures that were right on. Imaging excellence was constant throughout these sessions. Spatial resolution, retrieval of hall reverberation, and focus were revelations. There was never any doubt about where anything was, or about instrumental outlines.

The balance, however, was somewhat on the light side. The lower mids were lacking in punch, and the deep bass, although tight and detailed, appeared slightly thin. I presumed during all of this that the Wheaton arm was providing minimal interference with the performance of the Genesis cartridge and was quite willing to blame the latter for the tonal balance deviation. To settle the matter, however, I went one step further and compared the Wheaton arm with the SME V, again mounted on the SOTA Star Sapphire ‘table. The SME is billed immodestly as “the best pickup arm in the world,” and has been recognized in the high-end field as a true reference. I was also interested to find out how the SME, which lacks an azimuth adjustment, would make out in the imaging department. The set up was uneventful, and per factory instructions. After all of the adjustments were complete, I proceeded to document the absolute level of crosstalk and degree of crosstalk balance. On the Ortofon Test Record, the crosstalk was dedicated to be very low, better than 30dB, and right-to-left crosstalk was slightly worse than left-to-right. These results were verified on the ‘scope, where the right-to-left leakage was 10mV higher. This is really very good, but is it nothing more than a lucky chance? What would I have done, or more accurately what could I have done, had the azimuth turned out to be misaligned?

On to the listening tests. Even a quick listen to the Opus 3 Test Record I was quite revealing. The bass registers were fuller and firmer, with the double bass on cut A1 no longer suffering from anemia. The previously established lightweight character of the Genesis vanished without a trace! Dynamic contrasts appeared to be more pronounced. These impressions stayed in force as the listening progressed. The soundstage stability and palpability were even better than that achieved with the Wheaton arm, although, in terms of resolution of spatial detail, it’s almost a tie. The longer I listened, the less notes I took. The SME was such a joy that remaining in an analytical frame of mind became an impossibility. Eventually, I just sat back, relaxed, and enjoyed the music.

Conclusion
In summary, I consider the Wheaton arm to be a first-class arm, executed with great integrity, and offering easy and useful adjustments of VTA and azimuth angle. All aspects of the arm are logically thought out. This is the sort of arm that Mr. Spock would have designed had Vulcans been audiophiles. The arm merits a mandatory recommendation to all aficionados of soundstaging and imaging. Provided that the arm is set up meticulously—and that includes fine-tuning the azimuth (preferably using a ‘scope)—its palpability and capabilities of spatial resolution will challenge those of the best cartridges money can buy. To be sure, the SME V is more dynamic, its tonal balance more neutral, its bass more powerful. But if you believe, as I do, that azimuth adjustment is crucial for soundstage focus and spatial resolution, you will find the SME V lacking in this regard. And there will surely be installations where this will work against it, the partnering cartridge being less well intrinsically balanced than JA’s sample of the Monster Genesis 1000.

In the context of a state-of-the-art phono front end, the Wheaton tonearm is a serious contender. Try matching it with a cartridge that

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complements its tonal balance; one with a romantic, lush midrange should work very well. Is it worth the money? I think so, although my auditioning would make me opt for the SME V with the Monster Genesis 1000 cartridge.

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**ORTOFON MC-3000 CARTRIDGE**

J. Gordon Holt


The Ortofon MC-2000 may just have been the most impractical cartridge to be unleashed upon the audio community for some years. With a high compliance (20cu) that made it ill-suited for most tonearms, it also had a preposterously low signal output of 0.05 millivolts, which gave new meaning to the terms hum and noise. Few MC preamps had enough gain to deliver adequate driving voltage to a system, and none of those that did had low enough noise to be usable with the 2000. If the problem wasn’t hum, it was hiss; if hiss was acceptably low, there would be too much hum. At least Ortofon had the sense to be aware of the problem and to do something about it, in the form of their T-2000 step-up transformer, which is the only device I ever found that would allow the cartridge to be operated without a constant background of hum or hiss. Despite all this, I have used the MC-2000 as my reference cartridge for the last two years. Why? Because of all the cartridges I’ve tried, it is by far the most accurate.

It is my contention—hotly disputed by LA, I should add—that good CD players give a fairly accurate picture of the tonality and spectral balance of the original master recordings from which they were made. This view is supported by the fact that the best CD players sound quite similar in those respects, and that honestly made CDs (which excludes almost anything from a major record company) sound very much like all the other program sources I have on hand. I believe the phono player should make similarly honestly made analog discs sound as much as possible like those other program sources. If, when they all sound the same, they all sound bad, the place to look for a solution is in the amplifier/loudspeaker department. The only alternative to this approach is to live with a system that only reproduces one or two program sources “properly.” I am not asking, or expecting, that all will have equal transparency, detail, depth, or “purity.” What I am asking is that all of them at least sound as if they have the same frequency response from 40Hz to 10kHz. Only when that basic equality is attained can one pass valid judgment on the other attributes of the various sources. The MC-2000 comes close to providing that equality, which is why I have stood by it for all this time despite its “impracticality” as a product.
The MC-3000 differs from the 2000 in several respects. First, and probably most important, is that it has twice the output. This raises the ante to 100uV, still too low for most MC headamps to handle, but nonetheless translates into a significant 6dB reduction in hum and hiss when Ortofon's T-3000 stepup transformer is used. (I advise it; transformer distortions sound less irksome than transistor distortions.) The higher output cannot help but be an improvement. Second, the MC-3000 has lower compliance than the 2000: 13cu, as compared with 20. This seeming retrograde change, according to Ortofon's literature, was prompted by the current popularity of medium- to high-mass tonearms, which are ill-suited for use with highly compliant cartridges. (With the mass/compliance resonance below 9Hz, disc warps generate strong subsonic interference which wastes amplifier power and can damage loudspeakers.) Third, the cartridge uses a new Ortofon-designed stylus tip which they call the "Replicant 100" (shades of Blade Runner). In shape, this looks about as much like a cutting stylus as you can get without having a cutting stylus; it appears to be a true line-contact tip, and its specified dimensions indicate that it is a very thin line.

And there have been other changes in the MC-3000. As a result of tests conducted with a panel of "golden ears," Ortofon learned that most listeners prefer a cartridge with a high end rising to 2dB at 20kHz. Accordingly, a rise of that magnitude was designed into the new cartridge. The magnet material was changed to a more powerful material called neodymium (it used to be an alloy of samarium and cobalt) and moved closer to the coils, which doubled the cartridge's output. And because the stronger magnetic field might have an adverse effect on motions of the original aluminum armature, the 3000's armature is made of carbon fiber. Even the outer casing material was changed, from aluminum to aluminum oxide. This sintered (fired) ceramic compound has a hardness of 9 Mohs, 1 unit below that of a diamond's 10. The harder a material, the higher its natural resonating frequency; the new case is an attempt to get this out beyond the audible range without having to resort to a diamond case.

Oh, yes, there's another change I forgot to mention. The price. If you thought the MC-2000 and its transformer were pricey at $2000 a pair, how about $2750? That would be justifiable, I suppose, if the new system is substantially better than the 2000. But we'll get to that later.

I really must comment on the packaging of the MC-3000. It is clever, unique, and—as far as I'm concerned—just a bit too cutesy-poo. The cartridge comes in a festive-looking red and white box about the size of a cinder block, inside which is a white foam-plastic block divided in half. Separating its halves reveals a miniature packing crate, a tiny replica of the ones used to ship armaments to hostile countries. Next to it, in a little compartment in the foam plastic, is a miniature crowbar, obviously intended to be used to pry the top off the crate. I did. Carrying the arms-shipment analogy ever further, the mini-crate was lined with shredded wood packing, and nestled in that was a heavy, stitched burlap slip case, edged in black leather, containing a nonmagnetic screwdriver, a tube of mounting hardware, a stylus brush, and one of Ortofon's plastic tracking-force gauges. The cartridge? Oh, that was inside a hollowed-out clear plastic replica of Ortofon's Replicant 100 stylus, magnified 300 times. To remove it, the bottom snaps out of the "stylus."

Ortofon has a reputation for exotic packaging, but this is going to be hard to top. (Hey, what about an MC-4000 shaped like the sacred scarab beetle, and packed in a miniature ancient Egyptian sarcophagus?) I should mention, though, that the cartridge, when received, had escaped from its pin sockets and "locking" wire clip, and was rolling around loose inside the container. The only saving grace was that its stylus cover was still in place; it was okay. Perhaps a leavening of substance—like, maybe, two bolts and nuts—might enhance the high-style packaging of this costly cartridge. Meanwhile, if your dealer is a long way from your home, I suggest going to the trouble of opening up the whole thing and checking the cartridge before you leave the store. If it's loose, and the stylus cover is off, you can be confident that it's ruined.

Installation of the MC-3000 was reasonably simple, the only caveat being that one should use the special nonmagnetic screwdriver supplied with the cartridge. Like the 2000, the

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1 Although the term "armature" is often applied to the little rod with the diamond stylus at the end, it refers strictly to the form or bobbin—usually cross-shaped—on which the coils are wound. The stylus rod is the "cantilever."
3000 has a strong magnetic field surrounding the base of the fragile cantilever, which attracts all ferrous objects with truly impressive intensity. And don't just play it safe with the screwdriver and then trash the cartridge with your tracking-force gauge. The suspension member on many of these (including the popular Shure Bros. one) have enough ferrous content to attract the cartridge, too. If you aren't sure your gauge is safe—and the only way to check is with a small magnet—my suggestion is that you use the little all-plastic one supplied with the cartridge, and overlook its shortcomings. There's nothing basically wrong with plastic for a force gauge, but Ortofon's scale has enough pivot friction that it is difficult to get a reliable reading from it—particularly with a viscous-damped tonearm. In order to get any kind of accuracy, you may have to take the measurement from both directions—moving upward and moving downward—and then average them. I am surprised that Ortofon continues to supply this gauge with some of the costliest cartridges in the world, when a simple redesign of the same gauge—doubling the length of its balance beam—would increase its sensitivity fourfold.

Equipment used for my tests included the SME Series V tonearm and the Well-Tempered Arm (the Versa Dynamics is temporarily down; see "Follow-up" in this issue), a Stax Quattro CD player, a Revox A-77 15ips open-reel tape deck, the Threshold FET-10 preamp and line controller, Threshold SA-1 power amplifiers, and Sound Lab A-3 full-range electrostatic speakers. Audio interconnects were Monster 1000s, speaker cables were Straight Wire Ribbons. The listening room is extensively damped with ASC tube traps. Program material was some of my own tapes and CDs for reference purposes, and analog discs from Sheffield, Opus 3, Telarc, and Reference Recordings.

Because the MC-3000 is designed for fairly high-mass tonearms, I initially planned to do all listening with the cartridge installed in the SME arm. Both were set up according to their manufacturers' recommendations, tracking force was set to 2.2 grams, and the arm's antiskate set—by Ortofon's suggestion—to 3 grams. I was a little bothered by this, as well as by the 2.5gm force recommendation, as the former would suggest unusually high groove friction for that force, implying that the groove indentation (at the instant of contact) may be inordinately high. I value my discs, increasingly as more and more of them become irreplaceable, and I'm not reassured by any cartridge with a compliance of 13cu, a narrow line-contact stylus, and a "recommended" tracking-force range of up to 2.7 grams, that requires extra antiskate force to offset high contact friction.

Ortofon recommends using the VTA designed into the MC-3000—that is, setting arm height so the top of the cartridge, seen from the side, is parallel to the disc. In fact, this is just about the smallest VTA you can get with the SME V, because its tapered arm tube barely clears the edge of mildly warped discs when the headshell is horizontal. I found no reason to question that recommendation, though, even when (later) I was using the WTA, which allows for a wide range of VTA adjustments in both directions.

Using the recommended T-3000 transformer, I tied all the loose ground wires (one from the 'table, two from the arm) to the transformer ground, and fired up the system. Hum was negligible, but it was faintly audible at high volume-control settings with no music playing. I added another ground connection, this time to the preamp ground post (originally an oversight, actually; I routinely do this), and the hum simply vanished. There was none. With the gain up full, all I got was the usual muted hiss. I was amazed that a claimed 6dB of output increase could effect what sounded like a 10dB reduction in the hum I used to get from the 2000.

Sonically? My first impression, after 15 seconds, was bass! God, what bass! Deep, rich, fat, goose-bumpy bass. It even had very good detail. Unfortunately, there was far too much of it. I phoned JA. Does the SME V whoop up the low end, I asked? Yes, if the base isn't tightened down. I tightened it down more. It helped, but not very much. I noted: Heavy low end, and proceeded to other tests.

Trackability of the MC-3000 was found to be very good, but not top o'the heap. The only disc I found that caused it to skip was the notorious Telarc 1812, which is hardly a fair test, even though the MC-2000 does negotiate it effortlessly. Few other records have right-angle corner bends in the groove path! At 2.2gm, the 3000 skipped on four cannon blasts; at 2.5, it skipped on one (the last). I dared not take the tracking force higher; that's the only pressing of the 1812 I have. In fact, I
cut it back to 2.2 for the rest of my listening.

Because of the bass prominence, and my unfamiliarity with the SME arm, I could not make any other reliable observations about what the 3000 was doing, spectrally, in the higher ranges, except to note that it sounded extraordinarily smooth, and seemed to be compressing depth a little bit. So I ran a few measurements. Trackability seemed to be as Ortofon claimed: with their own test record, breakup on the 80um tracking band started occurring at 2.0gm. (My 2000 tracks the 100um band at 1.5gm! But you can’t use it in the SME V.)

Using the same test record, the LF system resonance was estimated to be at around 10Hz, but this was difficult to pinpoint because the resonance was quite broad and of only moderate amplitude. This is an ideal value, as far as warp interference is concerned, but a little high for isolation from signal modulations on wide-range discs.

I also ran frequency-response curves. Ignoring the low end (which never seems to measure the way it sounds), I was gratified to see that Ortofon’s curves were worse than mine. This is significant for no better reason than that the CBS STR-100 test disc has proven time and again to give a better reflection of how a cartridge will sound at the high end than any other I have tried. And it did it again this time. The highs did not sound tipped up—certainly, not to the tune of 4dB at 15kHz.

Then I switched to the Well-Tempered Arm, and any doubt about the source of that bass heaviness vanished. It was gone. I repeated all the previous tests, and, based on a longstanding familiarity with the characteristics of the WTA, here’s what I found out about the cartridge. First, it does do best in a higher-mass arm (although I am not at all sure at this point that the SME is one I would recommend). In the WTA, LF resonance was in the vicinity of 13Hz—just above the recommended 9-to-12 range—and the cartridge behaved accordingly, parting company with the groove (at 2.5gm) on several kick drums and bass drums and on at least a third of Telarc’s cannons. I do not blame this on the cartridge; it was not intended for use in an arm this light. Interestingly, there was no measurable low-end difference between the SME and the WTA above 20Hz.

Otherwise: Overall, the MC-3000 (with the Threshold preamp) was very well balanced but not quite perfectly neutral, tending toward a slight warmth and a subtly withdrawn character. I was surprised to find that the HF rise did not seem to have any adverse effect on the sound at all! Highs were beautifully smooth, silky, and open, with a remarkable degree of delicacy and air. Massed-violin sound was sumptuous from good recordings, and less obnoxious than usual from typical recordings. Neither was there evidence of any exaggeration of surface noise; in fact, ticks and pops showed a tremendous range of apparent pitch—usually a sure sign that the entire system is free from HF resonances. Bass performance—always more a function of damping and system resonance than on any inherent quality of the cartridge—was as I expected it to be in that arm: extremely detailed and controlled, and with good impact, but a little shy at the extreme bottom. (In the SME, the deep bottom was there in spades, but a bit snowed-under by the midbass.)

For reasons I cannot guess at, the MC-3000 (or, at least, my sample) did not reproduce depth very well. There was plenty of lateral spread and spaciousness, but less reproduction of relative distances behind the loudspeakers than I get from the MC-2000 and from a number of other cartridges. (Yes, I tried diddling its azimuth when it was in the WTA; the best I could get was not much better than good depth rendition. There is no azimuth adjustment on the SME V; and shimming the cartridge impairs the mechanical coupling between cartridge and tonearm.) Considering the 3000’s apparent spectral balance, this is all a bit puzzling, for components which are recessed in the presence range, even by such a small amount as this, usually yield more sense of depth than ones which are more forward. In this case, the MC-2000 sounds closer-up than the 3000, yet outdoes it in depth rendition.

So... The MC-3000 does not appear to be the most accurate cartridge in existence; I still reserve that title for the MC-2000, which sounds just a little more so than the subtly warmer 3000. But after living with the MC-2000 for a year or so, and being acutely aware of its hum every time I cranked the gain up too much, it is a joy to use a cartridge with which

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2 Cartridge downforce per se is not an absolute measure because what matters when it comes both to tracking and to wearing the record is the pressure at the stylus/vinyl contact. These line-contact styli need a greater downforce for the same pressure as an elliptical stylus because they have a larger “footprint” on the groove wall.

—JA
hum is just no consideration at all. Yes, I can still get a muted hiss by turning the volume up full, but I am not crazy enough to try playing a record at that volume. My Sound Labs and Threshold amps are rugged, but if I'm going to blow them out, I'd rather it happen through carelessness than through premeditated stupidity.

On the other hand, the MC-3000 is unquestionably the second most neutral cartridge I know of. That's damnably faint praise, considering its higher price than the MC-2000, but unless I can persuade you to trade in your SME V or Alphason 100 or ET 2 for a Souther, a WTA, or a Versa Dynamics, so you can buy an MC-2000 and suffer with the hum, you're better off with the MC-3000 than anything else I know of.

You can be assured, though, that the MC-3000, like its forerunner, does not sound like the average MC. It is much more up-front and alive, much smoother at the top than most (more delicate, less flashy), and more expensive—particularly when you count in the transformer, which is a virtual necessity. (Ortofon says a number of users have been able to do without it, but that's something I would urge you try, at home, before buying just the pickup.)

All in all, this is a superb cartridge—not for everyone's taste, but highly recommendable (Class A) for anyone seeking sonic truth from his system. I just wish it had turned out to be an MC-2000 clone with twice the output.S

3 In a parallel-tracking arm, the entire mass of the cartridge and its carrier assembly is effective mass. The VD has about 20gm of it, and I still cannot understand why the MC-2000 works so well in it. Perhaps Mr. Bicht can enlighten us.

As Dick Olsher reviewed the original CAL Aria player in Vol. 10 No.7, the following is a com-
bination of followup and full review. Although I have not had the opportunity to extensively audition the original Aria, the musical attributes of the revised player justify significant attention. And since I am not going to go over most of the physical description and technical discussion addressed by DO, the reader might want to refer to his review before continuing with my assessments of the revised product. In order to put the CAL Aria into perspective, I have decided to do direct comparisons with the similarly priced Sony CDP-705ESD ($1500) and the less expensive 14-bit Sonographe SD-1 ($695).

The reference system used for this review consisted of a Rowland Research Coherence One preamplifier and Model 5 stereo power amplifier, and a pair of B&W 801 Series 2 Matrix Monitors, biwired with 20-foot pairs of Straight Wire Music Conductor Speaker Cable. The interconnects were all van den Hul D102 Mk.II (latest version). All of the components involved were checked for the most advantageous AC-line polarity, and the preamplifier, power amplifier, and CD players were each on separate, dedicated 20 amp circuits.

The original Aria player that I was to review developed serious sonic degradation, and was immediately replaced by the manufacturer. According to the people at CAL, about 3% of the DACs supplied by Philips in their stock players have proven to be defective, and that was apparently the problem with the first unit sent to me. I have had the replacement player for about two weeks, and, so far, have not had any problems. I should note that this player does generate a significant amount of heat, and adequate ventilation is essential for proper operation (DAC failure can otherwise occur). Warm-up time is approximately 30 minutes; while leaving the unit on continuously appears to enhance sonic quality, it will certainly shorten tube life.

**Technical Highlights**

The revised Aria player uses the Philips 465 Chassis, and is externally identical to the earlier version. There have been, however, important internal changes that should be mentioned. While it incorporates the same TDA1541 16-bit dual-DAC chip, the processor clock speed has been raised from the former 6MHz to 12MHz, thereby allowing the bit stream to be sampled twice the number of times as with the stock DAC. According to the technical department at CAL, since the bit stream is "seen" twice as often by the DAC, the degree of low-level resolution is increased, with resultant improved smoothness, specificity of image, and ambience recapture. In the analog stage, the current-to-voltage converters have been changed, as well as the filtration pole characteristics prior to the current-to-voltage converters. The Aria does not reverse absolute phase.

Not having adequately heard the earlier version of the Aria to make informed comment, I cannot say to what degree these changes have distinguished the sound of the new Aria from the old. But one thing is sure: this is now an incredibly musical piece of audio equipment. As I have said before, I believe that the true test of any product should be its degree of success in reproducing the various complex components present in musical performance. But since the revised Aria presents itself so well in the purely sonic areas as well, the two categories should be discussed separately.

**Sonic Qualities**

All three players sitting in front of me—CAL Aria, Sonographe SD-1, and Sony CDP-705ESD—sound good. One would expect the two more expensive players (Aria and 705) to surpass the lower-priced SD-1 in sonic quality, and they do. The Sonographe is by no means a bad player; it is very good, and a bargain at the price point. But the better high- and low-frequency extension, dynamic capabilities, spectral balance, and finer grain texture of the Sony and CAL players place them in a different league from the Sonographe. On first hearing, one might lean in favor of the Sony, since its silky-smooth midrange and highs, and impressive, visceral bass impact make it a very listenable player. In comparison, the Aria might seem a bit thin and sparse, lacking fullness in the bass and color in the midrange. The Sonographe sounds more like the CAL than the Sony, but is less open, more rolled in the lows and highs, and grainier in texture.

Alas, first impressions are not always valid. On extended listening to several different recordings, the Sony player definitely has a sound of its own: pleasant, but not very accurate. Recordings produced in different acoustic environments seem to sound alike,
without any differentiation of reverberation time, overall hall ambience, soundstage depth, performer-to-microphone distance, or harmonic textures. And although the bass on the Sony is impressive, it does not have accurate pitch definition. As I have also mentioned before, low bass actually has pitch and harmonic texture, both of which are lacking with the 705 player. Ensemble size (i.e., stage placement and number of performers) is not easily detectable.

The CAL Aria, on the other hand, does not always sound "pleasant," as does the Sony (nor does live music; something I will address later). But it certainly sounds very different with various source material, and that fact alone should give the listener a hint of its dead-on accuracy. In fact, in all of the areas that the Sony falls short, the CAL Aria excels. Ensemble size is clearly delineated (I can hear how many violins are playing the first part, how many the second), harmonic textures are well portrayed (voices within small choral groups have individuality of color and texture, individual musicians within groups of similar instruments can be clearly identified), and low frequencies are naturally reproduced, not overblown and bloated (I can hear the qualitative and quantitative differences between cellos and basses with the Aria; not with the Sony 705). Performer-to-microphone distance is clearly defined, effectively moving the music back into the hall acoustic, representing a more spacious and realistic view of the performance. Soundstage dimensionality is very well portrayed, but since it appears to be accurate, the sense of depth produced is not always impressive (many multi-miked recordings have no natural depth).

Perhaps the most incredible thing about the Aria is its ability to separate direct and reflected sound. Depending on specific hall acoustics, in live performance the listener hears a mix of direct sound from the performers, and the secondary reflections of that sound. In overly bright, reverberant halls, there is more reflected sound than direct, resulting in blurred, vague imaging, lack of bass impact, and spectrally thin harmonic textures. The opposite situation—that of overly dead, dull acoustics—gives much more direct sound, less high-frequency emphasis resulting in artificial covering of instrumental and vocal resonance, and unnatural bass emphasis. The Aria is the first CD player I've heard that recreates these acoustical phenomena accurately. While many other players reproduce direct and reflected sound, they cannot separate the two, delivering an unfocused, "busy" sonic character. Many listeners, not used to hearing music performed in the real world (most audiophiles certainly qualify here), might not like or appreciate the accuracy of the Aria in this respect, perhaps confusing the somewhat hard-sounding reflections and reverberation present in many halls with "digital glare," and with what many gurus have led them to believe are signs of "unmusical" systems.

Musical Qualities
Now that I've (hopefully) satisfied the lunatic audio fringe with a description of the Aria, I can dive into the part I like most: the music. It's a happy coincidence that the first four products I've reviewed for Stereophile (Rowland Research Coherence One and Model 5, B&W 801 Series 2 Matrix Monitor, and California Audio Labs Aria) all share one important thing: they are musical reference products, not "hi-fi." Just as the Rowland and B&W products don't get in the way of the music, the Aria follows suit.

In order to adequately describe the musical attributes of this product, I used two excellent recordings of English orchestral works as my main references. They both have varied mixes of instrumental groupings and tonal colors, as well as large dynamic contrasts. Recorded in two very different environments by different engineers, they accurately portray the acoustics of the respective recording venues. They are also performed by the same orchestra, and therefore share some of the distinct qualities unique to that ensemble. They are: Job, A Masque for Dancing, by Ralph Vaughan Williams, with Vernon Handley conducting the London Philharmonic (EMI Eminence CD-EMX 9506); and Sir Arnold Bax's Symphony No.3, with Bryden Thomson conducting the London Philharmonic (Chandos CHAN 8454). I have also chosen a few other recordings that I and my professional musical colleagues have found useful in general CD-player auditions.

The first, and probably most important, aspect of musical reproduction is the correct delineation of melodic lines, both primary and secondary, along with clear definition of rhythmic movement. This is where the Aria

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clearly outperforms both the Sony and Sonographe, as well as every other CD player I’ve heard to date (including CAL’s own Tempest). In the opening of Bax’s Symphony 3, the first theme is played by a solo bassoon, giving way to solo clarinet, then solo flute, English horn, and on to more complex combinations of woodwinds, brass, and harp. While all three CD players discussed here give the listener a basic idea of what is going on in this passage, the Aria is the only one that clearly delineates the various instrumental voices as the melodic line is passed from one to another. It is also the only player that, as in live performance, allows the listener to follow each instrumental line as the harmonic texture of Bax’s contrapuntal writing grows more complex. The Sony and Sonographe both do a respectable job of reproducing the single solo lines, but once the musical information becomes more complicated, the various instrumental lines lose individual identity, making it impossible to follow the melodic flow throughout the symphony.

Rhythmic movement in music is not only important in a percussive sense (as to keep the pulse in pop music), but also in determining melodic direction. The opening of Bax’s Symphony 3 is, again, a good example of this. The speed indication of the entire introductory passage is Lento moderato (moderately slow), with the eighth note as the beat. It is notated in compound triple meter (6/8 and 9/8 time), but contains duple cross rhythms that might cause the listener to think that it is actually written in duple meter (2/4 or 4/4) with eighth-note triplet groupings (I thought this was the case until I found a copy of the score). The rhythmic movement of the various melodic lines, as they combine triple and duple meters simultaneously, gives this symphony a great deal of direction and linear drive. The Aria clearly allows the listener to become involved with the conflicting meters as they simultaneously occur, imparting a sense of energy and tension that is eventually resolved at the end of the symphony. The Sony and Sonographe don’t adequately delineate the subtle differences between triple and duple meters in complex passages, thereby lending a whole different personality to Bax’s music; one that is not very interesting or involving.

The second most important parameter of musical reproduction is harmonic integrity of instruments and voices, as soloists and in ensemble. Harmonic reproduction involves much more than the correct recreation of tonal colors; it can supply a significant amount of information concerning the individual characteristics of the performers. The Sony, while making everything sound pleasant enough, fails miserably in this area. The Sonographe does considerably better (although the slight inherent nasal coloration can be distracting), and the Aria comes out on top.

In order to illustrate solo instrumental harmonic reproduction, I’d again like to refer to the beginning of Bax’s Symphony 3. There is no doubt in my mind, when I listen to this opening passage through all three CD players, that a bassoon, clarinet, flute, and English horn are playing the principal theme, passing the melody from one to another. But here the similarity ends. English woodwind players have a tradition of interesting and individualistic tonal qualities unmatched anywhere else in the world. The woodwind and brass players in the London Philharmonic play with unique tonal qualities, totally different from other English orchestras (more weighty sound, but without sacrificing the marvelous English tradition of tonal transparency). With the Sony and Sonographe players, I hear “generic” wind players. But with the Aria, each player’s individual personality is clearly evident. I can also detect atonal and resonant colorations purposely affected by the musicians in order to make the voice leadings between their instrumental lines more seamless (ie, first bassoon making his sound more “lean” when he passes the theme to the clarinet, first flute raising his pitch and thinning the sound to connect with the oboe, etc.). On top of this, the Aria successfully reproduces the smallest dynamic differences between these individual instrumental voices, even when they are playing simultaneously.

The E-flat alto saxophone solo at the beginning of Scene VI of Job is much more interesting when played on the Aria than on the other two contestants. The reedy funkiness of the saxophone comes through very clearly, and I can detect a slight hint of vibrato on the sustained notes; just enough to add a little warmth and sweetness to the sound. The Sony and Sonographe players don’t reproduce the vibrato at all, nor any of the other interesting tonal colorations achieved by the soloists.
Vocal music is also much more interesting with the Aria; the individuality of the six members of The Hilliard Ensemble as they perform 17th- and 18th-century catches and glee in The Singing Club (Harmonia Mundi HMC 9011353) is wonderfully engaging. While the performances are still excellent with the Sony and Sonographe, a great deal of the energy, individuality, and color of the voices that make this recording so special are notably left out (especially the light, fluid voice of countertenor David James). Linda Ronstadt is a superb singer, and her performance of songs in What's New (Asylum 60260-2) suits the program material to a "T." But the Sony and Sonographe players don't do her justice. The Aria uncovers magical qualities in her voice that I've never noticed before; Ronstadt produces some subtle pitch and coloristic effects that one rarely hears, even from the finest classically trained artists. The Aria also separates her vocal resonance from the added electronic reverberation, making it easier to discern that the harshness I had previously attributed to her voice is actually due to hot EQ and electronic manipulation on the part of the engineer.

The harmonic integrity of instrumental groups is also outstanding with the Aria, quite good with the Sonographe, and practically nonexistent with the Sony. At the end of Scene VI of Vaughan Williams's Job (Dance of Job's Comforters), the differences between groups of muted French horns and muted trombones is clearly heard with the Aria and Sonographe. But the Sony makes these two groups of dissimilar instruments sound completely identical! So much for instrumental accuracy.

Harmonic definition of low-frequency instruments, such as bass tuba, contrabass, contrabassoon, bass drum, and timpani is far superior with the Aria than with the Sony and Sonographe. Although the Sony appears to produce more quantity of bass than either of the two other players, it cannot successfully differentiate the qualitative differences between midbass and deep-bass instrumental harmonic structures. Cello and contrabass pizzicati in the beginning of Scene VI of Job sound virtually the same with the Sony, somewhat more clearly defined with the Sonographe, and very well differentiated, both in tonal weight and pitch definition, with the Aria. Likewise, the three-octave unison of two bassoons and contrabassoon in the sixth and seventh bars of Scene VI are well defined with the Aria, but lose their individual tonal characteristics and pitch focus with the Sony and Sonographe. And last, but certainly not least, the bass drum whacks in the third movement of Frederick Fennell's recording of Holst's Suite No.1 in E-flat for Military Band (Telarc CD-80038) are remarkably well defined in pitch, weight, and attack with the Aria. The Sonographe does pretty well, giving a nice sense of attack but little pitch definition, and the Sony would lead one to believe that the bass drum in this performance was being struck with a giant wet noodle, rather than a hard, wooden bass-drum beater wrapped with a chamois.

Now that I've addressed the basic musical aspects of the Aria, I should mention the parameters of reproduction that give the listener the "you are there" sensation: dynamics, hall ambience and colorations, and overall musical involvement. As I said earlier, upon first hearing the Aria appears leaner and thinner than the Sony. But the ultimate dynamic capabilities of the Aria, on both ends of the scale, far exceed those of the Sony. At the climax of Job in Part VI (Satan Rises in front of Job), the full orchestra, augmented with full organ and Tam Tam (unpitched gong), explodes with a wall-bending transient. The Aria opens up here with what seems to be limitless dynamic impact, while clearly delineating the Tam Tam, organ, cymbal, and bass drum from the orchestral sonority—just as in live performance. The other two players do not handle this type of transient with as much aplomb as the Aria, taking on a dynamically limited and congested, hard quality of sound.

The weight of the full orchestra is much more real and tangible with the Aria; I feel as if I'm a part of the performance, not a detached observer (I can actually feel the air escaping from between the crash cymbals, just as I do when playing on stage).

At the other end of the dynamic scale, the Aria is equally as impressive. The low-level harmonic-retrieval capabilities of this player allow the magical atmosphere created by Herbert Blomstedt in the opening of Bruckner's Symphony 4 (Dresden Staatskapelle, Denon 3BC37-7126) to come through with breathtaking immediacy and clarity. The mood set at the beginning of this symphony is not unlike seeing a distant image through a dense fog on the moors; the Aria portrays the hushed,
massed string tremolos and distant horn solo with just the right amount of space, depth, and
vagueness. The Sony does not retrieve this fine
low-level detail, effectively destroying the
magical effect created by the performers. The
Sonographe reproduces some of the space and
mood of the performance, but seems to lack
the transparency of the Aria, sounding some-
what opaque and dynamically constricted.

This discussion brings up another related
aspect of dynamic and harmonic musical
reproduction that seems to be widely misun-
derstood by manufacturers and audiophiles.
As I mentioned at the beginning of this review,
live music doesn't always sound pleasant. In
fact, it often takes on qualities directly at odds
with those the majority of audiophiles think
are desirable. But full orchestra, pipe organ,
and large choral ensembles can create har-
monic distortions and difference tones that,
when propagated in bright, reverberant acous-
tical surroundings, can sound hard, brittle, and
honky. Musicians are used to hearing this
phenomenon, and are often amused by audio
fanatics who spend so much time and money
on equipment that filters out the natural gar-
bage and grudge present in live performance.
The sense of life and energy contained in the
various harmonic aberrations and impurities
of live music comes through with the Aria, and
does not with the other two players. What you
hear with the Aria may not always be pleasant,
but it is musically valid.

The last purely musical aspect I'd like to
discuss is the importance of emotional involve-
ment with the performance. While many
audiophiles may not find this necessary (heav-
en forbid they should sit for one whole hour
and listen to a symphony without stopping to
tweak something), those of us involved in the
artistic creation of recorded performances
need to hear more than just good hi-fi. The
Sony and Sonographe are both very listenable
machines, and would probably satisfy the
casual listener looking for agreeable sound.
But the Aria goes much further, drawing the
listener into the performance and recording
venue in much the same way as do the B&W
Matrix Monitors and Rowland Electronics. It
illuminates so much more of the subjective
and emotional energy expended by the per-
formers than the other players, and is therefore
more satisfying to listen to over an extended
period of time.

**Shortcomings**

The CAL Aria does not have, in my opinion,
any significant sonic or musical shortcomings.
While I have not yet had the opportunity to
compare this product with the more expen-
sive Stax and Accuphase players, it clearly
outperforms every other CD player I've heard
to date. But I do have a problem with the
physical construction of the Aria. The ap-
parent cheesy, tinny quality of the Philips
chassis on which the Aria is built does not in-
spire confidence in its mechanical reliability.
The Sonographe also suffers from the same in-
substantial quality, being built on the earlier
Philips 14-bit chassis. The Sony, by com-
parison, built like the proverbial tank, is much
better ergonomically, and, if looks were the
deciding factor, would walk away with first
prize.

I am also concerned about long-term qual-
ity control with the Aria, having experienced
a product failure firsthand. While it is the
finest-sounding player of the three by a wide
margin, and the best I have heard to date, the
known failure rate of the Philips transports and
DACs should be taken seriously into account
by anyone intending to buy this unit.

**Conclusions**

The CAL Aria is a musical reference compo-
nent. Low-level harmonic and ambient resolu-
tion are unequalled by any other CD player
I've heard, and its ability to involve the listener
with the recorded performance is extraor-
dinary. The openness of presentation, neutral
spectral balance, dynamic capabilities, har-
monic integrity, and musical honesty set new
standards for this listener. It is not a product
for the average consumer looking for a pleas-
ant-sounding, well-built player: the Sony
CDP-705 would be a better choice. But if you
want something that will draw you into the
musical performance, transcending the mund-
ane boundaries of electronic reproduction,
I suggest you give the revised California Audio
Labs Aria a serious audition.

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1 Although Lewis does not mention it in connection with the
Aria, a problem I have found with other Magnavox/Philips-
based CD players is that the unshielded mains transformer
used by Philips throws a considerable hum field. Stacking the
Mission PCM7000, original Meridian Pro, or CAL Tempest
below or above ARCSP 10 II or Krell KR52 preamplifiers
induced inaurable hum into the phone inputs of both preampli-
fiers. Care should be taken, therefore, when positioning such
CD players.

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Stereophile, January 1988
VACUUM TUBE LOGIC
DUAL 75/75 POWER AMPLIFIER

J. Gordon Holt


We may well be approaching the end of the line in power amplifier design. Not only have the most expensive ones been getting more and more similar in sound; the cheaper ones are starting to sound more and more like the expensive ones. Of course, there are still differences, as anyone who reads our reviews knows very well. But as of just a few years ago, the idea that a $2000 tube amplifier could sound even remotely like a $10,000 one would have been laughable. It isn't any more.

Prior to auditioning the VTL 75/75, I had been luxuriating in the sound of a pair from Audio Research's new behemoth M300 amplifiers—each about the size of a large microwave oven and about twice as heavy, and ticketed at $9800 a pair—which I reviewed in Vol.10 No.9. While I've heard somewhat better bass from a couple of other amplifiers, I have never heard another amplifier whose overall sound was so seductively listenable and, simply, right.

Under the circumstances, I anticipated having to be exceedingly tolerant when evaluating this unimposing-looking unit from VTL, lest I come down unfairly hard on its shortcomings simply because I had been spoiled by the M300s.

The design approach of these two tubed amplifiers could hardly be more different. Audio Research prides itself on the sophistication of its designs, which translates into attention to detail and rather complex circuitry, with extensive correction for errors which could result from such complexity. VTL's approach is traditional Hafler: the fewest active stages necessary to do the job right, and attention to detail.

There are just four tubes per channel in the 75/75: two 12AT7 dual triodes and a pair of 6550 output tubes. The first stage in each channel consists of one pair of triodes connected, simply, in parallel. This configuration is claimed to double the transconductance of each, and to halve their noise and output impedance. The second stage, comprising two more triodes, is a cathode-coupled driver/phase-inverter—a so-called long-tailed pair—which feeds the output tubes. The outputs have a sliding bias arrangement that runs them in class-A operation up to about 56W output, then goes smoothly toward class-AB above that. The rectifiers are, of course, solid-state, and a single power transformer serves both channels; the amp is not dual mono. (We all know, of course, that this will impair the width of its soundstage presentation.)

The first thing I did before auditioning the 75/75 was to put it at risk. The amplifier is so new, it came without instructions of any kind, and only later did I learn, while talking to VTL president David Manley, that it can be damaged by operating it without a load, even with no input signal. (Stray RF can be picked up and amplified, causing damage over a period of time.) In my case, it sure had time! Not knowing about this caveat, I did what I always do with amplifiers before listening: I plugged it in, turned it on, and let it cook for four days. As it turned out, no harm was done, but the warning is worth noting. Manufacturers often know more about their own designs than reviewers do.

Equipment used for my tests included the

1 In class-A operation, the output device passes current at all times. In class-B operation, it passes current only during the positive half-cycles of input signal. Class-AB lies between the two: the device draws current during more than half of each cycle of input signal but not for the full cycle.
Ortofon MC-2000 cartridge in the Versa Dynamics 2.0 arm and turntable, a Stax Quattro CD player, a Revox A-77 15ips open-reel tape deck, the Threshold FET-10 preamp and line controller, and Sound Lab A-3 full-range electrostatic speakers. Audio interconnects were Monster 1000s, speaker cables were Straight Wire Ribbons. The listening room is extensively treated with ASC Tube Traps. Program material was some of my own tapes, and CDs and analog discs from Sheffield, Opus 3, Telarc, and Reference Recordings.

The first thing I noticed when I went to hook up the 75/75 was its temperature. This has to be one of the coolest-running tube amplifiers in existence; after 96 hours, the top of its protective cage was just warm. Not even very warm. This should ensure long tube life and, possibly, unusually high reliability. (Tube amplifiers which run very hot have an unenviable reputation for self-destructing.)

Sonically, it was a pleasant surprise. Yes, I expected it to be very good; most tube amplifiers these days are. But I did not expect it to sound as good as the M300s in some respects, and better in others!

Overall, the VTL is what might be described as light ‘n’ lively. Bass/treble balance is very good, although there is a slight leaness to the sound which is not unlike what I hear in live music. It is also slightly forward, which does nothing worse than make instruments and voices seem almost palpably alive. The M300s had a startling ability to make things sound as if they were right behind the loudspeakers, occupying solid space; the VTL, amazingly, does it even better, although not by a great margin.

The Dual 75/75 was completely free from grain, sounding absolutely, liquidly limpid. Highs were gorgeous—not quite as luscious as those from the M300s, but awfully close. There was an incredible quality of purity to its sound, but the amplifier was very un-tubelike in character. It had no spurious warmth or sweetness, but was far more neutral than the average tube design, or even the average solid-state one. Vocal sibilants sounded completely natural, with no added spit or sizzle. Even Thelma Houston’s peaky microphone on “I’ve Got the Music In Me” (Sheffield Lab 2) sounded exactly like what it is, rather than like a vocal peculiarity of Ms. Houston’s.

Soundstage reproduction was, completely unexpectedly (considering the common power supply), superb. There was no lateral compression of the soundstage at all, with depth so well reproduced that I felt I could see the boundaries of the recording space behind the speakers. Also remarkable was the amplifier’s ability to present images in their proper size, without bloating or compression. No one seems to know what explains an amplifier’s ability to do this, but the Dual 75/75 did it better than I thought was possible. (Dick Olsher, whose wife sings a mean soprano solo, listened to a PCM tape he had made of her singing, and declared it to be more like the real Lesley than he had ever heard reproduced.)

What was almost embarrassing for me, after my paens of praise for the M300 in the last issue, was that the 75/75 actually surpassed it in both resolution of detail and low-end quality. While the M300s separated individual voices in a group better than any other tube amp I had heard, the little VTL managed to do it better still. And whereas the M300s were just a little woolly through the low end (through my speakers, which tend somewhat that way to begin with), the VTL was as tight as the proverbial drum, providing better LF detailing and pitch delineation. In fact, this VTL amp has low-frequency performance like no tube amplifier I have ever heard! Its low end is deep and hefty, with the kind of solidity and control I take for granted from solid-state units but not from tubes. Deep and hefty up to a point, that is. That point was its overload point, which was obviously very much lower than that of the M300s. And so we come to the only areas where I found the VTL 75/75 to be a little bit disappointing.

First off, it sounded a little weak in the lower middle range—the 250-500Hz region. I did not bother to measure it, because such measurements proved long ago to be fruitless. (I doubt that anyone has made a power amplifier in years that didn’t measure ruler-flat from at least 30Hz out to 15k.) As a result of that apparent suckout, the VTL does not do justice to big, bombastic works of the kind which constitute the staple listening diet of many

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2 Although most audiophiles prefer to invest in better amplifiers or loudspeakers, the most significant improvement in LF performance for the money can be effected by some of these vastly underrated products. The only known room retrofit that will tame standing waves, which are the cause of most LF problems, are ASC’s Tube Traps; an absolute necessity, I feel, for anyone who cares about good bass performance.
audiophiles. The volume was there, but the impression of power was not, despite the very impressive low end.

The 75Wpc did not sit well with my very insensitive Sound Lab A-3\(^3\) speakers, either. Clipping was occasionally audible, in various parts of the audio band, at levels I could only describe as moderately loud. The clipping was not particularly offensive, sounding more like a crisp signal limiting than like anything resembling the usual sharp-edged click. About 100dB of level was all I could get cleanly above 60Hz, and bass muddiness set in at around 92dB in the 40 to 50Hz range. Now, these are not exactly polite listening levels, and owners of other loudspeakers can fully expect to get from 5 to 10dB more clean output from these amps than I got. But that slight lower-middle-range weakness is a temptation to crank the system up higher than would otherwise be necessary, in order to restore some of the missing power from high-powered music. In my case, the result was that the amp was working on the hairy edge of overload for much of the time. It is interesting to note in passing, though, that the Octave Research amplifier auditioned just a week before seemed able to deliver about 4dB (SPL) more of clean power under the same conditions as did the VTL 75/75, even though the difference in rated power should translate into no more than a ½dB level difference.

The more I listened to the VTL 75/75, the more I wondered if it might not be the ultimate power amplifier for driving good horn loudspeakers. And I do not mean that as a nasty, derogatory crack at VTL. I admire many of the things a big horn system can do, among which are the ability to effortlessly produce very high SPLs with very little input power, and to reproduce the "power range" in music, which is precisely where the 75/75 seems a little reticent.

Thus far, I have compared the VTL with another amplifier whose price clearly puts it out of the range of "the competition." What about the VTL's real competitors? I really do not believe it has any, because no other similarly priced amplifier that I know of does so many things as well as the 75/75 does. All the tube amps I know of in this price class sound very tubey, and all the solid-state ones (which offer much higher power at this price) sound pretty much solid-state, too. In fact, the VTL 75/75 is a frustrating combination of outstanding virtues and almost equally outstanding weaknesses. It will certainly not satisfy everyone looking for a $2000 amplifier, but it's an amplifier that no one shopping for such should fail to at least audition, preferably at home (as we have stressed countless times in these pages). One thing is certain, though: If you're interested in a tube amplifier because tube sound appeals to you, forget all about the 75/75. It has practically none of the attributes we think of as "tube sound." The VTL 75/75 merely uses tubes to get a quality of sound which is almost as good, and as completely accurate, as it is possible to get from any kind of amplifier, regardless of cost. It's just a shame there isn't enough of it.

\(^3\) Not only are these speakers less sensitive than most, but this is exacerbated by the rarified air at Santa Fe's 7000-foot altitude.

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**OCTAVE RESEARCH POWER AMPLIFIER**

J. Gordon Holt


What's this, another new amplifier manufacturer? No, it's not; Octave Research has been around for some years, but has maintained a low public profile since an initial favorable
review in the late '70s in The Audio Critic. The reason? They had hesitated to submit their amp anywhere for review because of "uncertainty about what the response might be." Which is another way of saying those "underground" magazines are unpredictable and their reviewers have a reputation for trash[ing] products when the celestial signs are unpropitious. (They must have been thinking about some other magazine; certainly our reviewers aren't that way.)

The Octave Research OR-1 amplifier is generally conventional in design, differing from the crowded pack mainly in that it has five separate power supplies, no overall feedback, and runs in full class-A up to about its half-power point into 8 ohms. Specs supplied were minimal, omitting any mention of frequency response, meaninglessly minuscule harmonic distortion, power bandwidth, or current capability. (The literature claims only that current capability is "tremendous.") Spec-wise, Octave Research's attitude here seems to be "love me for what I sound like, not how I measure." Okaaaay!

It's true about the five power supplies.1 There are five separate power transformers, one each for the two output stages, one each for the two voltage amplifiers, and a fifth for "accessories," which I suppose includes such things as the onboard microprocessor that checks load conditions, stability, and the presence of DC offsets at the inputs. But no matter; it's performance that counts, I suppose. There are four massive storage capacitors in the amp, each of 20,000uF—a total of 80,000uF of supply storage. Impressive. That's probably the source of the "tremendous" current capability, for while the toroidal power transformers for the current (output) section are of a good size, they do not look large enough to be able to suck in the kind of current from the AC line needed to deliver, say, 60 amps into 1 ohm, continuously (which is what a big Krell power amp can do).

All of the active devices in the Octave Research amplifier are bipolar transistors, including the outputs. Each channel consists of only three stages, the first of which is an essentially passive input buffer, which serves to convert the voltage input to a constant-current signal suitable for driving the next (voltage amplifier) stage. The only capacitor in the signal circuit is between the buffer and the first

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1 I opened up the unit, and had to go lie down afterwards. For years, I sweat[ed]ed and cursed over the plethora of slotted-head and Phillips-head screws I had to remove and then replace in order to get a peek inside something that only needed four to hold it in place, so I finally bought an electric screwdriver. Now, everyone's using Allen-head screws to hold top covers on. The electric screwdriver won't take Allen tips. Because the Octave Research amp has no internal structure, it uses 20 Allen screws just to fasten down the single flat top panel. Phooey.
voltage amplifier stage, and that cap is "triple bypassed" with ones having superior dielectric materials for their capacitance ranges.

All voltage gain is derived from that one second stage, without any local feedback; the output stages provide only current amplification for driving the speakers. Each channel's push-pull output section shares a common heatsink, consisting of a square "chimney" with cooling fins on the outsides, and heat sensors allow each output device to know what its complementary device is doing in terms of current draw, and to balance each other out. Finally, each chimney is topped by its own cooling fan. Back-panel receptacles are provided for 5A slow-blow rail fuses. There are no fuses in the speaker lines.

The output terminals are standard, separate 5-way binding posts, for which I must express my thanks to Octave Research; increasing numbers of amplifiers these days are coming through with dual molded posts that will not accept the heavy ¼" spade lugs that terminate most premium loudspeaker cables.

Before auditioning the Octave Research, it was allowed 48 hours of warmup, which is usually more than enough for a device to achieve its full performance capability. It was then installed in my system in place of the Audio Research M300s which I recently adopted as my reference standard power amplifiers. Other components used for my tests were the Versa Dynamics 2.0 turntable and arm, Ortofon MC-2000 cartridge with its X-2000 stepup transformer, Threshold FET-10 preamplifier, and Sound Lab A-3 full-range electrostatic speakers. Interconnects were the new Monster M-1000 Laboratory Reference series, the speaker cables were by Straight Wire. The listening room is acoustically treated with a number of Acoustic Science Corp. Sound Traps. Signal sources were 15ips tapes I recorded myself, CDs played on the Sony CDP-705ES player, and analog discs made by Sheffield, Reference Recordings, Wilson Audio, and Opus 3 (the Depth of Image recording).

When you first plug in the OR amp and turn it on, it performs a self-test; if all is well, a green LED on the front panel goes on. Only when this is lit can you turn the amplifier on by punching the AC button a second time, at which time a red light comes on. From then until you unplug it (or lose power), turning the amplifier off shuts down the output stages only. The green light goes out, the self-test is repeated, and the green light comes on again when it's ready to fire up again. Until then, all the voltage amplifying stages stay warmed up, for instant use. (In fact, the amp still improves sonically, slightly, for about 15 minutes after you turn it on, but that beats a 2-hour warmup any time.)

There are two areas in which the $3650 Octave Research amplifier yields no ground to the $9800-a-pair M300s: bass performance and soundstage width. Soundstaging is as wide as from any amplifier I have heard, and I have reached the point where I take this sort of thing for granted from any true dual-mono amplifier. I have not encountered an exception to that "rule" yet. And, amazingly, the Octave Research amp, with its relatively piddling 85W of output, is comparable to the M300s at the low end, too. It is slightly more punchy in the midbass, despite the fact that it gives up audibly at significantly lower levels than the M300s (about 95dBSPL from my speakers). The OR also has somewhat more deep-bass contribution, and is capable of making as much clean noise at 30Hz as are the M300s. But in every other respect—detail, transparency, openness, naturalness, focus, imaging, depth—the M300s run circles around the Octave Research. By comparison, the OR sounds almost coarse, brash, and muddled. But then, at $6150 worth of price difference, why compare them at all? Because the M300 shows what is possible; the Octave Research shows what is practical for less than half the price.

The Octave Research amp is superbly balanced and just a little laid-back through the middle range. There is no audible texturing to the sound as such, but the high end is nonetheless slightly dry, and the overall sound is not quite as liquidly transparent or as suavely seductive as the very best tube and solid-state amps. The highs are neither soft nor tizzy, which is to say there's a hair too much for electrostatics and not quite enough for average dynamics. The extreme top is also a little deficient in openness and delicacy, and does not mesh terribly well with the lower ranges, sounding a trifle disembodied.

Considering its modest power (by US standards—Europeans will think it's a powerhouse), the low end of this amplifier is quite astonishing. It has tremendous heft, authority, and power, although with not quite the effortless
control of the Threshold SA-1s, which were my previous reference amps. The only other amplifier of reasonable price that I’ve heard that has a comparably impressive low end is the $1000 Electron Kinetics Eagle 2A.

The reproduced soundstage is very wide, but depth is neither as great nor as definite as it could be. Focus is very good but, again, not outstanding; the OR does not etch the outlines of sounds as well as some amps I have heard. As a result of this, and the slightly reticent midrange, the OR’s sound doesn’t have that spark of vitality that gives a listener the feeling of listening to real instruments occupying solid space behind the loudspeakers. I heard more life from the $2295 McIntosh MR-7270 and the $1100 Onkyo 508 amplifiers. Neither of those has as detailed bass as the OR, though, not as consistently wide a soundstage.

Okay then, what is there for the same price that’s any better than the Octave Research? Well, this is a price class where there aren’t too many amps, and we have probably only tested about half of them. But even among those that have been reviewed in these pages, the OR has some formidable competition. To wit: the Nestorovic 1, Rowland 5, Jadis JA-30, and the Onkyo Grand Integra 510.

Of the 150W/channel all-tube Nestorovic ($4400/pair), Steve Watkinson reported excellent detail, highs free from grain and hardness but not as open as the best solid-state units, mid bass slightly exaggerated, deep bass a bit thin, wide image, good depth, not too good at separating instruments from the surrounding space. Except for the bass, this could almost be a description of the OR’s sound.

Lewis Lipnick said in Vol.10 No.8 that the 150Wpc Rowland 5 ($4600) had excellent focus, balance, and weight, and was very neutral, with bass that was tight, controlled, and detailed rather than hefty. Midrange was described as neither forward nor recessed, with the whole sounding “consistent from top to bottom” and giving an impression of effortless power. The OR probably has more impressive bass, but is hardly “consistent” through the top. Sounds like six of one, half a dozen of the other, but with 3dB more power capability from the Rowland. That’s probably worth $950 more.

Dick Olsher and Sam Tellig both raved about the all-tube Jadis JA-30’s imaging, soundstage, transparency, suaveness, and “romantic” musicality, but both practically apologized for suggesting that anyone should pay $4300 for a pair of 25W amplifiers. The ‘80 may be ideal for such overload-sensitive speakers as the original Quads, but they make the Octave Research’s 85Wpc (and much higher current capability) look like muscle beach! These are different amps for different applications, and hardly comparable.

Larry Greenhill was almost intemperately enthusiastic about the $4200 300Wpc Onkyo Grand Integra 510, describing it as having “marvellous sound, one of the few Japanese amplifiers I have auditioned (and found to be) of top audiophile caliber.” He heard “power with delicacy,” superb soundstaging and depth, and excellent high end. (He said nothing about low-end quality, except that it handled “bass drum whacks” well, which at 300Wpc, it should.) I haven’t heard the 510, but from LG’s description, it may be toe-to-toe sonic competition for the Octave Research, with 6dB more power capability to boot! I did, however, hear the 510’s little brother, the 508, and found it to have sweeter highs and a more alive overall sound than the OR. At 50% more power, the 510 should better the 508’s rather undistinguished low end. In other words, the Onkyo 510 may just be $400 worth of better than the OR, for $550 more. Or it may not be.

And there are other contenders, as yet untested: the Accuphase P500 ($4500), the current Electron Kinetics Eagle 7A ($3950), the Esoteric Audio Research 511 ($3800/pair), the Krell KSA-100 ($3650), the McIntosh MC2500 ($3495), Mirror Image 4.3s ($3695), and the Motif MS200 ($4350).

The point here is that, while the Octave Research is unquestionably an excellent power amplifier, it must probably share that distinction with several other similarly priced amps, none of which will sound exactly like it. Which means that, instead of my saying this is the $3650 amplifier to buy if that’s what you’re looking for, the best I can do is advise you to listen and compare, preferably at home. 1 Try and borrow a floor demo sample, though. Otherwise, any amp will need at least 24 hours of warmup before you can judge what it really sounds like.

2 $3650 is serious amplifier money, even in the high end. Any dealer who won’t let you borrow amps in this price range overnight or, better still, over the weekend, should be selling PA equipment.

Stereophile, January 1988
PARASOUND D/AS-1000 STEREO POWER AMPLIFIER

Thomas J. Norton

Parasound D/AS-1000 power amplifier

Parasound is probably best known to audiophiles as a manufacturer of a line of receivers, integrated amplifiers, and tuners designed in the NAD/Rotel/Proton mold; i.e., emphasis on sound quality rather than on glitzy cosmetics. But they also manufacture separates, and the D/AS-1000 power amplifier reflects their philosophy of value for money rather than cost-no-object.

The D/AS-1000's special claim to fame is a very high dynamic output power capability; 5dB of headroom above the continuous power rating is claimed. This translates to an instantaneous output of 400Wpc into 8 ohms and 560Wpc into 4 ohms. The amplifier produces this headroom by the use of a secondary, high-voltage rail in its power supply. The main rail supplies current up to the rated 130Wpc (8 ohms). When the signal demands exceed the voltage capability of that rail, this secondary rail kicks in—a sort of electronic turbocharger. The extra rail is only capable of supplying current for a brief period—Parasound claims up to 300ms—but that is generally sufficient to meet the demand (keep in mind that a power output in the hundreds of watts for more than a fraction of a second will probably destroy most loudspeakers anyway, so the need to have such power available on a continuous basis is debatable). Both of these rails are supplied by a single power transformer. The main advantage of this approach is reduced cost; it is far less expensive to design for high peak demands than high continuous ones. Parasound is not the only manufacturer using this concept. Soundcraftsmen (under the class-H appellation) and Hitachi ("Dynaharmony") produced similar amplifiers a decade or so ago and both NAD and Proton produce present-day variations on the same theme, again distinguished chiefly by their names: NAD calls theirs the "Powertracker"; Proton refers to "Dynamic Power on Demand," or DPD. Parasound's catch-phrase is "Digital/Analog Servo," which apparently refers to the means by which the secondary rail is switched on and off. This is accomplished by what Parasound calls a Load Requirements Analyzer (LRA), which tracks the input and output signals and turns on the high voltage rail, when required, using a "digital high-voltage switch."

Parasound claims, in their literature, that "unlike other 'big headroom' amplifiers, (theirs) has higher continuous output and the ability to reach undistorted or clipped sinewaves repeatedly while others gasp for breath." Other than the claim of higher continuous power (untrue—the NAD 2600 has 150Wpc),
no explanation is offered as to why the Parasound should be superior in power-delivery capability to the other designs. The dual-rail power supply is a clever solution to a real problem, but is not unique.

The D/AS-1000 is a dynamic or "sliding" bias design. The amplifier operates in class-A up to some (unspecified) moderate level, then switches over to class-AB operation. It idles slightly warm to the touch; only when driving really difficult loads (ie, the Apogee Duetta IIIs) does it enter the "too hot to touch for more than five seconds" region. Parasound claims that the amplifier runs cool. I did not find this to be the case, but it never ran so hot as to be a concern.

The D/AS-1000 is sleekly styled in a no-nonsense way. A single pair of output terminals at the rear will accept either banana plugs or bare, 14-gauge wire; spade terminals cannot be accommodated. Left and right level controls on the front panel are continuously adjustable and always in circuit; they have calibrated markings, making it possible to reset them with relative precision. Four LEDs are also provided on the front, in addition to the power-on and protection-relay-engaged LEDs; they indicate class-AB peak mode (engagement of the secondary supply rail) and clipping for each channel. The amplifier may be bridged, producing a dynamic power of 1000W into 8 ohms and 1250W into 4. I cannot imagine anyone being comfortable with that much power (or the corresponding continuous 400W into 8 ohms and 625W into 4), but if that's what you want, it's available here at a relatively modest price—$1300 for a stereo pair. Rack-mount extensions are available optionally at $28.

Internal construction of the Parasound is acceptable, but is clearly designed for productivity and economy, not the 1987 Miss Amplifier pageant. It is typical of mid-line Japanese consumer electronics in build quality (the amplifier is built in Taiwan of Japanese parts). The heatsinks are internally mounted. They look a little tinny until you realize that their primary function is to radiate heat: a large number of thin aluminum fins is more efficient than a few thick, pretty, anodized, externally mounted ones.

I don't intend to start a crusade on the definition of bandwidth, but the bandwidth specified for the Parasound (culled from the annual directory in Audio—it's not mentioned in Parasound's literature) parades the same error I railed about in my review of the Aragon 4004 in Vol.10 No.9. Bandwidth is, by standard definition, the specified 3dB down or half power point. Claiming full power from 20Hz to 20kHz and a bandwidth of 20Hz to 20kHz is not consistent. In Parasound's defense, the pages of the Audio directory are rife with amplifiers with a similar specification. Either a lot of designers (or advertising copy writers) don't know the definition of bandwidth, or someone changed the definition when I wasn't looking. Enough said. If I fail to mention this in future amplifier reviews, it's only to avoid boring the reader.

But on to the more important details: just how does the Parasound stack up sonically? There are three distinct groups of amplifiers in the under-$1000 category: those which come surprisingly close to replicating the quality of far more expensive amplifiers, those which cannot be seriously recommended, and the great mass of good yet unexciting products. The Parasound falls near the top of the latter category. In my opinion, it produces good sound for the money; in light of recent breakthrough moderately priced designs, those produced by Adcom, for example, this may not be enough.

The high-frequency behavior of the D/AS-1000 is never offensive, but fine high-frequency details—delicate percussive effects, fingering details on guitar, and the like—were softened. Not to the point of being dull, however; listened to in isolation (without reference to competing units), the HF range of the Parasound was quite respectable. It errs in the direction of sweetness rather than incisiveness. It is completely listenable, but I missed the delicacy and definition that I hear in the best competing amplifiers.

The Parasound has a fair degree of inner detailing through the midrange. It does lack a certain degree of life and transparency, but instrumental timbres were well reproduced; its reproduction of lower-midrange weight and body was marginally superior to the comparably priced Adcom GFA-555.

The high-peak-power design would appear to be well suited to the power demands of the bass end of the spectrum, so I was not surprised to find that its low end is deep and powerful—certainly competitive in those
respects with anything in (or even considerably above) its price range. But while the bass was clearly well extended, definition in the low to mid-bass was a bit soft; "slam" and impact were merely good, not exceptional.

Although an amplifier's soundstage replication (which is comprised of depth, imaging, and a certain elusive, controversial characteristic usually referred to as transparency) is usually discussed in isolation, it is not a magic ingredient. In my opinion, it is the sum total of an amplifier's ability to properly render detail, timbre, and overall balance. The Parasound's soundstaging was therefore no surprise; it had a reasonable but not exceptional sense of depth. Imaging was good. Transparency was fair to good. Nothing disappointing at the price, but nothing particularly remarkable either.

I auditioned the Parasound through both the Apogee Duetta II and the Synthesis LM300 loudspeakers. To its credit, it did a respectable job of driving the Apogees, a very low-sensitivity load. It encountered no problems at all in driving the LM300s. There were subtle differences in the amplifier's relative strengths and weaknesses through each loudspeaker—the lack of "air" was more evident through the Synthesis (which has more of this characteristic than the Apogee); the Apogee was less palpably "alive"-sounding than it had been with other amps. But in general, my sonic comments are applicable to both speakers.

Without comparison to competing amplifiers, the Parasound is a respectable performer. Two years ago it would have been easy to recommend as excellent for the price. But since that time there have been amplifiers in the same price category that approach (but do not yet equal) the sound quality of many far more expensive high-end amplifiers. I compared the D/A-1000 directly with the Adcom GFA-555 through both the Duetta IIs and the LM300s. The Adcom had a slightly dryer, brighter sound, with an occasional leanness in the lower midrange (more evident through the Synthesis than through the Apogee). But beyond that it was, quite frankly, no contest. The Adcom had a much tighter, more detailed low end and a more focused, precise soundstage. HF detail on the Adcom was also superior. The Parasound was the sweeter-sounding of the two, but that sweetness is purchased at the cost of transparency. On the recently re-released The Weavers Reunion at Carnegie Hall (Vanguard VSD 2150), the classic "Goodnight Irene" had notably better inner detail, ambience, and realism with the Adcom. The Parasound was listenable, but simply less involving.

On the recording Pick Up Test Record, Test of Music (Ortofon 0003—not, to my knowledge, available in this country—mine was purchased in London), there is a choral cut at the end of side one, "Bred Dina Vida Vingar." In the right circumstances, this is as good a recording of a choir in a reverberant acoustic space as I have ever heard. Through the Parasound it sounds fair, but nothing like the remarkable recording I know it to be. The sense of depth and space was not remarkable, layering within the chorus only hinted at. The Adcom provides these details, and while it cannot quite equal the best higher-priced amps, it does give more than a hint of high-end sound. These are extreme examples. While the Parasound and the Adcom were closer on a great deal of program material, the important point is that the Adcom could "cut loose" with better recordings, while the Parasound was at least partially successful at obscuring their special traits.

As it is now, the D/A-1000 is a good amplifier that yields a bit to the best of its competition in the important areas of soundstage depth and inner detailing. It is not, in my opinion, up to the best of our Class C recommended amplifiers in overall sound (although Class D would not be out of line). Although a consistently listenable amplifier, with a sweet high end and a never irritating sound, it's an amplifier about which I could work up neither dislike nor enthusiasm. If you audition it, and disagree with my conclusions, then by all means trust your own ears.

1 This characteristic is not well defined and appears to mean different things to different reviewers. To me it means the sensation that I can physically get up from my listening chair and walk into the soundstage, without obstruction. To the extent that I feel I can merely walk up to, but not into, the soundstage, betrays a lack of transparency.

2 Other equipment used: Monster Alpha 2 in an Eminent Technology II arm, Klyne SK-5a preamp, and Monster M-1000 and Interlink reference interconnects.

3 To reduce the possibility that cables were having an effect on these observations, the Apogees were biwired with Kimber Cable (doubled-up 8TC), the LM300s connected with a single run of Monster M-1.

4 From the album Kalix Ungdomskor KKLP 8007. I have attempted, without success, to find the entire album.

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The "transatlantic price penalty" means that a speaker appropriately priced according to performance for one market needs to be something rather special to survive the increase in price when exported to the other side of the Atlantic. One US miniature which has sold well in its home country is the Spica TC-50, now also available in the UK at a selling price of around £600 ($1000). Given the UK income level, this means that it rates as an expensive model over here, falling a little short of the legendary Celestion SL600 model. In the US, however, the Spica is almost a budget model, selling for a fraction of the price of the imported SL600! This means that any review for American readers must be quite differently oriented, in terms of value for money, from those which would pertain to the UK.
I call the Spica a miniature because that is what it is. Don't be misled by the fairly sized front panel, and instead follow my rule of thumb: models under 14 litres internal volume are miniatures. The Spica's volume is 11.5 liters. Admittedly it does look larger than this; the small volume is a function of the triangular side profile.

The TC-50 is a two-way design intended to provide good time alignment between the drivers, relying on a good, high stand to achieve this. For our auditioning, we used Cliff Stone's Foundation Pi models, with three-point alloy cone mounting to the Spica underside. These inert stands are lead/sand filled, and were well spiked to the floor.

In the main, this review covers the standard model, but we also had the opportunity of trying a higher-performance, more expensive version, upgraded here in the UK with Spica's permission. This improvement, in fact, adds £200 to the final selling price and is denoted by the "SE" suffix. It includes biwired terminals, special internal wire, panel damping, and a brace. These mods are not, however, available in the US.

Stereophile has reviewed the TC-50 before (AHC, Vol.7 No.2; JGH/TA, Vol.9 No.5; AHC, Vol.9 No.7, the latter two reviews mainly being of the matching Servo subwoofer), and I shall not labor the appearance or background here. Heading straight into the technical description, the bass midrange is handled by a moderate-power-capacity 6.5" paper-cone driver built on a pressed-steel frame and equipped with a synthetic-rubber half-roll surround. Bass loading is sealed-box, and a 1" doped soft-fabric dome tweeter is used in the treble; both units are made by Son Audax in France. The tweeter is noted for its extended low range, which aids in the design of linear-phase, lower-order, crossover-slope filters. These are first-order, plus some corrective equalization applied to the out-of-band region of the midrange.

By sloping the front baffle steeply backward, the tweeter is brought into timbral alignment with the mid unit and both are then used off-axis, typically by 35°. This improves the overall off-axis response and directs more energy than usual into the room, avoiding some of the minor peaks which often appear directly on-axis with drive units.

Sloping the baffle has other benefits as well: for example, it minimizes the symmetry of the side walls, thus reducing their panel-resonance contribution, while the anti-parallel internal shape also helps to break up internal acoustic standing waves.

The case is natural wood-veneered only on the two visible sides, with the rear and underside finished in satin black. The grill covers the full area of the front panel, and is made from a dark-brown woven polyester, the frame fitting neatly over an acoustic blanket, some 3/8" thick and made of soft felt, which covers the driver baffle. It is cut as an aperture for the bass-mid unit and as a horizontal slot, some 1 1/4" by 3", for the tweeter. Diffraction at the cabinet edges is thus reduced to a low value, while the directivity and power response of the tweeter are controlled by the slot geometry and its orientation. The usual energy step between the tweeter and the midrange unit may be reduced in this design due to the improved control of the tweeter's off-axis output.

The main case of the enclosure is of 3/4" particle-board while the front baffle is made from MDF; the interior generously filled with cotton, said to be more effective than the usual Dacron wadding.

Rear connections are made via a recessed terminal panel carrying two small 4mm socket/binding posts. This is rather cramped, preventing easy finger access to torque up the posts.

For the SE version, a second connector set is positioned next to the first, accepting the biwiring cable to the amplifier. In the SE, a brace is inserted, locking front and rear panels together to increase stiffness and to lower cabinet distortion. The reinforcement attaches to the boundary between the two drivers, a critical point. Bimastic damping is also applied to the side walls, while the crossover remains untouched.

At present, there is no really convincing explanation as to why separation of the sections of a speaker in order to drive each with an individual cable should affect the sound as much as it does. Doing the same with multiple power amplifiers is also sonically rewarding; one might explain it as the reduction in broadband complex intermodulations in a piece of active electronics. By comparison, wire is so simple.

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1 This brace is being incorporated in production TC-50s from December 1987. —JA

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and electronically so linear that one is led to invoke ideas of ground impedance and crosstalk between the frequency sections of the speaker. The fact remains that biwiring is a valuable enhancement; we thus carried out separate listening sessions for the two versions of the speaker.

Sound Quality
Regardless of the SE mods, the essential character of the TC-50 remains, and first impressions of the standard speaker were of a clean-sounding, rather lightweight reproducer, with an explicit treble, good presence, much fine detail, and fine midrange transients.

It sounded even, in the sense that the more obvious bumps in the frequency range were absent, but there remained the effect of a gently rising response over the frequency range which ultimately robbed the cello region of its natural richness, and the bass of its full weight and scale.

It would be a mistake to say that the bass was missing, however; indeed, when the program scoring omitted upper-mid and treble sounds, the bass section sounded quite even and extended; the problem was simply that its level was slightly subdued, overshadowed by the stronger output higher up the frequency range.

Its stereo performance was very good for the price. The sounds were not localized at the speaker positions, and image width was impressive. Interestingly, when compared with similarly sized direct-facing speakers, the TC-50 center image, though well focused, seemed quieter—as if some proportion of the available power had gone into the generation of stage width. The "brightish" balance tended to compress orchestral perspectives, moderating the spatial quality of good recordings, where the musicians can be layered in depth, the impression reinforced by the perceived tonal balance. In the case of the TC-50, recordings sounded more "close-miked." The level of detail was good, this aided by the light balance, but some loss of transparency was also evident, together with a degree of congestion on complex scores; ultimately this detracted from the impression of depth. In context, however, its recovery of image depth was rather better than that of its immediate US competitors.

Coloration was mild, again somewhat marred by the tonal balance unless you regard that itself as a coloration (a legitimate thing to do in terms of perceived orchestral color). Some harshness was evident in the upper midrange, the usual byproduct of the straight-sided type of pulp cone diaphragm used for this woofer. By placing the listener off-axis to the tweeter, the usual axial peak was avoided, however, and the treble sounded notably clean. Some "boxiness" was evident in the midrange, while the bass lacked dynamic drive, having a withdrawn, almost "spongy" quality which contrasted with the rather better dynamics available from the mid- and treble registers.

Turning to the SE version, it would be unrealistic to describe the upgrade as a transformation, but the difference certainly constituted a significant improvement. Some benefits to bass dynamics were noted, while the mid- and treble bands were clearer, more detailed, and more sharply focused. No great improvement in transparency or depth was gained. The extra cost for the SE means you get benefits, but not a transformed speaker; I would judge it well worthwhile, if you like the basic TC-50 in the first place.

Test Results
Anechoic data were available for the review, providing a foundation on which to base the technical analysis. The LF system resonance was noted at 65Hz, 22°C, with a -6dB free-field response at 48Hz, indicating a desirably slow, well-damped rolloff. In-room, well sited within the boundaries, the response extended down to 35Hz, provided that excessively loud demonstration levels were not demanded.

Although the speaker is rated at 4 ohms, the impedance curve (fig.1) related to a 6 ohm nominal rating with minima at 4 ohms and above, while the peaks remained within 12 ohms. This is a relatively kind load, and should not cause matching problems for modern amplifiers.

The voltage sensitivity checked out at a below-average 86dB for 2.83V, consistent with the manufacturer's spec. (The 4 ohm rating means that more than 1W will be drawn from the amplifier to maintain the 2.83V level.) The power handling was not exceptional; I advise caution in driving up to 75W peak program, and also advise against high-level driving with continuous synthesizer tones, especially in the bass. On the basis of this power handling, a
minimum of 20Wpc will be required, while the peak input will result in satisfactory in room sound levels of 99dBA. This is not particularly loud, but more should not be expected; remember, the TC-50 is a miniature at heart, regardless of its generous musical performance.

Measured on-axis at 1m, the left- and right-hand examples did not provide particularly good pair-matching; both responses have been plotted for comparison (fig.2). The upper midrange was 1dB softer in one example, while with the same enclosure, the treble was mildly elevated, this making for a “thinner” tonal balance on the dashed-line example. We had not picked the most favorable vertical axis for this particular measurement, which resulted in the 1.5-3kHz depression evident in the crossover range.

Moving on to the set of forward characteristic responses averaged by a 1/3-octave window taken at a more representative 2m microphone distance, these produced a more favorable axial response (fig.3). Here, the on-axis response held within close ±2dB limits from 65Hz to 19kHz. At 10° above-axis (shown dotted), the presence-range dip occurred; so the need for a sufficiently high stand, or one angled back a bit, was confirmed — when all has been squared up, the ear should be at mid-driver level. Off-axis in the lateral plane, the indication was of some lack of phase integra-

2 Spica takes pride in the closeness of their pair-matching. Designer John Bau postulates that the review pair had somehow been mixed up with another pair to produce two odd pairs as this would account for the exact 1dB difference. — JA
tion in the crossover, as the response fell off more quickly than expected in the crossover range. This notch deepened significantly, by the time the microphone was 45° off-axis (dash-dot-dash).

The midrange was mildly lifted relative to the fundamental bass range by typically 1dB, this pattern continuing in the main treble register. Given the good diffraction properties, such a small enclosure might have been designed to have the alternative of a slightly falling response to impart a more natural balance in a typical listening room.

This opinion was largely confirmed by the room averaged response, fig.4. In general terms, this was impressively even, and confirmed the ability of a small stand-mounted speaker to interface well with a room. ±3dB limits held virtually for a 25Hz to 12kHz range.

By comparison with the classic reference speakers, the upper treble was considered to be a little too healthy, denoted by the horizontal marker level. The lift amounted to 2-2.5dB and was responsible for the "light" tonal quality noted in the subjective appraisal.

Distortion measurements for second and third harmonics at a 96dB spl at 1m (fig.5) showed the Spica was working fairly hard, with second harmonics up to the 1% level over much of the range, and peaking at a modest 2.5% by 60Hz. Third harmonics peaked at 1% in the midband, but otherwise averaged a very good 0.2%. When the sound level was reduced to a more moderate 86dB spl (fig.6), third harmonics remained much the same, but the second-harmonic levels were
greatly reduced to a typical 0.25%, with maximum at 0.35%; a good result.

**Conclusion**

In terms of US budget-speaker prices, this is a basically very good design; so good, in fact, that it encourages use in advanced audio systems, where it may then be a little out of its depth. When compared with neutral references, it did sound a bit brittle, lean, and bright, but not enough to rule it out; that sort of decision is ultimately up to the reader. For its price and size, the technical and subjective performance were good. If you really like the speaker, I recommend the SE version or similar upgrades, assuming they are available in the US at realistic prices (say $150-200 per pair). If Spica were actually to make an SE version themselves at their plant, I doubt whether it would add much more than $75-100 to the current price.

*Stereophile* has recently reviewed the Celestion SL6S (Vol.10 No.5) which costs $900 in the USA; it is amusing—and instructive—to compare it with the relative value offered by the Spica. In England, the SL6S costs £350, the TC-50 £600—the reviewer must cope with a 3.5:1 overall differential if reviewing these models in the US and the UK.

I can certainly see the justification for the good performance of the TC-50 on the US market; for my own taste, I would like to see it balanced a little more sweetly in the mid and treble, even if the price would be a small loss in clarity and sensitivity.
THE QUEST CONTINUES!

John Atkinson reviews more affordable loudspeakers

Monitor Audio R952MD: two-way, sealed-box, floor-standing loudspeaker. Drive-units: 1" (25mm) metal-dome tweeter, two 165mm polypropylene-cone bass/midrange drivers. Crossover frequency: 4.2kHz. Frequency response: 45Hz-20kHz ±3dB. Sensitivity: 89dB/W/m. Nominal impedance: 8 ohms. Amplifier requirements: 15-180W. Dimensions: 31.5" (800mm) H by 8.9" (225mm) W by 12.6" (320mm) D. Weight: 44 lbs each. Finish: walnut/black ash/Kenya black/oak standard, rosewood/teak/mahogany available at extra cost. Price: $1349/pair. Approximate number of dealers: 30. Warranty: 5 years from date of purchase (original purchaser only). Manufacturer: Monitor Audio Ltd., 34 Clifton Road, Cambridge CB1 4ZW, England. Distributor: Kevro Electronics Inc., 1755 Plummer Street, Unit 20, Pickering, Ontario L1W 3S1, Canada. Tel: (416) 831-4741. US office: PO Box 1355, Buffalo, NY 14205.


Paradigm 5se: two-way, reflex-loaded, stand-mounted loudspeaker (16" stands required). Drive-units: 1" (25mm) polyamide-dome tweeter, 8" (200mm) polypropylene-cone, bass/midrange driver. Crossover frequency: 2.5kHz. Frequency response: 60Hz-20kHz ±3dB. Sensitivity: 87dB/W/m. Nominal impedance: 8 ohms. Amplifier requirements: 15-100W at 10% clipping. Dimensions: 20.4" (520mm) H by 10" (250mm) W by 11.75" (300mm) D. Weight: 48 lbs (22kg) per pair. Finishes available: walnut/black ash vinyl. Price: $329/pair. Approximate number of dealers: 100. Warranty: 5 years, repair and replacement of parts, provided that the product has not been abused, tampered with, or used for “professional” applications. Manufacturer: Paradigm Electronics Inc., 457 Fenmar Drive, Weston, Ontario M9L 2R6. Tel: (416) 749-2889. US office: Audiostream, MPO Box 2410, Niagara Falls, New York 14302. Tel: (416) 632-0180.

So far, as part of my quest to find good affordable box loudspeakers, I have reviewed 16 models, in the August, October, and November 1987 issues of Stereophile (Vol.10 Nos. 5, 7, & 8). This fourth group of loudspeakers expands the price range covered, down to $329/pair and up to $1349, and includes one model from California (Nelson-Reed), one from Canada (Paradigm), and one, Monitor Audio’s “flagship,” the R952MD, from the UK.

As can be seen in “Letters” this month, some readers take exception to this series of reviews: “I know of no-one . . . who really gives a damn about $400 loudspeakers . . .” writes Thom Lieb of Riverdale, MD. Well, while I would not disagree that dipole speakers, in the shape of ribbon, Magneplanar, or electrostatic systems, can give sonic results that are undoubtedly high-end, the fact remains that most audiophiles use dynamic loudspeakers of some kind, for reasons of cost, taste, domestic acceptability, and the minimizing of the room interaction problems endemic to panel designs. And when you examine box speakers en masse, apart from a rough rule that a $3000 system will be probably better than one costing $300, in that it will go louder and deeper and give a better-focused stereo image, there is little correlation between purchase price and the degree of musical enjoyment to be obtained. A designer of genius can produce an excellent, simple, well-balanced two-way design intended to sell at $500, which will sound better than a $1000 three-way design produced by an engineer who is merely talented, which in turn will give more musical enjoyment than a multiway loudspeaker selling for $2000 produced by an entrepreneur.
who has no idea how to design a speaker other than to throw a number of drive-units into a big box, the whole being held together by a textbook crossover which makes no allowance for such matters as the real, complex, and complicated impedances of the drive-units. (Thankfully, such speakers don’t last long in the marketplace.)

I make no apologies, therefore, for letting the focus of my attention roam where it will. The end result, I hope, will be that readers of Stereophile will be able to find loudspeakers which offer a taste of high-end performance for a price somewhat lower than they expected to pay.

The test procedure followed, with minor changes, that established for my previous loudspeaker reviews: each pair was used both with Audio Research SP-10 II/Motif MS-100 and Krell KRS2/KSA-50 amplification. A Mission Cyrus 2 integrated amplifier was also used, being more representative of the kind of hardware to be found driving speakers at this price level. Source components included a Mission PCM 7000 CD player, and both a 1987 Linn Sondek/Ittok/Troika combination sitting on a Sound Organization table and an LP12/SME V/Koetsu Red player sitting on a RATA Torlyte stand. An alternative system consisted of a Stax Quattro CD player used straight into the Motif amplifier via the PAS-01 passive preamplifier to be described in Vol.11 No.2, to obtain the most musically transparent sound from silver disc. Interconnect was Monster Interlink M1000; speaker cable was Monster M1. The loudspeakers were carefully positioned for optimum performance, and coupled to the tile-on-concrete floor beneath the rug with screw-in spikes. As well as 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 room—spatially averaged across the listening window in order to minimize the effects of low-frequency standing waves—using ½-octave pink noise; this also gives an idea of a speaker’s dispersion characteristic in the upper midrange and treble. In addition, the nearfield low-frequency response was 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 voltage sensitivity (using ½-octave pink noise centered on 1kHz and referenced to the sensitivity of Celestion’s SL600) were also assessed.

**Monitor Audio R952MD: $1349**

Introduced at the Chicago CES last June and the top of this British manufacturer’s range, the R952MD is a floorstanding loudspeaker, available in a number of real-wood veneers. With its tandem woofers either side of the tweeter, it appears similar in concept to the Mission 780 Argonaut, reviewed in Vol.10
No. 6, and coincidentally is manufactured not a million miles away from the Mission factory. Any resemblance is only skin-deep, however, as the '952 represents a growing design philosophy in the UK, in which considerable attention is paid to getting the drive-units to roll off naturally and smoothly out of their intended passbands. As with the inexpensive loudspeakers produced by Acoustic Research for so many years, any crossover can then be very simple, and the current thinking in the UK is that the less complicated the crossover, the more transparent will be the sound. Less will be more.

This reinventing of the wheel was pioneered in 1984 both by Mordaunt-Short's Phil Ward, with his MS100 speaker, and by Robin Marshall with his Epos 14 speaker; Martin Colloms designed an LS3/5A-size DIY speaker conforming with this philosophy for me at HFN/RR in the Spring of 1985; and now Robin Marshall's thinking is embodied as a new series of speakers from Monitor Audio, starting with the R852MD and R952MD. The '952 uses three drive-units but is a two-way design, the two 6.5" woofers operating over the same range. The crossover network is quite simple: a ferrite-core inductor in the feed to the two woofers to give a first-order, 6dB/octave electrical low-pass roll-off, and a series capacitor feeding the tweeter to give a complementary first-order high-pass filter action. Connections to the drive-units are hard-wired.

The drive-units themselves, designed and tooled by Monitor, are manufactured and assembled by Elac of England (not to be confused with the West German Elac cartridge manufacturer), and are suitably high-tech. The tweeter uses a 1" aluminum dome, glued to a vented aluminum voice-coil former and suspended with a small roll surround. The dome is protected by a perforated cover, ferrofluid is used in the magnetic gap, and the hollow pole-piece is stuffed with foam to modify any cavity resonance. (A version of this tweeter appears in the new models from British Fidelity.) The woofers are constructed on diecast chassis and are said to have a vented-magnet, one-piece voice-coil assembly, to confer high power capability. Bass loading is infinite-baffle, and a horizontal tension rod ties the cabinet sides together level with the lower woofer, thus splitting each long piece of wood into two unequal areas. This should spread the panel resonant frequencies somewhat.

The cabinet is constructed from MDF, veneered on both sides to avoid warping, and is lined with 2" acoustic foam. The veneer covers the sides and front, with the drive-units neatly rebated, and although a grille is supplied, I used the speakers without, as is my wont. Holes in the speaker's base take bushes for carpet-piercing spikes—the bushes should be glued in at the factory, I feel, rather than by the user. Electrical connection is via five-way binding posts in a recess on the cabinet rear, with the minimal crossover wired on a board attached to the rear of the terminal posts.

The sound: As no placement instructions were included, I started off with the speakers positioned well away from the rear and side walls of my room, toed-in toward the listening position. As with all speakers I test, I started the review by putting on pink noise at a moderate level overnight to free things up. I seem to be unlucky with Monitor Audio products; readers will remember that I blew one of the R352 woofers toward the end of the listening session. Anyway, the following morning, the sound was not right—yes, this time I had taken out a tweeter! Kevro Electronics' Robert Sinclair couldn't have been more helpful: "I'll send you a new dome for the tweeter so you can repair it." I explained that he should send a complete new tweeter, drive-unit-assembly not having been on the college curriculum back in the '60s. "No problem," quoth he. The next day, a Federal Express package awaited my attention in the office. Inside was not a replacement tweeter but a dome/voice-coil assembly. It turned out that my fears were groundless. All that needed to be done was to remove the tweeter faceplate, unsolder the connections, remove the old assembly and drop in the new one, the voice-coil sliding into the magnetic gap. Locating pins on the magnet assembly engage with holes in the laminate holding the dome assembly, and the tolerances are close enough that the repaired tweeter should match the old one sonically.

Initially, the speakers sounded rather bass- shy, with too much energy in the presence region. Maybe the '952s aren't intended for free-space placement. I moved them so that they were 15° or so from the rear wall, and, suspicious of that presence-band lift, fired the speakers straight ahead so that I was listening 15° or so off the horizontal axis. Vertically, my
listening position was level with the top of the cabinet. All the comments on the sound relate to the '952s used in this manner.

Listening to the R952MDs finally started to make clear what Harry Pearson means by “transparency.” In an essay in Volume 8 of The Audiophile Society Journal—one of my favorite vocal recordings also dates from 1977: Swingle II performing French and English songs (RCA RL 25112). Closely miked, obviously a rock production of classical music, nevertheless these for me are definitive performances, especially of Stanford's “The Bluebird,” where soprano Catherine Bott effortlessly soars away, her voice as exquisite as a cleanly struck bell. Again, the Monitor Audios allow the artificial layering of the soundstage to stand revealed, but again at the service of the music. In the puckish second part of Britten's Hymn to St Cecilia—"I cannot grow; I have no shadow to run away from" —the unison male voices tolling away behind the scampering vocal line are both clearly delineated and blended together on the '952s, a dichotomy that is always apparent in real life yet blurs on most loudspeakers into a generic "male voice." It is also rare for a pair of speakers to reproduce voices with the right size; too often, the image boats at one or more frequencies. This was not a problem here.

Those with the HFN/RR Test CD are probably aware that at the end of Mike Skeet's solo drumkit recording, a pair of sparrows in the rafters at the rear of the hall burst into excited chatter as the echoes of the final cymbal crash die away. This has long been a favorite test track for image depth and definition. (It is best when Hi-Fi Test Tracks don't feature music, as it stops your emotional response getting in the way of your powers of analysis. Which is why Sheffield Lab's rock recordings are so valuable.) Well, with these Monitor Audios, I could tell that the bird on the left was the female!

The bass, even in the near-wall positioning, was lightweight, extension having been compromised to keep the sensitivity high. Nevertheless, the transparent nature of the upper bass and lower midrange meant that the edges of bass instrument sound were beautifully defined. Male spoken voice, which nearly always acquires a "hoom" quality, as though the speaker's chest cavity had become larger, particularly with reflex designs, was accurately reproduced.
This not to say that these speakers are perfect. That elevated presence region is not kind to recordings already hyped in that region. Take that Weather Report album: Wayne Shorter must have upset the engineers, as it is one of the worst tenor-sax sounds captured on disc. That, or he was using a reed of hitherto unknown harshness. The additional slight boost in the mid-treble given to this sound by the '952s was not welcome. In addition, a slight nasality, perhaps due to the still-lively cabinet despite the cross-bracing, occasionally intruded.

**Conclusion:** I must straight away admit that the R952MD will not be for everybody. *Stereophile’s* correspondence column reveals that many listeners need that last octave of low-frequency extension sacrificed by the R952MD in favor of lower-midrange accuracy and sensitivity. In addition, their tonal balance will not match well with typical ‘solid-state’ sound, where the high frequencies tend to be over-etched. But if, like me, you favor transparency and music over sheer quantity of sound, when used with neutral solid-state or tube amplification, these speakers can be highly recommended, even with their Transatlantic price premium.

One final thought strikes me. As the R952MD’s bass is well-damped and reasonably extended, this speaker should mate well with a subwoofer, crossed over around 50Hz to avoid adverse effects on the stereo imaging. Dick Olsher is at present working on a subwoofer survey for *Stereophile*; I shall borrow one of the better contenders from him and experiment.

**Nelson-Reed 8-02: $1200**

Conceivably larger and heavier than the other loudspeakers I have reviewed in this series, the Nelson-Reed 8-02 is an attractively proportioned, full-range, three-way “tower” selling for a moderate price. Designer William Reed, a consultant for the Ampex Corporation, has apparently not skimmed on component or cabinet quality to keep the price affordable. The cabinet is constructed from oak- or walnut-veneered MDF, with extensive internal bracing, and sits on an integral 2"-high plinth. Internal damping consists of a small amount of foam. The woofer is a polypropylene-coned unit exclusive to Nelson-Reed, held to the baffle with 8 screws, crossing over to the midrange unit at 150Hz. (The 1987 *Audio* Directory, however, lists the woofer/mid crossover point an octave higher at 300Hz. This must be an error: to place a crossover in a region right where so many instruments have their peak energy would be problematic.) Bass loading is via an 8"x3¼" slot beneath the woofer. Nelson-Reed recommends experimenting with filling this 5¼ "-deep slot with foam if the low-frequency levels are found excessive.

The range from 150Hz to 4.5kHz is handled by a 4" doped paper-cone drive-unit; this in turn crosses over to a 1" ferrofluid-cooled dome tweeter made by Scanspeak, which has a shallow horn flare in front of the dome. All three drive-units are mounted vertically inline. The 22-component crossover circuitry is said to be computer-optimized, with the low-pass section (for the woofer) physically separated from the mid/treble section. Two massive air-cored inductors are used for the woofer filter (implying a second-order low-pass slope), along with non-polarized electrolytic capacitors. The other section of the crossover uses polypropylene-dielectric capacitors and air-cored inductors, and both

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woofer and mid/treble feeds are fused. Electrical connection is via two pairs of 4mm binding posts — normally strapped together — so that the 8-02s can be biwired, biamped, or even triamped with the matching Nelson-Reed subwoofers. Full details on how to achieve the best results are given in the well-written and informative booklet supplied with the loudspeakers.

All drivers are rebated in the black-painted baffle, and the full-depth grille is made from material stretched over a wooden frame. It is not profiled in any way, so auditioning was carried out with the speakers au naturel.

The sound: The 8-02s are intended for free-space placement at least three feet from the rear wall, and well away from sidewalls and corners. This is how I used them, toed-in toward the listening position. The best auditioning height was, as described later, found to be on the midrange-driver axis. Single wiring with Monster M1 was used for much of the auditioning, switching over to biwiring, again with M1, for the final session.

An immediately obvious character of the 8-02's sound was in the bass: there was just too much of it. This didn't sound like a lack of damping, which would produce the dreaded "one-note bass," but rather reflects what happens when a full-range loudspeaker, balanced to be flat anechoically down to low frequencies, is placed in a real room with finite boundaries. There will be a reinforcement of frequencies below 80Hz or so, depending on the size of the room, just as if someone had reached down an invisible hand and turned up the system's bass control. (This effect was fully described in Martin Colloms's "No-One Stole the Bass" in Vol.10 No.5.) Bill Reed is well aware of this phenomenon, and the 8-02's handbook recommends stuffing foam into the reflex slot to bring down the low-bass level by up to 3dB. Trying this did help, but the bass quality of other components in the system was critical, nevertheless. The SME V/Koetsu/SP10 II combination became far too rich, while the Linn/Troika/Krell KRS2 produced a sound that, while still somewhat bass-heavy, was acceptable in musical terms. (Although the infamous HFV/RR "Garage Door" recording still had too much midbass weight to be truly believable. Trust me. I used to have exactly the same door on my garage in England!)

Moving up into the midrange, there was some "cupped-hands" coloration apparent, accentuating the sound of the viola somewhat, but not to too severe a degree. What was disturbing was what I felt to be a lack of impact to the sound. Though rock music in general was not particularly affected, it was noticeable on acoustic instruments. I always felt that the music lacked a little body and could do with being just that little bit louder. On my Anna-Maria Stanczyn Chopin recording on the HFV/RR Test CD, for example, the attack on
the piano sound was accurate, even slightly over the top, but the body of the tone was lightweight, despite the emphasis in the deep bass. LA, when he took a listen, described what I think was the same phenomenon in very different terms, finding the sound "phasey," by which he meant that there was something wrong with the sound but that he couldn't put his finger on it. Thanks, LA.

The treble was clean, and relatively free from resonant colorations (which add various "hard," "lispy," or whistle effects). Noticeable, however, was a lack of air and sparkle, suggesting that the best HF balance would be obtained with cartridges like the Talisman Virtuoso or Monster Alpha 2, which tend to be overgenerous in this department.

Stereo imaging precision was only fair, laterally, with, peculiarly, less of a buzzing in the ears than usual with a centrally placed but out-of-phase recording of male voice. The ability to throw image depth was also less good than expected. The layering of the ranks of pipes on an ORTF-miked organ recording of mine was less apparent than with a speaker like the Celestion SL68, which gives a better impression of being there despite the lack of bass.

Overall, though they rarely produced a sound which was flawed, I was left unmoved by the 8-02s for much of the time that I used them. As Richard Lehnert poetically expressed it, "It's not that there are thorns, it's just that there isn't enough blossom."

**Measurement:** Assessed in the nearfield midway between the woofer and the reflex slot, the bass response was 6dB down at a low 27Hz compared with the level at 70Hz. (A lack of energy in the nearfield around 100Hz would otherwise have made this measurement misleading.) The port is not profiled at all, and there was considerable wind noise from the port at highish levels of low frequencies. This should not be audible with music, however, and the bass response was commendably free from doubling (distortion). In-room, the bass response rolled off rapidly below 30Hz—good extension for the price. However, with the reflex slot clear of any damping, the bass shelved up by up to 4-5dB between 35Hz and 125Hz, tying in with the subjective impression of a slow, rather exaggerated bass quality. It looks as though the effect of the room is to raise the output of the woofer across its whole range.

If these speakers are used biamped, it would be a good idea to lower the woofer sensitivity with the amplifier gain control to give a flat extended response in-room, though this would have to be balanced against the danger of upsetting the crossover integration.

From the lower midrange upward, the averaged in-room response was pretty flat, ±0.7dB limits sufficing from 125Hz to 1kHz, with a slight excess of energy in the lower presence region, between 2 and 3.15kHz. Not coincidentally, this is the top of the midrange unit's range, where I would expect this cone driver to become more directional as its size starts to become comparable with the wavelengths of the sound being reproduced. Unlike so many I have listened to recently, the tweeter response was smooth without any obvious peaks; this is obviously a high-quality drive-unit. Off-axis, however, the high treble response was a little irregular, probably a function of the relatively wide baffle. The 8-02 should be positioned well away from side walls, therefore.

Puzzled by the sound's lack of impact, I suspected that there might be a suckout problem at either of the crossover frequencies—the in-room response did have an audible lack of energy in the 4kHz band, for example. Probing with a swept sinewave, however, with the microphone positioned 30° away and midway between the tweeter and midrange driver axes, revealed the matching between the drive-units to be seamless, leaving me none the wiser. The slight depression at 4kHz in the room sound may have something to do with the different dispersion of each unit at the crossover frequency, the tweeter being much less directional than the midrange unit in this region.

On the face of things, the woofer/midrange interface didn't look suspicious either, there being no obvious problem in the in-room response. Looking at the crossover between the two drivers close up, however, indicated a possible reason for my feelings of lack of dynamics. The -6dB point for the woofer ref. 100Hz coincides with that of the midrange unit ref. 500Hz at 155Hz, almost exactly on spec. (Audio did get it wrong.) Final (acoustic) filter slopes appeared to be asymmetric, at 12dB/octave (low-pass for the woofer) and 24dB/octave (high-pass). However, the on-axis response of the midrange unit averaged be-
tween 2dB and 3dB higher than the nominal 0dB level between 200Hz and 400Hz, and, as noted earlier, the woofer is balanced to be around 4-5dB higher in level in-room. I believe that the subjective result of this balance will be an apparent lack of energy on the listening axis in the upper bass/lower midrange octave, between 100Hz and 200Hz. This is the region where bass guitar, double-bass, drums, and cello derive much of their subjective impact, and even a small lack will detract from the speaker’s dynamics. I must admit, however, that this is speculation, and represents an attempt to analyze why I didn’t enjoy music on the 8-02 as much as I thought I should.

The in-room measurements confirmed Nelson-Reed’s suggestion that the optimum listening axis is on the midrange-driver axis, the midrange becoming less even on the tweeter axis, resulting in a hollowness to the sound. Unfortunately, at just 27.5° off the ground, this is too low for my listening chair—a normal director’s chair, as recommended by The Absolute Sound—and low stands (6-9") were not available, meaning that I had to adopt an uncomfortable slouch for much of my listening. Use of such stands, however, may help with the excess bass in moderate-sized rooms; potential 8-02 purchasers should consider this option.

Measuring the impedance with frequency revealed the twin peaks in the bass characteristic of reflex bass loading. Most of the time, the value was at least 7 ohms, but despite the claims made for a reasonably constant impedance made in the manufacturer’s literature, it dropped to around 5 ohms from 55Hz to about 220Hz, with a minimum of just under 3 ohms at 75Hz, a frequency where rock music has considerable energy. High-end amplifiers will have no problems driving this load, but 8-02 owners should probably steer clear of tube or inexpensive solid-state designs. Sensitivity, as might be expected from such a large enclosure, was according to spec and moderately high at around 90dB/W/m.

Conclusion: This was one of the more frustrating reviews I have carried out. I wanted very much to be able to recommend the Nelson-Reed 8-02. It undoubtedly has very high perceived value, as its purchaser gets a lot of loudspeaker for the price. It features a beautifully constructed cabinet; good-quality drive-units and crossover components; a smooth treble response; a relatively uncolored midrange; extended (if exaggerated) low bass; and the ability to play loud. On the other side of the coin, it has only average stereo imaging, the exaggerated bass—admittedly an equalization problem rather than one due to underdamping—will exacerbate low-frequency room and system problems, and it sounds somewhat undynamic. For me, these last points ultimately outweighed the good, the 8-02’s sound leaving me unmoved by the music. This may be a personal reaction, however; if you do want a full-range loudspeaker at an affordable price, particularly if your tastes tend toward rock rather than classical music, give the 8-02 an audition.

 Paradigm 5se: $329

Observers of the audio scene will no doubt be aware that Canada has become a hotbed of loudspeaker development in the last five years. Part of the reason is the resources made available to the industry by Canada’s National Research Council, the Acoustics Department of which is headed by Floyd Toole. Dr. Toole has published a considerable body of work on loudspeaker sound in the Journal of the AES and elsewhere, and has probably performed and organized more subjective testwork on more loudspeakers than any other worker in the field.

Among the correlations between what is heard and what is measured that have been unearthed by Dr. Toole and his team is that flatness and neutrality of midrange response are rated highly by listeners—as might be expected by readers of Stereophile, given J. Gordon Holt’s long-rooted insistence on natural midband reproduction. In addition, it would appear that evenly controlling the off-axis sound across the whole audio band up to ±45° either side of the direct axis is also important to good sound; a loudspeaker that has severe peaks and dips either side of what appears to be a flat axial response will not sound particularly neutral in a typical listening room with side walls not too distant from the speaker.

Paradigm is a Canadian company that has been in existence for around four years. Their brochure states that their engineers utilize the Canadian NRC facilities to evaluate their prototype loudspeakers, so it is no surprise that their design aims are in accordance with the criteria listed above. In addition, Paradigm tries
to keep the prices of their systems competitive; the 5se selected for this review is no exception, offering good construction and the potential for good performance for just $329/pair. A two-way design, the 5se uses what appears to be a version of the ubiquitous Vifa 1" soft-dome tweeter, crossing over below 2.5kHz to a polypropylene-cone midrange/bass unit with an aluminum voice-coil former. Unusually at this price level, this is built upon a diecast basket, and secured to the front baffle with no less than eight bolts.

The bass tuning is reflex, the 2"-diameter port being located just below the woofer, and has a molded lip to minimize air-turbulence noise. The cabinet itself is filled with treated and spun cotton and has an internal brace just above the reflex port. Top, bottom, and sides are finished in "black ash" vinyl, the front baffle being colored a smart gray. The simple crossover network is glued to the rear of the terminal panel; the terminals themselves are my least-favored spring-clip type, but these do have a large enough hole to take thick cable (and even 4mm plugs, though this would not be a recommended method as it would introduce yet another metal/metal junction to the signal path). The grille frame is contoured so as not to present the drivers with sharp, diffractive edges. Nevertheless, Paradigm suggests that it be removed for the best sound, so this is how the 5ses were auditioned.

The sound: Paradigm strongly recommends that the 5se be used on a stand, and supplied their 16" M40 stands for the review; these a metal, four-pillar type with the base tapped for floor-locking spikes. This places the listener's ears on the tweeter axis. Above that position, the upper midrange response becomes a little uneven, so users of the 5se must ensure that they do not sit too high. Free-space placement is mandatory, Paradigm recommending that the 5se be located at least 12" from the rear wall; I placed them around 30" from the rear wall and over six feet from the side walls, toed-in to the listening seat.

First impressions were favorable. There was an excellent feeling of depth to the stereo image, with a good sense of the recorded acoustic. On Trottin' to the Fair, a Hyperion collection of Stanford songs (A660-49), for example, the tenor was unambiguously placed in front of the piano. This is excellent stereo performance at the price. Laterally, too, the imaging was marked by precision and a lack of ambiguity in positioning. The tonal balance was light and airy through the treble. Bass extension seemed good for the relatively modest box size, though a rather warm midbass lent bass instruments a soft quality.

Prolonged listening revealed some problems. Though adding suitable weight to cello and double-bass, that soft midbass ultimately resulted in the bass region sounding just a little disconnected from the rest of the range—something common with maximally flat, reflex designs—with a little added gruffness to the lower range of the harp. Not unpleasant, but a departure from neutrality, nevertheless. Levels of coloration were relatively low, considering the price, but a persistent "eee" character in the upper midrange lent a reedy, somewhat coarse quality to strings. Pipe-organ aficionados would regard this coloration as rendering the voicing of an organ more "French." Record ticks took on a slight "quack." The lower treble was slightly hard in quality, while the upper treble was, as is so often the case with these soft-dome tweeters, rather lispy. Recorded clarinet, for example, was too "ffy," with too much reed and not enough body to the tone.

Putting these criticisms into perspective, the 5se is no more colored than speakers costing up to two or three times its price, and gave a consistently musical presentation.

Measurement: Measured in-room and spatially averaged, the 5ses' bass looks nicely tuned, with a basically flat response from 400Hz down to 100Hz, only a slight rise in the 80Hz region, and a sharp rolloff below 40Hz—not enough indication of underdamping to correlate with my feeling of a soft midbass, I would have thought, though some doubling was noticeable at and below the "knee" of the rolloff. Main features of the response were excellent control off-axis, indicating a wide, even dispersion, and a gently rising trend across the audio band on the tweeter axis, peaking at 6.3kHz. Slight excesses of energy could be seen around 500-650Hz, which may correlate with the coloration noted in the midrange, and in the high treble. There also appeared to be some cabinet resonant problems in the midrange, around the note G above middle C.

The impedance was benign, not dropping below 5.5 ohms across the audio band and averaging 8, while the measured sensitivity at

Stereophile, January 1988
1kHz was reasonably high at around 88dB/W/m. It is unlikely that the Paradigm 5se will have drive problems with any amplifier with which it will be used.

**Conclusion:** The Paradigm 5se offers excellent performance at a very competitive price, even if the cost of a good pair of stands has to be figured into the equation. The designer has obviously saved money in places where, sonically, it doesn’t matter, in order to spend it where it does matter—the drive-units. The compromise between bass extension and sensitivity has been well-managed, levels of coloration are not particularly high, and although I was not totally enamored of the tweeter, I am comparing its performance with the standards set by the metal-dome units featured by very much more expensive models. I can confidently recommend the Paradigm 5se as sounding better than it should at the price.

**Overall Conclusion**

My personal list, in order of price per pair—but only very approximately of merit—now consists of: Monitor Audio R952MD ($1349), Vandersteen 2C ($1150), Spendor SPI ($950), Synthesis LM-210 ($950), Thiel CS1 ($950), Celestion SL6S ($900), Monitor Audio R652MD ($859), Sievert Magnum III ($833), AR 35T ($700), ARC CS2 ($700), Quadrant Q-250 ($695), and Spendor SP2 ($650). To be considered by those on a more restricted budget are the Sievert Maxim IIID ($590), JBL 18Ti ($590), Monitor Audio R352 ($559), Magnepan MGa ($495), Spica TC50 ($450), Spendor/Rogers LS3/5A ($450), and Paradigm 5se ($329). The Thiel, Synthesis, Monitor Audio R952MD, and Magnepan designs represent particularly good value as, being floor-standing models, they obviate the need for suitable stands (which can easily run to another $150).

It has been suggested that *Stereophile* recommends too many affordable loudspeakers to retain credibility. ("Surely they can’t all be good?") But, as I hope has become clear from my series of reviews, absolute quality in all areas of performance is not possible at this price level. The designers have to choose a balance of compromises—perhaps cut the bass extension a little here in order to keep the midrange clean there, sacrifice a little flatness of response in the lower treble in order to use an otherwise well-behaved but inexpensive tweeter, go for a lower sensitivity so that the woofer magnet can be kept affordable for a given LF cutoff—and, within limits, whether any particular balance is successful or not will be, to some extent, a matter of taste.

How, therefore, I suggest you use the above list of recommendations is first to define your own needs. Maybe you don’t mind losing a half-octave or so of bass if the result is improved imaging; maybe you must have every last Hz of bass, even if the imaging is less good; maybe the midrange accuracy or your distaste for any treble harshness at all are more important than either deep bass or the ultimate in imaging; perhaps domestic considerations dictate that the speakers must be used near the rear wall. In any case, smaller loudspeakers seem to work better in the bass in smaller rooms, and vice versa. Once you have worked out a rough idea of the kind of loudspeaker which will best fit your own needs, read the reviews to get a short list of three or four possible contenders. Then comes the hard part: Try to audition the list to see which works well with the rest of your system in your room. It is hard because it is unlikely that a single dealer will stock more than one model on your list, but persist. The end result will be worth it.

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**DENON DAP-5500 LINE-LEVEL CONTROL UNIT**

George M. Graves II

Line-level preamplifier with inboard digital audio processor. Three high-level inputs, three direct digital inputs (one is optical), two complete tape loops (analog) outputs for DAT. No phono stage. 17.1" W by 5.25" H by 15" D. Price: $1500. Approximate number of dealers: 250. Manufacturer: Denon America, 222 New Road, Parsippany, NJ 07425. Tel: (201) 575-7810.

Stereophile, January 1988
"This won't take long," I thought, as I opened the box containing the new Denon DAP-5500 "digital preamp." Like many audiophiles, I guess I'm prejudiced against Japanese components. Whether this stems from long (and unhappy) associations with Pioneer and Panasonic equipment in my moneyless youth, or is a holdover from postwar "Japanese-Crap" thinking, I don't know. Oh sure, Japanese phono cartridges have long been accepted (even preferred), and the odd tonearm or turntable have also proven themselves, as have a good many Japanese CD players and FM tuners. But Japanese preamps and power amps are still viewed with a jaundiced eye by most American audiophiles. Instead, they look to Conrad-Johnson, Threshold, Audio Research, Klyne, and the like; not to Pioneer, Sony (Sony's foray into high-end audio, the "Esprit" line, was a commercial disaster), or Denon. This was my attitude as I replaced my trusty reference preamplifier (a tube unit) with the DAP-5500.

The Denon DAP-5500 is one of a new breed of component just now beginning to be seen from Japan; but as CD and DAT proliferate and eventually replace the vinyl record and the analog cassette, more and more component manufacturers will be marketing devices like it. For the DAP-5500 has no phono preamp at all! There is, instead, a digital-to-analog converter circuit. This circuit is designed to take the single-cable, multiplexed digital bit-stream output from a CD player and/or DAT machine, thus bypassing the analog stages of those components. The idea here is that the preamp can have a much more sophisticated (and hopefully better sounding) analog section than most CD players or DAT machines.

Like most Japanese components, the DAP-5500 is a well-built unit, and is divided into two distinct chassis behind the black-anodized, brushed-aluminum front panel. Each chassis supports its own power supply, complete with power transformer (the unit weighs over 30 lbs!). The left chassis (viewed from the front) is the digital side of the unit and contains the inputs and switching for all of the bit-stream sources, both inputs and outputs. In the left chassis is the error correction and digital filtering. On the front panel there is an array of three green panel lights which indicate 32, 44, or 48kHz sampling-rate operation, the switching between these sampling modes being automatic. The output of the left-hand or "digital" chassis (as it is marked on the top cover) is fed to the right-hand or "analog" chassis via an optical coupler so there is no actual electrical contact between the two chassis, not even a common ground. In the analog chassis are four 16-bit A/D converters (about which more later), the high-level gain stage, switching for three high-level analog sources, and two complete analog tape loops.

On the front panel is an unusual switching feature that I happen to like very much: Under the flip-down sub panel which runs along the bottom of the unit, there is a rotary switch which can be positioned at digital input 1, digital input 2, analog input 1, analog input 2, or analog input 3. This presets the default for which input will be active when the power is applied. If one of the digital inputs is selected, a separate button marked "digital direct" must be deactivated to select one of the analog inputs (the digital and analog inputs are on different chassis, remember).

The back panel of the DAP-5500 is rather unusual for several reasons. On the digital side, there are single RCA connectors for each digital
input and for the digital tape loop. Since digital bit-stream data is serial (with left and right channels alternating on the same cable), stereo pairs of cables are not needed. The optical connector for digital input 1 is like nothing you have seen before. The Japanese have settled on a standard for optical bit-stream transmission using fiber-optic cables; the reasons for going optical make sense. The bit-stream, being comprised of very-high-frequency square-waves (32, 44, or 48kHz x 16 x 2) could cause radio and TV interference. Inside the chassis of a CD or DAT machine, these signals are well shielded, so RFI (Radio Frequency Interference) is controllable. But once you break these signals to the outside, poor or dirty contacts, loose braids, etc. can cause RFI problems. Also, loyal readers may remember that I have found that cables used for digital bit-stream transmission from CD players may have an effect on the bit-stream which alters the sound (Vol.10 No.6). Going to an optical transmission system will surely eliminate the RFI problem, and may eliminate the problem of "cable sound" as well.

The analog side of the chassis has three stereo pairs of high-level inputs. Inputs 1 and 2 are gold-plated RCAs (as are all of the RCA connectors on this component), but input 3 is balanced! Instead of the normal RCA jacks, this high-level input uses the so-called "Cannon XLR" connector. This huge connector consists of a 1/2"-diameter metal barrel with three good-sized pins inside to make gas-tight contact with the female XLR, which has a locking tab at the top. This connector is usually associated with professional audio equipment, and is most commonly used as a microphone plug for low-impedance recording-quality microphones. The chief advantage of a balanced input or output is the fact that the cable shield carries no signal, unlike normal hi-fi cables using RCA connectors. Instead, the shield is only chassis-grounded, and two wires inside the shield carry the high and low sides of the audio signal. This arrangement improves the cable’s immunity to interference from 60Hz electrical fields (also known as hum), and allows for longer cable runs without high-frequency loss.

I applaud any effort to eliminate the hated RCA connector, but I personally know of no components (other than Denon's top-line DCD-3300 CD player) which have XLR outputs which could take advantage of these inputs. In order to use these jacks on the DAP-5500, one either has to have a component to feed it which also has balanced XLR outputs, or one has to make an adaptor cable to go from RCA unbalanced to XLR. Otherwise, input 3 on the Denon cannot be used. I happen to have an outboard tube phono preamp which I pressed into service on input 3 by making up a pair of adaptor cables, but I think Denon should offer its users a choice between balanced and unbalanced connectors for this input (with a switch on the back, perhaps). The line outputs on this preamp are also balanced with XLR connectors to mate with Denon’s new line of power amps which have balanced inputs, but Denon wisely chose to parallel the balanced XLRs with a pair of normal RCAs so that this component could be used with other power amps as well.

To me, the main interest in this component is its on-board DAC system. As CD players improve, the major improvements seem always to be in the analog stages. In the past couple of years we have seen everything from discrete-component DACs to tubes in an effort to improve the sound of CD players. Many of the most recent players have digital bit-stream outputs in addition to the normal right and left stereo analog outputs. This digital jack is designed to interface with outboard analog sections; this is just what the Denon DAP-5500 has.

With regard to the Denon’s DAC system: it is, to my knowledge, unique. The DAP-5500 does not have one DAC as do many CD players (alternating between right and left channels), nor does it have two DACs like many of the better modern players. It has, instead, four of what Denon calls its "Super-Linear" DACs, separated into two push-pull pairs! The theory is that if you feed one of the DACs the normal, 4x-oversampled, digitally filtered bit-stream and simultaneously invert the phase of the bit-stream and feed it to another DAC operating in parallel with the first, the resultant out-of-phase analog signals can be summed to cancel out any nonlinearities that occur in either DAC with a resultant decrease in distortion. Well, maybe so, but it seems to me that this explanation is a bit incomplete. If you sum two similar out-of-phase signals together, the result will be that only the difference between those signals will remain. Denon is saying that their
system sums the two signals together in such a way that the original signal remains, and that only the distortion is removed. Neat trick. I sure don’t know of any matrixing theory which allows this to happen. Let me explain using some simple algebra.

We will use the letter \( N \) to represent the in-phase output of one of the DACs. This will mean that \(-N\) is the same signal from the inverted bit-stream (out of phase). We will let a small \( n \) equal the nonlinearities resulting from the data decoding process occurring in the non-inverting DAC, and the small letter \( p \) will equal the noise and distortion component (nonlinearities) contributed to the out-of-phase signal \((-N)\) by the inverted DAC. That means that the output of the in-phase DAC will be expressed as \((N+n)\) and the output of the inverted phase DAC will be expressed as \((-N+p)\). Now, let’s sum these two signals: \((N+n) + (-N+p)\). The \((N)\) plus the \((-N)\) cancel (that’s the signal we want, remember?). The noise and distortion from both channels is all that’s left \((n+p)\). We would come closer to getting what we want if we take the difference between the two signals: \((N+n) - (-N+p) = 2N+n-p\). But, if we do it this way, the only thing that will cancel will be components of \(n\) and \(p\) which are identical. Any conversion differences between the two DACs will still remain! Remember, nonlinearities introduced before the bit-stream is converted to analog would not be affected by this procedure, because, except for phase inversion, the bit-streams fed to each DAC are identical. Only nonlinearities introduced by the D/A conversion itself will be cancelled, and then only if the nonlinearities in both DACs are identical (i.e., \(n = p\)). Unless Denon goes to extraordinary lengths to match nonlinearities in each pair of DACs (doubtful unless it concerns a consistent decoding error), I don’t see how this scheme could work.

Using a very highly rated audiophile-quality CD player of Phillips (Magnavox) origin, I compared the sound of the player’s analog outputs with the Digital Direct circuitry in the Denon. This was easy to do because I ran the analog section of the CD player through the high-level analog inputs of the Denon, and connected the digital output of the CD player to the Digital Direct inputs on the Denon. Since both the analog output of the player and the analog output of DAP-5500’s digital section are fed through the same high-level stage, I was reasonably sure that the differences heard would be only between the two DAC stages and their associated analog circuitry.

The difference between the two was dramatic. I started my listening session early one Saturday morning, and by the time the day was over, I believe I had listened to every CD in my collection. It was as if I had never heard them before. The thing that struck me right off was the increased dynamic range. No CD player I had ever heard had provided the kind of dynamic contrasts that digital had promised, but the Denon DAP-5500 provided it in spades. The next thing that I noticed was increased focus and extension of the bass. We have been told by designers for years that the power supply in a CD player, preamp, or amp is probably the most important thing for providing flat power response in the low end. Since CD, unlike any analog source, has flat power response, that is to say, it can reproduce all frequencies at maximum level; a very stiff power supply must be on hand to supply the power needed to maintain full-power bandwidth when the digital CD signal is converted to analog. Due to size and cost constraints, most CD players simply do not have the power-supply capacity to handle this task. The result is, dynamic range becomes constricted and bass response is often severely compromised. The Denon DAP-5500, due in part to its twin chassis design, has two totally separate power supplies, each with its own toroidal power transformer. These exceptionally large supplies cannot interfere with each other, and this keeps digital noise out of the audio, leaving the analog supply free to deliver whatever the audio signal might need in the way of voltage and current (up to its limit, of course, which in this design is considerable).

Another place where the DAP-5500 shines over the analog sections supplied with most CD players is that the Denon (after the D/A converters) has no op-amps or capacitors in the signal path. The all-PET circuitry is direct-coupled, eliminating the asymmetrical slewrate problems inherent in even the best IC op-amps, as well as eliminating the nasty capacitor-induced dielectric absorption distortion.

1 An analog recorder cannot do this. Because of self-erasure and other limitations, the amount of high-frequency or very-low-frequency energy which can be recorded to analog tape is always less than the amount of midrange energy.
Apart from the frightfully expensive Accuphase with its discrete-component DAC and direct-coupled circuitry, I know of no CD player totally devoid of op-amps in the analog circuitry. This includes the highly touted Stax machine and the tubed California Audio Labs Tempest (which uses op-amps in the analog filter stage).

Along with the improved bass performance and increased dynamic range, the Denon DAP-5500 images better than any stand-alone CD player that I have ever heard. Discs which I thought were just poorly recorded have turned out to be stunning stereo performers! The Panambi Suite of Ginastera (Zoltan Rozsnyai and the Philharmonica Hungarica on Realtime RT-2003), which I know was recorded directly to a Sony PCM-1610 and a U-Matic recorder from a single pair of stereo mikes, for the first time really sounds as if it is real stereo. Each instrument is precisely located, as only real stereo can do, with plenty of space around it. The ensemble is finely layered, with viola-middle front, woodwinds behind them, and the brass in back. The depth extends all the way to the edge of the soundstage with little or no foreshortening at the extremes. The soundstage is wide too, with the violins and basses definitely off to the extreme left and right respectively, a good distance beyond the edges of my speakers. What a revelation! When the same recording was played on the $2500 Stax, I was back to the same vague imaging as with most CD players. Truly amazing. The rest of the frequency range is just as good as the aforementioned bass response. The mids are subjectively flat from the upper bass to the lower treble—no brightness-range suckout here (for those of you who were saying, "This thing images well? Must have a brightness-range suckout!").

The highs are silky sweet, with not a hint of harshness and only the slightest taint of dryness. But it's the kind of dryness one associates with a Klyne preamp, and is obviously a result of the FET circuitry used here. The sound of the high-level stages alone is also quite exemplary. Using my stand-alone tubed phono preamp, I was able to perform a bypass test on the Denon high-level analog stage. Since the phono stage has its own volume control, I was able to compare the sound of the phono stage directly coupled into my power amp and routed through the Denon. The result was very favorable. The DAP-5500 altered the imaging of the phono stage not at all. In fact, the only clue that the Denon was in the signal path at all was the presence of the dryness noted earlier and a slight amount of additional grain. These are very minute colorations, however, and amount to less than the difference between two very good, but obviously different, connector cables.

We have here a very fine digital age preamp. By adding a Magnavox CDB-465 CD player (often available for under $200) and using that player's direct digital outputs coupled to the DAP-5500, the result would be the finest CD player that I know of for only about $1600. In the bargain, you get a fine-sounding preamp which will take two analog tape decks and three high-level signals (such as video sound sources, tuner, and even an outboard phono stage), as well as the optical digital output of a DAT recorder and even a digital sound processor (such as an equalizer) when they become available. The Denon DAP-5500 is flexible, well made, and if its performance isn't state-of-the-art, it's about as close as you can get this side of two kilobucks! Very highly recommended. (By the way, JA, you can't have it back.)

FOLLOW UP

Audio Research M-300 Power Amplifier

Some additional listening to a pair of these big amplifiers, which I reviewed in Vol.10 No.9, revealed that they do have one relatively minor weakness: their low end is not quite as detailed or tightly controlled as that of some big solid-state amps (like the Krells and Thresholds). Otherwise, their sound continued to enchant me until . . .

I had turned the volume down while changing a record, and when I next touched the knob, a static discharge produced a very small click through the speakers, followed by a little
plume of smoke from one amplifier. (Why is it always the right channel that goes out?) Its AC fuse was blown, and a replacement fuse went the same route.

Audio Research said they had a “small modification” which prevents this from happening, but admitted they had already shipped “some” of the vulnerable amps before the weakness was discovered. The mod will be in all M-300s made after mid-October, but since ARC doesn’t serial-number their products sequentially (why not?), you can’t tell whether or not a new M-300 is the latest version. You can tell, though, by peering through the top cage and looking for a small (6”-wide) circuit board near the rear, piggy-backed on the main board. Both are vertical, so what you’ll see of the new board is its upper edge, just below the top of the cage.

Unmodified amps can be updated by any Audio Research dealer or by the factory, and naturally, any which break down in use are covered by their warranty. The only catch is, if your dealer isn’t local, you have to pay to ship the amp back to ARC, which can be costly, even at surface rates. They’ll pay the return shipping, but under the circumstances, we think it would be fairer if they paid for the round trip. After all, it’s not the customer’s fault that this apparent design weakness in the M-300 wasn’t discovered before it went on sale.

ARC also has a performance upgrade for the M-300—a new storage capacitor bank which is claimed to provide better sound than the caps originally supplied. This kind of upgrade is not, of course, covered by the warranty, so there’s a $95/amplifier charge for it. —JGH

Don J Cochran Delta Mode Power Amplifier

My pair of Delta Mode amps were returned to Don J Cochran Inc. shortly after having finished the review (Vol.10 No.8) because of an apparent instability in one channel. I asked Don Cochran to investigate the problem, fix it, then return the amps for a followup assessment. About two weeks later, the amps were back in Santa Fe together with a convincing explanation of what went wrong.

The diagnosis and cure were straightforward, and I’m afraid that I’m at least partially to blame for the problem. The grid bias voltages were misadjusted in the voltage amplifier section (the right channel slightly more so than the left) to the extent that the driver stage was pushed into cutoff during a portion of the signal cycle. Let me refer you to the scope traces provided by Don Cochran. They show the resultant waveforms for a 1kHz input signal. The upper and lower waveforms represent the absolute voltages at the + and - output terminals referenced to common. The center trace shows the differential voltage between the two terminals. The distortion in each leg of the signal is clearly visible as a “knee” which corresponds to the changeover from conduction to cutoff in the voltage amplifier. The amazing thing is that, despite all of this, the differential voltage is free from any crossover distortion and the amp still worked reasonably well. Quite a testimonial to the power of a differential amplifier.

1 kHz signal; drive waveforms

The bias and balance are adjustable via board-mounted pots, and adjustment instructions were provided by Cochran. Unfortunately, the instructions were sufficiently misleading to allow such a misalignment. The problem occurred toward the end of the listening sessions after I readjusted, or, in reality, misadjusted the bias pot setting. The portion of the testing affected involved only some of the listening impressions in JGH’s system. So it seemed appropriate to revisit JGH’s system and also take the opportunity to compare the Delta Mode amps with the Audio Research M300 monoblocks that JGH has been raving about as of late (Vol.10 No.9). I felt such a comparison necessary because the respective retail prices are about equal, and the M300s are regarded by some to be the best money can buy. To have any chance in the marketplace, the Cochran amps had better be competitive.
Well, the Delta Mode amps turned out to be more than merely competitive. Let me tell you first that the M300s were, at the time, JGH's new love and the best amp he had found for the Sound Lab A-3 loudspeakers. The M300s are easy to like. With the Sound Labs, their greatest asset is a beefy enhancement and fleshing out of the lower mids; something JGH cares very much about. The sound of the M300s is expansive, dynamic, and authoritative. They are undeniably the "Godfather" of the amplifier world. The sonic deal they offer is hard to refuse. They sound so right tonally that it's difficult to argue or challenge their interpretation of the source material. If your system needs a shot of testosterone, the M300s are indicated. Your system will undergo an immediate sex change and forever ride tall in the saddle. The Delta Mode amps sound leaner on the Sound Labs, but so do many other fine amps, including the Threshold SA-1s and the Krell KSA-100. I think the problem lies with the Sound Labs. So if the speakers are deficient in the lower mids, why blame the amp? On the other hand, I can see the logic in selecting an amp that compensates for an inherent speaker shortcoming.

The Delta Mode amps highlighted several chinks in the M300s' armor. The performance aspects in which they better the M300s are largely finesse areas, which means that their importance will vary with individual tastes and expectations. Let me first mention bass performance: The Delta Modes go deeper, are better controlled, and give an impression of more detail. In matters of imaging, while the M300s have the edge in terms of being able to palpably portray instruments within the soundstage, the Delta Modes are better focused and more transparent. Resolution of low-level detail is better accomplished through the DMs. This, together with a smoother and better-extended treble range, makes the DMs, in my opinion, the more revealing of ancillary equipment deficiencies. The M300s will forgive more and annoy less on digital program and on less-than-sterling phono front ends.

Which amp do I think is better? I don't think that question can be answered without reference to a specific speaker system. Certainly, the DMs fit the "reference" appellation more closely. However, on the Sound Labs (after due deliberation), I would give the edge overall to the M300s. But on many other speaker systems I'm convinced that the DMs would be the better choice.

It's ironic that at the end of this listening session one of the M300s blew up in a puff of smoke. I guess it couldn't stand the heat.—DO

**Threshold FET-10 Pre-trol**

The more I listen to this two-piece RIAA preamp/line controller, the more convinced I am that it is a, if not the, state-of-the-art preamplifier. It is, at least, the most nearly perfect such device I have tested, or read about elsewhere. In fact, since it arrived here, DO and I have come to trust its accuracy so much that we had endless squabbles about who would get to use it when for testing other components. Neither of us felt we could do without it. We finally ended up ordering a second one—one of the very few times our staffers have ever felt strongly enough about a new product to want more than one on hand.

The FET-10 may eventually be equalled by some other preamps, but when something apparently does absolutely nothing to the sound except what it's supposed to do, the chances of it being surpassed by anything else are remote. Having said that, I must reiterate that accuracy in a preamp is no guarantee that it will make any given system sound "better." Only if the power-amp/loudspeaker combination is capable of sounding "better" when its source is more accurate will this be the case. If it isn't, another preamp which is less accurate than the FET-10 in ways which complement the amp/speakers may yield more agreeable sound.

Since components' colorations tend to increase as their prices decrease, it is obvious that complementary matching is the way for most audiophiles to go about assembling their dream systems. It is, however, not the course of choice for someone who is reviewing products, and needs to know how accurate—in absolute terms—a product is, as well as how "good" it sounds.

—JGH

**Rowland Research Coherence One preamplifier**

In my review of the Rowland Research Coherence One preamplifier (Vol.10 No.8), I noted a slight lack of focus and incomplete resonance retrieval of instruments and voices. As
Jeff Rowland mentioned in his manufacturer's comment published in that issue, Rowland Research immediately sent me a replacement C-1 to audition, since the shortcomings I described were consistent with their findings in some units with defective balance controls.

Even before the new unit had time to burn in, it was evident that the original review unit had not been in proper operating condition. In fact, I could not believe that such a seemingly innocuous part as a balance control could have caused such obvious sonic aberrations. The increased clarity, improved dynamics, deeper and more open soundstaging, and better harmonic integrity of the new, properly operating C-1 compel me to rescind any reservations concerning this product. While the review sample C-1 gave up a small degree of focus, instrumental resonance recapture, ambience retrieval, and transparency to the Motif MC-7, the replacement unit unquestionably outperforms the Motif in every aspect. (As well as all other preamps I have heard in my system, for that matter. I have not yet auditioned the Krell KRS2 or Klyne SK-5A preamps, both of which are purported to have many of the same qualities as the Coherence One.)

While I can still appreciate the MC-7's attributes (excellent soundstage depth, ambience retrieval, and ability to accurately recreate instrumental and vocal resonance), compared with the Coherence One, its noticeable tonal colorations and slight harmonic inaccuracies impinge a little too much on the musical performance, effectively lending an unmistakable sonic footprint regardless of program source or recording-venue acoustics. The Motif also has more grain, less coherent spectral balance from top to bottom, and less dynamic extension (on both ends of the scale) than the Coherence One.

All of my non-audophile musical colleagues who have heard the Rowland Coherence One preamp and Model 5 power amplifier agree with my assessments of these products. It's interesting that, like their unanimous praise of the new B&W Matrix 801 Series 2 monitor speaker, a diverse group of musicians would all identify and prioritize the same musical and sonic attributes. But this should come as no surprise, since the Rowland products, as well as the B&W Matrix 801, lean more toward the "musical reference" category, effectively giving musicians more of what they hear in live performance, and less of a particular designer's sonic trademark.

Now that I've lived with the "new" C-1 for about four weeks, I feel confident in saying that this is undoubtedly the most musically satisfying preamplifier I have heard to date. As I mentioned in my full review of the Rowland products, the C-1 will probably not fulfill those fanatics looking only for drama and hi-fi sonic spectacle. But for those music-lovers sincerely interested in accurate reproduction with a minimum of editorializing, the Coherence One is, in this musician's opinion, in a class of its own.

—LL

**SOTA Star Sapphire Turntable**

This expensive vacuum-holddown turntable and its "electronic flywheel" have never ceased to amaze me since I put them into my system about six months ago. (It has been temporarily replaced in my system by the Versa Dynamics 2.0.) The sound from the SOTA is so solid and utterly tidy that it is all too easy to take for granted what a triumphant achievement it is: a turntable which, for the first time (in my experience), can be completely ignored. Like the ground you stand on, it's just there.

The Versa Dynamics turntable may actually be better than the Star, but since it is impossible to remove its air-bearing tonearm without trashing the arm and the nonremovable mounting board, I was unable to tell how much of the Versa's remarkable performance is due to the arm and how much to the turntable. I believe, though, that the SOTA Star probably offers the best turntable performance you can buy for anywhere near its cost. —JGH

**Versa Dynamics 2.0 Turntable**

Now that I've had a chance to live with this for a few more weeks, I've turned up a few relatively minor problems that hadn't surfaced as of my initial review in Vol.10 No.8.

Although rather effectively damped, the spring suspension is still somewhat unstable; once it gets rocking, it takes a second or so to stop. I found that the rocking, if in the plane of cartridge motion, can cause the latter to skip a couple of grooves. This does no harm with today's light-tracking, high-compliance cartridges, but it was annoying. In truth, it must
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DIAGNOSIS: The patient's cables have inadequate control of their electromagnetic fields due to a congenital design defect. The cable's twisted conductors cannot fully contain the magnetic field of the music signal (Fig. 1). This induces a slowing down of high frequencies (PHASE SHIFT) and a tendency toward bloated lower extremities (malignant bass).

CURE: Immediate, radical cablectomy (removal of existing cables) followed by implantation of cables that uniformly contain the signal's magnetic field. The best prescription — SYMMETRICAL COAXIAL cables (Fig. 2) by STRAIGHT WIRE (The Music Conductor Series, LSI, and Ultra-Flex interconnect). NO GENERIC SUBSTITUTES WILL DO!

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be said that the rocking can usually only be induced by physically jarring the suspension itself; the spring suspension can isolate the platform from all but the most violent floor jouncings. But I was able to eliminate most of the groove-skipping problem via a provision I had previously declared to be irrelevant. I'm referring to the eddy-current brake.

The tonearm's lift bar, which fits into a square yoke at the back of the cartridge carrier, is made of aluminum. The eddy-current brake consists of a pair of small but extremely powerful disc-shaped magnets, which attach to opposite sides of the yoke so they straddle the lift bar. The eddy currents these induce into the bar act to resist motion of the carrier along the bar, with the amount of that resistance increasing according to the velocity of the motion. There is virtually no resistance at the low velocities of normal cartridge travel, but there is substantially more at the 'table suspension's wobble speed, which means the brake greatly reduces the spurious lateral oscillations of the carriage, minimizing the tendency for the cartridge to groove-hop. My recommendation as of now is that the eddy current brake be installed at setup and left there at all times. It has no detrimental effect on the sound.

Versa Dynamics sent me a new, more flexible air hose for the carriage. It helped, but did not completely eliminate the lateral bias. It is still necessary to set the whole 'table at a slight downward angle, in line with the carriage rod, in order to offset a tendency for the hose and the cartridge leads to bias the carrier toward the outer edge of the disc.

The counterweight has a drop-on metal bar, to add additional counterweighting if needed. I found it necessary to use this with my Ortofon cartridge, but there is enough play between the bar and the guide rods it fits over to allow it to shift slightly forward or backward when the arm is lowered or raised abruptly. Because the counterweight is close to the pivot, the small change in center of gravity causes a change of roughly ¼ gram of tracking force. The solution to this is simple, though: You merely add a thin layer of rope-caulking material or Plasticine modeling clay between the main weight and the bar, to hold them physically together.

The problems mentioned in the original review, of the difficulty of cueing-up the arm, have been addressed in two ways by Versa Dynamics. Contact between the back of the arm and the lifter bar is now via a neoprene pad, which provides enough sliding friction when in the raised position to cause the arm to stay where you slide it to. The new pad is available at no charge from Versa Dynamics, and can be easily retrofitted by the user. Versa Dynamics has also moved the position of the whole tonearm assembly slightly closer to the platter, so that its limit of cartridge travel now puts the stylus directly over the last lead-in grooves of the disc. (On earlier models, the fuzzy wire on the arm pillar, next to the cartridge, can be bent to accomplish the same function.)

Subsequently, I went to install a different cartridge in the arm and experienced a lead failure. One hot lead opened up, somewhere between the cartridge clip and the output receptacle (on the 'table base), and I have not as yet been able to locate the break. I am not sure finding it will be all that rewarding, either, because the tonearm wires and clips appear to be the only major weakness of this unit. The wires, I learned, are van den Hul long-crystal copper, which is probably good for the sound but is bad news for any V-D 2.0 owner who's into trying different cartridges. This kind of wire has a tendency to snap when sharply bent, and since the cartridge wires emerge through a small hole right under the carrier, it is almost impossible to change cartridges without flexing the leads at that exit point. I don't know whether my open circuit is at that point, but if it isn't, it will be at some later date. The wire vulnerability is exacerbated by the cartridge clips, which are of the conventional (albeit gold-plated) variety which have little flexibility to accommodate different-sized cartridge pins! This means it will be necessary to adjust them for some cartridges, resulting inevitably in even more wire bending at the headshell exit hole.

I would suggest that Versa Dynamics consider splicing the vdH cables to an inch or so of conventional stranded tonearm wire right above (or inside) the cartridge carrier, and using the kind of cartridge clips Well-Tempered Lab uses for their tonearm.

—JGH

1 Why in the name of God are people still making cartridges with all sizes of connecting pins? There is a de-facto standard pin size: 0.05" diameter. There is no excuse for any cartridge deviating from that by more than 5%.
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Stereophile, January 1988
If you think of the development of the piano concerto, say from Beethoven's "Emperor" to the two Brahms Concertos, then the notion of a solo instrument representing a heroic character (in literature or otherwise) is fairly unremarkable: it was there all along, even when the music was "abstract." Berlioz first spelled out the idea, with viola in Harold in Italy; but Richard Strauss wrote the far greater score, with a solo part making concerto-like demands, in Don Quixote.

At the same time, he was writing the massive tone-poem (and self-portrait) Ein Heldenleben. The two were conceived, Strauss wrote, "so closely as direct pendants to each other that, in particular, Don Quixote can only be wholly and fully understood alongside Heldenleben." This complementary and contrasting relationship is something that our memories prompt us with, as we listen to either. Of course, in Heldenleben the solo violin does not portray the main character, but Pauline Strauss.

In Don Quixote, the hero is depicted by the cello—there's nothing written to suggest that it was intended as other than the principal player's part, but in the concert-hall and on records the world's great soloists take over. The Don's servant and foil, Sancho Panza, is characterized by the viola, with bass clarinet and tuba describing his rolling gait—and rude snores courtesy of bass tuba and contrabass soon glissandi.

Strauss's other Don, Don Juan, was his first real masterpiece (1889) in the symphonic-poem genre. Even out-of-town orchestras essay it, and consequently most concert-goers get to know its soaring lines, swaggering richness of sound, and glittering orchestration. (Its rising opening figure is one of the most nerve-wracking of all for a conductor to launch with coordinated attack. Incidentally, because the composer turned up late for his own 1929 recording of the work, the first minutes preserved for posterity there are actually the work of his young assistant, George Szell!)

To be candid, though Don Juan was a formative experience for me—in part through Toscanini's incandescent NBC recording for RCA—tackling the "Fantastic Variations on a
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theme of knightly character," as Strauss heads the score of Don Q., was something I put off, Till Eulenspiegel, Tod und Verklaraung, Ein Heldenleben, and the Four Last Songs all taking precedent. I therefore unknowingly avoided a work that was complex in detail but accessible from the start; colorful, moving, and enchanting. There's a fairy-tale-like simplicity in the coda where, after Don Quixote's touching epilogue and final breath (the cello makes a downwards glissando to inaudibility), the clarinet theme consoles us, then an "amen" cadence seems to say "it's all a fiction."

Each of the Variations tells of an adventure or reminiscence: the Don tilting at windmills, the grotesque "false Dulcinea" astride a donkey, the charge at a flock of sheep. The orchestra required is large—62 strings (often in divided roles), big brass and percussion sections (including wind machine)—but the sound-web is more often delicate, gauzy, or in sharp, bright threads of color economically deployed. The use of orchestra is cunning in the extreme: long sustained pedal to show (in VII) that the wooden horse fanned by bellows does not move; pizzicato strings as water drips off the Don and Sancho as they survive capsizal in a rowboat. And, of course, the baaing of the sheep which disconcerted audiences when the piece was new (1897). Another masterly imitation is that of the circular motion of the windmill sails, in Var.I. But Strauss's depiction of human character is what makes this so marvelous a piece (even if, for me, such musical parodies as the two chanting monks in IX, or the religious procession in IV, with its muttering wind figures, jar aesthetically with the triteness of thematic material, deliberately chosen though it may be).

The long nocturnal vigil, Var.V, and the exposition of the knight's ideals, III, not only give the cellist the opportunity for moving eloquence, but the "settings" (eg, the night-breeze harp cascades in V, or the naive eagerness of viola questionings in III) round out the image, draw in the listener.

"One of the most interesting and comprehensive things of our time," wrote Busoni after a 1911 Boston performance. Don Quixote was first heard in the United States in Chicago, under Theodore Thomas (1899). Strauss conducted it in Frankfurt, ten days after the Cologne premier with Franz Wullner on the rostrum. Strauss's soloist was Hugo Becker, for some time a cellist closely associated with the work; in his 1933 Berlin Staatsoper recording (which is, regretably, unmemorable), Strauss conducted for Enrico Mainardi. That performance lasts 37:29, as opposed to 42 and 45m in the two modern recordings respectively under Karajan and Ozawa. In general, Strauss recordings have become more expansive; the Mengelberg and composer timings for Heldenleben are considerably faster than today's probable 45m duration.

Don Quixote has been lucky on records: I can think of more awful sleeve designs than actual recordings (though we have had reproductions from Picasso and, on the latest Karajan/DG, from Dall). However, four versions with orchestral principals might be set aside without great loss: the Brabec/VPO/Mazzel, Reher/LAPO/Mehta, Munro/Philadelphia/Ormandy (Ormandy also recorded with Feuermann: transferred to LP from 1940 originals, as part of the 1970 RCA retrospective album The Philadelphia Story, it sounds soupy from filtering and electronic stereo "enhancement," although detail is still vivid, and Feuermann establishes scalp-tingling pathos from his very first entry), and de Machula/Concertgebouw/Haitink. This last survives as an LP reissue with Haitink's earlier Don Juan recording (416 674-1); it was said to have been Haitink's acknowledgement of his retiring Concertgebouw cellist Tibor de Machula. It is a fine-sounding analog production, with good range and image depth; the cellist is sensitive, light in tone. Ultimately, however, he doesn't convey the authority required (eg, the night vigil has a circumspection rather than full assumption of the role).

When I put it to JA that I would be preparing this article, he just laughed. "Surely there is only one version?" he asked. For full assumption of the character, it is unquestionably Paul Tortelier, who, like Pierre Fournier, has recorded the work three times. I don't know the 1948 one with Beecham, but his two stereo remakes, both with Rudolf Kempe, surely remain unsurpassed. It is regrettable that the even finer 1958 Berlin recording has disappeared in favor of the Dresden recording. That, too, may have disappeared from the Seraphim catalog: on my side of the Atlantic a CD transfer is imminent, recoupling Don Juan and Dance of the Seven Veils from the marvelous Kempe/Dresden legacy of ca 1974, EMI co-produc-
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tions with VEB (CDC 747 8652 is the number allocated). The German EMI catalog has *Don Quixote* on LP still: 29 0749 1. Tortelier's Sancho Panza here is Max Rostal.

Fournier's aristocratic, poised portrayal comes on records with three notable Strauss conductors: Krauss, Szell, and Karajan. The magical version with Clemens Krauss and the VPO was only deleted about a year ago (London Treasury R23241); if you can find a copy, you'll not only get an excellent UK pressing—with luck!—but a liner note by William Mann that has yet to be equalled. What a communicative writer he is . . .

The timbres in this old Decca production are, astonishingly, unfaded, with a real weight and velvety smoothness that are very pertinent to the scoring: the episode with wind-machine, for instance (Var.VII), is just as you would hear it in the concert-hall, whereas on the new Karajan/DG recording it is surely processed with reverberation and has a whirlwind-like prominence.

That artificiality, and a dryness of texture, are disappointing when Karajan's third Berlin Philharmonic recording "highlights" the talent of his protege Antonio Meneses, a deeply responsive soloist with a fine technique. On both CD/LP the coupling is *Till Eulenspiegel* (419 599-2 or -1). This is a more satisfactory partnership than Rostropovich/Karajan: a heavy air of self-consciousness seems to hang over that 1976 EMI/Angel performance.

Besides Meneses, younger-generation cellists on record include Harrell and Ma (sadly, they don't include Jacqueline Du Pre, who died last October, and who started on the work with Klemperer, in sessions assumed by Barenboim in April '68; the tapes were never completed). Lynn Harrell is partnered by Ashkenazy, a sympathetic conductor of the Cleveland Orchestra (where, under Szell, Harrell had been the first-desk player), and the translucent recording by Decca is outstandingly good (417 184-2, LP -1). The fill-up is merely the Dance from *Salome*. Harrell sets out to show what "character" he perceives; from the start he draws attention to himself at the expense of the music. His tricky *rubati* and use of tone-color I find particularly obtrusive in V, where Meneses is so rapt. Ashkenazy takes a deeply serious view of the work, missing the humor so tellingly caught by Beecham on an LP transfer, briefly available some years ago, of a 1932 Carnegie Hall recording featuring Alfred Wallenstein (who later became known as a conductor, rather than a cellist, on records); the orchestra was the NYPO. So far as a comprehensive grasp of this score is concerned, you have only to put a few bars of Ashkenazy/Cleveland alongside Szell/Cleveland (a CBS/Sony CD is available; the LP is, if my deciphering of Japanese is accurate, on 13AC216—beautiful transfers of vintage Cleveland in this series) to hear that the more experienced conductor is in quite a different league of Strauss interpretation.

Another great Hungarian who came to America was at his finest on records with Strauss: Fritz Reiner. His 1960 RCA disc with the Chicago SO had Antonio Janigro as cellist. In the Victrola reissue the large scale of the orchestra is somewhat compressed, upper frequencies are veiled, and the bass is boomy; the cello timbres are rather subdued here. But this reading has enormous presence and sweep, and Reiner even brings dignity to the duetting bassoons of the two monks beset by the Don. In the epilogue the warmth and aspirational nature of Janigro's phrasing are indeed lovely (preparing this survey I am enthralled, held by it once more). Now, if Chesky could have access to the master tape . . .

With Jack Renner and James Mallinson at Symphony Hall, for CBS, the Boston SO/Ozawa *Don*, with Yo-Yo Ma (CD MK 39863, LP 1M 39863), certainly has scale and dynamic range. But musically there's a softness at the heart of the reading that, if not deserving of quite the pounding *Fanfare*'s critic Roger Dettmer gave it in the May/June '86 issue, makes it at best a complementary rather than central, or satisfying, alternative view. You should have this rather for the bizarre Schoenberg free arrangement of a work by 17th-century Matthias Monn, which comes as the unexpected coupling. It's the tacky sentimentality of the conclusion to their *Don*—Ma equally culpable—that virtually sums it up. The orchestral playing has an elegant, superficial gloss that suits the pastiche Monn Concerto far better.

Summing up, my choices would be Tortelier/BPO/Kempe, Fournier with Szell or Krauss, Janigro and Reiner—if you can find them. With reservations about the sound, but impressed by his mastery of the work, I'd recommend Karajan on CD—where access to each Variation helps those new to *Don Qui*...
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Collectors have shown great acceptance and enthusiasm for the numerous CD reissues of vintage recordings, but Norman and David Chesky have appeared on the scene to validate a belief held by a significant number of audiophiles and recorded-music collectors: that analog on vinyl sounds more like real music than any recorded performance can sound after it has been digitally remastered and produced on CD. (In order to realize the advantages of vinyl over CD, of course, the vinyl must be produced with tender loving care at every stage, the home listener must be in possession of high-quality playing equipment, and be willing to carefully maintain both...
The Chesky Brothers present Fritz Reiner

record surfaces and playback stylus.)

Approximately one year ago, the Chesks entered the record business with three vinyl reissues from the legendary RCA series of symphonic recordings produced in London during the early sixties. Produced for subscription marketing by Readers Digest (see Vol.9 No.5, p.69), the series featured the Royal Philharmonic under Jascha Horenstein, Sir John Barbirolli, Fritz Reiner, and other conductors. The success of this effort prompted the Chesks to pursue another pet project: vinyl reissues of the Reiner/Chicago recordings. The two Reiner performances under discussion are merely for openers.

The major record companies rarely produce recordings from session masters. The usual practice is to cut from dubs, often equalized and limited in frequency and dynamic range. The Chesks have worked out a deal with RCA to produce custom vinyl pressings, directly from the session masters themselves.

RCA session masters may not travel, so the Chesks went to RCA with their rebuilt and customized vintage Ampex 300 Series three-track tape deck, as well as a customized Perfectionist Audio Components Pro Reference Tube Preamp for mixing the three channels down to two; this was fed directly to the cutting lathe, without limiting or equalization. Cutting was mastered by an old RCA pro, Jack Adelman, who has had all too few recent opportunities to cut a no-holds-barred LP with the knowledge that later production stages and quality control would do justice to his work. There were no esoteric gimmicks such as digital remastering, half-speed mastering, or DMM. These records are entirely conventional, except that they have been produced according to the highest technical standards available at the present time, with plating by Europadisk and pressings on 150gm Teldec virgin vinyl.

For their first two LPs in this Reiner series, the Chesks have selected Rimsky-Korsakov's Scheherazade and Respighi's Pines of Rome and Fountains of Rome. Both have been available on CD from RCA for approximately two years, in generous compilations with other works with total playing times in the 70 minute range. The Respighi tone poems are combined on CD with Moussorgsky's Pictures at an Exhibition, and Scheherazade is partnered by Debussy's La Mer. The consensus has been that the Moussorgsky/Respighi pairing is an unqualified success, but that the Rimsky is a trifle cold and hard. Digital haters find the former tolerable, the latter unbearable.

Comparison with the original "shaded dogs" are difficult for me, as my own copies, though in fairly good shape, have been played too often to qualify as "mint." Both were purchased as new releases, and have the advantage of having been manufactured when the tapes were fresh; they also came from SI stampers, the freshest possible vintage. In the case of the Respighi, this also means "no-holds-barred": the initial release of this title was a noble attempt on RCA's part to place a genuine audiophile record in general production. The bass is nothing short of phenomenal. On a truly full-range system, the big moments with the organ simply blow you out of the room. Unfortunately, there were complaints from consumers whose equipment was unable to cope with these demands; subsequent pressings had less bass and more limited dynamics.

I missed the initial European releases, and have not heard the Japanese pressings, but found the British and European mid-price versions of these titles quite disappointing. RCA selected both recordings, along with others, for its .5 Half-Speed Remastering Series (which some pundits called the "Half as Good as the Original" Series). The pressings were generally of high quality, but the sound received mixed reviews, to say the least.

The Chesks have succeeded in bringing to these titles the best sound they have had on vinyl since the original issues. Scheherazade sounds better than its CD counterpart, which I feel has been criticized more harshly than deserved. Chesky's Scheherazade, nonetheless, comes across with degrees of subtlety in

Stereophile, January 1988
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bloom, soundstage, depth, and the decay of hall sound which the CD lacks. One can also hear this detail in the delicacy of solo woodwind timbres, particularly in the clarinet and bassoon cadenzas in the second movement. And there's plenty of excitement in the big moments too, with more than a suggestion of power in reserve in the brass playing, stupendous as it is. The percussion in the Finalle, always a marvel, has an uncanny clarity equalled only by RCA's CD version. But the Chesky vinyl has the more convincing cymbal sound, so often the nemesis of vinyl.

The Respighi is a slightly different story, with Fountains coming off just a bit more convincingly than Pines. The Chesky shares with the original an inner-voice sound which seems just a bit too dark and recessed in the quieter passages, a factor which the RCA CD corrects to an amazing degree. The Chesky also seems to have a bit less bass than the original, and more than a bit less than the CD, which may have too much. The sound of the basses at the opening of "Catacombs" will rock your rafters, but lacks clarity. The Chesky has the clarity, but not the rockiness. The original has both. This goes for the "Appian Way" finale as well, but the original suffered from inner-groove distortion which tended to muddy the inner voices. The Chesky doesn't thump along quite as insistently, but the clarity of all the clangor is rather astounding. The CD offers us the hard choice of reducing the bass slightly in favor of something a bit more rational, or of just letting the damn thing be bigger than life. I'm forced to confess, I kind of like it the latter way; it seemed that way to me at the concerts.

In any case, those faithful to vinyl will hold the Chesky series up as positive proof of the inherent superiority of analog vinyl over CD. The only way to really test this out fairly would be for RCA to produce CD masters in the same manner and on the same equipment as the Cheskys have used. With regard to Sceberazade, Pines, and Fountains (not to mention Pictures, which the Cheskys are likely to consider for the future), it's too late—the CDs have been in release for two years, and according to an insider at RCA, were taken from the same production masters that were made up for the 5 LPs. RCA current practice for CDs is to use session masters when available (some of them have been lost!), but the questions remain: How do their tape decks and electronics compare in quality with those which the Cheskys have used, and how do RCA's producers and engineers rate, in terms of perception and determination, with the Cheskys and their associates?

Neither RCA's CDs nor Chesky's LPs feature the original cover art, although Chesky's LP covers are more attractive than RCA's CD covers. More importantly, however, the Cheskys have restored RCA's original jacket notes. For the Respighi, this means an essay by former Chicago Herald-American critic and loyal Fritz Reiner Society member Roger Dettmer, and for the Rimsky, an essay by Richard Mohr, RCA's producer for virtually all of Reiner's recordings. Both essays describe the recording sessions, and are all too brief, redolent as they are of the atmosphere of artistry and technology, and the personalities which combined their temperaments, to produce these legendary recordings. RCA's replacement of these excellent notes with the harmless pedestrian essays of James Lyon for the Rimsky, and Vincent Sheehan for the Respighi, is an unfortunate symptom of mass-market mentality.

Some collectors are paying small fortunes for original "shaded dogs" of these and other vintage recordings because they find the CD format unacceptable. Those of us who have accepted CD with enthusiasm, especially with regard to our favorite vintage reissues, should be able to hear the case which can be made for first-rate vinyl.

The Cheskys may not be for everyone. They will be for you if you listen to music through fine, intelligently chosen audio equipment. Those readers who are confirmed CD haters will need no encouragement other than the assurance that the Cheskys have succeeded admirably, and $12 to $15 dollars per record (depending on where one shops) is a hell of a lot more reasonable than the king's ransoms of the "shaded dogs" command. But, like it or not, it is CD that has brought these and other Reiner performances to the attention of classical-music consumers who might have otherwise missed them, and their reception indicates that exposure to Reiner has been a revelation. Many are beginning to realize what's been missing from more recent performances and recordings. One must hope that, digital or analog, CD or vinyl, standards can be restored to what they once were, and perhaps even surpassed.
Editor’s Note: This all happened rather quickly. New record reviewer Mort Frank mentioned Stereophile’s new music section to harpsichordist Igor Kipnis, who expressed interest in writing for us. I contacted him and sent him for review Keith Jarrett’s premiere clavichord recording, Book of

JS BACH: The Complete Fantasias
Igor Kipnis, harpsichord and clavichord

Any recording of the complete Fantasias is bound to be an unusually rich musical experience, partially due, I think, to the improvisatory nature of much of the writing (which can act as a kind of “thickener” of basic ideas). This may mean, for some listeners, that listening to this entire recording straight through (all 65:59 minutes) could be the wrong way to approach it. Still, this particular kind of richness, if handled with vitality and delicacy, can be anything but boring. Often, an artist who is not an improviser will go too far toward what he thinks is an improvisatory rendering of a written work. This can be smelled by an actual improviser a mile away. If anything, this approach leads to even more weightiness.

Bach is already a heavyweight; the last thing

Continued on p. 155
Ways. The next day, an Arabesque Records mailing announced Kipnis's own new harpsichord/clavichord recording of the Bach Fantasias. Hmm, I thought: what if I get Jarrett to... The results follow. My heartfelt thanks to Mr. Kipnis and Mr. Jarrett for meeting my impossible deadlines.—RL

Ours is an era when nearly all performance, especially as heard—no, blasted—in contemporary, nonclassical music, tends to emphasize the very loudest extreme of the decibel spectrum. To play the clavichord, that softest of all keyboard instruments, whose early history runs from the 15th century through the early 19th, is therefore a bit of an anomaly. Think of a rectangular end table, the keyboard set into one of the long sides with strings running from left to right. Attached to the back end of each key is a small metal tangent, about the shape of the working tip of a screwdriver; when the front end of the key is depressed by the finger, the opposite end with its tangent rises, striking the string (which also determines the pitch) and producing a very clear tone. It features, in so many words, a most elementary

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KEITH JARRETT: Book of Ways
Keith Jarrett, clavichord
ECM 1344/5 (851 396-1, 2 LPs; 851 396-2, 2 CDs). Martin Wieland, eng.; Manfred Eicher, prod. DDD. TT: 101:04

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piano action, but that striking action takes place in a space of about an eighth of an inch. Consequently, there is hardly any room for the tangent to move from its point of rest to the moment it hits the string, and thus its loudness is extremely limited. The tone is very slightly metallic, with a treble that can be remarkably sweet and a bass that can be almost bassoon-like.

The clavichord's dynamics can extend from virtually inaudible to at best, a mezzo-piano, but it is, in fact, the only instrument in which the player has direct contact with the strings. It is, even within its greatly reduced dynamics, an instrument of the most subtle and sensitive effects. One of these effects, for example, involves a kind of vibrato (called bebung) in which the player, by gently joggling a key up and down, allows the tangent to alternate between maintaining contact with the string in its normal position and slightly stretching it. But because of the control required, it is also a devilishly hard instrument to play, although earlier teachers seem always to have recommended it for developing technical facility and touch; in its heyday, harpsichordists and organists considered it particularly valuable for practice, and, at least according to Bach's first biographer, Johann Nikolaus Forkel, it was that composer's preferred instrument.

Herbert Howells, Ernst Pepping, Boguslaw Schaffer, Witold Rudzinski, Beryl Price, Eugene Goossens, and Alun Hoddinott are a few of the very few 20th century composers who have written for the clavichord, but, for understandable and practical acoustic reasons, there is relatively little interest in modern clavichord music. Thus, it was with some surprise and a good deal of curiosity that I learned of Keith Jarrett's recorded improvisations on the instrument. The big question for me, however, was whether the clavichord would end up sounding like a clavichord. Or would it be rather grossly overamplified, nightmarishly closeup, so that all those little subtle effects of dynamics would emerge glaringly wide-screen?

Rest assured: the engineers and Jarrett have done a remarkably good job, although, of course, the tendency at home is nonetheless to play back these very clean CDs with a level boost that JS Bach would have difficulty in relating to his favored instrument. I tried it both ways. Some of it actually works at the more realistic, lower volume setting (remem-

ber that if two people are having a normal conversation in a room next to a clavichord being played, the sound of the clavichord is obliterated). I wonder, though, whether that unbelievably attenuated level is really what Jarrett intends for playback, for these improvisations without any name so often explore new avenues of sound, avenues that do not have to depend on the intimacy of whispered music.

Only sometimes are these pieces reminiscent of Bach and the baroque, when Jarrett produces arisoso-like pastiches, redolent of a slowish Well-Tempered Clavier Prelude (Nos. 9, 16, and 19 are good examples). Often, however they evoke the modality of the Indian raga (3), or the koto-like sounds of Japan (6), or, for that matter, the sensuous atmosphere of the Spanish guitar (5). There is also the striking (literally and figuratively) effect of minimalism (as in 10 and 15), quite fascinating in new percussive explorations and which I personally find the most spectacularly inventive to be heard in the album. Jarrett handles not only his improvisations with imagination and a surprising amount of variety, but also has a good technical command of the clavichord and avoids hitting it too hard with a resultant sharpening of pitch (something one does hear in Oscar Peterson's 1976 Porgy and Bess jazz clavichord album with guitarist Joe Pass on Pablo 2310779). Jarrett also makes some highly effective uses of bebung (8) and even some deliberate pitch bending (3).

The album is hypnotically fascinating, though perhaps not all listeners will be comfortable with the frequent passages of rather extended rhapsodizing. Jarrett's fans will have to have the album—it goes without saying—and they, too, as I was, will be charmed by the unexpected vocal intrusions of the improviser at work. Four different-sounding and differently miked instruments are used throughout, with the performer sometimes using two clavichords antiphonally, without overdubs, as can most obviously be heard in 1, 4, 12, and 15. The miking is closeup—it almost has to be in order not to lose presence—but the sound for the most part is remarkably natural, with the instruments' usual key-action thumps not overly obtusive. And the clavichords are heard without any electronic manipulation. A curious note: the principal clavichord generally sounds as though it is coming far more from the right speaker than from dead center,
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which, unless one is informed about it in advance, is disconcerting when only one clavicord is heard.

—IK

For Music Editor RL's views of this recording, see the Record Review Jazz section.

JARRETT ON KIPNIS

Continued from p. 150

one wants to do is add any synthetic weight to him. Mr. Kipnis is one of those players who seems to know this without needing to think about it. To keep music such as this alive in performance, players must be alive to it. This is not as simple as it sounds (just as "To improvise, just sit down and start playing" is not as simple as it sounds); at any given time in history, there is only a handful of artists who really know this, and even less who know and can do it. This particular version of the Complete Fantasias can be listened to all at once because Mr. Kipnis knows what he is dealing with.

Another reason for the lack of superficial weight here is the intelligent use of two keyboard instruments which, though played and written for during the same era, are radically different to play and hear. But I don't think explaining the differences in detail is appropriate here, although it is important to know that the clavicord is touch-sensitive to the points of not only dynamic control, but vibrato and even pitch as well, while the harpsichord relies completely on choices of stops or keyboards for dynamics, and phrasing for expression.

In the first piece (BWV 903), the most famous and often played of the Fantasias, Mr. Kipnis seems to want to underemphasize the notes of the Fantasia (in keeping with lightening the weight) in order to capture the flurry and forward movement of improvisatory statement. There are unpredictable shapings of phrase (also in keeping with improvising and out of keeping with conditioning), and an obvious love of the music and willingness to risk. The tempo of the Fugue seems occasionally erratic to me, but the phrasing (the only true expressive option on the harpsichord) is consistently musical and moving. Also, there is a noticeable edit at the first beat of bar 68 of the Fugue (8:56 into the track).

In the A Minor Fantasia (BWV 904), using the delayed or "agogic" phrasing preferred by many in "authentic" Bach playing (which alters the regular time feeling, but replaces it with added focus on the emergence and disappearance of phrases), Mr. Kipnis communicates a delicacy that very few keyboardists (Rudolf Serkin and Gustav Leonhardt come to mind) succeed in conveying. The fugue benefits from an almost austere tempo and a not-over-emphatic ending.

A very nice first note (A) begins the Fantasia (BWV 944), followed by an expansive, slightly less flutty-like improvisatory section. The Fugue breaks in at a tempo quite appropriate in its surprise. Again, agogic emphasis plays a large role in stemming the tide of pure tempo, halting it at interesting rest stops. No tendency to slow down (very common among agogic players) and only slight speed-ups (common among romantics, who try to make a drama out of it and resort to speed without knowing it) make this a satisfying track (although there are a few unfortunate fluffs of inner chords).

Refreshingly linear after the A Minor, the C Minor (BWV 918) retains its lisesthesomeness throughout. The instrument sounds particularly good on this one, but Wergmeister III temperament has something to do with this, being weighted toward C Minor and away from A Minor. A particularly appealing return of subject (emphatic) ends this version.

Small and dignified, only the upper keyboard being used after the opening statement, the "Fantasia duobus subjectis" in G Minor (BWV 917) seems to function like a pristine encore.

The last of the harpsichord versions, the C Minor Fantasia and Fugue (BWV 906) is declamatory and dramatic. The transition between certain musical sections and the choice of stops don't always convince me of their relatedness, but I might be hearing this composition as a romantic work, and am probably commenting on the piece as much as the interpretation. This could possibly be one of those pieces that defies one to find a suitable instrument (harpsichord? clavicord? piano?).

While any clavichord recording is of great interest (and still a relative rarity), this one feels more correct than most. I own both a double-manual harpsichord and a double-strung clavicord by Carl Fudge, who built both instruments on this recording. My harpsichord, however, is not a Zell copy, but a Taskin (the difference between German and French harpsichords is quite large in terms of sound quality). At any rate, being familiar with the sound of these instruments in a room, I can say that
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an admirable job has been done capturing both instruments here. There is a tendency for harpsichord recordings to be either preponderously spacy or too dry, neither of which happens here. Close miking can bring out the stringiness, making you think you are eating the music instead of hearing it. The clavichord sound—it is a devil to record, for it has great depth of tone at a tiny volume—is refreshingly realistic. Nor does it have the over-stringiness of some recordings (my own exempted; we were establishing a sound base for recording, rather than a traditional one). Certainly, Carl Fudge deserves much of the credit, as do the engineer and producer, for this exemplary sound.

Now to the clavichord music: tracks 7 through 10. The Fantasia in C Minor (BWV 919) is a beautiful transition from the preceding, especially so for being in the same key, and a remarkably tactile realization. After the second arrival at E-flat Major, however, about 1 minute into the piece and approximately 9 bars after the E-flat Major resolution, there appears to be an edit that speeds the tempo slightly for a split second. Certainly nothing to worry about, but I wish it hadn’t been there, as most of these performances seem to be in real time.

The Fugghetta (BWV 961) benefits from some wonderful ornaments played with both hands, and some wonderfully audible breathing (which I really relate to) and near-perfect tempo.

The Fantasia in A Minor (BWV 922) shows why the clavichord was such an excellent choice for some of this music. The chordal section with octaves in the left hand can be portrayed so much better with dynamics (ie, touch-sensitivity) than without (ie, harpsichord). This, indeed, does not sound like what we are accustomed to think of as Bach’s music (conditioning again?). All in all, this is a marvellous example of the power of the clavichord. Also, Mr. Kipnis is not averse to sacrificing pitch to emotional context: as with any responsive mechanism, choices must be made regarding substance, sometimes disregarding possible reactions. His control here is wonderful, and among the most capable at showing the potential of the instrument that I’ve heard.

Finally, here we are back at an older version of BWV 903, BWV 903a. Again, the tactile quality is much more present than it would be on harpsichord, though less dramatic in terms of sonic density; but the older work represented here is itself less “dense.” I think I “see” the piece better without the density, and there are more colors and depth of focus. Of course, there is more expressive potential in the instrument, and Mr. Kipnis is obviously charmed by the clavichord and its demands as a supersensitive acoustic tool, as I am ultimately charmed by the warmth, intelligence, fragility, and clarity of this recording. Buy it.

Addendum: Having been involved in the “authentic instrument” movement (secretly, it seems) for a long time, it still strikes me that, really, how you play depends on how you hear as much as how things were heard in any particular era. In other words, you can’t be authentic unless you are authentic. The wealth of details in the above review, whether right or wrong, could go on forever, but there are very few “authentic” artists in the world today. (Stravinsky, an “authentic” artist, would have become inauthentic had he ever followed up his interest in jazz through the prism of Shorty Rogers. Even Wrong-Way Corrigan was not as far off.) What makes artists authentic is their commitment, their intent. Bach dedicated his music to God. Who (or what) does a reviewer dedicate his review to? Very often it seems to be the god of detail. I cannot really give you reasons that are better than the music itself to buy the Kipnis recording of the Fantasias by JS Bach. I can, however, give you “fascinating” details and “fascinating” opinions.

So, this is the way I would prefer a review to be written: YES/NO (Please check one.) After all, are you reading this to find out who I am (the only thing a review can really show), or is it the music you are really curious about? Musicality can be heard in the very first minutes of hearing a player. So, now that the prospective buyer has decided whether I base my view on knowledge, emotion, ignorance, or power, or a combination of these, I would really just prefer to check YES.

In the future, perhaps the reviewer’s life history should be presented before every review (this might prevent Stravinsky from elevating an “inauthentic” innovator to authenticity), after which the reviewer would simply say YES or NO. At any rate, I’m so glad I’ve had the opportunity to recommend something instead of what would have happened had I been asked to review John Lewis’s version of the Well-Tempered Clavier.

—KJ
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CLASSICAL

JS BACH: Complete Fantasias
Igor Kipnis, harpsichord and clavichord
see feature review by Keith Jarrett p. 150

BEETHOVEN: Symphony 9, Op. 125 ("Choral")
Curtin, Kopleff, McCollum, Gramm, Fritz Reiner, Chicago Symphony
ADD, TT: 69:24

As of this fall and winter, virtually all of the major record companies have introduced lines of "mid-priced" CDs, priced to sell at around ten dollars or less. There are musical as well as sonic treasures to be mined from this new area of retail marketing, and foremost among them is this recording of Beethoven's Symphony 9, taped in Orchestra Hall, Chicago, on May 1 and 2, 1961.

Reiner's 9 was favorably reviewed by critics on its initial release, yet within the past 15 years, it has rarely been cited as a reference whenever a new Beethoven 9 appears on recording, although critics rarely fail to cite Reiner's celebrated recordings of Strauss's Ein Heldenleben or Bartok's Concerto for Orchestra when new recordings of those works appear. Even so, this recording survived in RCA's full-price Red Seal record catalog for nearly two decades, so someone out there besides me liked it. I didn't buy all of them!

Now it's available on RCA's new mid-priced Papillon series. Why they had to call it Papillon and cover the 20 new releases in the series with those god-awful butterflies (ses papillons excrables) I'll never know, but never mind; once you get past the marketing BS, this is one of the great CDs, and it's in very good company.

The performance appears to move along on its own internal momentum. Reiner had a propensity for highlighting inner details of scoring that other conductors allowed to remain buried, and he did so without eccentricity. His performance is a revelation in many respects, which is saying a great deal considering the dozen or so other great 9s which have been committed to recordings over the years. Reiner is in the very best of company. To hear his bitingly dissonant voicing at the opening of the Finale is to hear this passage for the first time, no matter how many other recordings you may own, or live performances you may have attended.

The vocal quartet is, in its own right, one of the best-balanced and finely polished ensembles to have been assembled for a Beethoven 9. Their parts were considered to have been unsingable when the work was new, yet how easy they make it sound! And the Chicago Symphony Chorus, prepared by its Director, Margaret Hillis, gives a rendition of its challenging role which is as powerful and authoritative as any listener could demand.

Dick Mohr and Lew Layton's teamwork on this project have revealed this fine performance for exactly what it is; no more, no less. One needn't term it "high fidelity." Simply "fidelity" says it nicely. The soloists recorded the work as they performed it, not from in front of the orchestra with the conductor, but from the chorus risers. And that's exactly how it sounds. Tenor John McCollum is nearly overwhelmed by the orchestra at the end of the marching tune "Froh, wie seine Sonnen fliegen," but heck, that's the music, or so we may be convinced.

Finally, and most importantly, this CD, with its clarity, ambience, and utterly unfatiguing beauty of sound, must surely have been produced from the very original master, not a back-up. The influence of the ongoing Chesky projects is evident in this production. By fair means or foul, by hook or by crook, RCA has been embarrassed by a couple of youthful analog fanatics into producing a CD that only the Cheskys themselves could rival in analog
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—RS

BRAHMS: Symphony 4
Christoph von Dohnanyi, Cleveland Orchestra
Teldec 8.43678 ZK (CD). Friedmann Engelbrech, eng.; Wolfgang Mohr, prod. DDD. TT: 41:36

This is one of the finest discs Christoph von Dohnanyi has made with the Cleveland Orchestra, surpassing in every way the two-decade-old Brahms 4 recorded by Dohnanyi’s most celebrated predecessor in Cleveland, George Szell. As one might expect, this new recording is vastly superior sonically, with considerably wider dynamic range, more natural timbres, and far greater impact. But of greater significance, Dohnanyi’s reading goes more directly to the musical point. Despite his generally broad tempos in the two opening movements, he suggests animation where Szell seemed lethargic. In good measure this results from the remarkable textural transparency Dohnanyi secures. Indeed, with the exception of the Toscanini account (recently reissued in a sonically resplendent RCA CD), I have never heard a recording of this score in which Brahms’s complex polyphony is so richly detailed and sharply focused. Anyone who still clings to the specious notion that the composer produced “thick” orchestrations will be forced to rethink his views after hearing this reading.

The performance boasts other virtues as well. Primary among them is a freedom from mannerism most evident in Dohnanyi’s refusal to insert untoward Luftpausen after the sforzando chords of the third movement, thereby avoiding a clumsiness present in the recordings of such eminent Brahmsians as Otto Klemperer and Bruno Walter. And Dohnanyi’s rhythm remains rock steady, making the first-movement coda especially powerful, and purging the Phrygian slow movement of any sentimentality. Only in the finale does the conductor fail to hold a firm pulse, permitting the close to accelerate, thus weakening the cumulative impact of the reiterated bass of this grand passacaglia.

By today’s standards, Teldec’s recording may seem a trifle bright and a bit flat in perspective, with some of the score’s quietest moments lacking the hushed distance they should have. And some may feel that only 41 minutes of music is rather skimpy for a full-priced CD. Others concerned primarily with aesthetic matters, however, will not be bothered by this at all. A warmly recommended release.—MHF

FALLA:
Nights in the Gardens of Spain, The Three Cornered Hat
Della Jones, mezzo; Carol Rosenberger, piano; Gerard Schwarz, London SO
Delos D/CD 3060 (CD). John Eagle, eng.; Jody Schwarz, prod. DDD. TT: 64:15

The Three Cornered Hat, Homenajas, Interlude and Dance from La Vida Breve
Florence Quivar, mezzo; Jesus Lopez-Cobos, Cincinnati SO

These two recordings of Falla’s picturesque ballet have some surprising differences. The Delos disc has a fairly bland interpretation by a conductor who misses not only the feeling of fun for the work as a whole, but specifically fails to make anything of the obvious musical jokes such as the Beethoven quotation and the phrase from Falla’s opera La Vida Breve. The rest of the Delos disc is given over to a perfectly adequate performance of Falla’s almost-concerto, Nights in the Gardens of Spain. Pianist Carol Rosenberger plays well, but there is not much Spanish moonlight here.

Lopez-Cobos for Telarc does bring out the humor of the Three Cornered Hat. The characters of the ballet come across nicely, strutting, pouting, flirting, and enjoying themselves.

There are at least two other fine recordings of this ballet. Ansermet, who conducted the premiere in 1919, has recorded the work for Decca/London, and Fruhbeck de Burgos for EMI/Angel—this last with the added attraction of having Victoria de los Angeles sing the tiny vocal part. Either of these is worth keeping if you have it. If not, the Telarc is for you. The recording is filled out enterprisingly with Falla’s four Homenajas—short works dedicated to his friends and mentors. These are not, to my knowledge, available elsewhere in their orchestral versions, and are a welcome addition to the Falla discography.

The Telarc sound is, as usual, very vivid, and shows the orchestra at its very best. —HL

HAYDN: Six Quartets, Op. 20
Tetral Quartet
Hungaroton HCD 11532-33-2 (2 CDs). ADD. TT: 129:27

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peared in this country around 1970 (about five years after their European release), we have had excursions into the Haydn quartets by ensembles using “authentic” period instruments. Retrospectively in that light, what now seems extraordinary about the Tatral Quartet’s Haydn is the way in which it fore-shadowed period-instrument renditions. The Tatral’s sonority is exceptionally lean, with minimal weight given to the bass line. Complementing this leaness is a fast, narrow vibrato that yields a tonal purity on modern instruments, approximating the sound of 18th-century strings. In short, the Tatral has demonstrated that the spirit of authenticity can be captured without resorting to pedantry or excessive literalness.

But over and beyond this, the group’s playing is distinguished by well-judged tempos, dead-center intonation, impeccable ensemble, and judicious balances. Indeed, it is refreshing to hear each instrumentalist responding to the other in many pointed part-exchanges, and even the relatively lightweight cello italicizes vital detail often blurred in other recordings. And with such care in execution, the music’s rich inventiveness—its bold surprises, delicious humor, harmonic daring, and (in the broadest sense of the term) profound wit—is brought to the fore.

The transfer to CD is superb, tape-hiss being almost inaudible. Only a slight astringent harshness suggests that these recordings are two decades old. My one complaint concerns Hungarian’s failure to acknowledge their age, supplying only a copyright date of 1987, a most misleading specification. But of greater consequence, the company is reissuing in laser format each of the Tatral’s Haydn recordings, from Op.17 through Op.77. As is the case with this Op.20, all are worth investigating for the collector interested in this glorious repertory.

—MHF


We’re lucky to get one decent recording of Mahler’s Eighth per decade. Now, within mere months, we’ve got two.

The Eighth has a reputation, even among conductors, of being retrograde to Mahler’s development. Words like “throwback,” “reversion,” “anomaly” occur again and again in the critical literature, as well as accusations of crassness, sprawl, and crudity of orchestration. It’s untrue, of course; even a cursory listening reveals much more musical and spiritual affinity to symphonies 9 and 10, and particularly the immediately following Das Lied von der Erde (down to such details as identical themes in Das Lied’s tenor movements), then anything gone before, including the “Resurrection.” This misconception may be due, in part, to the near-uniform inadequacy of the recordings we have had to date. Primarily because of the immense resources required to stage and/or record this work (Mahler himself used over 1000 musicians at the premiere), the symphony is seldom performed, recorded even less. Bernstein’s CBS set, while flawed, to say the least, in performance and recording, at any rate gave us the opportunity to hear the piece straight through in stereo. The Haitink/Concertgebow is a flat recording of an undistinguished performance, and the Ozawa/BSO, though vocally thrilling, is so entirely at the expense of the orchestral sound, and is otherwise brutal, boorish, and punishing (this from someone who likes this music played loud).1

Ever since 1971, Solti’s CSO recording of this hugest of Mahler’s large symphonies has been the standard by which all others are measured, and the one most often referred to in reviews of other recordings. Even non-Solti fans—and there are many—admit that his performance is the most consistently inspired, the most joyous, the largest-hearted.

It was fascinating, then, to listen to Inbal’s recording immediately after refreshing myself with Solti’s. It might seem that if advocates of multi-miking ever had a case for their tech-

1 And on the CD, at least to judge by the sample I bought and rapidly resold, afflicted by old-fashioned distortion at climaxes.

—JA

MAHLER: Symphony 8
Faye Robinson, Teresa Cabill, Hildegard Heichel, sopranos; Livia Budai, Jane Henschen, aldos; Kenneth Riegel, tenor; Hermann Prey, baritone; Harald Stamm, bass. Choruses of: Bayerischer Rundfunks, Munich; Norddeutscher Rundfunks, Hamburg; Sudfunkschor, Stuttgart; Westdeutscher Rundfunks, Köln; RIAS-Kammerchor, Berlin; Limberger Domsingknaben; Children of Hessischer Rundfunk. Fritz Walter-Lindqvist, organ; Elahu Inbal, Frankfurt Radio Symphony Orchestra. Denon 60CO-1564/65 (2 CDs), Peter Willenoomes, Detlev Kitzler, engs.; Yoshiharu Kawaguchi, Richard Hauck, dirs. DDD. TT: 77:57

MAHLER: Symphony 8
Elizabeth Connell, Edith Wiens, Felicity Lott, sopranos;

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niques, it would be in the recording of this engineer’s nightmare of a symphony. However, after hearing the London/Solti recording—not bad, in its way, for multi-miking, albeit crudely edited—Denon’s one-point transcription (with only occasional help from assistant microphones, whose signals are passed through Denon’s digital time-delay alignment) was a revelation.

And that’s the least of it. I was beginning to fear that listening so closely to Inbal’s vision of Mahler over the last few months might have given me a terminal case of Inbalism. Certainly, some of it has rubbed off—some of Inbal’s readings have become my favorites, much to my surprise, and, from now on, the delicate, chamber-like aspect of Mahler’s music that Inbal has so uniquely and consistently revealed in his recordings is one that future conductors should be expected to deal with.

But the red-blooded need not be reluctant here. Gone are Inbal’s diffident volumes, the insistently super-fine chamberisms of many of the earlier installments in his uneven, but always intriguing, Mahler cycle. Here he is unrestrained throughout, virile and ecstatic in the almost continuous climax of this 1½-hour spiritual orgasm, full of awe in the reverential passages. In Part I (“Alles, creator spirtus”), in fact, the massed choirs virtually shout the words, straining for volume. Since Inbal has scrupulously avoided even the hint of any such strain or bombast in his readings of the preceding seven symphonies, this was quite a surprise; it is a credit to his taste that he has chosen the one place in Mahler’s work where this is most appropriate.

But Inbal, unlike such browbeaters as Ozawa, does not depend on volume alone to impress with this work. His deeply layered interpretation brings out all voices, both choral and orchestral, in perfect proportion and at no cost to the whole. This is difficult enough with Mahler’s eight (or ten) other symphonies; that he has so triumphed with the Eighth, conducting what Denon’s Ken Furst tells me are no less than 700 musicians in Frankfurt’s Alte Oper, is a major accomplishment. The brass chorales in the Part II setting of the final Scene from Goethe’s Faust are played with ghostly grace, and no one but Solti is comparable in the climbing chromatics of the layered choruses, in serried ranks assembled (I’ve seen the seating chart), singing “Alles vergenglich.” This last has just the right sense of tip-toeing into the presence of the ultimate mystery.

Perhaps Inbal’s most valuable—and unique—contribution is that his choral direction demands that one listen to the meaning of the inspirational text, the musical experience becoming a religious one almost as a matter of course. This is no matter of mere enunciation, but one of vitally inspired conducting. That this is done at no musical cost makes the performance much greater than the sum of its parts.

Almost appropriately, then, the performance is not one of star vocal appearances. Robinson is pleasing here, but not as good as on the Ozawa/BSO. Budai is, unfortunately, lackluster and characterless, her performance plodding. Henschel, however, is much better: lively, full-throated, and in control. Cahill, though full-voiced throughout her range, is no match for Solti’s Lucia Popp. In fact, most of Solti’s and Ozawa’s soloists are superior to Inbal’s, with the exception of Hildegard Heichelle, whose pure, floating soprano is perfectly cast as the Mater Gloriosa. My only regret is that her part contains but two lines. Though Prey and Stamm strain somewhat throughout, it’s clear (at least in Prey’s case) that this is because they are, indeed, in a large hall competing with 700 other musicians, which makes their performances more wooden than they might have been (ie, with—gasp!—multi-miking). Kenneth Riegel, with a brighter, sweeter, more lively voice than Solti’s Kollo, sings “Blicket auf” with the passion of epithany, while angelic choirs beckon us, sighing “Komm, komm.”

Heady stuff. I was moved. Buy it.

My recommendation of Klaus Tennstedt’s well-intentioned version, the taping of which began only two days after Inbal’s was completed (October ’86), is not so unreserved. Tennstedt’s uneven EMI Mahler cycle, of which this is the completion, has been plagued by lousy recorded sound and a protracted release schedule. However, in light of all the hoopla that greeted this recording’s release, not to mention the prizes it has garnered, I was expecting it to be at least as good as Inbal’s, if not better.

Though quite decent, it’s neither. Admittedly, Tennstedt is not one of my favorite conductors: though emotionally vital, his readings often seem labored, overly earnest; one hears

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the effort more than the desired result. That is true of his Eighth as well: where Inbal's choristers shout themselves hoarse when it counts most, Tennstedt's seem to do so all the time — the performance is exhausting. Also, his hell-bent-for-leather attack leaves little room for the opportunities for introspection offered by even this most overt of Mahler's symphonies.

Where his interpretation is valuable, however, is, surprisingly enough, in an area that has become Inbal's exclusive domain. Throughout the entire symphony, Tennstedt consistently brings out the inner voicings of choral and orchestral passages alike. Particularly attractive in the "Younger Angels" and "Blessed Boys" upper- tenor passages, this practice broadens and fans out the chords in ways entirely foreign to the nineteenth century, and makes the symphony sound much more like the modern work it truly is. Tennstedt, too, takes liberties — mostly of ritard — with the many climaxes, at least half of which work (the rest sound rather arbitrary). The very quiet brass/ woodwind chorales just after the chorus's entrance in II, and the following vocal chorales, are rendered with exquisite tenderness, better than I've heard elsewhere. But "Blicket auf" is not the awe-full opening of Heaven's gate it should be, as in the Solti and Inbal versions. In a phrase, Inbal's Mahler sounds complete; Tennstedt's Mahler sounds merely immense.

The singing is a problem. Connelly and Schmidt are undistinguished, though Denize is somewhat better. Wiens's presence is far more vital, but sister soprano Lott's Mater Gloriosa is sharp in her first line, out of control on the following top notes, and just about ruins her descent over "Das Ewigweibliche zieht uns hinan." Tenor Versalle's Doktor Marianus is lively enough, but his vibrato is really too wide for this kind of singing, he has serious trouble holding the top note in "Wenn du hier gebietest," and is flat and strangled on "Uns erwachte Koenigen." Hans Sotin's bass has seen better days, I think, but Jorma Hynninen's baritone, strong and passionate throughout, is reminiscent of the young Hans Hotter's. Unlike Denon's sessions, in which the soloists were arrayed to Inbal's immediate left and right, the EMI singers were lined up between orchestra and chorus, and sound as lost and straining for attention as they look in the session stills.

The London Philharmonic Choir's tenor section, however, is a force to be reckoned with, both in volume and grace. Their clarity, subtlety, and even- and open-voicedness are a perfect match to Tennstedt's great, tensionless, spread-out chords. But all choruses here are far too often rough, coarse, and shouty.

As is much of the recorded sound. The organ, recorded separately at London's Westminster Cathedral, is unblended and mixed too far forward. Try as I might, I could get no sense of soundstage, no feel for the Walthamstow Town Hall's (the recording venue) ambience. This is in great contrast to Denon's Frankfurt Alte Oper, so clearly delineated on disc. It's really not surprising — I counted at least ten mikes in the EMI LP's liner photo, as opposed to Denon's Opera House Two Plus?

That legendary digital harshness is here in spades, too, with violins edged in steel and raucous choral sound. Listening to this flat, bright recording directly after the Denon's deeper, darker, transparent, effortless sound was hardly flattering to the EMI, and proved once again that there is digital sound, and then there is digital sound. The EMI is painful to listen to at exactly the same SPLs as the Denon, which is not. I found the Denon, in fact, totally satisfying at many different volume levels; the EMI just gets more painful the louder it gets. Digiphobes may or may not be happy to hear that the LP is exactly as harsh as the CD.

And exactly the same in every other way as well. Really, the DMM LP surfaces, excepting a few random pops and clicks, are remarkably silent and smooth. Even in the quietest sections, surface noise is barely detectable at high volume levels, and in the huge tutti sections, with massed choirs, orchestra, and organ, each voice and instrument was audible, discernible, and balanced, even in inner-groove climaxes. Here is one instance where, even with digital master tapes, LP need not bow to CD. EMI has definitely improved the quality of their disc mastering and pressing.

Recommendation? Not as good as Solti or Inbal, though considerably better than Ozawa, Haitink, or Kubelik. Recommended, but not highly.

—RL

Cleveland Quartet, Meliora Quartet
Telarc CD-80142 (CD). Jack Renner, eng., Elizabeth Ostrow, prod. DDD. TT: 59:42

Stereophile, January 1988 167
Dear Stereophile Reader:

The New York City High End Hi-Fi Show, held this past October, was a happy occasion for both attendees and exhibitors. The New York Times said on October 29, "To many devoted audiophiles, a visit to the New York Show must have seemed like walking through a daydream." The showgoers got to speak to key product designers and Stereophile reviewers, attend seminars, see and hear the best sound reproduction equipment, and listen to great live music. Exhibitors received exposure for their products, could present their design philosophies to the people who bought their products, and received tremendous feedback in the face-to-face interaction that characterizes these Hi-Fi Shows.

On April 8-10, 1988, Stereophile, in cooperation with Nelson and Associates, will produce another High End Hi-Fi Show. The place: The Bayview Plaza Holiday Inn, at West Pico and Third, Santa Monica, California. Ticket price: $10 at the door, $7.50 if you order in advance. For advance orders simply send personal check or credit card number (Visa, Master Card, American Express) to High End Hi-Fi Show, PO Box 5529, Santa Fe, NM, 87502. Or call Laurie Evans, 505-982-2366. Don't miss it!

Yours in happy listening,

Larry Archibald
Publisher, Stereophile Magazine
It was with especial interest that I received this recording for review, following so closely on my “Building a Library” article on the Mendelssohn Octet (Vol. 10 No. 9). Here the Cleveland Quartet plays with the prizewinners of their own 1983 competition, and their subsequent pupils, the Meliora Quartet. It is an impetuous and urgent performance on the whole, with the first violin, in the first movement especially, tending to race impulsively within phrases and over-dominate the texture. This isn’t helped by a recording set-up that appears to favor the violins, setting the lower strings at a distance. There is poor tuning and untidy articulation in all movements, the difficult Scherzo emerging as the most tightly controlled and original for this sprightly, fresh approach. The acoustic is neverberant and heavy, jumbling inner parts and offering, in general, an unpleasant sound. So, not really a contender in the market for this work.

The A minor Quartet, however, fares better: a warmer, richer quality, but with enhanced clarity, gives excellent voice and precise positioning to the four Paganini Strads that the Cleveland uses here. This is a fine, emotionally charged performance, suggestive of late Beethoven not only in its mood but also in its drive and intensity. Only in the third-movement Intermezzo does Weilerstein tend to rush, but his leadership in the other movements, and particularly in the stop-and-start Presto Finale, creates a reading of structural integrity and cohesion. In fact, this is one of the finest performances I have heard of this work; the ASMF Chamber Ensemble (Philips CD 420 400-2) is, in my opinion, still unsurpassed in the Octet.

—BJ

**MOZART: Chamber Works**


Jaap Schroeder, Smithsonian Chamber Orchestra, Smithsonian String Quartet, various soloists

Smithsonian N 031 (6 LPs)

The rubric “Smithsonian” has become known as a tacit guarantee of authenticity regarding effort, in the case of research, and conclusion when the results are published. Nonetheless, in the highly contentious arena of musicology, there will be some (many?) who will gird their intellectual loins to do battle with the Smithsonian’s opinions re. Mozartean-era performing practices demonstrated on this estimable set. This collection of 13 familiar and not-so-familiar chamber works is a distinct service to music and musicology. Even if it were not, it’s a highly entertaining set.

The component parts are of the highest order. The musical instruments largely belong to the Smithsonian’s valuable collection of antique and authenticated facsimiles. Of perhaps greater importance, they have been entrusted to gifted musicians who are eminently qualified to apply specialist knowledge of the techniques and artistry prevalent in the 18th century. We are, therefore, privileged to hear Mozart’s music played in as close a manner as possible to that which the maestro heard and performed himself.

This enterprising project should not, though, be viewed primarily as a scholastic exercise. Quite the contrary: the music-making radiates an aura of spontaneity and an infectious sense of enjoyment. The Smithsonian Chamber Orchestra, founded in 1976, is dedicated to recreating musical styles of the 17th, 18th, and 19th centuries. For this Mozartean undertaking, the principal conductor is the internationally acclaimed violinist-conductor Jaap Schroeder. Schroeder also occupies the first chair of the Smithsonian String Quartet (no, that isn’t a typo—James Smithson, an English scientist who died in 1829, bequeathed money to start the great institution), formed in 1982 and already highly respected on the international circuit.

Regardless of one’s predilection regarding historical authenticity and consequent stylistic niceties, most lovers of Mozart’s music should find the Smithsonian’s approach at least interesting, as much for subtle differences as for archival relevance. Surprisingly, in view of recent research from other investigative quarters, Smithsonian tempos seem slower, the musical pulse more relaxed. Immediately conspicuous is the relative absence of sentimental ritard and the hyper-expressive application of rubato. The voices of the old instruments, coupled with the slightly lower pitch, sing in comparatively subdued, even doleful, tones. The seldom-encountered Serenade, K.204 (which the Smithsonians claim has not been recorded before) emphasizes this, emerging in a mildly lugubrious manner. On the other hand, both the early Concertone for Two Violins, K.190, and the Sinfonia Concertante, K.364, one of Mozart’s most sublime creations, appear to benefit from the more mellow sonic
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The Sinfonia is impeccably played with with lyrical elegance by violinist Schroeder and violist Marilyn McDonald (who doubles on violin for the Smithson String Quartet).

Two quartets for fortepiano and strings, K.478 in G minor and K.493 in E-flat major, receive crisp, diverting performances. The fortepiano, a 1795 original by Jean-Louis Dulcken of Munich, is played proficiently, though without much imagination, by James Weaver. The engaging artistry of flutist Christopher Krueger is highlighted in a charming performance of the Flute Quartet, K.285, although the actual flute, a reproduction, doesn't project a particularly ingratiating sound. Similarly, I was not very impressed with the clarinet's tonal quality despite elegant musicianship from the artist, Lawrence McDonald, in the gorgeous Quintet for Clarinet and Strings, K. 581, and the E-flat major Trio for clarinet, viola, and fortepiano, K.498. In the Concerto in A major for basset clarinet, K.622, McDonald's sensitivity deserves special mention.

That perennial audience-pleaser, Eine kleine Nachtmusik, K.525, sounds a little sedate in its originally designated orchestration. Generally performed by chamber orchestra, here it is given, in accordance with Mozart's own catalog entry, by two violins, viola, and doublebass. Also more frequently heard in an orchestral version, the composer's good-humored fun at the expense of amateur composition, A Musical Joke, K.522, is given in the 1795 version for two violins, viola, doublebass, cello, and two horns. The playing is spirited, the inherent, and obvious, humor divertingly delineated. The Smithson Quartet provides the personnel base for these two works and can be heard without augmentation in a mellifluous reading of the String Quartet in D major, K.499. Perhaps the finest achievement of the entire collection is a spirited, yet poignant, captivating performance of the Quintet in E-flat for horn and strings, K.407/386c.

Notwithstanding my few qualifications, I commend the people responsible as the entire project has been designed and executed with taste and intelligence. The 64-page booklet accompanying the set is most informatively researched and written by cellist Kenneth Slowik, a member of the Smithson Quartet, who also plays in almost every piece (and serves as Assistant Producer). The digital engineering enhances the musical content admirably, and one assumes (and hopes) that the set will become available on CD. The vinyl pressings, however, are first-rate. The various recording venues, however, make for subtle changes in ambience from piece to piece; this is particularly noticeable when compositions for the same ensemble are programmed for the same LP side.

The set is also available on six Dolby-encoded cassettes, which I have not heard. The cost for both records and cassettes is $54.95 plus $3.49 for postage and handling. Orders should be sent to Smithsonian Recordings, PO Box 10230, Des Moines, Iowa 50336. Recommended.

—BS

MOZART: Divertimentos, K.247 & K.251
Rolla, Franz Liszt Chamber Orchestra of Budapest
Hungaroton HCD 12892 (CD). DDD. TT: 63:25

The Franz Liszt Chamber Orchestra of Budapest has made some impressive recordings during the past decade, but this one is most disappointing. In spite of Janos Rolla's smallish ensemble, important details are sometimes blurred, with winds and horns excessively recessed and much of the music's piquant color consequently neutralized. Then, too, when these works are at their most interesting, Rolla's direction is often affected and clumsy. This is especially apparent in K.251, where the imagination of the 20-year-old Mozart really takes flight. Rolla makes little of Mozart's melodic and harmonic daring, and vitiates the bubbly joy of the penultimate movement with fussy little rhythmic adjustments and a plodding tempo. In this movement, too, he shows little style consciousness, failing to insert a cadenza where one seems called for and where many other conductors have done so.

If these performances were meant only for background listening, they might be acceptable. But even in relatively lightweight entertainment music such as this, Mozart was the complete artist, his wide-ranging imagination producing all sorts of felicities in melodic inventiveness, surprising turns of harmony, and bold orchestral color—touches that set these works well above the level of mere professional competence and demand more imaginative leadership than Rolla supplies. The sound is acceptable, but a bit wanting in resonance, smacking more of the studio than of the concert (or banquet) hall.

—MHF
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A disappointment this, when Previn’s past accounts of Prokofiev are taken into consideration. If the “Classical” Symphony (not a pastiche of Haydn but the kind of music he might have written had he lived in the Twentieth century) calls for a certain laid-back quality, this certainly won’t do for the emotive Fifth. Here Previn seems uncharacteristically matter-of-fact; the work unfolds in substance rather than mood. This is so different from the Slatkin/St. Louis account, Christopher Breunig’s recommendation in “Building a Library” (Vol. 10 No. 3—LP: RCA RL 85035; CD: RD 85035). That performance is luxuriant: it glows, by turns, with a sensuous lyricism and nuance that is wholly beguiling, and with a wit and frivolity that is infectiously enjoyable. Previn’s reading is not without its finer points, however: there are some impressive climaxes that flower unhindered in a recording that handles more than adequately every dynamic extreme and full-score complexity. But there is too much highlighting of individual instruments to suggest anything but a studio-bound production.

Not only a lack of inspiration, but inaccuracies as well mar the LAPO’s performance of 1. This perfect miniature needs acute attention to details of accentuation and dynamic gradation to develop its wealth of wit and charm. Poor tuning in the upper strings gives a scratchy, harsh sound in a performance that lacks zest and remains dauntingly earthbound. Two restrained accounts, then, that are less than captivating.

—BJ

RICHARD STRAUSS: Ariadne auf Naxos
Anna Tomowa-Sintow, Prima donna/Ariadne; Agnes Baltsa, The Composer; Kathleen Battle, Zerbinetta; Gary Lakes, The Tenor/Bacchus, Hermann Prey, A Music Master; Otto Schenk, The Majordomo; Ewald Achberger, An Officer; Heini Zeddik, A Dancing Master; Gunther von Kannen, A Wig Maker; Alfred Sasnek, A Footman; Urban Malmberg, Harlequin; Josef Protschka, Scaramouche; Kurt Rydl, Truffaldino; Hans Sojer, Brighella; Barbara Bonney, Naiad; Heiga Muller Molinari, Dryad; Dawn Upshaw, Echo; James Levine, Vienna PO
Deutsche Grammophon 419 225-2 (2 CDs). Klaus Scheibe, eng.; Gunther Bree, De Steven Paul, pros. DDD. TT: 124:54

In Richard Strauss’s last opera, Capriccio, the Countess is unable to decide the all-important operatic question: which is more important, the words or the music? Strauss’s own decision was, however, quite clear. Possibly no other composer has gone to such lengths to be sure that the words were right before he could begin to provide music. Ariadne is the superlative case in point—Strauss used a much-reduced orchestra to further insure that Hofmannsthal’s witty text could be heard. In this new recording every word is heard, but with one glorious exception it all falls rather flat: the singers seem unaware that words must be inflected to produce the intended effect. In this version, fine voices make beautiful sounds, but drama and characterization are largely left to the orchestra. If only the magnificent sound of the Vienna Philharmonic had been matched by a sense of excitement from the singers.

One of the difficulties with this performance is a failure to distinguish between the Prolog and the Opera itself. In the Prolog only the exasperated Composer and Zerbinetta are real people—the rest are caricatures of one kind or another. In the first recording of Ariadne, made in the 1950s with von Karajan, one of the many felicities of the Prolog was Elisabeth Schwarzkopf doing a hilarious impersonation of the worst kind of prima donna. In the same set, the Major Domo was so delightfully austere that one could almost see his sneer. This sort of thing is entirely missing from the present recording.

In the Opera itself, the soprano and the tenor must become Ariadne and Bacchus; in a recording, this must be accomplished vocally.

So now for the glory of this set—the performance for which you should hasten forth to buy. Not long into the Opera, Zerbinetta embarks on the longest and highest of Strauss’s coloratura extravaganzas. Kathleen Battle ignores the impossible technical obstacles and creates a character who projects the gentle, rueful irony which Hofmannsthal and Strauss intended. This is interpretive singing of the very highest order. Many sopranos have recorded the aria, but none has managed to show a living personality while coping with its stratospheric demands.

As for the other principals, Anna Tomowa-Sintow provides a flood of beautiful sound as Ariadne. Gary Lakes, the coming Heldenterner, is resolutely loud in his “Circe, Circe” scene, but becomes more gentle as the opera progresses.

Stereophile, January 1988
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—HL

**STRAVINSKY**

*The Firebird Suite, Le Sacre Du Printemps*

Nimbus NIS5087 (CD). DDD. TT: 59:04

*Nebuchadnezzar (Original 1911 Version), Symphony in Three Movements*

Nimbus NI5088 (CD). DDD. TT: 59:59

Gennadi Rozhdestvensky, LSO (both)

In this reviewer's opinion, Nimbus Records Ltd. makes the finest-sounding CDs yet heard. It's true that most Nimbus discs are of smaller chamber works and solo instrumentals, but a couple of orchestral recordings do predate these Stravinsky offerings. Notable among these is a recording of Beethoven's Symphony 1, scored for period instruments, and recordings of English string music by Elgar, Britten, Butterworth, and Vaughan Williams. But the present Stravinsky recordings are the first large-scale orchestral works featuring a world-class orchestra that I have heard from this company.

The CDs that I received were pre-release copies with Xeroxed covers and absolutely no liner notes of any kind. Not only that, but the discs themselves are devoid of any printing; it's hard to tell which is the playing side (to answer your question: no, the disc will not play backward or forward if put in upside down). Nonetheless, the promise of Nimbus's usual good engineering and tasteful, realistic microphone technique made me eager to hear them.

Soundwise, they do not disappoint. They are among the two or three best-sounding CDs that I have ever heard. The reason, of course, is the microphone technique. Nimbus is big on Ambisonics; almost all of their releases are in this format (UhJ-encoded for stereo compatibility), and for this reason, they used first the celebrated Calrec Soundfield mike and now a similar mike array of their own design. These British devices use multiple capsules arranged in an array. The individual capsules are brought out separately to a matrixing console which allows them to be mixed and phase-arrayed in such a way as to give considerable control over the microphone's overall perspective, and provide Ambisonic-encoded output to boot. Not owning the appropriate decoder, I can't comment on the Ambisonic worth of these recordings, but the stereo is yummy!

One of the more positive attributes of these single-point mikes is that they give real stereo. This is rare, since most of the larger labels use multimiking techniques or spaced omni pairs (or triplets) which cannot give real stereo. A single-point stereo mike actually acts as the listener's surrogate ears. A well-made stereo recording is almost magic in the way it can lay an ensemble before you. Every instrument is exactly where it should be, not only with respect to right and left, but also front to back. Each instrument is the right size and in the right place, with real space around it, not some digitized artificial "reverb." These Nimbus recordings do exactly that—and from a CD! Several months ago in these pages, I stated that I had yet to hear a CD which imaged well. Now I've heard two.

As to the other aspects of these recordings' sound, there are no glaring defects. The top end is sweet and smooth, and the bass is taut and goes quite low. The midrange is mostly very smooth and clean, with a slight tendency to leanness in the 5 to 9 KHz range (this may be the hall). All in all, the sound of these two recordings is about as close to topnotch as one is likely to get.

Now, about the performances. The redoubtable JGH has coined what he calls "Holt's First Law of Recording." To paraphrase this famous corollary (based, I believe, on the laws set forth by an Irishman named Murphy), "The quality of the sound of a recording is inversely proportional to the quality of the performance." (Eugene Ormandy, for example, was never recorded well with the magnificent Philadelphians.) On the other hand, most of the best audiophile recordings are made with second-rate performances of third-rate ensembles. (For example, Kenneth Clark with the Pacific Symphony, playing the worst performance of Respighi's *Church Windows* ever recorded. It also is one of the most magnificent-sounding recordings of an orchestra ever released on record.)

Well, Holt's Law strikes again—somewhat: the *Petrouchka* is terrible. It sounds as if the conductor was asleep, and the orchestra desperately wished to be elsewhere: it is slow, turgid, boring. The same can be said for *Firebird*—and this is the *Suite*, mind you, not the full-length ballet. (If you want a good per-
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formance and OK sound for the latter work, stick with the Telarc featuring Robert Shaw and the Atlanta Symphony.) While listening, it was difficult to keep in mind that these pieces were written by Stravinsky as ballet works for Diaghilev's famous Paris Ballet. I cannot imagine anyone dancing to these performances. Not only are they slow, but the tempi have a jerky, halting quality which even the great Nijinsky himself would have found impossible to choreograph.

I have heard that one of Stravinsky's proteges heard these recordings and approved, saying that "they were exactly as Stravinsky meant them to be played." Protege or no, one has only to listen to Stravinsky's own performances, made for CBS in the middle '60s, to know how be thought this music should sound: crisp, confident, and sure, with unerring rhythmic accuracy and attack. Rozhdestvensky honors these attributes strictly in the breach.

The Rite of Spring fares somewhat better, although the sforzandi and louder climaxes still tend to rumble dully rather than cut or chop with the requisite sharpness and bite. The Symphony in Three Movements, a real surprise here, is actually quite good; the greater classical rigor of the work seems to support Rozhdestvensky in a more vigorous, disciplined reading, support he seems sorely to need. Unfortunately, it's coupled with Petrouchkia. I must say that I am not very impressed with Rozhdestvensky. I have heard him conduct the National Symphony on several occasions and found the readings lackluster each time (and I thought Howard Mitchell was bad).

So, what we have here are two CDs with two passable performances and two clunkers divided evenly between them—unfortunately, one must buy both discs to get both acceptable performances. If you want to hear how good a properly recorded orchestral CD can sound, buy the Firebird/Rite. If you are searching for good Stravinsky, look to the source.

—GG

Who is Vlad Perlemuter? Veteran octogenarian European touring pro? Studied with Maurice Ravel? Oh, that Perlemuter! The fact that he is largely unknown to American audiences is a shame; this interesting and accomplished interpreter would have been well-received had someone promoted him more aggressively.

The present collection of piano works from three distinct musical periods is obviously intended to highlight, in typical recital fashion, the artist's ability to interpret a variety of musical genres. His rather smooth, legato style, characterized by lush (sometimes indulgent) pedaling, is best suited for the Romantic works rather than Bach (Glenn Gould he is not); but Perlemuter's study of Debussy and Chopin provides both provocative and pleasant listening. The Tarantella and most of the Debussy works are well done and invite comparison with other interpreters.

This digital CD is very clean-sounding, with a realistic soundstage and a fairly "live" character; dynamics, however, are slightly squashed, though not enough to detract from this excellent recording. I play this collection often for my own enjoyment, so I definitely give it a thumbs-up. Other Perlemuter recordings will be reviewed in the next issue.—DBA

**CHORAL MUSIC BY RUSSIAN COMPOSERS**

*Glinka:* Venetian Nights, Traveling Song; *Tchaikovsky*: Neapolitan Dance Song; *Svobodov*: Winter Road, Magpie; *Kovsal*: Oh My Land My Native Soil; *Svrdlov*: Herd of Horses; *Rachmaninov*: Six Choruses for Female Voices

The USSR TV & Radio Large Chorus, Klavdia Pitka & Ludmila Ermakova, conductors

Melodiya/Mobile Fidelity Sound Labs MFCD 876 (CD). TT: 40:56

This is a most annoying recording. The recorded time is short, the selections are not show-stoppers, and the recording has some peculiar balances. On the other hand, the chorus itself sings well, the men's voices are rich, and the ladies not shrill. I can't imagine why the sub-bass should have been given his own microphone, nor why such a heavy-handed pianist should have been hired, but these are typical Melodiya mysteries. Likewise the excessively uninformative liner notes, which must have been translated from the Melodiya sleeve: no texts, just waffling about how nice the music is.

It seems that whenever a Western record company manages a deal with *Mezhdunarodnaya kniga*—and they have all had a go at

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**CLASSICAL COLLECTIONS**

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*Bach:* Italian Concerto; *Chopin:* Three Mazurkas, Tarentelle; *Debussy:* Pour le Piano, Images 1, L'Isle Joyeuse

Vlado Perlemuter, piano

Nimbus NI 5080 (CD). DDD. TT: 65:30

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Stereophile, January 1988
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THE FRENCH ROMANTICS: Organ Music

Franck: Pièce Heroïque; Pierne: Trois Pièces; Vierne: Claire de Lune; Toccata; Symphony No. 4 for Organ (excerpts); Saint-Saëns: Prelude and Fugue in B Major; Boellmann: Suite Gothique

John Rose, organ

After first listening to this remarkable disc, I was tempted to file it in the bin for record-of-the-year candidates. John Rose and Towerhill's Michael Nemo have done an extraordinary job of presenting seldom-heard organ compositions in reverential fidelity without pandering to the organ-ic thrill seeker. (Yes, there are a few plaster-crackers, but they are not the reason for this recording's being.)

The only thing keeping this out of the superdisc pile is the inconsistent quality of the music itself. Though very enjoyable on the whole, it is distinctly unprofound. But don't let that scare you away—buy this recording!

The program is a combination of the noble, the pretty, and the cliched. Franck's "Pièce Heroïque," the most-recorded composition on the program, is also the most engaging and substantial (no coincidence). Its relentlessly persistent heroic intensity is counterpoised beautifully with a center section of serene contentment. Rose plays up the contrast in spades.

Among the noble offerings are the toccatas of Vierne and Boellmann; among the pretty are several pieces with nocturnal, ruminative charm: Boellmann's "Pièce," Vierne's Symphony 4, and Pierre's Trois Pièces. Much of the rest slouches toward cliche, but is not entirely without appeal.

As the outstanding program notes by Philip Truckenbrod and Rose point out, all these pieces were composed at about the time organ-builder Aristide Cavaille-Coll was broadening the instrument's dynamic and tone-color ranges. All the composers here put the new tools to work, and Rose exploits them with skill and taste. His playing is at all times sympathetic to the music and sensitive to its demands for subtlety, charm, and, when called for, virtuosity.

Despite some lightweight music, the disc has many winning ways, and sonics take a back seat to none of them. Compared to the groundbreaking Cantate Domino on Proprius, the organ here has more of the penetrating, lively presence of the real thing. What comes across as greater perceived ambiences on Cantate is replaced with something more akin to reverberation (not in the pejorative sense) in the Towerhill effort. This could be the effect of different cathedrals, although different analog recorders were also used (a modified Revox A77 by Proprius, an Ampex ATR-100 by Towerhill).

If this is what Michael Nemo and Towerhill can do, let's hope they do more of it. You will not be disappointed with this recording. If the music starts to seem threadbare by the seventh or eighth hearing, the sound and the performances will still be as fresh and vivid as moonlight on the lake.

MUSICAL ELEMENTS:
Goldstein: A Breaking of Vessels, Becoming Song; Lerdahl: Fantasy Etudes; Wyner: Passage 1

Composers Recordings Incorporated has presented another strong edition of contemporary music with this release. The three works, though in widely varying musical styles, combine to make a very entertaining, listenable, and superbly performed offering.

The album opens with Yehudi Wyner's Passage 1 for flute, clarinet, trumpet, violin, viola, cello, and piano. Written in 1983, the work is built on harmonies reminiscent of early-20th-century American popular music. In the opening, Gershwin-like chords accompany the trumpet and winds in a simple melody that is given a mysterious quality by the use of piano octaves which punctuate and create the momentum for the harmonic progression. The effect is both subtle and satisfying. This mysterious quality is augmented...
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until the ear is made ready for fully atonal passages that are interwoven with the chordal fabric. After the development section, which is in variation form, the piano shepherds the various “dissonances” back to the original theme, this time with a lovely cello counterpoint.

The sound quality of this selection is very clean, offering a good soundstage that gives the impression of a small chamber ensemble laid out between the speakers. My only complaint is a lack of hall ambience; had this been present, it would have served to better set this exquisite piece.

The next selection, Malcolm Goldstein’s *A Breaking of Vessels, Becoming Song*, is in total contrast to Wyner’s *Passage I*. Goldstein is one of the few composers who can consistently write totally abstract contemporary music that is both compelling and accessible. The work features the solo flute of Robert Dick, widely acclaimed for his exploration and development of new techniques for his instrument. He is joined by a chamber orchestra which masterfully follows Goldstein’s design. The work is an incredible dissertation, offering stark textural contrasts that give the impression of electronic music that is, however, entirely created by traditional instruments. In equal contrast to *Passage I* is the use of close, unidirectional microphones, which gives this selection a recording-studio quality that enhances the image of an electronic ensemble. The approach is just right for this work. *Stereophile* readers should particularly take note, as this selection is an excellent test of your speakers and amp. The close miking of the solo flute requires enormous power reserves and puts a real premium speaker through a rigorous trial of both transient response and tonal clarity. Unfortunately, my copy was blemished by one loud skip about an eighth of the way in, but this has in no way diminished my enthusiasm for this selection, which has stood up to five playings with no apparent loss of fidelity. In sum, a most impressive work.

The final selection is Fred Lerdahl’s *Fantasy Etudes*, scored for flute, clarinet, violin, cello, percussion, and piano. This piece strikes a middle ground between the Wyner and Goldstein works, as it utilizes complex but recognizable harmonies that give a sense of tonal centers in a way similar to Bartok’s *Miraculous Mandarin*. The piece is very listenable (more so than Bartok’s, which is quite raucous and requires several listenings to settle in), well orchestrated, and the performance is full of spirit and a great sense of fun. The sound quality is also quite good, containing the right amount of hall ambience to give the impression of a live ensemble. The only problems are that the loud percussion sections are too forward, and the piano is somewhat elongated left to right. This is a minor concern, however.

This album is terrific, and a great introduction to three outstanding composers. —JB

**VARIous: Music in Renaissance Transylvania**

Balint Bakfark Lute Trio, Soloista, Ferenc Liszt Chamber Choir

Hungaroton HCD 12924 (CD). Laszlo Csintalan, Endre Radanyi, engs.; Istvan Juhasz, András Szekely, prods. ADD. TT: 68:52

Renaissance Transylvania? I confess that even to a medievalist such as myself, Transylvania is more usually associated with the “blood-thirsty berserker Dracula voivode” than the Renaissance. (This despite the fact that Vlad Dracula was from Wallachia, not Transylvania.) Fear not, Gentle Reader, all of your cherished illusions will not be shattered; there will be at least a *soupcon* of gore ere I conclude this review.

To say that this recording is a Hungarian goulash is to use a cheap and easy metaphor; understand, however, that I grew up on goulash and *I love* it. The pieces given here, though all demonstrably present in Transylvania in the 16th and 17th centuries, run the gamut from Italian lute pieces to chronicle songs, and from folksongs and dances to organ compositions. Only the last are any sort of disappointment; the organ writing is no more than pretty, the organist no more than competent. The rest of this CD is a marvelous palette of instrumental and vocal colors, and an absolute joy to hear.

The truly lovely surprise (for me at least) is the singing of the Ferenc Liszt Chamber Choir. While in every way comparable with the best choral groups of Western Europe, they maintain a trace of their Slavic national character, even in Italian works, that distances them in a very positive way from most of their competition. No one sensitive to the blend of voices in ensemble singing could fail to enjoy them.

Other highlights: an amusing song “On the Morals of Wicked Women” with some sort of
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bass reed positively belching its way along; something called the "Mating Song" (I think they mean "Wedding Song") sung in a way that nearly has me crying in my paprikash; three songs on poems by Balint Balassi, intensely Hungarian and movingly performed; the general quality of lute technique; the voice of one of the basses; etc.

The excellence of this recording confirms my opinion that Hungaroton early music is replacing vacuum tubes as the principal audiophile export from Eastern Europe. All of the instruments are presented with their tonalities intact, ambience is maintained in correct proportions, soundstaging is fine, and hiss, although present, is no problem. The liner notes are in a quaint form of English, but you will be able to decipher it. Very much recommended.

Oh yes—I had nearly forgot the sex and violence I promised you. A number of the works on this CD are either concerned with or dedicated to members of the Bathory (Baton) family. One 16th-century member of that family was Elizabeth (Erzebet) Bathory, the "Blood Countess of Transylvania." How did she get that title? By taking complexion baths in the blood of young girls: when caught, she was sentenced to be walled up alive. —LB

JAZZ

MILES DAVIS: Cookin' at the Plugged Nickel
Miles Davis, trumpet; Wayne Shorter, tenor sax; Herbie Hancock, piano; Ron Carter, bass; Tony Williams, drums
CBS CJ 40645 (LP). Ray Moore, eng.; Teo Macero, prod. TT: 57:01

When the still staunchly electrified Miles Davis left CBS last year for his inauspicious debut on Warner Brothers (Tutu, WB 25490), Davis fans the world over breathed a sigh of relief (well, I did), hoping that, at long last, unrestrained by his veto, CBS would now begin systematic re-release of the hundreds of hours of unreleased Davis material still in the vaults.

Well, you couldn’t call it a flood of material as yet, but CBS has definitely started out on the right foot. Early this year, the remaining recordings of the 1961 Carnegie Hall concert with Gil Evans were released, and have proven not only at least as good as the companion LP that has been in the catalog for the past 25 years, but, to many ears, much more satisfying than Sketches of Spain itself (from which most of the concert’s program was culled). The four selections on the present well-packed LP (and CD) are even more superior to the previous 2-discs’ worth of music released from these dates in 1982 (Live at the Plugged Nickel, CBS C2 38266).

The master tapes are evidently not of stellar quality, and no doubt Macero and crew were working under constrained conditions in the typical jazz venue of 1965; still, Macero remains one of the more straightforward of jazz producers, and the LPs, at nearly 29:00 per side, sound considerably better than the last set of Plugged Nickels at less than 23:00 per; CBS seems to be doing some homework.

The December, 1965 Plugged Nickel dates in Chicago are important in Davis’s development, though this had been known to only a few before the 1982 release. The music here is raw, earthy, vital, primal, and wild, summing up the best of mid-‘60s jazz. Compare these performances with those of the same band and repertoire only a year before, in Berlin (Heard ‘Round the World, CBS C2 38506): the latter are smooth, tight, taut, and controlled—not exactly criticisms, to be sure—while the Plugged Nickel dates have the sound of men on the edge, pushing themselves to new limits, little concerned with niceties of expression or form.

Miles’s playing is some of the rawest, most broken-toned of his career, and not always at the service of his music. "If I Were A Bell," for example, starts off with a very shaky solo that only gradually gains control; his second is much better. Hancock’s solo consists of much longer—and more substantial—lines than are usually associated with a man more respected as an accompanist of minimalist comping: they’re lean, serious, intelligent, intensely musical, and very fast. In fact, where the last Plugged Nickel release seemed to spotlight a rougher, rawer Shorter than most had heard before, this one consistently showcases—at least in solo passages—a tough, driven Hancock. (But Shorter fans take note: those frustrated with his back-seat role in Weather Report and his own recent fusion albums will find a treasure trove here; Shorter recently stated that he felt the Plugged Nickel dates to be his best playing with Davis.)

In Davis’s umpteenth recording of “Stella by Starlight,” his clear, lonely, unmuted trumpet over Williams’s brushes and a hushed rhythm section remind us why Davis’s voice has been

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so uniquely important for 40 years. Producer Macero adds a little reverb here, and I can't say he's wrong (see the interview with ECM's Manfred Eicher in the August '87 Musician for a justification of this practice in jazz recordings). The slow, bluesy intro quickly gives way to an uptempo vamp insistently powered by Tony Williams (still a teenager on this date). Constant tempo changes goad Shorter's hard-blowing solo into a passionate climax, which quickly slows and quiets to a caress. Hancock's spacious, unaccompanied solo toys with losing time and key altogether, but returns to the melody as Williams and Carter join in. A beautiful performance that looks forward to Sorcerer, E.S.P., and Water Babies.

Yet another version of "Walkin'" is played here at the breakneck pace Miles had reached by 1965, complete with a screaming solo by the bandleader. Shorter's dark, hesitant, Slavic-sounding solo is followed by long, minor lines from Hancock. "Miles" (also known as the second of Davis's compositions to be named "Milestones") contains some of the fastest Shorter playing I've ever heard: fresh, brisk, and witty, in the spirit of the original version on Davis's 1958 album of the same name (with Adderley and Coltrane). It's followed by Hancock's best work on the album, in which he turns rhythm and melody inside-out with a consistency of invention that still amazes, 22 years after the fact.

In short, yet another indispensable addition to the massive Miles Davis catalog. There are another five LPs' worth of music from the Plugged Nickel dates alone still to be released; keep 'em coming, CBS. Long may this music, still as fresh as on the night it was taped, remind us that though jazz, like life, may indeed evolve, it does not progress. —RL

MARK ISHAM/ART LANDE: We Begin
Mark Isham, trumpet, flugelhorn, piccolo trumpet, synthesizer, percussion; Art Lande, piano, synthesizer, percussion
ECM 1338 (813 621-1; LP; 813 621-2, CD). Jan Erik Kongshaug, eng.; Manfred Eicher, prod. DDD. TT: 44:10

One of Mark Isham's most attractive musical qualities is his austerity as both composer and arranger. This is evident on everything he's done, from his work with Van Morrison and Art Lande's Rubisa Patrol to his recent not-so- incidental music for Windham Hill's Storybook Classics series (see reviews, Vol.10 No.9).

Where three voices will do, he'll use two; given the choice between what Miles Davis calls "butter notes" and silence, he'll pick silence every time. We Begin, however, seems more to suffer than benefit from this sensibility, sounding like a rough draft, or abstract, of an album. For the first time, Isham's contributions sound like that of so many of the "New Age" musicians with whom he's usually lumped: impersonal, cold, dispassionate. This is fitting, perhaps, for the Ivesian "Ceremony in Starlight," with its lonely, unanswered trumpet, eerie voices, and star-like pinpricks of sound against the black digital background, but it makes the workshopy "Lord Ananecia," an angular trumpet melody over drums and tambourine, sound merely dry and stripped down. Sometimes, less is just less.

And sometimes it's more. In "Surface and Symbol," the tension built up during the deliberate, slow, four-square sounds of cymbal, trumpet, and timpani is considerable; when Isham finally blows three or four bent, syncopated notes at the central climax, the relief is palpable.

Lande's influence seems smaller; though livelier than Isham, he is still less so here than I am used to from him. His delicious "Sweet Circle," a Jarrett-style piano solo in sprung waltz time, toys with Satie, Gershwin, Foster, and Randy Newman with crystalline clarity, but that patented clarity is overstated in the xylophonic tones of "We Begin"—talk about "etching"! That composition, however, built carefully of repeated fragments, has great nobility of tone and pace.

The compositions seem to have been deliberately ordered in reverse. Lord knows why—it doesn't work. The final cut, "Fanfare," for trumpet, percussion, piano, and synthesizers, is reminiscent, in stately up-tempo style, of Copland's more common one, and "Melancholy of Departure," the long opener, is another lonely trumpet solo—emotionally effective, this time—above oblivious rhythm box and synch wash. This should have closed the album, as "Fanfare" should have opened it; those with programmable CD players might try reversing the order.

ECM has done their usual impeccable job of disc mastering and quality control, with little difference between LP and CD formats, but all in all, Isham and Lande have both done better work elsewhere (Isham on his excellent Vapor Drawings and Film Music, both on Windham Hill, and Lande on Rubisa Patrol).
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Desert Marauders, and Red Lanta, all on ECM). For serious fans only. —RL

KEITH JARRETT: Book of Ways
Keith Jarrett, clavichord
ECM 1544/5 (831 396-1, 2 LPs; 831 396-2, 2 CDs). Martin Wieland, eng.; Manfred Eicher, prod. DDD. TT: 101:04

Other than the fact that this release is improvised by a musician who grew out of the jazz tradition, it has little to do with jazz per se. Nevertheless, I place it here because those looking for a review of the album will look here first. For another view of this recording, see clavichordist Igor Kipnis's review, featured on p. 151

One of my more special memories is of a Bach's Birthday celebration in the early spring of 1981 in Boston: Keith Jarrett was the celebrant, and, on a stage hung with the Boston Opera's Rigoletto sets, he played a solo improvisational concert on piano, harpsichord, and clavichord. After a long piano improvisation in his usual manner, someone in the audience shouted out, "Play 'Happy Birthday!'" Everyone laughed, including Jarrett—but he then raised a finger for silence, strode to the clavichord, and, on the spot, improvised a full baroque suite—including prelude, allemande, courante, sarabande, menuetto, gigue, and fugue—on that hoary theme. Common practice in the early 18th century, perhaps, but hardly so nowadays. We were, needless to say, entranced.

After several years on the classical concert circuit, Jarrett has returned publicly (I'm sure he's never stopped in private) to improvisational concertizing and recording (witness last year's multi-instrumental Spirits and the present release). And, after more than 60 LPs' worth of piano music over the last 20 years, 20 of them solo concerts of often breathtaking virtuosity and inventive genius, I would venture to say that, in the clavichord, Jarrett has at last found his instrument.

A problem often experienced by writers, composers, or players fluent in several or many styles is that they are seldom taken seriously in any single one, and are often accused of glib dilettantism. Jarrett has never "toyed" with the many musical languages he has taken on, however; regardless of his varying levels of success in actually communicating in these tongues, he has always dedicated himself to them totally. Whether electronic music with Miles Davis, free blowing with his American quintet, chamber and orchestral compositions, the standard classical piano repertoire, or solo concerts, Jarrett's seriousness and integrity have seldom been in doubt.

Many years ago, in fact, in his notes to Concerts: Bremen/Lausanne (ECM 1035/7, 1973), Jarrett voiced his hope that those recordings would, in time, be considered "a competitor of...(Bach's) Well Tempered Clavichord." The comparison was premature, to say the least, but is disturbingly apt when applied to Book of Ways. This is music of greater substance than any Jarrett has ever released, with a statistical density and high seriousness that I associate with, yes, Bach. Absolute music of the highest stature, it is passionately thought, rigorously felt, and possessed of relentless musical logic.

This recording grew out of a soundtrack Jarrett prepared for a documentary on Kyogin, an ancient, pre-Noh Japanese theatrical tradition. The producers preferred piano, but Jarrett insisted on clavichord. Rightly so: The clavichord turned out to be the most appropriate Western instrument for the Japanese application, as is more than evident midway through improvisation No.1: the decidedy oriental, koto-like feel, the mode, vibrato, and bent tones make the clavichord(s) barely recognizable as Western instruments.

Much of the music presented here is a process through the France, Germany, Hungary, and Italy of the late 17th and early 18th centuries, the ghost of Couperin hovering over all. Others of the pieces—particularly on disc 1—are more percussive and modal, with Jarrett's characteristic ostinato left hand working insistently. This first disc was rough going on first listening, sounding labored, but a second, closer hearing removed all veils—my attention was riveted from start to finish.

Throughout the improvisations, ranging from 2½ to 9½ minutes long and simply numbered from 1 through 19, Jarrett effects a marriage of the two halves of his French/Hungarian background in his melding of Bartokian stringency and rhythmic drive with the formal delicacy of the Enlightenment. And this is the amazing achievement of Book of Ways—that Jarrett's notorious Romanticism is here perfectly balanced by Baroque rigor.

There is great variety here: No.3 is oud-like, Middle-Eastern, while No.4 employs fresh,

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contemporary, Copland-esque rhythms in strong counterpoint. No.5, an etude, has a concentrated, deliberate unexpectedness in melody and harmony, followed by No.6's bee-like ostinato buzzing. No.7's opening fanfare is followed by what sounds like a waltz played on Appalachian dulcimer as its meter moves from 3 to 4 to 2. No.9 is thoroughly baroque in style, unpredictable in harmonic direction, while No.10 is entirely Bartok, and so percussive as to be nearly pitchless. No.11's relentlessly logical passion is followed by No.12's incidental lightness (like Couperin's *Pièces du Clavecin*) and the absolute music of No.13, whose rolling, broken chords suggest the lute tablature. Static No.14 is a series of raga-like lines, cascades of notes, while No.16 is a pastoral *adagio a la* Soler. And No.17, a mellow Schottische in rondo form, contains it all: glorious measures, quiet humor, music for the joy of it.

But what this music sounds "like" is quite beside the point, and useful only for such non-musical purposes as record reviews; far more than anything it might remind one of, or a mere assemblage of musical influences, it is, first and foremost, uniquely and emphatically itself.

For those familiar with Jarrett's vocalizations during concerts and recording sessions, good news: he's a lot quieter here, and when he does let fly, it's much more musically appropriate than I've ever heard it.

The clavichord is a quiet instrument, though you'd never know it from the intimacy with which this recording was miked. Still, the sound, intensely—but not muddily—reverberant, is quite beautiful, and very revealing of some of the startling technical feats Jarrett pulls from these small instruments: the severely bent notes, extreme vibrato, and what sounds like clavichord strings strummed directly. Though this may seem as foreign to traditional clavichord stylings and repertoire as are the keyboardings of Wendy Carlos, Mark Isham, or Tomita to traditional piano practice, they are in fact mere extensions of the capabilities of the natural instrument (as Igor Kipnis points out in his review). For the record, Jarrett used a total of four standard instruments during the sessions, often played two at a time without overdubs, and, of course, unamplified or otherwise electronically altered.

For those who have followed Jarrett for years with the suspicion that his best work was yet to come, good news: this, so far, is it. —RL

**BRANFORD MARASILS: Renaissance** Branford Marsalis, tenor & soprano sax; Kenny Kirkland & Herbie Hancock, piano; Bob Hurst & Buster Williams, bass; Tony Williams, drums CBS FC 40711 (LP). Dennis Ferrante, Bob Margolus, Howard Siegel, engs.; Del Shiite Marsalis, prod. DDA. TE 57:09

These are heady days for those who believe that jazz may have reached its height in the mid-to late '60s, before its disastrous 15-year romance with fusion. With such strong new talents as the Marsalis and Brecker brothers and Chico Freeman embracing the spirit of that time, and fusion-scared veterans like Freddie Hubbard and Joe Henderson returning to the basics of acoustic trios, quartets, and quintets in recent recordings and concerts, jazz has attained a new and cherished seriousness valued all the more for its unexpectedness.

Last month, in my review of Wynton Marsalis's *Marsalis Standard Time, Vol. 1*, I said that I have always found brother Branford to be the more satisfying soloist. Well, right on cue, *Renaissance* has been released to underline the fact. Sax players take note: this is one of the most satisfying releases on that instrument since Marsalis's own *Royal Garden Blues* last year, and leaves no doubt as to who is the consummate jazz musician of the family.

Both Wynton and Branford, when the latter left the former's quintet, elected separate recording and gigging careers with quartets of their own, each quartet lacking the missing brother's instrument. Single-horn quartets make for intimate, vulnerable, revealing music, with great responsibilities placed on the soloist. While Wynton seems more and more the deliberate classicist in both his classical and jazz recordings, obsessed with finding the absolutely correct sound and rhythm, Branford, with no less technique, blows for the joy of blowing. His recordings are freer, more relaxed, less tensely compacted—he simply swings more (those who read last month's Wynton review will know that this is saying a very great deal).

The disc opens with a breakneck "Just One of Those Things," followed by JJ Johnson's "Lament," a sophisticated elegy in which Marsalis implies Dexter Gordon's melancholy without succumbing to lugubriousness. After Kirkland's brief solo, Marsalis returns in gentle
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double time—a performance of classic proportions. What follows—Jimmy Rowles’s “The Peacocks”—is the keystone of the album, a 15:00 impressioner reverie in which the lessons learned in Marsalis’s 1986 Romances for Saxophone (CBS Light Classic M 42122) are put to stunningly liquid use. Here he is joined by Herbie Hancock and Buster Williams, who fill delightfully and deftly around him, leaving most of the space open. There is great peace and spaciousness here, and no little mystery, with Marsalis’s soprano snaking out a sensuous melody worthy of Ravel. Harmonic surprises abound. The length of the cut is hardly excessive; I would have been happy had it continued for another hour, and I don’t mean background music. (My girlfriend, who hates even the sound of the saxophone, let alone jazz, thought it “beautiful.”) “The Peacocks” is right up there with Coltrane’s “Naima” and Wayne Shorter’s “Footsteps” and “Penelope” for haunting saxophone laments.

The last half of the album is all uptempo. Tony Williams’s “Love Stone” gracefully alternates rhythms of 3 and 6, and Marsalis’s warm, smooth tenor tone wonderfully offsets his solo’s torturous flurry of notes. “Citadel,” also by Williams and reminiscent of one of Shorter’s more angular, late-Weather-Report melodies, starts out with tenor and ends with soprano. Marsalis’s fluid soprano in his own “The Wrath (Structured Burnout)” brings to mind Steve Grossman’s finest moment: his dancing, liquidity geometric, all-keys-at-once solos on Miles’s Jack Johnson. And finally, the unaccompanied tribute to Sonny Rollins in Rollins’s “St. Thomas,” recorded live on a Sony portable and played on what sounds like a very stiff reed, is filled with Rollins-like humor and lightning quotes from “Donna Lee,” “My Mama Done Told Me,” “The Man I Love,” and who knows what else.

For all but two of the seven tunes the basic band is Marsalis, Kirkland, Hurst, and Tony Williams. The rhythm section is solid and alive: Kirkland solos densely in “Love Stone,” with quiet fire on “Lament,” and with dazzling speed and invention in “Wrath.” This pianist has been one of the most consistently insightful mainstream jazz players for quite some time now; we’re fortunate that the mainstream is once again broad enough for him to stretch out in.

Twenty-two years after the Plugged Nickel dates (see review above) with Miles Davis, Tony Williams remains as fluid and mercurial as ever (if not as restlessly driven), as his solo solo (“Wrath”) and telepathically attentive listening throughout amply prove. Bob Hurst’s tight, taut bass sound continues the close support he offered Wynton on Standard Time.

CBS manages to squeeze the long playing times onto a single LP with little compression this time (as opposed to Standard Time’s boxy 31:30 sides); of particular note is “Peacocks,” an inner-groove cut which remains spacious and full-signdaled to the end. Unfortunately, CBS’s quality control is as poor as ever—my two copies had ample pops, clicks, and swooshes.

But even on an Edison cylinder, Renaissance would be another important jazz release in a time suddenly, blessedly rich with them. Recommended in the extreme. —RL

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**ROCK, POP, ETC.**

**PETER GORDON: Brooklyn**


Don’t be misled by this album’s release on CBS Masterworks; when the big record companies decided, a year or two ago, to get into “new-age” music, they also decided that it didn’t belong on their rock labels. Also, don’t be misled by the name; Peter Gordon has nothing to do with the ’60s pop group Peter & Gordon (where the “Peter” was Peter Asher, brother of Jane, and these days a successful producer—James Taylor, Linda Ronstadt, etc.). This Peter Gordon is a saxophonist—part of New York’s “Downtown” art/music scene (Laurie Anderson, Talking Heads, David Van Tiegham, Lenny Pickett, etc.). Brooklyn, Gordon’s second album for CBS, is terrific. There’s no super-amplified “new-wave” harp with lots of reverber and waterfall sound effects here—instead, expect to find a bunch of talented musicians with a touch of Zappa thrown in.

There are four vocal numbers and they’re great. The album opens with the title cut, a disco-rap love song to the borough of Brooklyn, complete with the names of most of its neighborhoods. Also on side one are “Til We Drop” and “Red Meat,” an ode to almost everything you can get from a butcher, except steak. The cut features some incredible guitar
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work by The Cars' Elliot Easton. On side two, Gordon puts on his Ike Willis voice for "Remember to Forget."

Instrumentals form the rest of the album, ranging from the avant "Turn it Over" to a beautifully breathy saxophone tribute to the late fashion designer Willi Smith, titled "Kora Music."

The album is "a digital 2 track recording using 24 track analog source tape and digital synthesizers synchronized during the mixdown." It sounds good on both black and silver disc—but absolutely keep away from the prerecorded cassette, which sounds worse than most.

This offering from Peter Gordon shows that he is not only a musician making some interesting sounds, but a force to be reckoned with in the future. This album is highly recommended.

—GSK

TOM WAITS: Franks Wild Years
Island 7 90572-1 (LP), -2 (CD). Danny Leake, Biff Dawes, engs.; Tom Waits, prod. TT: 55:34

We had gone to the 24-hour supermarket at 11:00pm to pick up some late-night necessities—ice cream, M&Ms (peanut), soda, etc. When we got in the check-out line, my wife and I were sure we recognized the person in front of us—a quiet man with dark hair, raincoat, goatee. We weren't quite sure whether to say hello or just leave him alone; my wife started reading headlines from one of those 50-cent tabloids ("Teenager Marries 100-Year Old Corpse," "Dog Gives Birth to a 25-Pound Cauliflower") and she got him to laugh. It was only then that I saw the name on the top line of his personal check—Tom Waits. We told him how much we loved him—and how great his music was—and went home to call our friends and tell them who we had just met. I thought he looked weird—my wife disagreed.

Since then, Mr. Waits has done some movies (music and acting), a few records, and, most recently, with the help of his wife, Kathleen Brennan, scored a play that he starred in. Franks Wild Years had its theatrical debut in June 1986 at the Steppenwolf Theatre Company in Chicago and played to sold-out audiences. The music on the album is in a different order than the way it's performed on the stage. Waits says he's also dressed up each song in different clothes for the album, almost like one would with actors, to "transplant" the feel of the stage into the songs.

On first listen, the album seems stylistically similar to his last two, Swordfishbrombones and Rain Dogs, but with repeated listening you realize that with Franks Wild Years, Waits has taken his music one step further, almost creating a romantic opera (the subtitle is Un Operachi Romantico In Two Acts). Waits feels this album completes a trilogy of sorts with the previously mentioned two; he says the main character, Frank, "took off in Swordfish, had a good time in Rain Dogs, and is all grown up" in the latest effort. Franks Wild Years 'is the Quixotic story of a guy from a small town who goes out to seek his fame and fortune—but has no luck and ends where he started—on a park bench in East St. Louis."

The music is stark, haunting, and beautiful. From the opening strains of "Hang On St. Christopher," on to the "Straight To The Top" rhumba, his tango "Temptation," to the haunting barroom drinking song "Innocent When You Dream," you realize this music is something special (aside from hearing Waits's voice through a $30 Radio Shack bullhorn on some songs). Despite the heavy dose of Kurt Weill in the music, there is never any doubt that Tom Waits is fully responsible.

The list of people and groups that currently influence Waits's music is long: The Pogues, Irish Tenor John McCormack, Augustine Lara, Yma Sumac, The Fuyys, Astor Piazzola, Texas polka-rock band Brave Combo, The Lounge Lizards, Louis Prima, Monte Rock III, Dinah Washington, Dock Bogs, Rod Serling, and Moms Mabley. Some of these can help explain some of the instrumentation on the new album: Waits uses accordion, pump organ, glockenspiel, optigun, banjo, stand-up bass, Mellotron, all sorts of horns in different combinations, and that battery-powered bullhorn to get sounds he describes as pagan Louis Prima/Jamaican shoe-shine/Edith Piaf-like/Rudy-Vallee-from-the-grave/mutant James Brown music. Not to mention a Vegas-style lounge vocal that just has to be heard to be believed.

With the use of Direct Metal Mastering, Island has been able to squeeze over 50 minutes onto the vinyl without much high-frequency degradation. The CD is good, but I prefer the LP for its openness and depth. Weird or not, this is one to be auditioned, savored, and loved.

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Stereophile, January 1988
Vacuum Tube Logic 75/75 power amplifier

Editor:
We thank you for the opportunity to comment on JGH’s review of our stereo 75/75.

To begin with, we must clarify that although the 75/75 appears to have only one power supply by virtue of its single power transformer, it in fact does have two power supplies, in that there are two totally separate rectifier bridges and capacitor banks. Such a vast tank capacity (1200 microfarads for each channel) ensures that there is no possibility of channel-to-channel suck-out.

As to power offered and likely to be required by a prospective buyer: No, we don’t take offense at JGH’s note re. horn-type speakers! But we point out that our 30W unit (now 45/45W) will drive a Klipschorn or any 98/100dB speaker (at 1m at 1W) to threshold-of-pain type levels. 75W understandably did not do full justice to JGH’s Soundlabs electrostatics. But 75Wpc will properly drive a very wide choice of loudspeakers: certainly most, if not all, dynamic/cone types, Magnepan SMGs and MGIs, Quad Electrostatics, but not 1, 2, or 3 ohm ribbons and less efficient electrostats. Mind you, we had to smile approvingly (laugh with glee would be more truthful) when Michael Mandell told us that he had had a most pleasing sound, at modest room volumes, with our 30/30 driving Apogee Calipers!

JGH and the writer discussed the problem of a reviewer (or anybody for that matter) trying to form an opinion of an amplifier’s sonic performance using transducers (loudspeakers) known to require more drive than the amplifier under test is capable of giving. JGH’s feeling was that he is able to actually perceive, and mentally compensate for, when and how the amplifier starts to run out of steam on a known pair of less efficient, more power-hungry loudspeakers. He no doubt is competent to evaluate thuswise—few, very few, others are...

Sorry to go on so long about this, but we find power mismatch to be the most common source of misunderstanding among dealers, buyers, and reviewers. For example, a couple of years ago a British reviewer asked us for one of our 16W (yes, sixteen watt) units for review. We had no idea what speaker he intended to drive. It turned out he used LS3/5As—which are among the very rare 15 ohm variety still extant and which need at least 50W partly due to their complex, but very accurate, crossover network. So he was using an amplifier capable of delivering 16W into 8 ohms (not into 15 ohms) driving a speaker needing three times more power. On Dire Straits program material he commented that the “bass was a little sloppy” —and this with a 5”-diameter bass speaker! We feel that the one rule to observe when evaluating an amplifier or loudspeaker is to be sure that the two devices suit each other, power-wise at least. Otherwise, how does one know for sure when the amplifier is loose in the bottom end due to design deficiencies, or is merely loose-seeming because it’s being asked to push more power than it is able to give?

Thanks for an interesting review.

David Manley
Vacuum Tube Logic

NYAL

Editor:
This is a form of farewell to my involvement with the audio business as a manufacturer. After two failed public underwritings, it is not possible to continue New York Audio Laboratories’ operations. Over the last year I kept the company running because I truly believed that I could raise the capital needed to resuscitate the company after last year’s tragically expensive aborted public offering. The recent collapse of the stock market has prevented me from continuing holding on.

In the past couple months there have been delays in servicing Moscode units. With NYAL’s financial difficulties the company that contract-manufactured our electronics decided that it would not continue the expense of warranty work. For a period of time I personally paid for repairs, but had to stop because the failure of NYAL meant that this sensitive music lover is now very poor indeed. Moscode owners need not fear because I have arranged for Ted Hammond, the man who perfected the Futterman circuit, to service all Moscode prod-
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Stereophile, January 1988
ucts for a nominal fixed fee. In this way my customers can be assured of service of the highest caliber. As of this day, all Moscode products are being repaired and returned within one week. You may contact Ted at (914) 756-0098 if you need service on any Moscode or Futterman product.

I want to thank all of the people who supported my efforts and enthusiasm in this field. In spite of my temporary failure, I still believe that there are enormous opportunities to advance our art form, and look forward to continuing adventuring forth with my writing and some development work.

I apologize to all of my customers for any pain or inconvenience I have caused. During one of the most painful times of my life I was buoyed up by letters, conversations, and intimacies with owners of my equipment. It is these people's passionate concern for music that makes the underground audio business worth the price you have to pay to keep your sanity.

Harvey Rosenberg
New York Audio Laboratories, Inc.
Stereophile's intrepid Accounts Receivable Manager, Allan Mandell, contacted Mr. Hammond and was given the following information: for work under warranty, a flat fee of $60 covers Minuets and Moscode 300s and 600s; $25 covers Superlts; usually, there is no parts charge. The procedure is as follows: the owner calls Mr. Hammond and is quoted a price; he or she then sends the unit to Mr. Hammond, who will call back when the unit has been repaired; the owner then sends the money; the unit is then returned.

Conrad-Johnson and Lewis Lipnick
Editor:
Because Lewis Lipnick has begun to write equipment reviews for you, and because at least one reader has questioned the propriety of his doing so, I believe that it is important to clarify the nature of Mr. Lipnick's past and present relationship with Conrad-Johnson Design and our subsidiary, Synthesis. Mr. Lipnick functioned in two capacities: he gave his endorsement to the Synthesis model LM250 loudspeaker, and he presented seminars which were sponsored by Synthesis. Both of these functions predate his involvement with Stereophile magazine. Each deserves further elaboration.

Having known us by our work in vacuum-tube electronics (through ownership of a Premier Three amplifier), Lew was quite interested in our efforts with loudspeakers, and soon was so taken with the direction of our product development that he volunteered to endorse the Synthesis model LM250. This was not a paid endorsement. It was, I believe, Lew's way of endorsing musicality as the most important criterion for judging stereo equipment.

As we got to know Lew better, we became aware that as a musician and audiophile, he had a unique perspective and valuable insights to offer and, being exceptionally articulate, he was capable of communicating these insights in an entertaining way. We asked Lew if he would be willing to present a seminar for a local dealer on what a musician listens for in recorded music. Lew graciously agreed, and the result was a highly entertaining evening for a packed roomful of audio enthusiasts. The evening was so successful that we arranged a repeat performance about a month later. Lew also agreed to do similar presentations in other cities if we would pay his expenses, this leading to a presentation in San Diego. It should be noted that these were to be musical evenings, and that we specifically asked Lew not to discuss product during his talks—an introductory thanks for sponsoring the event was the only recognition we sought.

Lew never asked for compensation from Conrad-Johnson Design for his services. I was personally unwilling, however, for Lew to have spent so much of his valuable time without reward. Accordingly, he was allowed a credit toward Conrad-Johnson Group product at a rate commensurate with his billing rate as an audio consultant.

On beginning his career as a reviewer, Lew has, of course, had to sever any professional relationships with Conrad-Johnson Design, and accordingly discontinue the musical evenings under our (or any other commercial concerns') sponsorship. Lew remains a personal friend. The timing and limited nature of Lew's previous involvement preclude even the appearance of conflict. Lew's personal integrity is the ultimate guarantee that his reviews will reflect exactly what he hears. He will, without question, be a major addition to your reviewing staff.

Lew Johnson
Conrad-Johnson Design
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Parasound D/AS-1000 power amplifier

Editor:
Thank you for your kind evaluation of the Parasound D/AS-1000. Since this is the first time one of our products has appeared in the pages of Stereophile, I naturally have some comments on TJN’s review.

1. The D/AS-1000's claim to fame should be its sound quality and ability to drive the most challenging loads. The fact that we use a proprietary LRA which looks at both input and output, and dual-rail power supply is but the means to a very cost-effective end: a way to capture abundant dynamics with some of the very finest loudspeakers without breaking the bank.

2. When I designed the D/AS-1000, it did have higher power than the 100 Wpc NAD 2200 (which could not repeat peak output owing to power-supply shortcuts). The actual output of the D/AS-1000 is typically 160-165 Wpc, still higher than the NAD 2600.

3. For most speakers, the D/AS-1000 does run cool. I don’t expect too many people will use it with $3000/pr. speakers whose near-DC load impedances create an increase in heat.

4. I cannot imagine anyone being uncomfortable with over 1250W bridged—at low cost—into 4 ohms. What about those transient peaks in good music? I think this must be the first time a manufacturer has received a handed compliment for too much power!

5. The D/AS-1000 is definitely designed, as TJN notes, for productivity and economy. This also permits greater unit-to-unit consistency.

But look again at the parts in the D/AS-1000. I’ve used only top-grade parts, some of which you won’t find on some of your most esoteric favorites. For example, the D/AS-1000 uses 60 MHz Sanken outputs instead of the ubiquitous Toshiba 20 MHz outputs. At nearly three times their cost. But they’ll last longer and permit wider bandwidth and less slew-rate distortion products.

The special gold series power-supply capacitors (33% more capacity than the GFA-555) are double the cost of ordinary caps. But their constant impedance vs frequency and quick recovery time make the special power supply capable of greater definition.

6. About power bandwidth. I know the difference and you caught me in a careless over-
sight for the Audio Directory. I’ll set the record straight: The D/AS-1000 power bandwidth is 8 Hz-100 kHz.

7. How it sounds, how it compares: I agree with many of TJN’s observations. It was almost inevitable that there would be a tiny sacrifice of “air” owing to these additions to the signal path: volume controls to permit use directly with a CD player and multiple relay protection to make the unit fully bulletproof. (The GFA-555 requires replacement of internal fuses which could become an $80 service job for some users.) In this respect, the D/AS-1000 yields nothing to competition.

But the comparison to the Adcom GFA-555 may be extremely misleading! I’ll concede your comparison to the very original GFA-555 manufactured in Southern California. But I also suggest that the GFA-555 presently being shipped is a quite different amplifier (made offshore by Rotel and earlier by Kitaron, one of NAD’s suppliers). The D/AS-1000 seems notably detailed in this comparison.

I’d like people auditioning the D/AS-1000 to make their comparisons carefully and not to overlook its convenience features and safeguards.

Richard Schram
President, Parasound Products, Inc.

Octave Research OR-1 power amplifier

Editor:
First, we at Octave Research would like to express our appreciation for the time and effort which Mr. Holt and the staff of Stereophile put into the review of Octave Research’s OR-1 amplifier. Where I have some disagreement is (surprise, surprise) in those areas in which you questioned the OR-1’s performance relative to some of the best. Specifically, I am referring to your repeated mention of our “piddling” 85 Wpc, and more importantly, the assertion that greater power would be worth a significant price penalty ($950 in the case of the Rowland Research Model 5). I am also somewhat perplexed regarding your comments about the extreme top sounding “neither soft nor tizzy” and “a trifle disembodied.” Do you suggest that we compensate for the characteristics of various speaker technologies? We prefer as neutral a presentation as possible. “A trifle disembodied” sounds dangerously like my favorite wine steward. No matter, we’ll talk.
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Stereophile, January 1988
Stereophile, January 1988

Don J. Cochran Delta Mode power amplifier

Editor:
We thank you again for another honest evaluation of the Delta Mode Amplifier.

We wanted to get the amplifiers back to Dick Olsher much sooner than the two weeks — it only took an hour or so for alignment and scope pictures — but we spent some time auditioning the Platinum grade tubes (Vol.10 No.8). Dick Olsher is absolutely right about their performance. We were also preparing a “sea chest” shipping container to better survive UPS, et al.

About the M300 comparison: We are pleased the Delta Modes fared so well against such a prestigious product. But please let me point out that those “macho” descriptions of its sonic properties describe colorations. The Delta Mode Amplifier is my “best shot” at designing the elusive ideal “transparent channel.” So far it seems to be doing quite well.

Don J. Cochran
President, Don J. Cochran Inc.

Wheaton Triplanar II tonearm

Editor:
Thank you for accepting the Triplanar II tonearm for review in your magazine. I am impressed by the thoroughness that Dick Olsher displayed in his coverage of the subject of tonearms.

In 1981 I found that the only accurate way to set azimuth was electronically. The cartridge was a Denon 103D, the arm a primitive Triplanar, the occasion an audition of this arm. The salesman used a Shure C-Pek-3 cartridge analyzer to set the azimuth, and the results were overwhelming. The cartridge was also tilted about two degrees. I have had a Shure cartridge analyzer ever since, and would not mount a cartridge in the Triplanar II without it. Frankly, I don’t understand anyone purchasing an azimuth-adjustable arm without having the means of accurately tuning that arm.

I consider azimuth adjustment more critical than VTA adjustment.

The fact that the Triplanar requires meticulous adjustments of azimuth to obtain results is not a weakness but a strength. The flaws lie with the cartridges. None of them is azimuth-perfect, but the Triplanar can correct any cartridge. The adjustment for fine tuning is so sensitive that it was necessary to incorporate a micrometer screw in the yoke to con-

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trol the rotation of the headshell tube.

Another unpublished strength of the arm is its tracking ability. With the CBS STR112 record this ability was determined to be in excess of 18dB of modulation. When I play heavily recorded music such as Prokofiev's Romeo and Juliet (Maazel/Cleveland, Decca) on my Sound Lab AI speakers, I am not aware of a bass deficiency. When I play chamber music I hear the music projected exactly as I hear it at a concert. The musicians occupy the same position as if on stage. No other arm surpasses the Triplanar in defining this image.

Concerning glitches: Obviously I have an ohmmeter, and I listen to every arm when finished. A short of the type mentioned cannot happen twice.

The other glitch is more interesting. I had already complained that the cartridge can reach the overhang gauge; it doesn't have to reach the spindle. When I checked on my end I was surprised to find that the cartridge didn't reach the gauge. Then I remembered that I had made a slight change in the bevelled weight and moved it 1/16 of an inch closer to the pivot. This caused the swing of the arm to be shortened. The cure is in the mounting procedure. The cartridge can reach the gauge which has an arc inscribed positioning the cartridge 16.5mm for overhang. No other aid is required for the proper alignment of a cartridge.

Herbert Papier
Wheaton Music, Inc.

Audio Research M300 power amplifier

Editor:
We appreciate the comprehensive and detailed examination of the M300 power amplifiers put forth by J. Gordon Holt and Martin Colloms. Their reviews contain a wealth of information and subjective analysis which should be of interest to Stereophile readers and M300 owners alike.

Regarding JGH's post-review comments on the recent production modification of the M300, we offer the following information. (Audio Research dealers were mailed complete details of the modification on November 5.)

The "Tube Saver" circuit modification was developed as part of ongoing research into extending the life of power output tubes in the M300 design. It will likely see application in future Audio Research amplifiers as well.

This new proprietary circuit continuously monitors and limits overload surges without sonic degradation into a wide range of difficult speaker loads, even when the amplifier is driven into severe clipping. In addition, it provides an instantaneous protective shutdown of the output stage when it senses a potentially damaging condition outside the normal range of operation—such as a shorted speaker wire, subsonic input surge, or faulty tube.

When triggered, the "Tube Saver" indicates protection mode by dimming the "Screen" LED on the front panel. At this point, the amp should simply be switched off and restarted after 30 seconds. Normal operation should resume.

Audio Research is installing the "Tube Saver" circuit free of charge (parts and labor) in every M300 returned to an authorized dealer or to the factory for any type of warranty service, under the terms of our 3-Year Limited Warranty. (All new units shipped since mid-October have the new modification.) The "Tube Saver" modification itself is quite straightforward and easily within the grasp of a qualified technician—thus eliminating the need to ship the units back to the factory for the great majority of customers. As Mr. Holt noted, the power-supply capacitor upgrade is strictly sonic in nature and thus optional, at $95 per amplifier.

Readers may also be interested to know that in addition to helping prolong tube life, the "Tube Saver" circuit yields several sonic benefits as well (thanks to improved screen-supply regulation), including: more lucid, natural sound throughout the spectrum; improved resolution within an overall expansion of stage; and improved deep-bass clarity, extension, and control.

As for our proprietary serial-number code, any questions regarding a specific unit (M300 or any other) can be easily answered by our Customer Service Department at (612) 566-7570. We do in fact use a sequential numbering system, but we do not always ship in sequence because of ongoing orders for overseas distributors, alternate panel colors, etc. However, customers can be assured that any product leaving our factory is absolutely current in production trim, and that when a production modification is implemented, dealer stock is promptly updated as well.

We hope this information will prove useful to those M300 owners who might not have
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already been informed of the “Tube Saver” modification by their dealer. We firmly believe that this substantive enhancement of an already proven design will yield even greater satisfaction of ownership as years go by.

Terry Dorn
US Marketing and Sales
Audio Research Corporation

Nelson-Reed 8-02 loudspeaker

Editor:
Thank you for taking the time to review the Nelson-Reed model 8-02 loudspeaker. We value your comments highly, and often use review input as a way to design and improve products. While it is unfortunate that John Atkinson had problems with his listening area caused by the extended low-frequency response of the model 8-02, the rest of his comments were predictable. Having read John's comments on previous loudspeakers, and knowing that he was scheduled to review the 8-02, we mused ourselves on the temptation to re-equalize the 8-02 to suit his tastes. Naturally, we don't resort to such underhanded tactics. Besides, with our luck there would have been a change in plans and Gordon Holt may have done the review, requiring a totally different equalization!

John's comments are his accurate perception of the 8-02 based on his listening room and the source material used to test the product. His technical knowledge and obvious care in looking at the internal construction of the 8-02 and commenting on the superior quality of the crossovers and the internal bracing are commendable. He also spent some time in verifying the extremely close match in crossover points used in the 8-02. Upon studying the performance of the 8-02, he was at a loss in explaining the connection between measured and psychoacoustic performance. What puzzled John is why, in light of perfect crossover frequency and phase meshing, the 8-02s did not sound exciting.

A simple explanation will resolve John's dilemma. All loudspeakers in this price range suffer from power compression starting at power levels of about 75W, due to the small magnet size of their drivers. In order to compensate for this problem, many manufacturers choose to deliberately distort the final sound of their loudspeakers. This distortion can be perceived by the ear as an increase in dynamics. Nelson-Reed's philosophy is to present the listener with accurate frequency response and low harmonic distortion without adding false dynamics. We feel that this preserves the original integrity of the recording as much as possible (within this price range). What John is hearing is a combination of the extremely flat frequency response (except for the mid-bass peak) and dynamic compression. By reading between the lines in other reviews, note that in loudspeakers John found "exciting," he also found flaws in the tonal balance. The Monitor Audio R952MD, as measured by John, has a 2-4dB boost between 4 and 6kHz. This measurement is similar to another loudspeaker noted for clarity, the PRO-AC Tablette. These colorations may make a loudspeaker sound alive and transparent at first; however, listener fatigue soon sets in. John noted that he kept turning up the level on the 8-02 the longer he listened, indicating a lack of fatigue.

Note that the review of the 952s indicated that while there were certain musical scores which sounded excellent, there were also an equal number of pieces which were irritating. A true measure of a loudspeaker's performance is how it handles all music. If a loudspeaker sounds excellent on one piece, but poor on another, it cannot be judged as a successful design. Granted, if a person only listens to certain kinds of music, there is no real harm in choosing a highly colored loudspeaker which makes that particular music sound more exciting. The more subtle qualities of the 8-02 become clear upon longer listening, at symphonic levels, to a wide variety of music. The 8-02, because of its tonal neutrality, will never do anything unexpectedly bad or good. As a final comment, the true solution to this problem is our model 8-04 loudspeaker, which has the same flat frequency balance as the 8-02, but due to the enormous magnet weights used to avoid the dynamic compression problem, is regarded by all (Stereophile, TAS, Speakerbuilder, High Fidelity) as one of the most dynamic uncolored high-end loudspeakers available.

The bass. As noted by John, the 8-02s have extended, flat, and distortion-free bass performance down to 32Hz. Readers should note that any loudspeaker with such extended bass will uncover room problems. However, do not assume that such a loudspeaker will always

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generate too much bass. The 8-02 has been carefully equalized after measurements in many different rooms. The final balance best suits the average room, with a slight weighting toward low-octave (32Hz to 60Hz) bass enhancement. This provides proper bass performance in a bass-shy environment, while (since the extended bass is adjustable) allowing the ability to lower the bass in bass-heavy rooms. John's listening room has an unusual amount of higher-octave bass enhancement, from 60Hz up to 125Hz. We normally note both peaks and dips throughout this region due to room effects. Since the review was done in such short order to meet the January press time, we did not have time to work with John to understand the problem. None of our dealers have reported such a problem; nevertheless, we would be happy to work with John to solve this complaint. Readers should take note that after the woofers were adjusted John reported the performance to be acceptable, and in fact he was even able to hear the subtle differences in one tonearm/cartridge combination vs another, demonstrating that the loudspeakers provide a clear path from source to ear. As John noted, the Nelson-Reed loudspeaker stands would probably help the bass problem. These stands were shipped with the 8-02s, but were left at J. Gordon Holt's home.

As to the lack of image depth, there are a few comments we would like to make. Because driver crosstalk is designed out of the 8-02, there is minimal phase overlap added to the music. On multi-track mixed recordings, the 8-02s will provide next to no depth to the recording, since there is no depth to begin with. Even on simply recorded music in large symphony halls, where some care in recording has been taken to avoid microphone phase crosstalk, there may be a limited sense of depth. Personally, we may hear a sense of the spaciousness in the concert hall which cannot be heard on any stereo system, but we rarely hear a sense of depth into the orchestra itself. However, in recordings which have preserved the natural positional relations between the instruments, such as a properly miked quartet or an a capella choir, the 8-02s will reproduce the image quite realistically. We have several in-house-produced master tapes, used for loudspeaker evaluation, which demonstrate this ability. We have heard the 8-02s provide an unbelievable sense of depth in several sound-rooms (on both MFA and Classe equipment). Like the problem with dynamics, the choice here is to either add phase information in the loudspeaker to compensate for the inability to capture realistic stereo, or to provide high-fidelity reproduction of the incoming signal.

Speakers like the PRO-AC, Vandersteen, or the Monitor R952MD have shallow 6dB/octave crossovers. This allows each driver to generate significant amounts of sonic output either side of the crossover. Although there is low phase delay at the crossover, there is sonic output at significant delays either side of the crossover. This may add a sense of depth to the music, since our ears locate the origin of sounds by comparing phase delay. While such phase information can be made pleasant by matching natural driver rolloff and crossover frequencies, one sees that the soundstage can never be accurate. The loudspeaker is adding a soundstage of its own. And, the soundstage will move as a result of loudness, as highly delayed driver output increases above the hearing threshold.

Another problem due to the shallow crossover slopes was demonstrated by the fact that John fried a woofer in one Monitor Audio product and a tweeter in another within a few days; the drivers receive excessive amounts of power far outside of their rated passbands. (If a product designer wants to keep the shallow crossover to create a sense of space, that is fine, but to build a quality product the crossover should be augmented with steep filter slopes at points far from the crossover region to protect the drivers without altering the soundstage, as Nelson-Reed does.)

Nelson-Reed's philosophy is to preserve the frequency and phase characteristics of the sound, allowing maximum clarity to reach the listener. The 8-02 is a high-fidelity product, meaning that the original recording remains unaltered, without color or phase delay. The "'phasey' image sound of, say, a Vandersteen II, may be desirable to some, but not to all. The 8-02 provides a clear alternative to those who are not happy with the augmented sound characteristics of loudspeakers such as Thiel or Vandersteen.

W. B. Reed, R. L. Nelson
Nelson-Reed

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Here begins another of those pitiful attempts to force readers to be interested in something on the last page of the book. No, actually this page results from LA's impatience with the single column be got on what we call the Staff Page (p. 4), so now JA gets a single column to announce what's coming up in our next issue—it means he has to know what's coming up—and LA gets a whole page to do with what he will.

What I will? Well, to start with—since he's mentioned above—it would be inappropriate not to mention that JA is now this magazine's Editor (as noted on the Staff Page). In truth, he has occupied this very position, more or less, since joining the magazine's staff in late May 1986, but certain awkwardnesses relating to his international travel and country of employment made announcement of this fact contraindicated. The splendid, ever-youthful JGH (remember?—"the ears of a wee lad!") continues as Chief Tester but with a change in title from Editor to Founder. Readers should be aware that he founded not only this magazine, the staff of which is happy in their attempts to honor the traditions he has established, but the entire field of subjective reviewing as it exists in the US. We continue to be grateful for his efforts, his ears, his integrity, and his sense of humor.

But more was promised in my column last month. For one thing, you were to read in this issue the results of our survey of Best Sound at the Stereophile High-End Hi-Fi Show in NYC—but won't, because JA went off and got married (in Brooklyn; November 28th: to Laura Jean LoVecchio, formerly of Audio magazine) instead of compiling the questionnaires you attendees were kind enough to fill out. Never fear, Best Sound will appear in Vol.11 No.2.

And, while we're dabbling in the Errata And Left Out Department, let me point out that JGH, in his M-300 review last month, did not intend to say on p.95, "But this amplifier is definitely laid-back, crisp, rich, warm, or sweet." No, he meant to say "But this amplifier is definitely not laid-back, crisp, rich, warm, or sweet."

To go on with what was promised, I want to update readers on Stereophile's recently implemented policy for bypassing manufacturers who wish their products to escape our scrutiny. After much pondering and scratching of the collective head, we figured out what to do: Where a product justifies such treatment—where its importance, reputation, notoriety, or potential for harm to the user warrant it, and where the manufacturer refuses to supply such product—we buy it!

What are the reasons given for this withholding of product? "Stereophile's reviews are unpredictable" (funny, we always thought this was a virtue); "I don't need positive reviews which also mention negative aspects—only whole-carded raves welcome here"; "Business is as good as it could be (we are constantly in a state of back order), so a good review can't help, though a bad review could hurt."

Now, I'm not saying that manufacturers don't have the right to not send us their product. Au contraire, they do, and some of the reasons cited make lots of sense from a manufacturer's point of view. On the other hand, it would be unreasonable to expect Stereophile to sit passively by and allow precensorship to take place. Our purpose is to review audio equipment and promote sound reproduction in the home for the benefit of our readers, not because it does or does not fit in with some manufacturer's promotional scheme.

So what companies are involved? To date we have purchased a pair of Spica's just-released Angelus speakers (for review by JA in Vol.11 No.2) and a set of MIT's MI-750 speaker cables to be reviewed in DO's upcoming speaker cable survey. Of course, as other equipment becomes unavailable, and is deemed important enough, we will buy it too—only too happy to expend our hard-earned corporate dollars in the search for products to improve the sound in your homes.

Larry Archibald

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