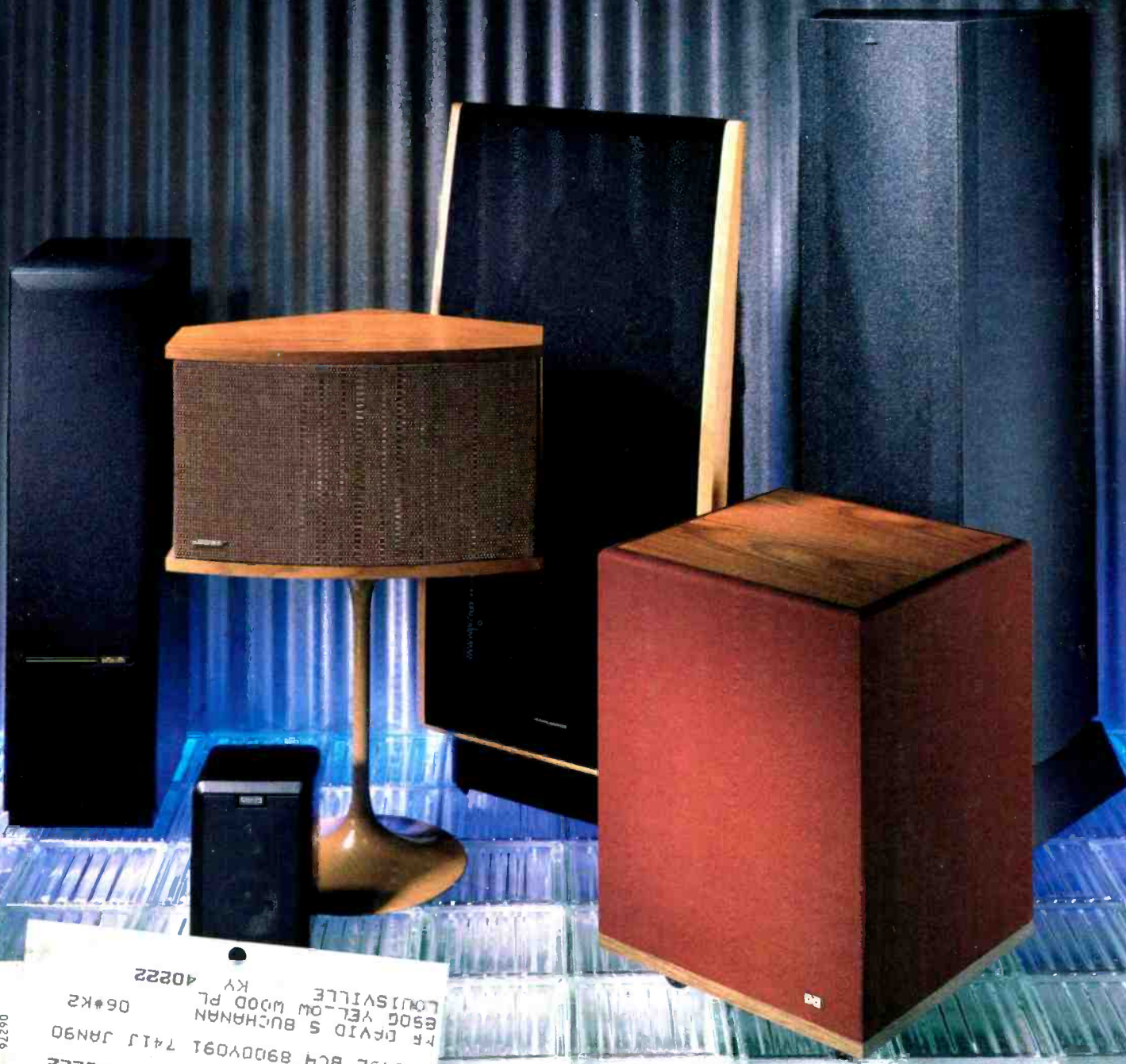


JUNE 1988 ● \$2.25

# Stereo Review

**SPECIAL REPORT:  
AMERICAN AUDIO TODAY  
...AND TOMORROW**



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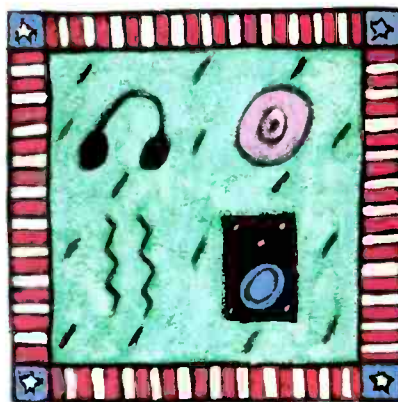
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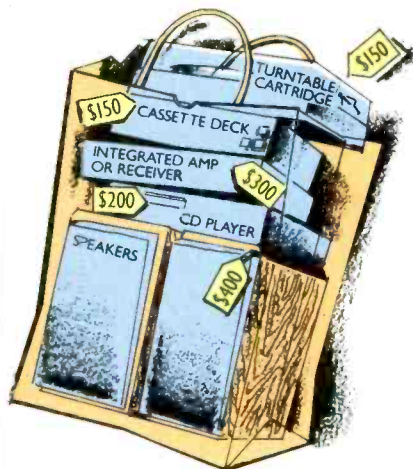
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Cover: America leads the world in speakers. Outstanding examples include, from left, the Polk Audio RTA 8, Altec Lansing Model 55, Bose 901 Series V, Dahlquist DQ-20, Design Acoustics PS-LF, and dbx Soundfield 50. Design by Sue Llewellyn, photo by Hing/Norton.

STEREO REVIEW BUYER POLL, SEE PAGE 143  
Please fill in if you bought equipment in the past thirty days.  
READER SERVICE INFORMATION CARD, FACING PAGE 143  
Circle the items you want to know about.



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The Onkyo TA-RW490.  
Technology with Imagination.



## TO MAKE THE JOURNEY SHORTER—

For most people, the so-called dubbing cassette deck is an example of frustration in action. That's because the promised convenience is more often offset by poor results.

To correct this, the new Onkyo TA-RW490 is a fundamentally different design. Rather than follow the conventional approach of adding an inexpensive playback-only transport to an existing deck, Onkyo combined two high quality decks in one chassis. This gives the TA-RW490 performance advantages unavailable anywhere else. And gives you the benefit of uncompromised sound quality.

Each two motor, auto reverse transport can record either simultaneously or sequentially. So you can make two recordings at once. Or one continuous recording up to four hours long.

The TA-RW490 is the first dubbing cassette deck to feature

Dolby HX Pro. This innovative system enhances a tape's ability to handle the extreme dynamic range that occurs when recording from today's demanding digital sources.

Two fully independent Real Time Counters show, to the second, elapsed and remaining time—particularly valuable when making dual recordings.

Additional convenience features include one touch, tape to tape standard or high speed dubbing with mic mixing, auto tape selection for proper bias and equalization, and, Onkyo's exclusive RI remote control.

The TA-RW490 proves once again that Onkyo designs components in which convenience complements quality.

It makes the journey to your music that much shorter.

*Artistry in Sound*

# ONKYO

by Christie Barter  
and Michael Smolen

## SECOND-GENERATION DAT

Nakamichi has developed a new transport mechanism for rotary-DAT decks that is said to provide more precise tape guidance and higher search speeds than first-generation designs. Called a fast-access stationary-tape-guide transport (FAST), the mechanism features a "half-load" position that permits program search at twice the speed of other transports. Nakamichi will be using the FAST system in an upcoming line of DAT decks and will be supplying it to other manufacturers as well.

## NEW SPEAKER FROM KLOSS

Henry Kloss, whose work with Acoustic Research, KLH, and Advent virtually revolutionized the speaker industry, has developed a new four-piece system that his own company, Cambridge Soundworks, will manufacture. Called "Ensemble by Henry Kloss," the speaker system consists of two satellites and two low-frequency modules, and it is being sold directly to consumers, by telephone, for \$499.

## THREE-INCH CD'S

Digital Music Products is offering, by mail order only, a CD-3 sampler of recent jazz releases on its DMP label. Send \$3 to cover postage and handling to DMP, Park Square Station, Box 1583PR, Stamford, CT 06901. An adaptor to play the 3-inch disc in standard front-loading machines is part of the package.

## TECH NOTES

Sony announced it will begin marketing the first Extended Definition (ED) Beta camcorder in Japan this spring. The ED CAM EDC-50 uses a 2/3-inch two-chip CCD (charge-coupled detector) system and will retail for roughly \$5,700. . . . Denon's new metal-formulation audio tape, available in C-60, C-75, C-90, and C-100 lengths, is claimed to give a 2.5-db improvement in maximum output level (MOL) at 315 Hz and to

reduce bias noise by 3 db. . . . Matsushita's semiconductor lab has developed a new 16-megabit dynamic memory chip said to have the world's smallest cell size, 3.3 microns, and an access time of 65 nanoseconds. Possible applications include a "tapeless tape recorder" and pocket-size super-computers. . . . The Eveready Battery Company is introducing the Conductor, a premium high-output alkaline battery designed to provide maximum performance for most audio equipment. . . . Well-known tuner designer Dick Sequerra has been given a contract by the National Association of Broadcasters to develop the ultimate AM/FM receiver. It will include FMX noise reduction, utilize National Radio Standards Committee ideas for improving AM reception, and employ even newer noise-blanking technologies. . . . Memorex's new universal remote, the CP8 (\$120), can control up to eight separate audio and video components. . . . Sharp has revived its Optonica logo for a line of high-end video and audio components being offered to retailers in limited distribution. . . . Pioneer has developed a new LV/CDV player, the LD-W1, that will automatically play both sides of two LaserDiscs or 12-inch CDV's. Available in June, it will retail for \$1,700.

## ROCKERS HONOR MANDELA

Described as "the largest and most spectacular musical event in the world this year," the Nelson Mandela 70th Birthday Tribute is a day-long pop-rock concert being given at London's Wembley Stadium on June 11. Promoted by the Anti-Apartheid Movement and Artists Against Apartheid, the marathon benefit honors the still-imprisoned black leader (seventy next month) on the twenty-fourth anniversary of his conviction. Harry Belafonte is scheduled to host an all-star lineup that includes Dire Straits (the group's only gig this year), Whitney Houston, Eurythmics, Sly Stone, Simple Minds, Chrissie Hynde, and Miriam Makeba. The

concert has been syndicated for worldwide telecast by American distributor Radio Vision International.

## VIDEO NOTES

Pioneer Artists has just released on LaserDisc the first two of eight Glyndebourne Festival Opera productions slated for release in that format over the next couple of years. One is the John Cox production of Rossini's *The Barber of Seville*, the other "A Fantasy Double Bill" of operas by Oliver Knussen produced under the artistic direction of Maurice Sendak. . . . Video Artists International has announced an across-the-board price reduction of 25 to 35 percent. . . . Vestron Music Video has lowered its prices on twenty popular titles to a uniform suggested list of \$19.98. Included are tapes by Billy Joel, Pete Townshend, Pink Floyd, Elton John, and Queen. . . . The Warner-Elektra-Asylum group of record labels is entering the CD video market with, for a start, three titles: Madonna's *Don't Preach* on Sire and Randy Newman's *I Love L.A.* and Donald Fagen's *New Frontier* on Warner Bros.

## 21ST-CENTURY WARRANTY

Marantz has announced it will guarantee that each Century Series amplifier sold to U.S. customers will maintain its high standard of performance until the year 2000. Marantz specifically warrants that each amplifier will continue to meet its specifications for power output and distortion as given in the owner's manual.



TERRY ALLEN





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CIRCLE NO. 80 ON READER SERVICE CARD

by Louise Boundas



## Globalization

**A** COUPLE of months ago, a friend of mine, a lawyer I'll call Tom, bought himself a new compact disc player. He had owned a Japanese player, one of the first on the market here, for a few years, and he was ready to upgrade to a more recent model. He gave his old one to his son and set out to buy an *American* CD player.

Concerned about the trade deficit and what he sees as America-bashing among many of his acquaintances, especially when the subject of quality in cars and consumer electronics comes up, Tom feels that seeking out good American products is worthwhile. The more Americans buy American, he says, the more capital will be available to American manufacturers to make their products even better. He puts his money where his mouth is, and he bought a McIntosh CD player.

But today there is more than a little ambiguity in the definition of an "American" product. McIntosh is indisputably an American company: It is American-owned, its products are designed and built here. Yet, as Tom is aware, his CD player incorporates a transport mechanism and circuits supplied by Philips of the Netherlands. The fact is that all American CD players, and tape decks, too, contain elements from either Europe or the Orient. We just don't make everything that has to

go into those components. And we cannot define "American audio" the way we did twenty years ago.

That is not to say that no audio components are made entirely in the United States by U.S. companies; many are. McIntosh makes them, and so, for instance, does Soundcraftsmen, which, according to its president, Ralph Yeomans, makes amplifiers and equalizers that are "conceived, designed, and completely manufactured right here." Other audio electronics products and, of course, a lot of speakers are also made here top to bottom.

On the other hand, the business climate of the past led scores of U.S. audio companies to curtail manufacturing in this country, to "source" products from abroad. Now, however, the climate has changed. It takes a lot fewer yen to make a dollar, for one thing, and such American companies as Harman Kardon and Marantz are moving toward bringing their manufacturing home. The deflation of the dollar is also making American products more competitive, encouraging development of overseas markets.

At the same time, Japanese and European companies are investing more here, building factories to make products for the American market and for export as well. Sony, Onkyo, and Canton are among the companies committed to building "American" audio products. All this indicates that the audio consumer of the future will have more choice among U.S.-built products than ever before.

Last fall I attended a reception for Masaaki Morita, the new chairman of Sony Corporation of America. In his remarks to the press, Mr. Morita outlined Sony's role as a "citizen" of the United States. He also talked about "international trade frictions, real or imagined," and unpredictable currency fluctuations. "No company can effectively meet these challenges just from an American perspective... or from a Japanese one," he said. "It takes the effective combination and coordination of the resources and the experience of business groups worldwide.... We call it globalization."

I think that is a pretty good word for what seems to be happening in American audio too. □

## Stereo Review

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# What happens when studio recording engineers also design home tape recorders.

What qualifies a company to build audiophile cassette decks? Try seven decades of intimate knowledge in every aspect of the recording process. Creating award-winning blank tape. Recording award-winning classical and jazz releases. Building transcription-quality open-reel recorders, multi-track

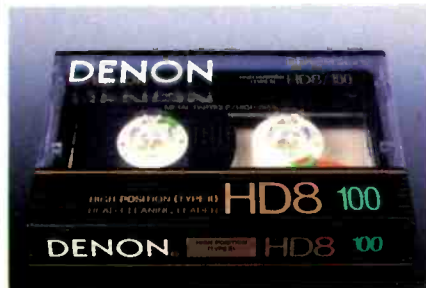


THE SAME EARS THAT GUIDE DENON RECORDING SESSIONS ALSO EVALUATE THE SOUND OF DENON HOME COMPONENTS.

decks for studio work, and finally the world's first digital recorder good enough for commercial record production.

Only one company has all these qualifications. That company is Denon.

Consider Denon's DR-M30HX Cassette Deck. This machine's professional heritage is evident in the three-motor drive system for flawless tape movement, the high-overload heads with oxygen-free copper



A CASSETTE DECK IS ONLY ONE HALF OF THE RECORDING SYSTEM. HERE'S THE OTHER.

coils for the barest minimum noise, and the wideband DC playback amplifier for ruler-flat

response. Even the power supply has separate windings for the audio circuits — for absolute minimum distortion.

Although not highly publicized, the control of supply reel back tension can be a cassette deck's Achilles' Heel. Over time, the typical friction clutch can wear down, disturbing tape-to-head contact and degrading high frequency response. That's why Denon borrowed the

## "Top Class"

Germany's Stereo Magazine on the DR-M30HX

Under test, its metal tape overload (MOL) margin is incredibly high, at +6db Nakamichi's! This is without use of Dolby HX Pro or excessive bias either. Overload margins on chrome and ferric tape were high too, so the benefit is a general one, if not being quite so marked with ferric tape (IIC Primary Reference Standard tape). This new head gives the DR-M20 a -20db headroom advantage over other decent decks with metal and chrome tape: so recordings can be taken up to a higher level (+8db on the indicators), so making hiss less noticeable.

cult types of music on the Denon DR-M30HX. You'll hear steady, unwavering pitch on sustained piano chords. And you hear cymbals and harpsichords with all their distinctive overtones.

You might expect audio components of this caliber to come with high-caliber price tags. Yet Denon cassette decks



THE DENON DR-M30HX. THREE MOTORS, THREE HEADS, DOLBY B, C, AND HX PRO DON'T BEGIN TO TELL THE STORY.

open-reel concept of Non-Slip Reel Drive — servo-controlled back-tension that will not degrade over time.

Denon incorporates such studio technology for one purpose only: its direct effect on sound quality. The proof is in the listening. Record the most diffi-

## "Best Buy"

Britain's Hi-Fi Choice on the DR-M20

start at less than \$250.\* So for the price of far lesser audio components, you can do what studio engineers all over the world do. Record on a Denon.

# DENON

DESIGN INTEGRITY

\*Suggested retail price. Clipping reprinted with permission from Hi-Fi Review, November/December, 1986 issue.

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# The new Ford Probe. A performance you won't forget.



Buckle up—together we can save lives.

instrument cluster that tilts right along with the steering wheel, every detail is scrutinized right down to the last...detail.

**Affordable.**

One of Probe's most impressive features may well be its price. It starts at just \$10,459. This base sticker price excludes title, tax and destination charges. Prices higher in New York. Optional wheels shown, \$306 M.S.R.P.

The new Ford Probe. Climb in. Sit back.

And watch it perform.

**Assured.**

Ford covers all new cars with a 6-year/60,000-mile warranty on major powertrain components. Restrictions and deductible apply. Also, participating dealers back their customer-paid work with a free Lifetime Service Guarantee, good for as long as you own your vehicle. Ask to see these limited warranties when you visit your Ford Dealer.



Have you driven a Ford...lately?



## LETTERS

### Sound Values

I compared Julian Hirsch's report in April 1988 on the Magnasphere Nova, a three-piece satellite/subwoofer speaker system that lists for \$5,500, with his April 1987 review of the Bose AM-5, a smaller three-piece system that lists for \$700. After hearing the incredible sound of the Bose system at a local dealer, I find it hard to imagine how much sonic difference \$4,800 would make.

GREG GLASS  
Fort Worth, TX

I would not presume to question the merits of "The Mighty Klipschorn," as attested to in Ralph Hodges's November 1987 column ("The High End") and two follow-up letters in January. This much-heralded speaker, however, is in an expensive price range that most of us need to avoid.

A few years ago, while listening to a demonstration of a compact disc player, I was struck by the fabulous sound and kept looking for some mammoth-size speakers. There were none, just two unassuming Energy 22 Pro Monitors on

stands in front of me. I now own a pair, and I can only say, hats off to Winslow Burhoe for his care in designing the tweeter and the unique crossover. For \$800 the pair I can honestly boast that I have up to \$3,000 in musicality, and I've listened to a lot of speakers.

PAUL W. ENTRESS  
South Windsor, CT

### Sinéad O'Connor

Concerning Sinéad O'Connor's "The Lion and the Cobra" in April's "Best Recordings of the Month"—what a hype. Her work is not Irish or English folk music, as it is called in Mark Peel's review. And what are "mystical lyrics"?

The only use for this compact disc is as a coaster.

JOHN SHELBY  
Houston, TX

I would like to thank Mark Peel for his review of Sinéad O'Connor's new album. It is one of my favorite CD's.

One question, though: Mr. Peel says she sings one lyric "with such rocking momentum that your cartridge is apt to

go careening out of the groove." I am not familiar with these terms—"cartridge" and "groove." Are they euphemisms, or is the phrase some obscure hippie jargon from the Sixties?

BOB LOEWENTHAL  
Rockville Centre, NY

### What, No Lemons?

Why are all of STEREO REVIEW's equipment test reports favorable to the products reviewed? I cannot believe that all of the products you test are "overall good performers." You must come across equipment that performs poorly. Is it your policy to print only the favorable reviews? If all the products on the market were "overall good performers," then there would not be a need for a magazine such as STEREO REVIEW.

RON CHAU  
Oswego, NY

*Since hundreds of hi-fi products are introduced each year, it is clearly impossible for a monthly magazine to report fully on all of them. We think we serve our readers better by using our limited*

# Mine.

This is the Ultimate Clock Radio: elegant design, luxurious state-of-the-art features, and unmatched hi-fidelity sound. Two programmable alarms, digital tuner, 8 AM/FM station presets, headphone jack and much more. From Nakamichi, one of the world's most respected names in high quality audio.



**AM/FM Stereo Clock Radio**



## LETTERS

space to report on a selection of components that are worth serious consideration. That is why reports on products that fail to perform well in Hirsch-Houck tests do not make it into print.

### Calling All Kids

I enjoyed William Livingstone's article on children's records, "Calling All Kids" (April), very much and will write to some of the regional outfits he mentions. I would also like to recommend some other producers: Golden Glow Recordings, 800 Livermore St., Yellow Springs, OH 45387 (especially the "Nitey-Nite" album); Pam Campbell, P.O. Box 723071, Atlanta, GA 30339 ("For Kids" and "Let's Do It Again"); J. Aaron Brown & Assoc., 1508 16th Ave., South Nashville, TN 37212 (the album and songbook "A Child's Gift of Lullabies"). While I obtained the Golden Glow and J. Aaron Brown recordings locally, I haven't seen the Pam Campbell cassettes outside the Atlanta area. All three are first-rate.

JOSEPH E. SCHNEIDER  
Arlington, VA

### Quad Confusion

I enjoyed Julian Hirsch's "Surrounded by Sound" (April "Technical Talk"), although I disagree with his argument that quadraphonic sound failed because people realized that real music doesn't sound like the most perfectly reproduced four-channel recording. Quad's downfall came because the FCC never ruled on a quad standard for broadcasting. There were too many quad methodologies on the market at the time, and the consumer quickly became confused. Many of the methods of producing quad sound were technologically poor, but most of us who heard quad with the most advanced techniques were very satisfied with the results.

ROBERT G. HOFFMAN  
Humble, TX

### CD Noise

I hope that the people who make and sell compact disc players realize that the poor quality of many CD's is hurting their sales. It's gotten so bad that the

first thing a lot of people hear about CD players is something very negative. In my living room, there have been a lot of conversations like this:

"Is that a CD player? I'm thinking of getting one. Play something on it for me, will you?"

"Oh, it's really great! Let me find one of the *good* discs here. You really gotta watch what you buy. A lot of these aren't any better than LP's..." Zap! The product image created by a dozen full-color advertising spreads is instantly fried to a crisp by negative word of mouth.

EDWARD SWAIM  
Round Rock, TX

I just purchased an Atlantic CD of David Foster playing live with the Vancouver Symphony. The recording beautifully balances the piano against the orchestra, but it was extremely disappointing to find four technical errors in one track: low-level distortion and annoying high-frequency spikes. These are not disc defects as this is the second CD copy I have heard them on. Obviously there was some problem either on the

# Yours.

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# **“In its price category, the Adcom GFA-535 is not only an excellent choice; it’s the only choice.”**

Sam Tellig, The Audio Cheapskate

**stereophile**

Vol. 10 No. 7 November 1987



Adcom GFA-535 power amplifier.

## The complete report:

Sometimes products are too cheap for their own good, and people don't take them seriously: the Superphon Revelation Basic Dual Mono preamp, Rega RB300 arm, AR ES-1 turntable, Shure V15-V MR cartridge, and the B&K ST-140 power amp. They can't be any good because they cost so little, right?

Wrong, of course.

Adcom appears to be having the same problem with their \$299.95 GFA-535 amp. Credibility.

Now if this amplifier were imported from England and sold for \$599.95, then maybe it would be taken seriously. And highly praised, no doubt.

For the baby Adcom is one of the finest solid-state amps I have heard. No, not the best; I'm not sure what *is* the best. But it's an amplifier that is so good for so little money as to be practically a gift.

Actually, when Rob Ain from Adcom called, I was about as enthusiastic about the GFA-535 as you were before you finish reading this piece. But Rob insisted, "You've gotta hear this amp."

He brought it over the next day, along with the GFP-555 preamp (\$499.95), and we put both pieces into the rest of the system: a Shure Ultra 500 in a Rega RB300 arm on an AR ES-1 table, with Quad ESL-63 speakers on Arcici stands. Then we chatted for a half hour or so while the electronics warmed up.

And then, simultaneously, the two of us decided to shut up and listen.

"I've never heard the Quad ESL-63 sound better," Rob said. Of course, he was hardly an impartial observer, but the sound was extraor-

dinarily clean, detailed, and musical. If it wasn't the best sound I have ever heard from Quads, it was pretty close.

**“Now if this amplifier were imported from England and sold for \$599.95, then maybe it would be taken seriously. And highly praised, no doubt.”**

This humble \$300 amplifier was driving a pair of very revealing \$3000 speakers and giving a very good account of itself. (We listened first to some Goran Sollscher classical guitar.)

"So how come this product isn't flying off the dealers' shelves?" I asked Rob.

"I don't know. Everyone wants the GFA-555 with 200 watts per channel. Including people who don't need it."

"Does the GFA-555 sound any better?" I asked.

"No, it's our aim to have all our amps sound pretty much the same. You pay more money, you get more power."

Rob pointed out that while the GFA-535 is rated at 60Wpc, it puts out more like 80. And while I did not do any measurements, my experience with other amps tells me Rob's right. I suppose Adcom doesn't want to steal sales from its GFA-545, rated at 100Wpc and selling for \$200 more.

After a couple of hours, Rob left, grinning from ear to ear, and I later sat down to listen alone. True, when I tried certain Telarcs and pushed hard I could get the amplifier to clip—

**“... the baby Adcom is one of the finest solid-state amps I have heard... so good for so little money as to be practically a gift.”**

two LEDs quickly light up (very useful). But the Quads were running out of the ability to use the power anyway. My first impressions were confirmed: the GFA-535 is one of the best amplifiers around for driving Quads. Spendor SP-1s, too.

Suddenly, it hit me what this meant. Conventional wisdom had been dealt a severe blow. You know, the old saw that you should never power a good pair of speakers with a cheap amplifier. Here was a cheap amp—one of the cheapest on the market—that sounded good with Quads, Spendors, later Vandersteens. Probably Thiels, too—at least the CS1. What it means is you can stretch your speaker budget a bit and get the speakers you really want, then economize by buying an Adcom GFA-535 for \$299.95. True, you may be a little power shy, but probably not much. And to say the least, the GFA-535 would make a decent interim amp.

What does the GFA-535 sound like? (You thought I'd forget that part, right?) Well, this is one of the most neutral amps I've heard. While it doesn't sound particularly tubelike, it avoids the typical transistor nasties through the midrange and into the treble. I wouldn't call it sweet—there's no euphonic coloring—but it isn't cold or sterile. What it is, is smooth. And detailed. Far more detailed than I would



ever imagine a \$300 amplifier could be. The GFA-535 reminds me of the Eagle 2A and PS Audio 200C, amplifiers that sell, respectively, for about three and five times the price. Of course, they have more power. And they are more detailed. The point is, the Adcom comes close. Very close.

### **"The GFA-535 reminds me of... amplifiers that sell... for about three and five times the price."**

The bass, like everything else, is neutral, certainly not fat and overdone. But it's here where you notice that this amp is not a powerhouse. You just don't get the solidity and extension you get with a very powerful (and expensive) solid-state amp. Nor do you get the breadth and depth of soundstage that you often find with a very powerful amp. The Adcom GFA-535 sounds a wee bit small, which it is.

My only criticism, and it's more of a quibble, is that the speaker connectors are non-standard and unique (so far as I know). You insert bared speaker wire into a hole and twist the connector tight a quarter turn. Most speaker cables will fit, but some will not. Certainly MIT won't. Neither will the best Kimber, the kind with eight clumps of strands. The less costly four-clump Kimber will, and proved an excellent choice. My sample amp was quiet—no hum—and ran cool. There are selectors for two sets of speakers. And the 535 looks nice.

### **"This amplifier is so good and so cheap that I think any CD owner who buys an integrated amp is nuts."**

And talk about economy: If you're not into LPs anymore, you could buy a Mod Squad, dbx or Old Colony line-level switching box—or possibly a B&K Pro 5 preamp, with its switchable line amp section (only \$350)—and run it with a CD player. In fact, if you are into CD only (no tape, no tuner, no phono), you could buy a CD player with a variable volume output and run it directly into the Adcom. This amplifier is so good and so cheap that I think any CD owner who buys an integrated amp is nuts.

In its price category, the Adcom GFA-535 is not only an excellent choice; it's the only choice. The real question is whether you should buy one even if \$299.95 is much less than you planned to spend for an amp—ie, whether you should put the money into a better CD player or pair of speakers instead.

## **ADCOM**

11 Elkins Road, East Brunswick, NJ 08816 201-390-1130  
Distributed in Canada by PRO ACOUSTICS, INC.,  
Pointe Claire, Quebec H9R 4X5

## LETTERS

original master or in the CD editing/mastering process.

When I spend \$16 for a recording, I expect it to be as artistically and technically perfect as possible. The errors I heard should have been caught and corrected. I encourage other consumers to make noise about the noise.

TODD BARRY  
Los Angeles, CA

Some serious editing has been done in the Jet CD reissue of Electric Light Orchestra's "Face the Music." The first minute or so of the album is gone, as well as the intros to *Evil Woman* and *Strange Magic*. Since timing was not a factor for these deletions, why would the record company do this?

RICHARD BRETON  
Strafford, NH

### *Berlin's First*

The most authoritative source for the dates of Irving Berlin's compositions is the Irving Berlin Music Corporation, and another good source is Sigmund Spaeth's *A History of Popular Music in America*. Both provide different dates for the pieces that Roger A. Baffler claims come from 1908 in his letter published in the April issue: 1911 for *Everybody's Doin' It* and 1912 for *When the Midnight Choo-Choo Leaves for Alabama*. The earliest Berlin recording I have found is a cylinder of *Call Me Up Some Rainy Afternoon*, which Berlin Music Corp. dates as 1910.

JAMES R. POWELL, JR.  
Portage, MI

While Roger A. Baffler is right in saying that Irving Berlin's recordings predate the electric phonograph, he is incorrect in assuming that the two-minute wax cylinder "was made only through 1908." Indeed, the cylinder illustrated on page 8 in April was released by Edison in August 1912, one month before the company did actually discontinue two-minute cylinders.

I should also correct an error in Gary Giddins's original article about Berlin (February). The song Berlin recorded for Columbia in 1910 is titled *Oh! How That German Could Love*—I'm not sure how Berlin felt about the German's dancing, as cited by Giddins.

MICHAEL BIEL  
Morehead, KY

### *CC: Stereo Review*

Dear Record Companies: The "baby boom" is coming to a peak. All of us over-thirties have money to spend on compact discs, so where are the CD versions of some of our best-remembered music? Where is a CD version of the

best-selling Ventures albums? Or the ones by the Mamas and the Papas? Where's a CD version of "The Four Seasons Story," a twenty-eight-song compilation produced by Bob Crewe in 1975 and issued on Private Stock PS 7000? As the number of CD players in U.S. households grows, millions of people who grew up between 1957 and 1964 would purchase CD's of the hits from those years.

Dear Record Producers: Long-term, stable profits are better than concentrating your efforts on short-term, "here today, gone tomorrow" acts. If you would give us something other than pop-songs-as-movie-soundtracks, we'd buy your records more often.

Dear Record-Store Chains: I know that people like to rent videotapes, but must these take up more than a third and sometimes half of your retail space? Can't you find bins specially designed for compact discs so you can carry more CD titles? And can't you find a method of stockpiling your products locally so that special orders don't need six weeks to get to the store?

JOHN CUDRIK  
Gainesville, FL

### *Streisand Search*

I am Barbra Streisand's personal manager, and I am producing a retrospective album celebrating her more than twenty-five years in show business. Since many of her early—and some of her foreign—concert, television, and promotional appearances weren't officially recorded, I am seeking the cooperation of collectors and fans who might have access to privately recorded material. I am also searching for pictures, programs, reviews, interviews, and ads to illustrate a booklet accompanying the recorded material.

Readers who have such information should write to me c/o Hollywood Center Studios, 1040 N. Las Palmas, Los Angeles, CA 90038, or telephone (213) 461-3366. I would be most appreciative of any lead that might help us fill out this chronology.

MARTIN ERLICHMAN  
Hollywood, CA

### *Corrections*

"Record Makers" in March incorrectly stated that Italian pianist Andrea Lucchesini made his U.S. debut "last season with the Indianapolis Symphony." His American debut was in July 1983 at the Newport Music Festival.

The "Directory of Manufacturers" included in April's guide to hi-fi VCR's gave an incorrect telephone number for Akai. The correct number is (201) 562-8500. □



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in Digital Audio pulls away  
from the traffic.

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Would you purchase a car that was quickly rushed to market? Of course not.

So why buy a car CD changer with a similar heritage?

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You see, as the inventor of the compact disc format, Sony has been at the forefront of car digital audio technology longer than anyone else. In fact, Sony introduced the concept of car compact disc in the first place. And when Sony introduced the original car DiscJockey® CD changer, over two years ago, we ushered in an entire new era in automotive entertainment.

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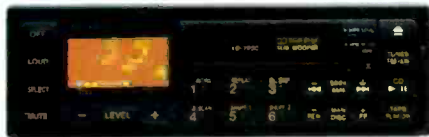
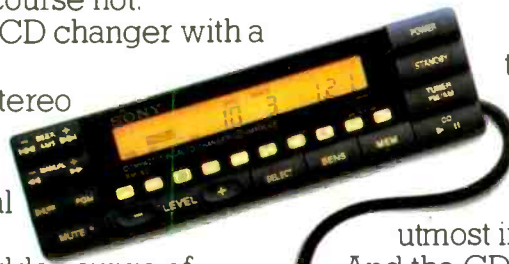
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Pictured above, left to right are: The T95, T55, T65, and, the TL900, TL500, TL600.



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**G**ET wise. Get with it. Get chic. Get Ryko's "Steal This Disc 2." And get real—there's no need to steal it because it is a gift that Rykodisc USA is offering especially to STEREO REVIEW readers. All you have to do is send in the coupon below and \$3 for postage and handling to receive your copy of this full-length compact disc with a playing time of more than 70 minutes.

This CD, a son of Rykodisc's first sampler, "Steal This Disc," shows the wide variety of music in the company's CD-only catalog. It ranges from such avant-garde ensembles as the Residents and Birdsongs of the Mesozoic to the rock of Frank Zappa and his son Dweezil. Jazz tracks include *Happy Anatomy* by Duke Ellington, and there's one by flutist Paul Horn, a father of New Age. There's even a selection by Mission of Burma, which Rykodisc describes as "a seminal post-punk ensemble." All told, twenty-one artists are represented on the CD, including Jimi Hendrix, Poto Doudongo, Big Guitars from Texas, Jerry Jeff Walker, and cult guitarist Nils Lofgren.

Somehow, it all hangs together in a program that is musically rewarding and fun to listen to. STEREO REVIEW's editors really like "Steal This Disc 2," and we are happy to make it the third of

our free musical offerings. Made in the U.S.A. by an American company and featuring mostly American artists, this CD seemed particularly appropriate for our special American audio issue.

Since the Japanese word "ryko" can be somewhat poetically translated as "sound from a flash of light," it seemed a suitable name for a music company that only issues compact discs. (They are played back by laser beams, get it?) But the only thing that's Japanese about the company is its name. Rykodisc headquarters are in Salem, Massachusetts, and you can't get much more American than that. (Note, however, that the free CD's are mailed from Minneapolis.)

To get your free copy of "Steal

This Disc 2," send a check or money order (made out to Rykodisc USA) for \$3 for postage and handling to FREE DISC OFFER, Rykodisc, 200 North Third Ave., Minneapolis, MN 55401. Each order from *outside* the United States must be accompanied by a check or money order for \$5 (sorry about that) for postage and handling. Fill out the coupon below, clip it from the magazine, and include it with your request. None will be honored without the coupon, and photocopies are not acceptable.

This offer is limited to one free CD per household. Requests for more than one cannot be honored, and requests must be received by Rykodisc by August 1, 1988. The offer is void after that date.

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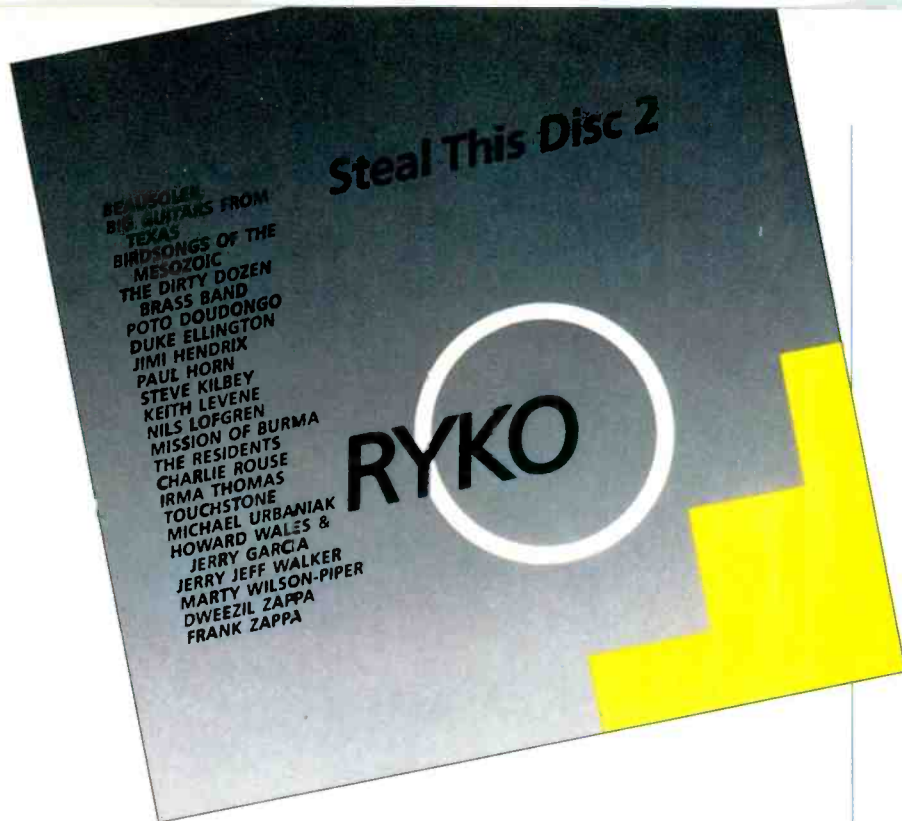
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The tuner section features Onkyo's famous APR (Automatic Precision Reception) system which continuously monitors the signal at the antenna and adjusts four critical circuits to assure you the best FM reception.

The TX-850 also gives you extensive signal processing capability. A continuously variable Dynamic Bass Expander gives you precise control of musical "punch." Onkyo's Selective Tone Control provides accurate tonal balance at any listening level. A Stereo Image Expander and Simulated Stereo circuitry extend the sense of spaciousness from any source you choose.

And a CD Direct selector allows you to bypass less crucial preamplifier circuitry so you can fully enjoy the clarity of digital.

Extensive video capability complements the audio performance. Remote control using Onkyo's new RI (Remote Interactive) system is standard, too. And the programmable remote transmitter means that you need just one control for all your components!

In short, the Onkyo TX-850 proves that you don't need to sacrifice sound quality for convenience. And stands as one less barrier between you and your music.

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\*Both channels driven into 8 ohms, 20Hz-20kHz, 0.04% THD

## NEW PRODUCTS



### Ariston

The Ariston Image bass-reflex speaker system uses a 6½-inch polypropylene bass/midrange driver and a ¾-inch metal-dome tweeter. The crossover point is 2,300 Hz. Frequency response is rated as 60 to 20,000 Hz, sensitivity as 88 dB sound-pressure level at 1 meter with an input of 1 watt. Maximum recommended amplifier power is 100 watts per channel. The cabinet is made of internally braced ¾-inch particle board with a black-ash vinyl finish. Dimensions are 9 x 17 x 11 inches. The speaker is designed for freestanding placement away from walls on a speaker stand (not included). Price: \$439 a pair. Ariston, Dept. SR, Paramus Plaza IV, 12 Route 17 North, Suite 309, Paramus, NJ 07652.

**Circle 120 on reader service card**

### Case Logic

Case Logic's CL-120 cassette storage case holds up to 120 boxed cassette tapes in a molded-plastic insert. The soft-sided nylon carrying case is available in either black or gray with black zippers, trim, and expandable shoulder strap. Dimensions are 16¼ x 14½ x 6¼ inches. Price: \$29.95. Case Logic, Dept. SR, P.O. Box 4187, Boulder, CO 80306.

**Circle 121 on reader service card**



### Bib

The BK-2 Compact Disc Care System from Bib includes a radial CD cleaner, a combination dust blower and cleaning brush, ten cotton cleaning tips, an anti-static cleaning cloth, and CD cleaning fluid, all in a molded plastic carrying case with instructions. Price: \$29.95. Bib, Dept. SR, P.O. Box 27682, Denver, CO 80227.

**Circle 122 on reader service card**



### Sound Pipes

The Sound Pipes 100, 200, and 400 Series speakers (left to right in photo) have high-impact-plastic transmission-line enclosures designed to avoid the diffraction effects of speaker baffles. All models have one ferrofluid-cooled tweeter and one, two, or four 4½-inch woofers with a first-order crossover. Within each series, models differ in their nominal impedance and the particular characteristics of the drivers that are used.

Frequency-response ratings range from 45 to 20,000 Hz for the 100 Series to 33 to 22,000 Hz for the 400 Series; sensitivity ranges from 85 to 89 dB and power handling from 60 to 250 watts maximum continuous input. The 100 Series speakers are 35½ inches tall, the 200 Series 39½ inches, and the 400 Series 45 inches. Weight ranges from 12 to 48 pounds each. Prices per pair: 100 Series, \$399 to \$495; 200 Series, \$795 to \$995; 400 Series, \$1,395 to \$1,495. Sound Pipes, Dept. SR, 5158 Goldman Ave., Unit I, Moorpark, CA 93021.

**Circle 124 on reader service card**



### Audio-Technica

Audio-Technica has added nine new audio and video cables to its line of Full Audio Transfer interconnects. They all use stranded, pure oxygen-free copper wire and have gold-plated plugs that are potted for durability. The AC122-A1 and AC122-A2 are 1- and 2-meter audio cables with two RCA-type plugs at each end, the AC144-A2 a 2-meter cable with four plugs. The AC211-V1 and AC211-V3 are 1- and 3-meter video cables, and the AC222-AV1 (shown) is a 1-meter dual-function interconnect with one video cable and a mono audio cable. Three other audio/video cables are also available, including a 2-meter version of the AC222-AV1 and others offering both mono and stereo audio connections. Prices: from \$11.95 to \$29.95. Audio-Technica, Dept. SR, 1221 Commerce Dr., Stow, OH 44224.

**Circle 123 on reader service card**

## NEW PRODUCTS

### Citizen

The Citizen CBM 777 portable compact disc player from CBM America Corp. is a budget-priced model that features double-oversampling digital filtering as well as a three-beam laser. It has both a headphone jack with volume control and a line output for connection to a stereo system. Frequency response is rated as 20 to 20,000 Hz  $\pm 1$ ,  $-3$  dB, total harmonic distortion as 0.08 percent, and signal-to-noise ratio as 80 dB. The CBM 777 measures  $6\frac{3}{8}$  x  $5\frac{1}{4}$  x  $1\frac{3}{4}$  inches and weighs less than 3 pounds. It is available in black or white and comes with an assortment of decorative decals. Price: \$169. CBM America Corp., Dept. SR, 2999 Overland Ave., Los Angeles, CA 90064.

**Circle 125 on reader service card**



### Axiom

The Axiom AX 5 Reference Monitor is a three-way speaker system with a rear-mounted 10-inch subwoofer and a separate enclosure in the front of the cabinet for the tweeter and midrange driver. The subwoofer enclosure is braced seven ways and is vented with a tuned port in the front of the speaker. Frequency response is rated as 32 to 22,000 Hz  $\pm 2$  dB, sensitivity as 89 dB sound-pressure level at 1 meter with a 1-watt input, and nominal impedance as 4 ohms. Recommended amplifier power is 40 to 350 watts per channel. The bevelled-edge cabinets are available in oak veneer with a natural, dark, or black finish. Dimensions are 12 x 30 x  $11\frac{1}{4}$  inches. Price: \$1,249 a pair. Axiom, Dept. SR, Hwy. #60, Dwight, Ontario POA 1H0.

**Circle 127 on reader service card**

### Acoustic Research

The TSW 105 is one of the smallest speakers in AR's TSW series. The two-way acoustic-suspension system measures only  $10\frac{1}{2}$  inches high,  $7\frac{1}{16}$  inches wide, and  $6\frac{7}{8}$  inches deep. Its 4-inch polypropylene-cone woofer and  $\frac{3}{4}$ -inch titanium-dome liquid-cooled tweeter are both magnetically shielded so that the speakers can be used with a TV set or video monitor. The tweeter features AR's Tetra-helix mounting plate and acoustic lens. Rated frequency response is 80 to 40,000 Hz  $\pm 3$  dB, and sensitivity is 87 dB sound-pressure level at 1 meter with 2.83 volts input. Nominal impedance is 6 ohms. Recommended amplifier power is 10 to 50 watts per channel. Finish is black vinyl with solid walnut or oak end caps. Price: \$275 a pair. Acoustic Research, Dept. SR, 330 Turnpike St., Canton, MA 02021.

**Circle 128 on reader service card**



### Sharp

Sharp's JC-K15G is an ultra-compact personal cassette player that incorporates bass-boost circuitry designed to reproduce frequencies down to 40 Hz. The autoreverse player also features Dolby B noise reduction, metal-tape capability, and an LED power indicator. It operates on two AA batteries and comes with Sharp's lightweight dynamic earphones. The smooth, "smudge-proof" Durasilk finish is available in black, blue, or gray. Dimensions are  $2\frac{7}{8}$  x  $4\frac{3}{4}$  x  $1\frac{5}{16}$  inches. Price: \$129.95. Sharp, Dept. SR, Sharp Plaza, Mahwah, NJ 07430.

**Circle 129 on reader service card**



### Monster Cable

Monster Cable's new Interlink Reference 2 interconnect, like its predecessor, the Reference A, uses "Bandwidth Balanced" construction, with each conductor having one large-gauge wire "for the bass," four intermediate-size wires "for the critical midrange," and more than 350 ultra-fine wire strands "for the delicate highs," all "precisely wound" together. The new version uses "MicroFiber" technology to wrap each of these "wire networks" with an insulating material that contains a high volume of air, which is said to enable them to conduct the audio signal with less added noise and less energy loss. Each cable is terminated with gold-plated RCA-type connectors that have split-tip center contacts and low-capacitance dielectric insulators. Price per pair: \$100 per meter. Monster Cable, Dept. SR, 101 Townsend St., San Francisco, CA 94107.

**Circle 126 on reader service card**





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*"I don't know. The last thing I remember is you turning up the stereo."*

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## NEW PRODUCTS

### Marantz

The LX130 complete audio/video system from Marantz is built around the TA135AV tuner/amplifier. Rated to deliver 130 watts per channel into 8 ohms, both channels driven, from 20 to 20,000 Hz, it has separate graphic equalizers for each channel and can memorize settings for up to sixteen AM or FM stations. Extra outputs and switching are provided for extension speakers in

The LX130 system also includes a high-definition, 26-inch video monitor receiver, with full MTS/SAP stereo sound capability, and a six-head VHS HQ and VHS Hi-Fi VCR whose full-function wireless remote also operates the video monitor receiver. The free-standing LSP1415V three-way speaker systems have 15-inch high-compliance woofers, 4-inch cone midrange drivers, and 1-



another room. The CD40 compact disc player uses 16-bit, double-oversampling D/A conversion and allows random-access programming for up to sixteen selections. It has a frequency response of 20 to 18,000 Hz  $\pm 1$  dB, with a dynamic range of 95 dB. The SD162 dual cassette deck features high-speed dubbing and Dolby B noise reduction. The TT451DL linear-tracking belt-drive turntable is rated for 0.05 percent wow-and-flutter. A wireless remote unit controls the tuner and key functions of the CD player and cassette deck.

inch soft-dome tweeters. Frequency response is rated as 15 to 20,000 Hz and sensitivity as 91 dB sound-pressure level at 1 meter with 1 watt input. The speakers are finished in black lacquer to match the cabinet that houses the other components, with the audio components protected by a glass door. The entire system measures 34 inches high, 87 inches wide (including the speakers), and 16½ inches deep. Price \$5,900. Marantz, Dept. SR, 20525 Nordhoff St., Chatsworth, CA 91311.

**Circle 132 on reader service card**

### Seattle Sound

The Seattle Sound M5 is a three-way floor-standing speaker system with a fourth-order tuned rear port. The 8-inch low-bass driver, also on the rear, crosses over at 180 Hz to a 6½-inch woofer on the front panel. Both drivers are polypropylene cones. The crossover to the 1-inch ferrofluid-cooled polyamide-dome tweeter is at 2,500 Hz. The woofer and tweeter are time aligned. The enclosure is made of ¾-inch high-density fiberboard finished on all six sides with a scratch-resistant walnut-grain vinyl veneer. Frequency response is rated as 34 to 21,000 Hz  $\pm 3$  dB, sensitivity as 93 dB. Maximum power handling is 175 watts. Nominal impedance is 8 ohms. Dimensions are 11 x 31 x 13 inches. Price: \$359 each. Seattle Sound, Dept. SR, P.O. Box 30028, Seattle, WA 98103.

**Circle 133 on reader service card**



### Jamo

The Jamo SW1 is a three-piece satellite/subwoofer speaker system with an overall rated response of 35 to 20,000 Hz. The subwoofer's two 8-inch drivers, operating in a push-pull configuration, cross over at 200 Hz to the two-way satellites, which have 4-inch midranges and 2-inch tweeters with a crossover at 4,500 Hz. Sensitivity is 90 dB sound-pressure level at 1 meter with 1 watt input. Power handling is 80 watts continuous, 140 watts peak. Nominal impedance is 8 ohms. The subwoofer's dimensions are 19 x 13½ x 8 inches, and the satellites measure 6½ x 4 x 6½ inches. Price: \$449 complete. Jamo U.S.A., Dept. SR, 425 Huehl Rd., Bldg. 3A, Northbrook, IL 60062.

**Circle 134 on reader service card**



### Bang & Olufsen

The two-way, bass-reflex RL-35 is a bookshelf-size version of B&O's larger RL series speaker systems. Its curved cabinet, made of a rigid plastic with inner ribs and partitions for added strength, has no parallel or reflecting surfaces that could color the sound. Measuring only 15¾ x 12½ x 5 inches, the RL-35 can be placed horizontally or vertically on a shelf, on the floor, or on a wall. Floor placement is said to emphasize the response of its 5-inch woofer. Rated overall frequency response is 48 to 20,000 Hz +4, -8 dB. Sensitivity with a 1-watt input is 92 dB sound-pressure level. Nominal impedance is 8 ohms, and power-handling capability is 50 watts maximum. Price: \$380 a pair, including 12 feet of cable. Bang & Olufsen, Dept. SR, 1150 Feehanville Dr., Mt. Prospect, IL 60056.

**Circle 135 on reader service card**

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# Stereo Review Picks Polk's SDA SRS for Their Ultimate Dream System!

*"Literally a new dimension in sound"*

*Stereo Review Magazine*

If you're looking for the ultimate loudspeaker, follow the advice of Michael Smolen, executive editor of Stereo Review who selected Polk Audio's 2 time Grand Prix Winner, SDA-SRS for his own personal "ultimate dream system" in the March, 1988 issue.

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Listening to any Polk True Stereo SDA is a remarkable experience. Listening to either of the Signature Edition SDAs is an awesome revelation. Their extraordinarily lifelike three-dimensional imaging surrounds the listener in 360 degree panorama of sonic splendor. The awe inspiring bass performance and dynamic range will astound you. Their high definition clarity allows you to hear every detail of the original musical performance; while their exceptionally smooth, natural, low distortion reproduction encourages you to totally indulge and immerse yourself in your favorite recordings for hours on end.

Julian Hirsch of Stereo Review summed it up well in his rave review of the SDA-SRS: "The composite frequency response was exceptional...The SDA system works...The effect can be quite spectacular...We heard the sound to our sides, a full 90 degrees away from the speakers...As good as the SDA feature is, we were even more impressed by the overall quality of the Polk SDA-SRS...The sound is superbly balanced and totally effortless...Exceptional low bass. We have never measured a low bass distortion level as low as that of the SDA-SRS...It is quite an experience! Furthermore it is not necessary to play the music loud to enjoy the tactile qualities of deep bass...Exceptional performance no matter how you look at it."

The awe-inspiring sonic performance of the SDA-SRS2 is remarkably similar to that of the SRS. Words alone can not express the experience of listening to these ultimate loudspeaker systems. You simply must hear them for yourself!

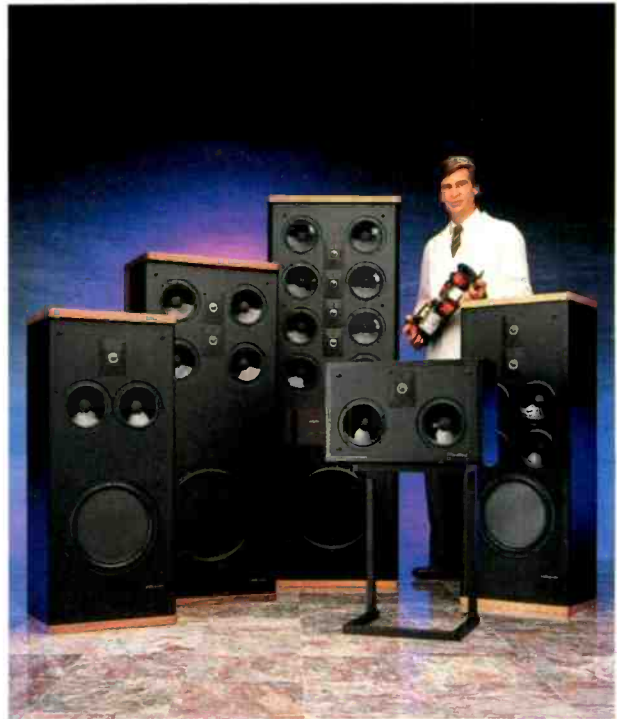
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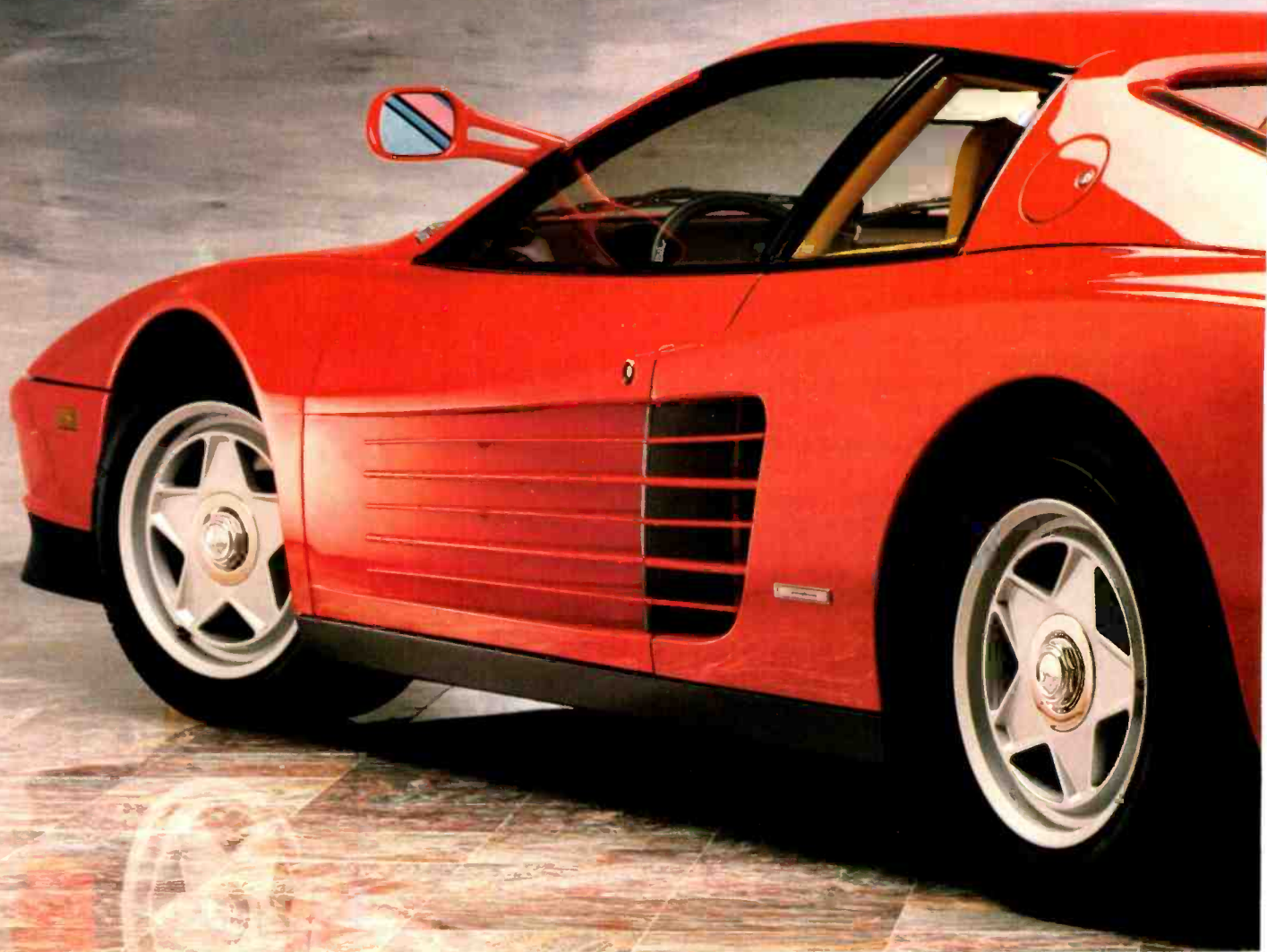
CAR STEREO REVIEW

## Introducing Matthew Polk's New SDA Mobile Monitor Systems

**M**atthew Polk has a passion for perfection in the cars he drives, and the speakers he creates. His astonishing new SDA Mobile Monitor Speaker Systems combine the awesome sonic benefits of his revolutionary SDA True Stereo technology with the superior sound of his Grand Prix award winning Mobile Monitor loudspeakers. Car Stereo Review, the definitive authority on the state-of-the-art in autosound, raved, "It's like jumping into hyperspace."

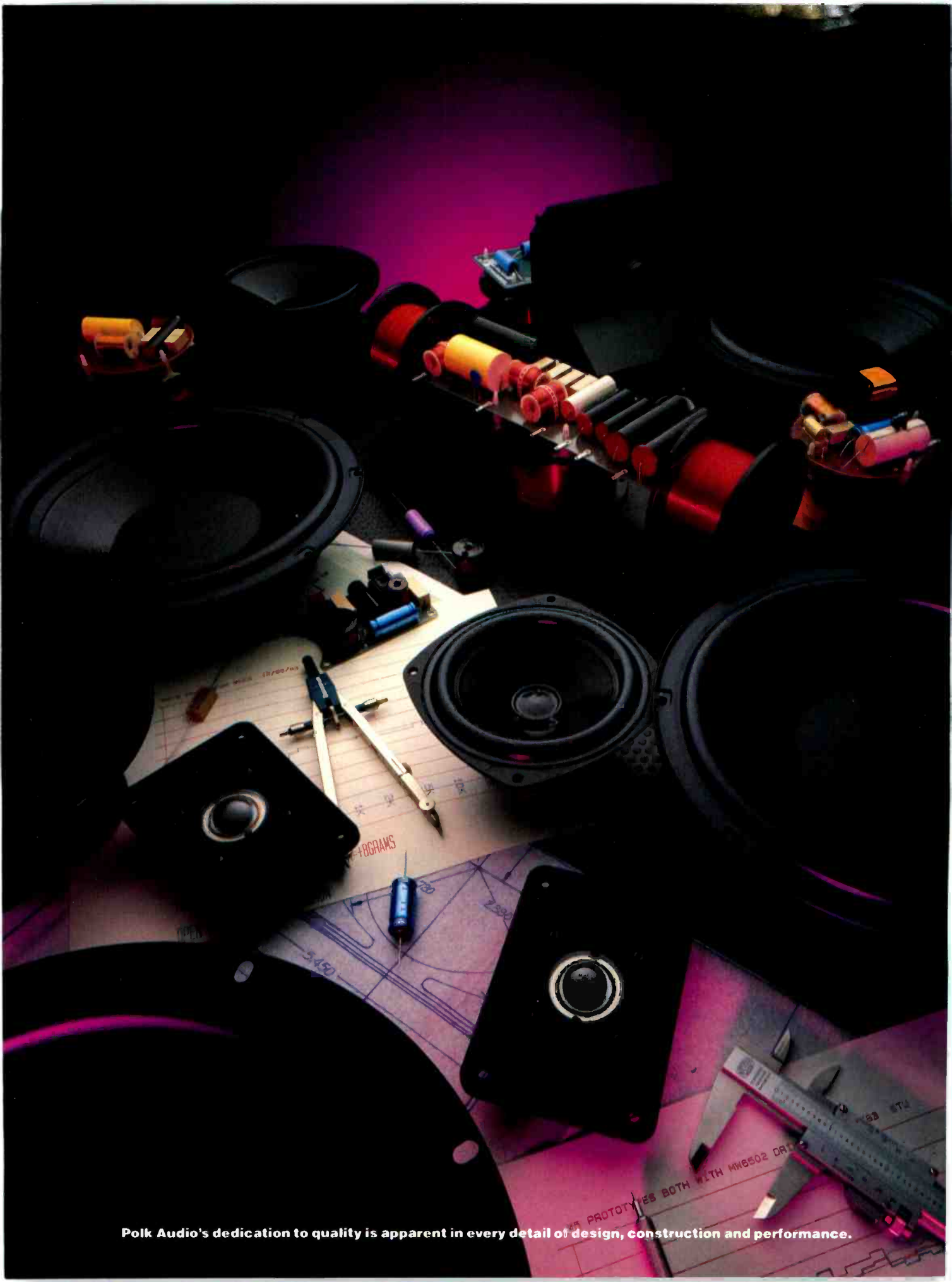


Complete systems (front and rear speakers plus an SDA Automotive Crossover Matrix) begin under \$500.





The world's finest automobiles deserve the world's finest sounding automotive loudspeakers.



Polk Audio's dedication to quality is apparent in every detail of design, construction and performance.



# "Polk Builds State-of-the-Art Components"

## Consistently Superior Technology Results in Dramatically Better Sounding Loudspeakers for You.

**M**atthew Polk's genius is multifaceted. In addition to breakthroughs like SDA technology which totally revolutionized the whole concept of stereophonic reproduction, it is also responsible for the advanced and exclusive component technology present in every Polk loudspeaker which results in unequalled high definition musical sound quality.

### *High Definition Reproduction*

Polk loudspeakers are true high definition systems which reproduce sonic images with life-like clarity and detail, much like a high resolution camera captures a visual image with all the subtle detail and focus intact. When you listen to a pair of Polks, notice how you can hear each and every individual instrument clearly and distinctly, even when there are many instruments playing at the same time. This high resolution capability is in large part due to the consistently excellent transient response of all the drivers as well as the seamless blending achieved by the Isophase Crossover systems.

### *Polk's Exclusive Trilaminare Polymer Driver Technology*

These superb drivers are specifically engineered to cover the entire fundamental musical range with life-like clarity and minimal coloration. Polk's exclusive trilaminare (3 layer) polymer cone technology is responsible for a purity and naturalness of reproduction unapproachable by conventional drivers which utilize paper, or simply vacuum formed plastic cones. Polk's unique trilaminare polymer cone is made of three complimentary materials, each of which has unique performance advantages all its own. One material is very light and structurally strong, one is very stiff with a high speed of sonic wave transmission, and one very effectively removes sonic colorations by efficiently damping the cone structure. The exceptional performance gained when all three are combined together could never be equalled by a simple one layer cone of any single material. Polk drivers utilize costly butyl rubber surrounds for more accurate cone movement and deeper, better bass



Tweeter voice coils are centered with exacting precision by a sophisticated machine designed and built by Polk Audio engineers.

response. Additionally, they don't deteriorate over time as do foam surrounds. They incorporate high-temperature aluminum voice coils which allow high power operation without burnout. Optimized Flux Density magnet structures are used for perfectly balanced operation assuring clearer, more highly defined, more musical sonic performance.

### *The Polk Isophase Crossover*

The crossover network is the most important component in a high quality loudspeaker system. It is responsible for properly blending the sound of the individual drivers together into the homogeneous sounds of individual instruments and voices. The crossover acts like the "musical conductor" of the loudspeaker, telling each driver just when to come in and exactly how loud to play. The elaborate Polk Isophase Crossover Systems utilize huge copper coils and precision capacitors and resistors to assure the lowest possible harmonic, IM, and transient distortion with complex high level musical signals. Close tolerance, extremely costly mylar and silver mica capacitors are used in many models to achieve even higher sonic definition. In addition, driver equalization is optimized by the sophisticated and complex circuitry, while isophase (phase coherent) operation is maintained by careful control of the various phase relationships in the system. Many loudspeaker manufacturers skimp on this critically important component because it is usually hidden from sight, but Polk builds crossovers correctly so that our speakers will sound better for you.

### *Polk's Exclusive Silver Coil Dome Tweeter Technology*

This state-of-the-art transducer is the only tweeter in the world which utilizes a voice coil wound with costly silver coated wire for more extended frequency response. The extremely light polyamide dome allows exceptionally quick transient response while the inherently well damped material eliminates annoying resonances. The small diameter diaphragm assures wide dispersion of high frequencies throughout your listening room. In addition, the huge magnet structure combined with the low mass moving system results in vanishingly low distortion, superb wave form accuracy and high efficiency. A specially contoured non-resonant faceplate improves dispersion, lowers diffraction and helps eliminate resonance distortion.

### *Polk Fluid Coupled Subwoofers*

Most Polk home speakers utilize a fluid-coupled subwoofer system for tight, quick, deep, powerful and room-filling bass response. This system realizes the performance advantages of both large and small diameter woofers at the same time. Small diameter woofers have faster transient response, better midrange and dispersion. Large diameter bass drivers couple better to your room and produce more bass. The Polk Fluid Coupled Subwoofer System excels in all these areas. It utilizes the low frequency energy produced within the enclosure by the small bass/midrange driver to hydraulically energize the large diameter low resonance subwoofer below approximately 60 Hz. The result is remarkably clear, well-defined low frequency reproduction, exhibiting exceptional upper bass detail which extends smoothly and seamlessly down through the sub-bass and cleanly up into the midrange

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5601 Metro Drive, Baltimore, Md. 21210



*near adequate bass, particularly in the lowest octave. Is the concrete killing my bass? If so, would putting some sort of wooden platform under the speakers help?*

BILL ADAMS  
Missoula, MT

**A** If anything, the concrete floor should give you *better* bass. Surfaces that vibrate, such as wooden platforms, absorb low-frequency energy, while rigid surfaces reflect it. My guess is that the walls and roof are at fault—garages are usually pretty flimsy structures, with surfaces designed to keep rain out, but not sound in. The only solution would be to add supports to make the walls more solid, but whether you'll need to do this depends largely on how much you want to recover that last octave.

Before you start buying lumber, however, you might experiment with alternative speaker locations. The regular shape of most garages could cause problems with room modes: selective cancellation of low-frequency material. Such acoustic effects are difficult to overcome entirely, but a substantial improvement can sometimes be achieved simply by moving the speakers to slightly different positions.

## Multiplex Filter

**Q** *Should the switchable multiplex filter on my cassette deck be activated when it is recording FM radio from cable, or just for broadcasts received over the air?*

DONN WARNER  
Pullman, WA

**A** Both, because your receiver or tuner doesn't know or care whether the source is a cable feed or a broadcast. Any stereo FM signal contains a pilot tone of 19,000 Hz that tells your tuner to switch to the stereo mode. All tuners contain circuitry to remove this tone from their output, but the filters used vary in their effectiveness. Normally this doesn't matter, because a residue of the pilot tone is unlikely to be audible to most of us, although there is a chance that it could cause intermodulation products with the upper frequencies of the audio.

The response of a cassette deck's electronics, however, normally extends well above 19,000 Hz, and the deck will be unable to distinguish between the pilot tone and a genuine audio signal. The result could be mistracking of the Dolby noise-reduction circuits, whose action is most pronounced with high-frequency, low-level material. For this reason, virtually all cassette decks provide a multiplex filter to remove any of the pilot

tone that has not been filtered out by the tuner.

## All-Digital Systems

**Q** *Why are there digital-to-analog converters? Wouldn't a completely digital audio system be better?*

WILLIAM D. NICHOLOFF  
Streator, IL

**A** Sound itself is analog: A musical instrument or voice vibrates, and that causes a series of compressions and rarefactions in the air surrounding it. In a live performance, these pressure differences travel through the air and cause the surfaces they hit to vibrate in sympathy. If one of these surfaces happens to be an eardrum, its owner will hear the music because the motion of the eardrum is an analog of the air-pressure variation—which is an analog of the original instrument's vibration.

Today's advanced audio systems provide the means to time-shift this process, or to extend its range by electronic means. Digital techniques are now often used in some of the links in the chain, and as technology improves more and more parts of our systems will be digital. But even if a totally digital system were to be developed, its *final* output would have to be analog sound waves.

## FM Range: A Correction

**Q** *In your March column, you said that "the higher the level an FM station can feed to its transmitter, the farther its signal will reach." That is true of AM but not of FM, where the amount of power in the transmitted wave is the same whether or not any modulation (program) is present. What a higher audio signal level will produce is a better signal-to-noise ratio, but the distance of propagation is unchanged.*

WILLIAM H. ANDERSON  
Easton, PA

**A** You are quite correct. What I was trying to convey was that the *effective* range of an FM signal—the maximum distance at which the signal is acceptably quiet—is extended by keeping the modulation level as high as possible. The actual distance an FM signal will travel is affected by things like the transmission antenna's height, the curvature of the earth, and so on, not by the audio signal level. Thanks for pointing out my oversimplification.

*If you have a question about hi-fi, send it to Q&A, Stereo Review, 1515 Broadway, New York, NY 10036. Sorry, only questions chosen for publication can be answered.*

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CIRCLE NO. 10 ON READER SERVICE CARD



### PIONEER KEX-M700 CASSETTE TUNER AND CDX-M100 CD CHANGER

by Julian Hirsch and Ken Pohlmann

**P**IONEER'S KEX-M700 cassette tuner can be joined with one or two external stereo power amplifiers and the CDX-M100 six-disc CD changer to form an exceptionally complete car stereo system. Although the front panel of the cassette tuner has fewer buttons than some other car stereo head units we have seen, and no knobs, many of the controls have multiple functions. A small wireless remote control simplifies some of the operations, especially for playing CD's.

The digital-synthesis tuner normally uses the standard tuning intervals of 10 kHz for AM and 0.2 MHz for FM, but these can be changed by front-panel control operations to 9 kHz and 0.05 MHz for use in countries having those channel intervals. Each of the six preset tuning buttons can be assigned to three different FM stations and one AM station, giving the tuner a preset capacity of up to twenty-four stations (eighteen FM and six AM). A Best Station Memory feature can automatically scan a radio band and

store in the preset memories the frequencies of stations stronger than a selected (adjustable) threshold.

Most of the audio functions are controlled with two buttons, positioned on either side of a third button that switches their operating characteristics. These functions include volume, balance, and front/rear fading, all adjustable in discrete steps. The display window shows the current status of all control settings and their functions. Smaller buttons adjust the bass and treble tone controls and select loudness compensation, manual or seek tuning modes, and time display.

Three other control buttons perform diverse functions depending on the operating modes of the head unit. In tuner mode, they operate the Best Station Memory feature, switch between stereo and mono, and select the threshold level for seek tuning. When a cassette is playing, they select the repeat function, Dolby B or Dolby C noise reduction, and blank skip.

The tape reverses automatically at the end of each side, and the play-

back equalization is set automatically for the type of tape. A small eject button is located above the FUNC(tion) button, which turns the system on and off and selects the program source, toggling from CD to cassette to tuner.

The KEX-M700 has a theft-deterrent secret-code feature that prevents it from operating after it has been removed from the car unless a four-digit code (user's choice) is entered. Three successive entries of the wrong code will cause the radio to lock up and accept no more inputs for 3 hours. Each time a series of three incorrect codes is entered, another 3-hour lock-up occurs. In normal operation, however, as long as the unit remains connected to the car battery, there is no need to enter any code numbers.

The remote control is small, about 2 x 3 inches, and Pioneer supplies Velcro strips for fastening it to a convenient surface in the car. It duplicates some of the major front-panel controls, including the function button, the volume buttons, and the track-skip and tuner preset controls. It also has an attenuator button that instantly mutes the audio output.

The CDX-M100 CD changer accommodates six-disc magazines similar to those used in Pioneer's home CD changers. When a CD is playing, the KEX-M700's display window shows the number of the current disc and track. The system can be programmed to play up to thirty-two tracks from any of the six discs in any order. The CDX-M100 has no controls other than the eject button for removing a disc magazine, and it connects to the head unit by a long, multiwire cable. Normally installed in the trunk, the changer's case is securely fastened to the car body; its playing mechanism is suspended on soft springs inside. Prices: KEX-M700, \$650; CDX-M100, \$650. Pioneer Electronics, Dept SR, 2265 E. 220th St., Long Beach, CA 90810.

#### Lab Tests

The FM tuner of the KEX-M700 matched its 50-dB-quieting-sensitivity rating of 17 dbf in mono (in stereo it was 40 dbf) but fell a little short of its 12-dBf usable-sensitivity

# CAR STEREO

rating, for which it measured 14.5 dbf. Although our distortion readings of 0.46 percent in mono and 1.7 percent in stereo are higher than those of typical home equipment, they are very similar to what we have measured from most other car stereo tuners. In contrast to the superb frequency-response flatness of the FM tuner, the AM tuner's response was very restricted.

Most other performance measurements were good or better; only the

image rejection of 49 dB and the capture ratio of 4.3 dB fell short of our expectations (they are not among the specifications listed in the instruction manual). The alternate-channel selectivity measurement was almost too good, far better than the tuner's rating of 70 dB, suggesting that its automatic-gain-control system was reacting to the high-level interfering signals we were injecting from our signal generator.

The rated line output of the KEX-M700 is 0.5 volt, sufficient to drive almost any external power amplifier to its rated output. A 100-percent-modulated FM signal produced 1.2 volts at the line outputs, but a cassette tape recorded with a 0-dB (250-nwb/m) signal produced only 0.27 volt. A 0-dB test signal from a CD provided an output of 0.53 volt.

The tape deck's frequency response, playing our standard BASF test tapes, was within  $\pm 4$  dB over the range from 31.5 to 18,000 Hz. The output dropped slightly below 60 Hz, was flat within  $\pm 1$  dB from 100 to 4,000 Hz, and rose to  $+4$  dB in the 10,000- to 12,000-Hz range. The response from normal and chrome/metal test tapes was nearly identical, and there was little difference between the forward and reverse frequency-response curves.

The other tape-deck measurements, mostly good, were typical of car stereo decks. The crosstalk at 1,000 Hz was an excellent  $-76$  dB (one of the best figures we have obtained), but the fast-forward and rewind times were slower than average, requiring 146 seconds for a C-60 tape.

The CDX-M100 CD player had a frequency-response variation of only  $\pm 0.3$  dB from 20 to 20,000 Hz with the channel levels matched within 0.1 dB. The channel separation, though not equal to that of home CD players, was a perfectly adequate 80 dB at 1,000 Hz and 60 dB at 20,000 Hz. Similarly, the noise level of  $-84.5$  dB and the 0-dB distortion of 0.01 percent were far lower than would ever be audible in a car (or a home, for that matter), even if the figures do not quite match those of most home CD players.

A prime requirement for a car CD player is immunity to physical shock and vibration, and the CDX-M100 did very well in that respect. The hardest palm or fist blows to any part of its exterior had no effect on the playback. In order to produce a momentary dropout, we had to tilt it up at about 45 degrees to the table surface and drop it; even that produced only a momentary "hole" in the sound rather than a shutdown. Any vehicle that delivered this sort of treatment to a CD

## FEATURES

- Digital-synthesis AM/FM tuner
- Tuning intervals adjustable for local requirements
- Presets for up to twenty-four stations (eighteen FM and six AM)
- Best Station Memory for automatic scan and storage of strongest frequencies in preset memories
- Auto-scan or manual tuning
- Built-in clock
- Fader control for two- or four-speaker installations
- Autoreverse cassette deck
- Motorized loading and soft eject of cassette
- Automatic EQ selection for normal or chrome/metal tape
- Dolby B and Dolby C noise reduction
- Tape music-search, repeat, and blank-skip functions
- Theft-deterrent secret-code system
- Multifunction control buttons and LCD display of complete operating status and control settings
- CD changer with six-disc magazines programmable for up to thirty-two tracks in any order
- Selectable random-play function for current disc
- Wireless remote control of main operating functions

## LABORATORY MEASUREMENTS

- Tuner Section** (all measurements FM only except frequency response)
  - Use sensitivity** (mono): 14.5 dbf
  - 50-dB quieting sensitivity:** mono, 17 dbf; stereo, 40 dbf
  - Stereo threshold:** 30.5 dbf
  - Distortion** (THD + noise): mono, 0.46%; stereo, 1.7%
  - Channel separation:** (1,000 Hz): 41.5 dB
  - AM rejection:** 65 dB
  - Capture ratio:** 4.3 dB
  - Selectivity:** adjacent-channel, 22 dB; alternate-channel, 110 dB
  - Image rejection:** 49 dB
  - Frequency response:** FM, 30 to 15,000 Hz  $\pm 0.5$  dB; AM, 100 to 2,900 Hz  $+0$ ,  $-6$  dB (referred to 1,000 Hz)
  - Tone-control range:** 100 Hz,  $\pm 10$  dB; 10,000 Hz,  $\pm 10.5$  dB
  - Maximum voltage output:** 1.2 volts from 100% modulated FM signal, 0.27 volt from cassette tape at 250 nwb/m, 0.53 volt from 0-dB CD signal
- Tape Section**
  - Frequency response** (same for both EQ settings): 31.5 to 18,000 Hz  $\pm 4$  dB
  - Noise** (A-weighted, referred to 250 nwb/m): no NR,  $-53$  dB; Dolby B,  $-61.7$  dB; Dolby C,  $-69$  dB
  - Flutter:** 0.09% IIS-weighted rms;  $\pm 0.13\%$  CCIR-weighted peak
  - Speed error:**  $+0.6\%$
  - Crosstalk** (at 1,000 Hz):  $-76$  dB
  - Fast-forward/rewind time** (C-60): 146 seconds
- CD Changer**
  - Frequency response:** 20 to 20,000 Hz  $\pm 0.3$  dB
  - Channel separation:** 80 dB at 1,000 Hz, 60 dB at 20,000 Hz
  - Noise** (A-weighted, referred to 0-dB level):  $-84.5$  dB
  - Total harmonic distortion** at 1,000 Hz: 0.01% referred to 0-dB level; 0.02% referred to  $-20$ -dB level
  - Defect tracking:** tracked information-layer defects on Philips TS5A test disc at 700-micrometer level; tracked maximum-size (800-micrometer) black dot on outer surface
  - Impact resistance:** A+
  - Disc-change time:** 8 seconds

# The Boston Acoustics

## 1988 Installation of the Month Contest

**Selections from last year's winners:** These photos show how easily and how well Boston speakers can be installed in a variety of vehicles. Send us several photos like these, including an over-all exterior view of your car, so we can select the four best to show here.



This unusual installation features three-way 763 component systems in front, with 6 1/2" subwoofers installed in doors, Varimount™ tweeters surface-mounted on doors, and 4" midranges in dash. 767 6 1/2" two-way uniaxial systems in rear doors.



Boston 761 two-way component system in each door includes a 6 1/2" woofer and angled Varimount tweeter.



Boston 751 two-way component system with 5 1/4" woofer in rear door; Varimount tweeter flush-mounted in rear pillar.



Custom woofer enclosure integrated into spare tire well provides clean, tight, deep bass from two concealed 780LF subwoofers.



(Left) 741 system in rear of pickup cab includes 4" woofer and Varimount tweeter, the latter concealed under headliner. (Right)

## The challenge is on! If you are proud of your Boston Acoustics car system, you could be a winner.

No matter how good an audio system is, whether in the home or car, it can sound only as good as the speakers. As the designer and manufacturer of some of the best selling home loudspeakers in history, our goals have always been superb accuracy, realism and imaging. We also build these sonic virtues into our automotive speakers, and make them tough enough for the road. These speakers look great and sound even better—and can improve the sound of any system.

In last year's contest, we saw outstanding systems with Boston speakers in a wide variety of vehicles: 4x4s, luxury sedans, compacts, exotic imports, vans, and even boats. This enthusiastic response encouraged us to do it again.

**The prizes.** Each month from July through December, we will announce the winning Installation of the Month in *Stereo Review*. And each month's winner will receive a pair of our T830 tower design home loudspeakers. (\$500 suggested retail value.)

What's more, the first 500 qualified entrants will also win a full year's free subscription to *Car Stereo Review*. (Newsstand value, \$23.70.)

**Good photos required.** If you're proud of your Boston Acoustics car system, let's see it in photos showing installation details, like those shown at left. Black & white is preferred, though color is acceptable. Either way, we'll need the negatives as well as the prints. Please, no Polaroids or slides.

**The fine print.** Every contest must have its rules and requirements. We've kept ours simple:

- (1) All speakers must be Boston Acoustics, of course.
- (2) Send your photos and negatives plus the following information to Installation Contest at the address below: Your name, address and telephone number • Year, make and model of your vehicle • Dealer name and address • Salesperson and installer • Brands and models of all components in your system.
- (3) All decisions will be made by Boston Acoustics and will be final.
- (4) All material submitted becomes the property of Boston Acoustics.
- (5) This contest is open to all residents of the U.S.A. and Canada, except employees of Boston Acoustics, Diamandis Communications, Inc., and their families.
- (6) This contest is void where prohibited by law.

Formal entry blanks aren't required, but for your convenience are available at your Boston Acoustics car dealer, or from us. Good luck!



"...its heritage is unmistakably evident in its superb sound, practical size and proportions." Julian Hirsch, *Stereo Review*

### Boston Acoustics

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## CAR STEREO

player would probably be equally hazardous to passengers!

The disc-changing cycle of 8 seconds and the track-access time of 5 seconds were reasonable. On the other hand, this was one of the very few CD players we have tested in recent years that could not track all the calibrated defects on the Philips TS5A test disc. The two highest levels (800 and 900 micrometers) of the information-layer defect test section produced considerable mistracking, although the 700-micrometer level was tracked without mishap.

Measurements aside, the Pioneer KEX-M700 and CDX-M100 impressed us as exceptionally well-designed and integrated components. Rarely have we seen such ingenious use of a relatively small number of pushbuttons for so many different control functions. From a human-engineering standpoint, however, the designers of the KEX-M700 may have reached the practical limits of multifunction controls. Clearly this head unit, like many others today, includes controls that are not meant to be operated by the driver of a moving vehicle, but the simple, main-functions-only remote control Pioneer supplies with the system appears to be a good step toward safety on the road. *J.H.*

### Road Tests

It was with some anticipation that I agreed to take the Pioneer KEX-M700 head unit and CDX-M100 CD changer on the road. In terms of disc longevity I am still slightly uncomfortable about handling naked CD's in the car (I prefer players using the cartridge-loading system), and I have still not found a good way to store CD's, unpack them, and load them while driving. Thus, I am a proponent of remote-controlled CD changers for cars.

Installation of the KEX-M700/CDX-M100 proceeded smoothly. The head unit can be dash-mounted to DIN specifications either from the front or rear. I had no problems inserting the metal holder and slipping the unit in. (Tip: Remember to attach the stoppers on each side first.) Removing it presents no problem, either; a pair of accessory levers do the trick. Wiring was easy:

Although not the most reliable connectors, the gold-plated RCA-type plugs on the front- and rear-channel preamp outputs make life simple.

Most users will mount the CD changer in the rear trunk, but the design of my Porsche 911 necessitated a front-compartment installation using the space just ahead of the firewall. The changer's front-loading drawer worked well in this position, and I was glad to see that the unit can be firmly secured without the need for drilling. Self-sticking cushions attach a base to the mounting surface, a mounting bracket screws to the base, and the player's case is screwed to the bracket. If you prefer, you can use self-tapping screws or hex bolts to mount the bracket directly.

A 20-foot cable was provided for connecting the two components, and it was plenty long for this application. Power and ground connections are handled separately. The CD player has five transport screws that must be removed prior to installation; seals are supplied to cover the holes to keep out dirt.

With both units firmly installed, the antenna wire plugged in, and some cassettes and a magazine full of discs in hand, I was ready to hit the road, confident that I could handle any audio contingency.

Although I am generally not a fan of infrared remote controllers for car systems, I found the one supplied with the KEX-M700 to be accommodating and useful. An interesting feature is that programs for Pioneer's home CD changers can be transferred to the car's player. I dug up a Pioneer remote control equipped with a transfer function (from a PD-M70 home changer) and wrote a program into the car system. I don't think this is a terribly useful feature, but it's a nice touch.

I also played with the secret-code function. As advertised, three wrong code inputs after a power interruption causes the unit to roll over and take a 3-hour nap. I am not certain that the code feature is a successful deterrent. The "Secret Code" legend on the KEX-M700's faceplate is pretty subtle—not obvious enough, in my opinion, to prevent a thief from stealing the

unit or to keep a fence from buying a stolen one.

The tuner proved to be a strong performer in both downtown and rural settings. The FM sensitivity was satisfactory, as was the automatic switching from stereo to mono at low signal strengths. Personally, I might have preferred a slightly quicker switch to mono to avoid degraded stereo reception. The AM tuner performed well. Preset scan and seek were reliable. The Best Station Memory feature was particularly clever at locating and assigning strong stations to the presets. The cassette deck also performed well. The music-search feature was good at finding selections, and the repeat function was reliable too. The blank-skip function was particularly welcome.

Of course, the CD changer is the star of this package, and with good reason. The sonics are in a class with those of a home system, and the convenience of a changer is great. Frankly, I think most users will find themselves listening to a lot more discs than tapes. The radio still beats CD's for traffic reports, however.

The player was quick to change discs and never mistracked during my road test. In short, it was virtually transparent in its job of providing a traveling library of CD's. Unquestionably, having multiple discs available on the road is a real treat for either long or short hauls. If you also have a Pioneer multidisc player at home, the opportunity to load and audition magazines in the comfort of your home takes any possible hassle out of the task. Well, there is one hassle—although the JD-M100 magazine used in the car changer can also be used in home changers, the reverse is unfortunately not the case.

But that's about the only thing I can find to complain about. In other words, this Pioneer duo is a very nice package. The head unit is a good performer, and if you've got a little spare trunk space, the changer completes the package. Short on cash? Buy the head unit now and save up for the changer. Just don't take too long—you'll be missing the best part. *K.P.*

Circle 139 on reader service card



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*Stereo Review (February 1988)*

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*High Fidelity (April 1988)*

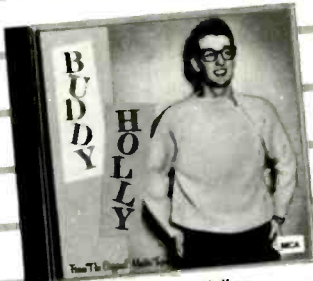
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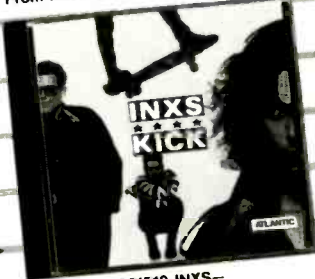
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348110. Buddy Holly—  
From The Original Master Tapes. (MCA)



361519. INXS—  
Kick. (Atlantic)



365494. George Harrison—  
Cloud Nine. (Dark Horse)



361402. Tiffany.  
(MCA)



364695. Wynton Marsalis—  
Baroque Music For Trumpets.  
(CBS Masterworks)



362079. Michael Jackson—  
Bad. (Epic)

# From Buddy to The Boss

366443. Good Morning Vietnam. —original motion picture soundtrack. (A&M)

346957. Steve Winwood —Back In The High Life. (Island)

360016. Spyro Gyra—Stories Without Words. (A&M)

339903. The Cars—Greatest Hits. (Elektra)

342097. Barbra Streisand—The Broadway Album. (Columbia)

336396-396390. Billy Joel's Greatest Hits, Vol. 1 & 2. (Columbia)

343715. Vivaldi: Four Seasons—Maazel cond. (Digital)—CBS Masterworks)

344184. Copland: Billy The Kid/Rodeo Ballets—Skafkin, St. Louis Sym. (Digital)—Angel

344622. Anita Baker—Rapture. (Elektra)

345199. Beethoven: Overtures—Bavarian Radio Orch., C. Davis. (Digital)—CBS Masterworks)

345827. Bob James and David Sanborn—Double Vision. (Warner Bros.)

346544. Kenny G—Duotones. (Arista)

347492. Glenn Miller Orchestra—In The Digital Mood. (Digital)—GRP

354449. U2—The Joshua Tree. (Island)

347567. Gershwin's Song Book & Other Music For Piano Solo—Leonard Pennano. (Angel)

347955. Huey Lewis & The News—Fare! (Chrysalis)

348318. The Police—Every Breath You Take—The Singles. (A&M)

348458. Dvorak: Cello Concerto—Yo-Ya Ma; Maazel, Berlin Philhar. (Digital)—CBS Masterworks)

348649. Pachelbel Canon & Other Digital Delights—Davis, Toronto Chamber Orch. (Digital)—Fantare)

348987-398982. Linda Ronstadt—'Round Midnight. (Asylum)

349134-399139. Beethoven: Sonatas Piano & Violin, Vol. 2—Stem, Istomin. (Digital)—CBS Masterworks)

349985. Johnny Mathis/Henry Mancini—The Hollywood Musicals. (Columbia)

350587. Kathleen Battle Sings Mozart. (Angel)

351601. Mozart: Requiem—Malgone, Grand Ecuine. (Digital)—CBS Masterworks)

352534. Holst: Planets—A. Davis, Toronto Symp. (Digital)—Angel

352633. Dolly Parton/Linda Ronstadt/Emmylou Harris—Trio. (Warner Bros.)

353771. Bolling/Rampol: Suite #2 for Flute & Jazz Piano Trio. (Digital)—CBS)

354902. Fleetwood Mac —Tango In The Night. (Warner Bros.)

360974. Squeeze—Baby! On On. (A&M)

354472. Exposé—Exposure. (Arista)

354514. Jody Watley. (MCA)

354951. Mozart: Flute Quartets—Rampol, Stem, Accardo, Rostropovich. (Digital)—CBS Masterworks)

354985. Billie Holiday—From The Original Decca Masters. (Digitally Remastered)—MCA)

355362. Whitesnake. (Geffen)

355115-395111. Prince—Sign 'O' The Times. (Paisley Park)

355164. Vladimir Horowitz Plays Favorite Encores. (CBS Masterworks)

355172. Ravel: Rapsodie/Valses/Pavane/Alborada/ etc. Previn, Royal Phil. (Digital)—Angel

355578. Hanson: Symphony No. 2 ("Romantic"), Barber; Violin Concerto. Oliveira, Skafkin, St. Louis Sym. (Digital)—Angel

356667. Heart—Bad Animals. (Capitol)

357087. Grateful Dead—In The Dork. (Arista)

356279. Gloria Estefan And Miami Sound Machine—Let It Loose. (Epic)

356287. Suzanne Vega—Solitude Standing. (A&M)

356329. Randy Travis—Always & Forever. (Warner Bros.)

356501. Benson/Klugh—Collaboration. (Warner Bros.)

357079. Michael Brecker. (Digital)—MCA/Impulse)

359075. Aerosmith—Permanent Vacation. (Geffen)

360107. Billy Idol—Vital Idol. (Chrysalis)

357350. Duke Ellington Orchestra—Digital Duke. (Digital)—GRP)

357368. Hiroshima—Go. (Epic)

357640. Wynton Marsalis—Standard Time. (Columbia)

357657. Beethoven: Piano Concerto No. 5—Murray Perahia. (Digital)—CBS Masterworks)

357871. Tchaikovsky: Waltzes—S. Commission and Houston Symphony. (Digital)—Pro Arte)

357889. Copland: Billy The Kid; Appalachian Spring; etc.—Bernstein, NY Phil. (Digitally Remastered)—CBS Masterworks)

358127. Kronos Quartet—White Man Sleeps. Volans; Ives; Bartok; etc. (Digital)—Nonesuch)

358663. The Art of Alfred Brendel Volume 1—"Virtuoso Pieces." (Nanguard)

358929. Elton John Live In Australia. (MCA)

358937. Handel: Royal Fireworks Music—Menuhin, Royal Phil. (Digital)—MCA Classics/RPO)

359018. Pat Metheny Group—Still Life (Talking). (Geffen)

359695. Sarah Vaughn—Brazilian Romance with Milton Nascimento. (CBMA)

359711. Brahms: Piano Quartet, Op. 25—Murray Perahia, Members Of The Amadeus Quartet. (Digital)—CBS Masterworks)

359927. Debbie Gibson—Out of the Blue. (Atlantic)

## Classics of the 50's, 60's & 70's

138586. Bob Dylan's Greatest Hits. (Columbia)

219477. Simon & Garfunkel's Greatest Hits. (Columbia)

231670. Janis Joplin's Greatest Hits. (Columbia)

244459. Santana's Greatest Hits. (Columbia)

260638. Chicago's Greatest Hits. (Columbia)

269365. The Band—The Best Of The Band. (Capitol)

286914. Fleetwood Mac —Rumours. (Warner Bros.)

287003. Eagles Greatest Hits 1971-1975. (Asylum)

291278. The Doobie Brothers—Best of the Doobies. (Warner Bros.)

291526. Emerson, Lake & Palmer—Brain Salad Surgery. (Atlantic)

292243. Jackson Browne —The Pretender. (Asylum)

293597. Led Zeppelin—Houses Of The Holy. (Atlantic)

308049. Creedence Clearwater Revival Featuring John Fogerty/—Chronicle: 20 greatest hits! (Fantasy)

319996-399998. Motown's 25 # 1 Hits From 25 Years. (Motown)

341073. A Decade of Steely Dan. (MCA)

342501. The Byrds Greatest Hits. (Columbia)

343657. Chuck Berry—The Great Twenty-Eight. (Chess)

345157. Jethro Tull—Aqualung. (Chrysalis)

346445. Beach Boys—Made In U.S.A. (Capitol)

350645. Rolling Stones—Sticky Fingers. (Rolling Stones)

351957. Yes—Fragile. (Atlantic)

353102. Jimi Hendrix—Are You Experienced? (Reprise)

357616-397612. The Best Of The Doors. (Digitally Remastered)—Elektra)

358887. Grateful Dead —Workingman's Dead. (Warner Bros.)

364430. Cat Stevens—Classics Volume 24. (A&M)

364935. Traffic—John Barleycorn Must Die. (Island)

365361. The Who's Greatest Hits. (MCA)

367102. Joni Mitchell—Court and Spark. (Asylum)

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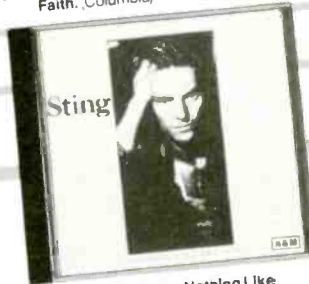
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362228. George Michael—Faith. (Columbia)



360115. Bruce Springsteen—Tunnel Of Love. (Columbia)



361675. Sting... Nothing Like The Sun. (A&M)



365130. David Lee Roth—Skyscraper. (Warner Bros.)



363648. The Manhattan Transfer—Brasil. (Atlantic)



366716. Robert Plant—Now And Zen. (Es Paranza)



356154. Whitney Houston—Whitney. (Arista)

- 366435. Tom Scott—Streamlines. (Digital—GRP)
- 361139. R.E.M.—Document. (I.R.S.)
- 361022. Tchaikovsky: Symphony No. 6—Claudio Abbado, Chicago Symph. Orch. (Digital—CBS Masterworks)
- 361048. Diane Schuur and the Count Basie Orchestra. (Digital—GRP)

- 361170. Yes—Big Generator. (Atco)
- 361147. Rodgers and Hammerstein's Carousel. Barbara Cook; Samuel Ramey. (Digital—MCA Classics)
- 361279. World's Greatest Overtures—Strauss, Suppe, more. (Digital—Pro-Arte)
- 361600. 10,000 Maniacs—In My Tribe (Elektra)

- 361972. Billy Joel—Kahuept (In Concert). (Columbia)
- 361618. Introducing The Hardline According To Terence Trent D'Arby. (Columbia)
- 362129. Belinda Carlisle—Heaven On Earth. (MCA)
- 362152. Robbie Robertson. (Geffen)
- 362236. Tony Bennett—Bennett/Berlin. (Columbia)

- 362525. Steve Winwood—Chronicles. (Island)
- 362251. Ahmad Jamal—Crystal (Atlantic Jazz)
- 362277. Neil Diamond—Hot August Night II. (Columbia)
- 362293. Andres Segovia, —The Segovia Collection (Vol. 1) Bach. (Digitally Remastered—MCA Classics)
- 362343. Stevie Wonder—Characters. (Motown)
- 362541. Pretenders—The Singles. (Sire)

- 364018. Foreigner—Inside Information. (Atlantic)
- 362640. Linda Ronstadt—Canciones De Mi Padre. (Asylum)
- 362657. Madonna—You Can Dance. (Sire)
- 362665. Cher—Cher. (Geffen)
- 363051. Brahms: Piano Concerto No. 2; etc.—R. Serkin, Szell, Cleveland Orch. (Digitally Remastered—CBS Masterworks)
- 363655. Barry Manilow—Swing Street. (Arista)
- 363739. Branford Marsalis—Renaissance. (Columbia)
- 363994. Lee Ritenour—Portrait. (GRP)
- 364257. Arthur Fiedler & The Boston Pops—Capriccio Italian; Capriccio Espagnol. (Digital—Orinda)
- 364885. Neville Martinener—The Sound Of The Academy. (Digital—Angel)

- 365189. James Taylor—Never Die Young (Columbia)
- 365247-395244. Verdi: Requiem—Muti, Phila. Or. (Digital—Angel)
- 365254-395251. Vladimir Feltsman's American "Live" Debut. Recorded live at Carnegie Hall. (Digital—CBS Masterworks)
- 365379. Miles Davis—Milestones (Digitally Remastered—Cl Jazz Mast.)
- 365502. George Thorogood and the Destroyers Born to be Bad. (EMI—Manhattan)
- 365619. Beethoven: Symphony No. 9 (Choral) Norrington; London Classical Players. (Digital—Angel)
- 365825. Billy Ocean—Tear Down These Walls. (Live/Arista)
- 366161. AC/DC—Blow Up Your Video. (Atlantic)
- 366393. Ricky Skaggs—Comin' Home to Stay. (Epic)

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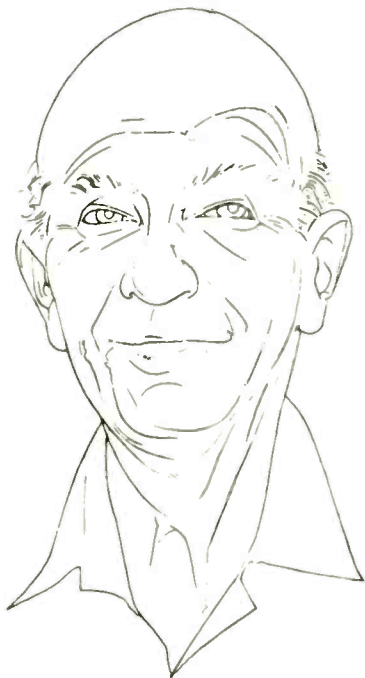
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## Amplifier Specs: Damping and Slew Factors

**A**MPLIFIER ratings are probably discussed more widely than the ratings of other components, although they have much less to do with the sound of a music system than most people realize. One well-known but little-understood amplifier rating that we do *not* check for our test reports in STEREO REVIEW is the *damping factor*. This figure is the ratio of an amplifier's rated load impedance (usually 8 ohms) to its internal impedance. If the amplifier appears to an 8-ohm load as a voltage source in series with a resistance of 0.1 ohm, it is said to have a damping factor of 80. Since the internal impedance of the amplifier and the speaker's impedance both vary with frequency, however, the true damping factor is an indeterminate quantity.

The amplifier test standard of the Electronic Industries Association (EIA) simplifies this situation somewhat by defining the low-frequency damping factor as the value measured at 50 Hz referred to an 8-ohm impedance. What does this mean to

the listener? Very little, which is one reason we do not bother with this measurement. Those who do use it often rationalize that a speaker's voice-coil motion, especially in a woofer, is damped, or controlled, by the driving-source impedance. Ideally, a high damping factor will prevent a woofer's voice coil from "ringing," or oscillating back and forth for a few cycles after the input signal ceases. An absence of ringing translates into a "tighter"-sounding bass, which is considered preferable to a "loose" or floppy-sounding bass.

Unfortunately for this line of reasoning, the source impedance "seen" by a speaker involves not only the amplifier's internal impedance but also that of the connecting cables and the wiring within the speaker, including its voice coil as well as any series-connected crossover inductor. The internal circuit resistance (the component of impedance that helps to damp voice-coil motion) of a typical 8-ohm speaker system is likely to be in the range of 4 to 6 ohms. The *effective* damping factor will thus be less than 2, instead of the 80, or 800, claimed for the amplifier. There are few system specifications less important than this one.

Another amplifier specification is *slew factor*, which is a substitute for measuring slew-induced distortion, sometimes called transient intermodulation distortion, or TIM. Although some audio reviewers have made much of the supposed deleterious effects of TIM and related distortions on the reproduced sound, I

have not seen—or heard—a shred of evidence that such effects are audible in any amplifier meeting even minimal hi-fi standards that is used in a home music system to play recorded or broadcast music.

The rationale for the significance of TIM usually assumes that the amplifier uses overall negative feedback (which almost all do) and that its amplifying stages introduce a slight time delay into the signal path (also true). The time delay is closely related to the amplifier's phase shift and high-frequency response characteristics. Under steady-state conditions, the negative-feedback signal from the output to the input of the amplifier opposes the input signal, leaving only the small difference between them to be amplified. Nonlinearity in the amplifier, which would cause waveform distortion, is partially canceled by the feedback process, resulting in an amplifier with reduced distortion and other benefits (such as flatter frequency response).

Now suppose that a high-frequency impulse signal enters the amplifier. It attempts to drive the subsequent amplifying stages from a low output voltage to a much higher voltage in a very short time interval, which is referred to as the amplifier's *slew rate*. In the absence of internal time delays, the feedback would control the way the amplifier deals with this signal, just as with a steady-state signal. Since we *do* have a time delay, however, the feedback signal impulse returns to the input too late to reduce the effective input signal as it was meant to. The result is overdriving (clipping) of one or more stages in the amplifier and consequent distortion (TIM).

There are three fundamental ways to reduce or prevent this distortion effect. One is to use high-frequency transistors that can respond faster than the fastest transient they will ever have to pass. In other words, eliminate the internal time delay by extending the high-frequency response beyond the audio range. The second is to use little or no overall negative feedback so as to minimize the effect of any time delay. The third is simply to prevent ultrasonic frequencies from entering the main

### Tested This Month

NAD Model 1700  
Preamplifier / Tuner  
Dahlquist DQ-20 Speaker  
Luxman KD-117 Digital  
Audio Tape Recorder  
Proton D1150 Power  
Amplifier  
Revox B226 Signature  
Compact Disc Player

feedback loop of the amplifier by rolling off the frequency response above the audio range at the input to the amplifier (or ahead of it). Any combination of the three techniques can be used.

The first two approaches are most often found in "high-end" amplifiers, since wideband power semiconductors tend to be expensive and sophisticated circuit designs may be needed to obtain low distortion without using heavy feedback. In popular-price amplifiers and receivers, the third technique is usually employed. By decreasing the amplifier's response at frequencies above the audible range (above, say, 30,000 or 40,000 Hz) in a manner consistent with the capabilities of its output transistors, the designer can insure that the amplifier can never produce TIM under practical use conditions.

Several methods have been proposed for measuring TIM, all of them requiring some special combination of test frequencies and waveforms. All of them *can* reveal numerical differences between amplifiers, no matter how good they may be (and apparently without much relation to how they actually sound, but that is another story). The slew-factor measurement lumps all slew-related effects into a single, simple test. The amplifier is first driven at

its rated maximum power output by a 1,000-Hz sine-wave signal. With a constant input level, the test frequency is then increased while the distortion of the amplifier's output waveform is monitored. When the total distortion reaches 1 percent, the frequency is noted (in kilohertz). This figure is divided by 20 to obtain the slew factor.

In practice, it is not really necessary (nor is it practical, in many cases) to actually *measure* the distortion. By observing the output waveform on an oscilloscope as the frequency is increased, it is easy to establish the point at which a clean sine wave changes shape visibly, indicating the onset of distortion. In most amplifiers and receivers, the frequency response is limited in an early amplifier stage, so that the output decreases above the audio frequency range. The output waveform remains sinusoidal as its amplitude falls to insignificant levels. We limit our measurement range to the 500-kHz upper limit of one of our signal generators, and as a result most of our slew-factor measurements are described as "greater than 25" (the ratio of 500 to 20).

Occasionally the output waveform will become visibly nonsinusoidal, usually at frequencies in the 50- to 100-kHz range. In this case the amplifier's slew factor could be

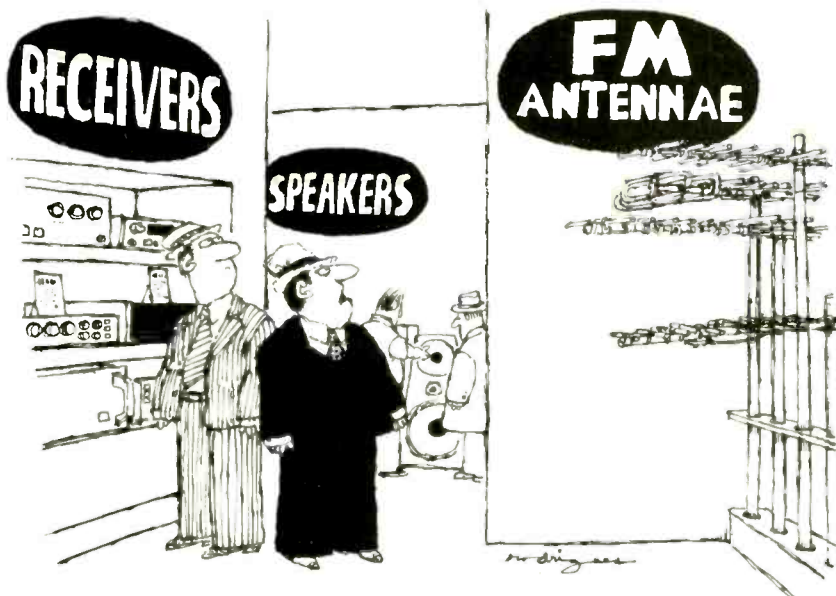
as low as 3 to 6. Does that mean it is inferior to an amplifier with a slew factor of 25 or more? Not necessarily. Instrumental or vocal music (as distinguished from synthesizer music) recorded on LP or cassette tape has very little energy at frequencies of 20,000 Hz or higher. It is exceedingly rare for peak levels in the high-

*There is no way that commercially recorded material can cause slewing-distortion problems in any amplifier whose rated power is available over the full audio band of 20 to 20,000 Hz.*

est audible octave to approach those at lower frequencies, and rarer still for the program to contain significant energy at ultrasonic frequencies. And in the case of a compact disc, there is absolutely *nothing* in the program above 22,000 Hz.

There is no way that commercially recorded program material can cause slewing-distortion problems in any amplifier whose rated power is available over the full audio band of 20 to 20,000 Hz. In other words, a slew factor of 1 is sufficient to prevent these distortions in the real world. Anything beyond that can be considered as a margin of safety, but not necessarily as an indication of superior performance.

I find it amusing that some arguments for the significance of slew-induced distortions are based on the use of high-end moving-coil phono cartridges, whose inherent frequency response may extend far above the audio range, playing records that have considerable ultrasonic noise content through amplifiers employing large amounts of negative feedback and active devices with poor high-frequency capabilities. In other words, by stacking the deck appropriately, the audibility of these effects presumably can be demonstrated. But using a different cartridge, and any of a few dozen lower-price amplifiers, would have avoided the "problem" in the first place. □



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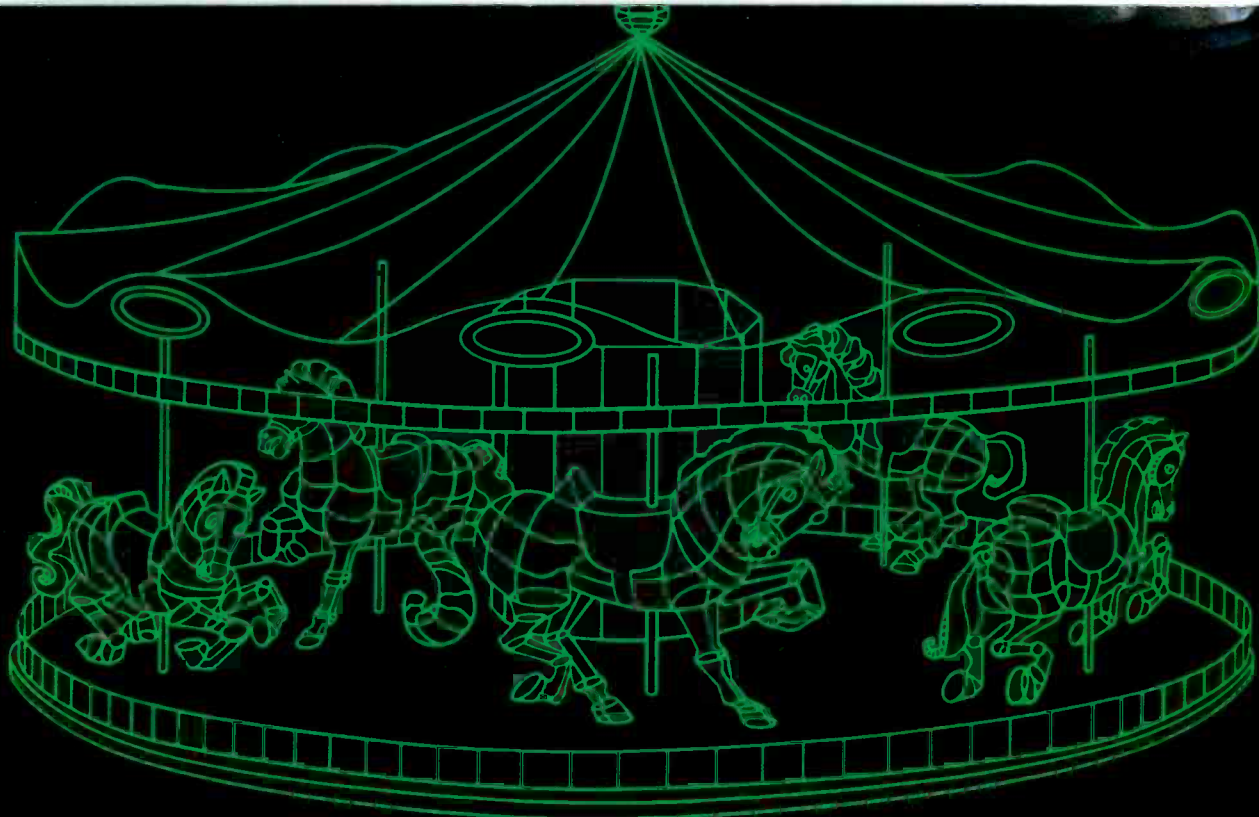
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## NAD MODEL 1700 PREAMPLIFIER/TUNER

*Julian Hirsch, Hirsch-Houck Laboratories*

**T**HE preamplifier/tuner has been introduced to the hi-fi market from time to time as an alternative to the receiver. It is essentially the front end of a receiver, with line outputs for driving a power amplifier. It also offers the obvious advantage of allowing the user to choose from a wide range of amplifiers with different power ratings and of changing the amp without replacing the tuner or control unit.

The new NAD 1700, part of the NAD Monitor Series of high-end components, is the company's first preamplifier/tuner. In styling and finish it matches the other NAD Monitor Series units, including the Model 2600 power amplifier, but it is electronically compatible with other amplifiers or signal sources.

NAD is known for its distinctive approach to product design, and the Model 1700 is no exception. The frequency of its digital-synthesis AM/FM tuner is varied by a free-wheeling tuning knob that turns an optical shaft encoder, supplying digital information to the synthesizer circuits. Each of the fourteen preset

channel frequencies, selected by seven buttons from two banks of memories, can be assigned to an AM or an FM station.

The FM tuner has a user-selectable IF bandwidth, enabling it to reject adjacent-channel interference while retaining the superior distortion and capture-ratio characteristics of a wide-band tuner under ordinary receiving conditions. It also has a defeatable automatic noise-reduction circuit that blends the channels progressively as signal strength decreases. It can reduce hiss on weak stereo signals while retaining some degree of stereo separation. A mono switch is also provided.

The external signal sources (phono, video sound, and CD), the AM and FM tuners, and several operating features are selected by small black buttons that are clearly identified by white markings above them. Three buttons control special audio functions identified as BASS EQ, EPL, and PHASE INVERT. The BASS EQ circuit (also a feature of other NAD receivers and amplifiers) compensates for the natural bass rolloff of many speakers by boosting the re-

sponse below 100 Hz; a steep infrasonic filter rolls off the response below 30 Hz to protect the woofer. The EPL (external-processor loop) circuit functions similarly to the tape-monitor connections.

The third special circuit, PHASE INVERT, is extremely rare among audio amplifiers. Some people believe that matching the polarity, or absolute phase, of the reproduced signal with that of the original results in a more natural-sounding reproduction. This means that an instantaneous pressure increase in the sound field at the recording microphone should result in a corresponding increase (outward cone movement) from the playback speakers. Like many amplifiers, the NAD 1700 normally inverts the polarity of every input signal. Pressing the PHASE INVERT button reverses the phase of *both* channels, permitting an instantaneous comparison of the two polarities. Although most recordings do not have any "original polarity" since they were made with multiple microphones, the NAD 1700 gives the user the option of checking the effect at will.

The NAD 1700 has two tape-recorder circuits. Pushbuttons select the playback from either one, and a three-position toggle switch cross-connects them for dubbing from either one to the other. The bass and treble tone-control knobs have center detents, and a button between

## TEST REPORTS

them bypasses the tone-control circuits entirely. Next to each tone-control knob is a three-position toggle switch that selects its center frequency. NAD calls the tone controls "Semi-Parametric," since they vary the response in a two-octave band around a center frequency. The nominal bass center frequencies are

50, 120, and 250 Hz, and the treble frequencies are 3,000, 6,000, and 12,000 Hz. A 20-dB audio-mute switch is labeled LOW LEVEL.

The display window shows the tuner frequency in large red numerals; green arrows show the right direction (up or down) for center-channel tuning and are replaced by

a bar when the tuning is correct. There is also a five-bar signal-strength indicator. Other lights show when the various pushbutton controls have been activated and which preset channel is in use. Unlike most receivers, the NAD 1700's panel lights and display show only the information pertinent to the mode in use. For example, the tuner frequency and related information are visible only when the tuner is selected. Since at least one input source must be active whenever the unit is turned on, there is always an indicator to serve as a power pilot.

The rear apron contains, in addition to all the input and output jacks, a slide switch that selects either the moving-magnet (MM) or moving-coil (MC) phono-preamplifier circuit and another that controls the infrasonic filter in the phono preamplifier. There are two sets of line outputs, marked NORMAL and HIGH. According to the manual, the HIGH terminals have twice the output capability of the NORMAL terminals. The FM antenna input is a coaxial F connector for use with 75-ohm antenna systems; a 300-to-75-ohm balun transformer is required for 300-ohm antennas. The AM antenna is a pivoted ferrite rod, and terminals are also provided for a wire antenna and ground. There are three switched AC outlets and one unswitched outlet.

The NAD 1700 comes with a wireless remote control that is, in some ways, as unusual as the main unit. The end containing the infrared emitters is tilted up slightly, and their output radiates from the underside of the controller as well as from its end. This design allows the controller to access the receiving circuits over a wide range of angles, so it is not necessary to point it directly at the main unit. The controller operates effectively either on a flat surface or when hand-held.

The remote-control buttons, which are identical in size but differentiated by color, duplicate all the essential front-panel functions. A green button operates the power switch, black buttons select preset channels and audio mute, and beige buttons are used for input selection, to adjust the motor-operated volume control, and for SEARCH tun-

### FEATURES

- Digital-synthesis AM/FM tuner
- Analog tuning knob with 50-kHz tuning increments for FM and 10 kHz for AM
- Narrow IF mode for improved selectivity
- FM noise-reducing circuit for weak stereo signals
- Fourteen channel presets
- Inputs for phono, video sound, CD, two tape decks
- External-processor loop (EPL)
- Tape dubbing in either direction
- Semi-parametric tone controls with selectable center frequencies and bypass switch
- BASS EQ for extended low-frequency response with most speakers
- PHASE INVERT switch to change signal polarity from inverting to noninverting
- Switchable infrasonic filter
- MM/MC cartridge selector switch in rear
- Coaxial 75-ohm FM antenna connector
- Ferrite-rod AM antenna
- Headphone jack
- Two pairs of line outputs at different levels
- Four AC outlets, three switched
- Display of tuner frequency, tuning direction, relative signal strength
- Wireless remote control of all front-panel functions plus electronic seek tuning

### LABORATORY MEASUREMENTS

- Tuner Section** (all figures for FM only except frequency response: referred to 75-ohm antenna impedance)
  - Usable sensitivity** (mono): 10.8 dBf (0.95  $\mu$ V)
  - 50-dB quieting sensitivity:** mono, 11 dBf (1  $\mu$ V); stereo, 35 dBf (15  $\mu$ V)
  - Signal-to-noise ratio** at 65 dBf: mono, 80.6 dB; stereo, 75 dB
  - Harmonic distortion** (THD + noise) at 65 dBf: mono, 0.04% (normal IF), 0.18% (narrow IF); stereo, 0.068% (normal), 0.5% (narrow)
  - Capture ratio** at 65 dBf: 0.65 dB (normal), 2.5 dB (narrow)
  - AM rejection** at 65 dBf: 66 dB (normal), 69 dB (narrow)
  - Image rejection:** 69 dB
  - Selectivity:** alternate-channel, 84 dB (normal), 90 dB (narrow); adjacent-channel, 7.3 dB (normal), 21 dB (narrow)
  - Stereo threshold:** 19 dBf (2.45  $\mu$ V)
  - 19-kHz pilot-carrier leakage:** -76 dB
  - Hum:** -77 dB
  - Stereo channel separation** at 100, 1,000, and 10,000 Hz: 47, 48.5, and 37 dB
  - Frequency response:** FM, 30 to 15,000 Hz +0.63, -0.1 dB; AM, -6 dB at 25 and 3,450 Hz
- Preamplifier Section**
  - 1,000-Hz clipping output:** 9.9 volts into EIA load
  - Harmonic distortion** (THD + noise) at 1,000 Hz: 0.0022% at 1 volt, 0.0017% at 2 volts, 0.0089% at 5 volts, 0.05% at 9 volts
  - Maximum distortion** (20 to 20,000 Hz at 2 volts output): 0.0086% at 20,000 Hz.
  - Sensitivity** for a 0.5-volt output: CD, 77 mV normal sensitivity, 38 mV high sensitivity; phono (normal sensitivity), 1.13 mV (MM), 0.115 mV (MC)
  - Phono-input overload** (MM): 160 to 172 mV
  - A-weighted noise** (referred to a 0.5-volt output): CD, -113 dB; MM phono, -86 dB; MC phono, -80 dB
  - Phono-input impedance:** 46,000 ohms in parallel with 56 pF
  - RIAA equalization error:** +0.18, -0.08 dB from 20 to 20,000 Hz
  - Tone-control range:**  $\pm$ 12 dB at center frequencies
  - Tone-control center frequencies** bass, 55, 140, and 300 Hz; treble, 3,000, 6,000, and 14,000 Hz
  - BASS EQ boost:** 7 dB at 34 Hz

## TEST REPORTS

ing. The search operation scans a radio band in either direction until a signal is intercepted, a function not provided on the front panel.

The NAD 1700's front panel is about the same size as other full-size components, 17¼ inches wide and 4⅞ inches high, but the unit's depth of only 9⅞ inches (not including connectors, knobs, or the AM antenna) and its light weight, only 15 pounds, allow it to fit on a bookshelf or room divider. Moreover, the absence of a large power transformer allows it to be placed close to a record player or tape deck without risk of inducing hum in the magnetic circuits. The cabinet and panel are finished in contrasting shades of gray. Price: \$798. NAD (USA), Dept. SR, 575 University Ave., Norwood, MA 02062.

### Lab Tests

The mono FM usable sensitivity was a very good 10.8 dBf (0.95 microvolt, or  $\mu\text{V}$ , in a 75-ohm impedance). The stereo threshold was 19 dBf (2.5  $\mu\text{V}$ ). The 50-dB quieting sensitivity in mono was almost identical to the usable sensitivity, 11 dBf (1  $\mu\text{V}$ ), and in stereo it was 35 dBf (15  $\mu\text{V}$ ).

The FM distortion, in the normal-bandwidth mode, was a very low 0.04 percent in mono and 0.068 percent in stereo, and the signal-to-noise ratio was 80.6 and 75 dB for mono and stereo, respectively. With the narrow IF bandwidth, the distortion increased to 0.18 percent in mono and 0.5 percent in stereo.

The FM frequency response was +0.63, -0.1 dB from 30 to 15,000 Hz. Channel separation was 47 to 48 dB in the midrange, narrowing to 32 dB at 15,000 Hz. With the FM noise reduction activated, the channel separation was unaffected at an input of 65 dBf or higher and was still a good 30 dB at 45 dBf. At 35 dBf (the normal stereo 50-dB quieting sensitivity), however, the separation was only 8 dB, and at 25 dBf it was an insignificant 3.6 dB. The channel blending was effective across the full audio frequency range. Other tuner parameters were also very good, and the capture ratio was an excellent 0.65 dB (2.5 dB in the narrow mode).

Our measurements confirmed

NAD's description of the tone-control curves. Each control affected a two-octave band centered approximately at the indicated frequency. The maximum boost or cut was 12 dB. The response with BASS EQ peaked at 35 Hz, where there was a 7-dB boost, and fell to -5 dB at 20 Hz, with a 12-dB-per-octave slope. The RIAA phono equalization was very accurate, varying only +0.05, -0.2 dB between 20 and 20,000 Hz. The frequency response through a high-level input was flat within  $\pm 0.05$  dB from 40 to 20,000 Hz and down 0.3 dB at 20 Hz. With the PHASE INVERT button engaged, the frequency response was unchanged, but the level dropped 0.35 dB.

The sensitivity for a reference output of 0.5 volt was 77 millivolts (mV) at the NORMAL terminals and 38 mV at the HIGH terminals. Contrary to the statement in the preliminary instruction manual supplied to us, both outputs delivered exactly the same output at the clipping point (9.9 volts into an EIA-standard load), but the gain at the HIGH terminals was twice that at the NORMAL ones. The A-weighted noise output was -113 dB referred to 0.5 volt, one of the lowest figures we have measured from an amplifier.

The 1,000-Hz distortion was about 0.002 percent for outputs up to 2 volts or higher (sufficient to drive any power amplifier to its maximum), and it increased gradually to 0.05 percent at 9 volts, just below clipping. Since no output-voltage rating was supplied with the test sample, we chose 2 volts as a reasonable value. At 2 volts output, the distortion was between 0.002 and 0.003 percent from 20 to 6,000 Hz, and it reached 0.009 percent at 20,000 Hz. The 1-volt readings were slightly lower.

### Comments

Rarely do we encounter an audio component as thoroughly satisfying as the NAD 1700. Its audio performance was never less than outstanding, and its frequency-response flatness and distortion and noise characteristics approached our measurement limits. In fact, no currently available signal source, including digital recordings, would be degraded in respect to those param-

eters by the circuits in this impressive product.

The FM tuner section of the NAD 1700, though not quite as far ahead of the field as its preamp section, was excellent. Its sensitivity, distortion, and noise levels rank with some of the finest tuners we have tested. The tuning knob turned with almost no effort, since it moves only a small toothed disc and has no built-in friction or damping. Even the slightest touch will displace the knob setting, but in normal operation there is no reason to use the knob at all. All the other controls, both knobs and buttons, felt as smooth as silk, requiring no conscious thought or effort to operate.

When the NAD 1700 is powered up, it comes on in its LOW LEVEL condition to prevent any possibility of a loud blast of sound that could damage the speakers. Considering the power capabilities of some of the amplifiers, from NAD and others, with which it can be used, this is a wise precaution.

We did find a weakness in the execution, though not the concept, of the PHASE INVERT switch, which could be a useful and interesting feature. There were distinct, if subtle, quality differences between its settings, but measurements showed a level shift of 0.35 dB, a difference that is clearly audible and sufficient to swamp any effects of the polarity change.

The remote control is as well conceived as the rest of the NAD 1700. In our 15 x 20-foot room, it operated the main unit from any part of the room when pointed in any direction. Its plainly marked control buttons were easy to use, in striking contrast with some of the confusing remote-control units we have seen recently.

To sum up, the NAD 1700 sounds every bit as good as it looks and feels. And that is very good indeed! Even the AM tuner, from which we usually expect little in tuners and receivers, was free of the background noise and the typical muffled or tubby sound. Aside from the many notable qualities of the Model 1700, it also makes an eloquent case for the preamplifier/tuner as the heart of a component hi-fi system.

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Live music is a combination of direct and reflected sounds (left), but conventional speakers (middle) reproduce mainly direct sounds—and offer full stereo in a small area only. The Bose 901 Direct/Reflecting® speakers (right) accurately reproduce live music's balance of direct and reflected sound, providing greater realism in full stereo (blue area) throughout the listening room.

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### DAHLQUIST DQ-20 SPEAKER SYSTEM

*Julian Hirsch, Hirsch-Houck Laboratories*

**T**HE introduction of Dahlquist's original Phased Array speaker system, the DQ-10, more than fourteen years ago aroused considerable interest in the audiophile community. Despite a superficial external resemblance to the contemporary Quad electrostatic speaker, the DQ-10 was a four-way dynamic system that, unlike most other dynamic speakers of the time, was designed to deliver a phase-coherent acoustic output waveform. Still a part of the Dahlquist speaker line, the DQ-10 has now been joined by the DQ-20, a larger and more refined system embodying similar principles.

Dahlquist's Phased Array design was developed to deal with two basic areas of loudspeaker inaccuracy: time-delay distortion and diffraction effects. In general, the direct sounds from the different drivers of a multiway system arrive at the listener's position at slightly different times because of differences in the inertia of their moving systems and unequal distances from their voice coils to their front mounting planes and from the mounting planes to the listener. The combined result of these effects can be degraded spatial definition.

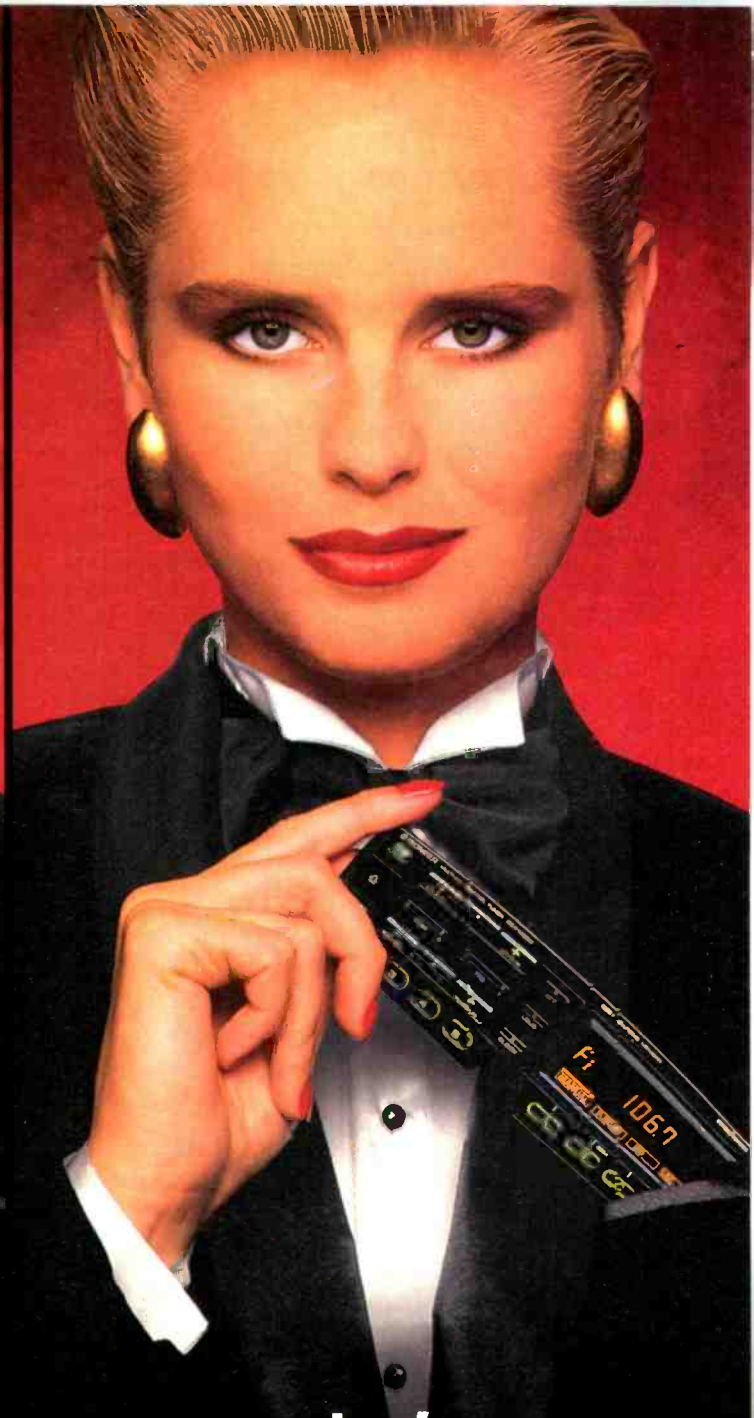
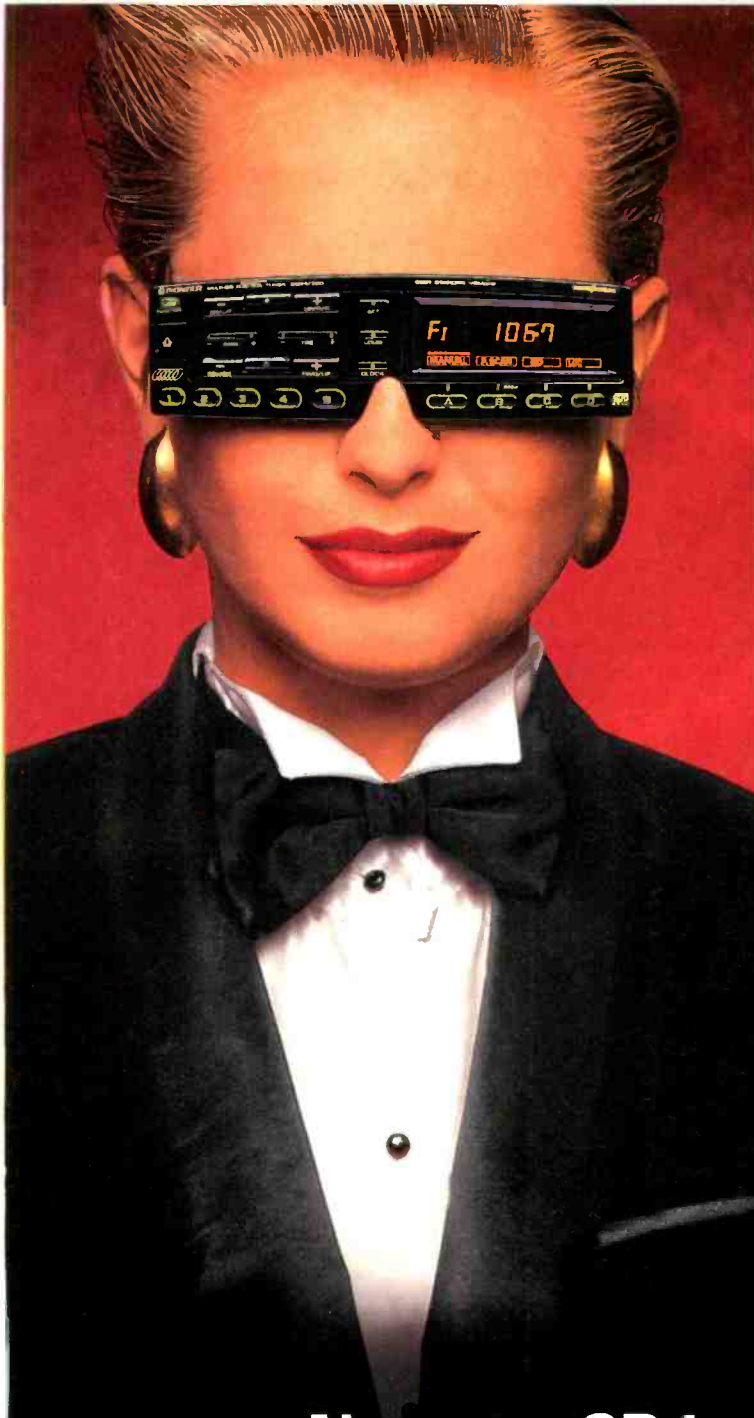
Diffraction, which can create similar aberrations in the listening field,

occurs when the sound wave leaving a speaker driver encounters an abrupt discontinuity in its transmission path, usually at the juncture of the speaker cone and the mounting board, at the edge of a cabinet, or at the grille frame. The discontinuity bends the wave front and scatters the sound so that parts of it reach the listener over slightly different paths. Whenever the same signal arrives at a point in space over more than one path (almost always of different lengths), the resulting interference produces irregularities in the frequency response and impairs the spatial accuracy of the stereo imaging.

The DQ-20 is a three-way dynamic speaker system with vertically aligned drivers whose 10-inch acoustic-suspension woofer crosses over to a 5-inch midrange cone at 400 Hz. The second crossover, at 3,500 Hz, is to a  $\frac{3}{4}$ -inch soft-dome tweeter. The midrange and high-frequency drivers are on a separate mounting board extending from the top of the woofer cabinet. The board is tapered to minimize diffraction of the drivers' radiation patterns, and it is also stepped back slightly from the front of the woofer cabinet so as to locate all the drivers in the same acoustic plane. The drivers themselves are further aligned to compensate for their different inertias.

The midrange cone driver is back-loaded by a cylindrical duct with a small opening in its rear surface. The duct provides aperiodic (non-resonant) resistive loading of the cone and eliminates rear radiation, which would disturb the intended polar pattern of the system. The DQ-20's crossover network, which is completely hand-wired, uses air-core inductors and high-quality capacitors. The nominal system impedance is 6 ohms (4 ohms minimum), and its rated frequency response is 50 to 20,000 Hz  $\pm$  2.5 dB, or 1,000 to 20,000 Hz  $\pm$  1 dB. It is recommended for use with amplifiers rated to deliver between 50 and 250 watts.

The woofer enclosure and the mid/high-frequency driver board are finished in flat black, and they are surrounded by a frame of light oak with an open, black metal-mesh



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© 1988 Pioneer Electronics (USA) Inc., Long Beach, CA System shown: DEX-M300 (CD-M20 extension kit included) and CDX-M100 CD changer.

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## TEST REPORTS

grille covering its front and rear. The entire system is mounted on an integral base about 3 inches high, and overall it measures 41 inches high, 20 $\frac{3}{4}$  inches wide, and 11 $\frac{3}{4}$  inches deep; it weighs 60 pounds.

On the back of the speaker box are the insulated multiway binding posts and protective fuses for the tweeter and woofer. The DQ-20 is furnished with Black Diamond spiked feet for making a firm contact with the floor, which is said to improve its imaging qualities. Price: \$1,800 a pair. Dahlquist, Inc., Dept. SR, 601 Old Willets Path, Hauppauge, NY 11788.

### Lab Tests

The averaged room response we measured from our pair of Dahlquist DQ-20 speakers was an exceptionally uniform 20 to 20,000 Hz  $\pm 4.5$  dB. The treble range, in particular, was flat within  $\pm 3$  dB from 1,500 to 20,000 Hz. When the close-miked woofer response was spliced to the room curve, the composite frequency response was within  $\pm 4$  dB from 33 to 20,000 Hz.

The system impedance was 5 ohms in the 100-Hz range and reached a minimum of 4 ohms at 1,100 Hz and a maximum of 16 ohms at 43 and 2,400 Hz. Its average value over the audio range was approximately 9 ohms. With the standard input of 2.83 volts of pink noise, the sound-pressure level (SPL) at 1 meter measured 86 dB. The bass distortion with 4.5 volts input (equivalent to a 90-dB SPL) was less than 0.7 percent from 100 to 70 Hz, 2.3 percent at 50 Hz, and 5.3 percent at 40 Hz.

In our pulse power tests, using a 1-cycle burst followed by 128 cycles of silence, the woofer's 100-Hz output waveform began to flatten at an input of 195 watts into its 5-ohm impedance. Unlike many woofers, however, it overloaded gradually, with a smoothly increasing level of second-harmonic distortion before the cone and voice coil reached their physical limits and emitted the harsh rasping sounds that for many speakers are the first indication of overload. At 1,000 Hz the midrange driver absorbed the amplifier's maximum output of 1,640 watts into its 4.2-ohm impedance without

showing signs of overload, and at 10,000 Hz the amplifier clipped, at 575 watts into the tweeter's 12-ohm impedance, before the speaker distorted.

Our quasi-anechoic FFT frequency-response measurements at 1 meter on the axis of the mid/high drivers were generally similar to the room measurements. The response at 45 degrees off-axis was close to the axial response, with an average difference of no more than 6 dB between the two at frequencies up to 15,000 Hz. The excellent phase linearity of the DQ-20 system was confirmed by its group delay, which was within  $\pm 0.2$  millisecond from about 2,500 to 28,000 Hz.

### Comments

Our measurements indicated that the Dahlquist DQ-20 was a very smooth, wide-range speaker with a highly linear phase response—essentially the qualities claimed for it. Its sensitivity was moderate, but it had no difficulty in handling very large peak-power inputs without distortion or overload. Its impedance was high enough over the full audio range to be compatible with any good amplifier.

The installation instructions advise placing the speakers well away from the wall behind them and not too far apart. We located them 2 $\frac{1}{2}$  to 3 feet from the wall and about 5 $\frac{1}{2}$

feet apart, with excellent results. It was apparent that exact placement was not at all critical.

The frequency balance of the DQ-20 was remarkably close to that of our KEF 105.2 reference speakers, which is not surprising since both have very flat, smooth frequency-response characteristics. The KEF speaker, which has a 12-inch woofer in a larger enclosure, had slightly better low-bass response, but the DQ-20 had an airier sound and a clearly extended top end.

The grilles of the DQ-20 appear to be as transparent visually as they are acoustically. The wall behind the speakers was clearly visible through the grilles, which might or might not be a desirable effect. Since the speaker is not a dipole (although its appearance would be consistent with bidirectional radiation), it is not obvious why the rear grille is also transparent.

Overall, the Dahlquist DQ-20 is a fine speaker, ranking with some of the best we have tested, including far more expensive units. It offers a combination of smooth, extended response, wide dispersion, and low bass distortion that is especially noteworthy in a speaker of its moderate size and weight, along with clean, attractive styling. And in these times, its price seems very reasonable for what it provides.

**Circle 141 on reader service card**

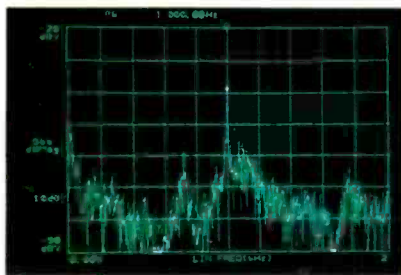


*"Yes, they do sound somewhat lackluster. They're out of phase—so I can let you have them at 60 percent off."*

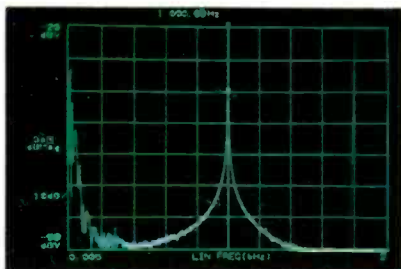




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## LUXMAN KD-117 DIGITAL AUDIO TAPE RECORDER

*Craig Stark, Hirsch-Houck Laboratories*

**T**ECHNICALLY a "prototype" here, though available in Japan, the Luxman KD-117 digital audio tape deck is in all but name a finished audiophile product, right down to a reasonably well-written instruction manual and an extraordinarily flexible wireless remote control that can even be used to control two KD-117's simultaneously.

The tiny DAT cassettes, which measure approximately 2 $\frac{7}{8}$  inches long and 2 $\frac{1}{8}$  inches wide, are dropped into the same kind of slide-out drawer popularized by CD players. Despite their diminutive size, DAT cassettes can hold up to two hours of uninterrupted music. Fidelity of reproduction fully equal to that of compact discs is made possible by the use of 16-bit linear quantizing at a sampling rate of 48 kHz. Microscopically narrow tracks are recorded by a pair of rotating heads mounted so that they scan the tape helically, as in a VCR.

To handle the tape properly, the KD-117 uses four direct-drive mo-

tors in its transport and three more motors in its loading system. A single pair of sendust-and-ferrite heads is used for record and playback, so no immediate comparison between source and recorded result is possible. A separate erase head is not required because the extremely high frequencies used for recording a tape automatically erase any previous signal.

A pair of twenty-segment-per-channel peak-holding fluorescent displays, calibrated from -60 to 0 dB, show the signal levels. Levels higher than -4 dB are shown in red, and an attempt to exceed 0 dB lights up an additional OVER indicator. The OVER point corresponds to the onset of clipping in the deck's analog output circuits. Digital clipping, which could produce random effects, is thus precluded.

The KD-117 has two user-selectable time displays. One counts from the start of the tape, the other from the beginning of the current selection. The program number of the current selection is also shown, and

the memory can hold any sequence of up to twenty-four selections. As a rough guide to tape remaining, indicators calibrated at 10-minute intervals are provided.

The user can insert START and SKIP markers (ID's) at any point in tapes recorded on the KD-117. These marks are stored in the sub-code fields on the tape and can be added (or deleted) either during the original recording or during a subsequent playback. For example, if you recorded an FM broadcast that was interrupted by a commercial, you could place a SKIP ID at the start of the announcement and a START ID at the point where the music resumed. Thereafter, the KD-117 would automatically fast-forward past the commercial.

In addition to the conventional analog line inputs and outputs, the KD-117 has digital and even optical jacks. As the deck will not record at the CD sampling rate of 44.1 kHz, use of the digital input jacks requires a second DAT deck. A CD can be dubbed by recording the player's analog output, however, and we found this to give entirely satisfactory results with a good CD player.

As we have (annoyingly) found with other DAT machines, the KD-117 has no playback level control except for its headphone jack. In addition to its normal record-level

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- First factory-authorized Digital Audio Tape (DAT) playback system to be announced by an automobile manufacturer.



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## TEST REPORTS

control for the line inputs, however, there is a special CD input with a pair of screwdriver-adjustable level controls that allow you to match the input from a CD with the output from the recorder. A switchable input filter is also provided for the CD jacks to eliminate any supersonic signals that might create spurious tones during dubbing.

The KD-117 presents a low profile, measuring 17<sup>1</sup>/<sub>4</sub> x 3<sup>1</sup>/<sub>2</sub> x 13 inches. It weighs a little over 19 pounds. While obviously no retail price has been established, the list price will probably be around \$2,000. Luxman Division, Dept. SR, Alpine Electronics of America, Inc., 19145 Gramercy Place, Torrance, CA 90501.

### Lab Tests

We checked the playback response of the KD-117 with a Sony TY-7551 tape that provides calibrated test tones at 20, 100, 1,000, 10,000, and 20,000 Hz. As the variations between 20 and 20,000 Hz were within 0.1 dB, no meaningful graph could be printed here. Indeed, as the corresponding entries in the "Laboratory Measurements" box show, the overall record-playback response was essentially the same, the maximum deviation from ideal flatness being  $\pm 0.3$  dB. This result is particularly impressive since DAT decks must include a very steep input filter to eliminate all signal components above 24,000 Hz.

The other parameters we checked were no less impressive. Naturally, there was no detectable wow-and-flutter; the digital process itself precludes that. But the playback and record-playback signal-to-noise ratios and total-harmonic-distortion percentages we measured indicated absolutely nominal functioning of a 16-bit linear system. Crosstalk rejection was no less than superb, and interchannel phase shifts were negligible up to the highest half octave, where they never exceeded 90 degrees. The only measurement that we found at all questionable was of recording sensitivity. The KD-117 required 1.05 volts input to reach its maximum record level, which presents no problem if you're recording the output of CD players but is on the high side for some preamplifier tape outputs.

### FEATURES

- Quadruple-oversampling output filter
- Special CD input with level-matching controls
- Twenty-segment-per-channel peak-holding fluorescent level display
- Selectable time displays
- Programmable for playback of up to twenty-four selections in any order
- User-recordable START and SKIP markers
- Front-panel headphone jack with level control
- Digital and optical jacks in addition to analog inputs and outputs
- Full-function wireless remote control
- Digital playback at 48, 44.1, and 32 kHz
- External timer operation

### LABORATORY MEASUREMENTS

**Fast-winding times** (same in both directions): R-120, 60 seconds; R-90, 47 seconds

**Speed error:** not measurable

**Wow-and-flutter:** not measurable

**Line input for indicated 0 dB:** 1.05 volt

**Line output at indicated 0 dB:** 2.05 volts

**Playback performance** (Sony TY-7551 test tape)

**Frequency response** (variations in decibels):

	<i>Left</i>	<i>Right</i>
1,000 Hz	0.0	0.0
20 Hz	-0.05	0.0
100 Hz	0.0	0.0
10,000 Hz	-0.05	-0.1
20,000 Hz	-0.1	0.0

**Signal to-noise ratios** (in decibels):

	<i>Left</i>	<i>Right</i>
Unwtd.	96.2	94.1
A-wtd.	103.8	99.4
CCIR	102.2	99.0

**Total harmonic distortion** (THD) at 1,000 Hz: left, 0.0045%; right, 0.005%

**Crosstalk** (in decibels):

	<i>Left</i>	<i>Right</i>
1,000 Hz	92.2	92.8
10,000 Hz	75.0	74.8
-60-dB level	-59.8	-59.4

**Record-playback performance**  
**Frequency response** (variations in decibels):

	<i>Left</i>	<i>Right</i>
1,000 Hz	0.0	0.0
20 Hz	-0.1	-0.3
100 Hz	-0.1	-0.3
10,000 Hz	+0.2	+0.2
20,000 Hz	0.0	+0.05

**Signal-to-noise ratios** (in decibels):

	<i>Left</i>	<i>Right</i>
Unwtd.	88.6	87.0
A-wtd.	91.6	89.8
CCIR	90.8	86.8

**Total harmonic distortion** (THD) at 1,000 Hz: left, 0.0066%; right, 0.0077%

**Crosstalk** (in decibels):

	<i>Left</i>	<i>Right</i>
1,000 Hz	71.4	73.5
10,000 Hz	62.1	58.1

### Comments

We found the KD-117 somewhat easier to use than most of the other DAT machines we have been able to test so far. While part of this ease may be attributed to our increasing familiarity with such machines and the presence of a readable instruction manual for this one, much of the credit goes to Luxman's good, intuitively clear design.

When it comes to the sound, we have certainly heard no better. Dubbing CD's—even with the extra digital-to-analog and analog-to-digital conversion stages required—produced no sonic degradation that we could detect even with the most stringent listening tests. Both in playback of prerecorded DAT's and with our own dubs, the quadruple-oversampling playback filter in the KD-117 certainly eliminated any of the alleged "digital" defects of simpler output-filtering systems. Imaging was superb, and all frequencies were solid and smooth from one end of the audio spectrum to the other.

The pleasure of being able to sit down to hear two hours of music put together according to my own taste was enormous. I only wish that I didn't have to send the test sample back—and that U.S. consumers were able to buy their own digital tape recorders.

**Circle 142 on reader service card**

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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

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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."

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\*Measured by EIA method. \*\*Based on FTC rules regarding measurement of amplifier power ratings.



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ILING/NORTON

## PROTON D1150 POWER AMPLIFIER

*Julian Hirsch, Hirsch-Houck Laboratories*

**P**ROTON'S Dynamic Power on Demand (DPD) amplifiers use a form of two-level signal-controlled power supply that makes it possible for them to deliver very large peak power outputs—several times their relatively low continuous power ratings—for periods of up to several hundred milliseconds. This DPD capability goes well beyond the range usually defined by an amplifier's dynamic-headroom rating, which is a measure of the maximum power delivered during a 20-millisecond tone burst.

Unlike most amplifiers using bi-level power supplies, Proton's DPD units are not designed to sustain their higher power levels for extended periods. Since the average power needed to reproduce most musical programs is relatively low, and many times that level may be

required only during program peaks lasting less than a few hundred milliseconds, the Proton engineers decided to derive the short-term higher voltage from charged capacitors. Although the capacitors' output voltage decreases exponentially with time as the amplifier draws current during a program peak, this characteristic conforms well to the typical decay characteristics of musical waveforms. During the intervals between peak demand levels, the capacitors are recharged from the second power supply, which has to supply only a very low average current. And since the high-voltage capacitors are switched into the circuit only at peak power levels, no switching effects are ever audible.

The D1150 is rated at only 50 watts per channel continuous output into 8 ohms from 20 to 20,000 Hz with no more than 0.015 percent

distortion, half as much power as Proton's earlier amplifier, the D1200. Peak power is rated as a maximum of 400 watts into 2 ohms, with a dynamic headroom of 6 dB.

Like the D1200, the D1150 is a handsome component. Its most striking features are the two large peak-power output meters, which are illuminated in a soft blue-green and calibrated in both watts and decibels relative to the 50-watt rated output. The scales span a range from -40 dB (5 milliwatts) to +9 dB (400 watts), giving readable indications at all normal operating levels. Between the meters are three LED indicators for the DPD system. These flash at instantaneous levels of 0, +3, and +6 dB, and a red LED shows when the amplifier's protection circuit has been tripped. An illuminated pushbutton power switch is the only control. The rear apron contains only the line fuse, input jacks, and five-way binding-post output terminals for a single pair of speakers.

Internally, the D1150 is a dual-mono amplifier, constructed symmetrically around the front-to-back center line, with separate power

## TEST REPORTS

transformers and power supplies. Both sets of output transistors and their heat sinks are in the central portion of the chassis. The metal cabinet, finished in black, is extensively ventilated on its top and bottom surfaces, and the upper portion of the front panel is covered with a clear protective plate. The Proton D1150 measures 16½ inches wide, 14½ inches deep, and 4¼ inches high, and it weighs 25 pounds. Price: \$429. Proton, Dept. SR, 737 W. Artesia Blvd., Compton, CA 90220.

### Lab Tests

Preconditioning the D1150 at 17 watts per channel into 8 ohms for an hour made its top moderately warm to the touch, but it never became hotter during our subsequent tests. In normal listening use, it ran only slightly warm. The 1,000-Hz output power into 8 ohms at clipping was 68 watts per channel, which increased to 105 watts into 4 ohms and 136 watts into 2 ohms.

The distortion of this amplifier, under most conditions of use, was among the lowest we have ever measured and close to the limits of our measurement capability. At 1,000 Hz, the total harmonic distortion (THD) plus noise was slightly under 0.002 percent from 1 watt to more than 60 watts output into 8 ohms. The 4-ohm readings were not much higher, about 0.0025 percent, and even into 2-ohm loads the distortion was between 0.003 and 0.004 percent up to more than 90 watts.

Across the full audio frequency range, the distortion varied only

slightly with power output between 5 and 50 watts into 8 ohms. It was typically between 0.0015 and 0.0025 percent from 20 to 5,000 Hz, reaching a maximum of 0.0124 percent at 20,000 Hz and 50 watts. The 1,000-Hz distortion characteristic into different load impedances was typical of other good amplifiers: The distortion readings decreased as the output increased from 1 watt up to the level just before clipping occurred. As usual, the distortion was higher into low load impedances, but our typical readings of 0.002 to 0.005 percent are indicative of the amplifier's excellent linearity.

Measurements of the amplifier's DPD characteristics confirmed the effectiveness of this system. Driving 8 ohms at 1,000 Hz, the D1150's dynamic power reading (using a 20-millisecond burst) was 324 watts, for a dynamic headroom of 8.1 dB. The prodigious short-term output capability of this "50-watt" amplifier was demonstrated by its 811-watt dynamic output into 2 ohms! Both of these figures substantially exceeded the amplifier's ratings.

The 8-ohm dynamic power dropped to 225 watts at the end of a 100-millisecond burst. For longer burst durations, we used a 50-percent duty cycle or simply increased the on time at a given power level until the output waveform was maintained for the desired measurement period. The maximum power decreased gradually from 217 watts after 200 milliseconds to 182 watts after 1 second. A 72-watt output could be sustained for a full 5 seconds. Although amplifier power meters in general are of dubious value, we also noted that the D1150's

meters usually read within 2 or 3 dB of its actual output (into 8 ohms). The meters have a fast attack time and a slower decay time, which makes their indications reasonably accurate.

The amplifier's frequency response was flat within 0.7 dB overall from 20 to 20,000 Hz and down 3 dB at 11 and 75,000 Hz. An input of 150 millivolts was required for a reference output of 1 watt (1.05 volts for the rated 50 watts), and the A-weighted noise level was -91.2 dB referred to 1 watt. The slew factor was greater than 25, and the amplifier was stable driving complex reactive loads, with only a single small overshoot on a 10,000-Hz square-wave test signal.

### Comments

Our measurements of the Proton D1150 speak for themselves. Although it is something of a distinction for it to be quite possibly the world's most powerful "50-watt" amplifier, the proof of its worth lies in how well it handled actual music programs, not test signals, at high levels. If it did not sound right, all its clever design would be of little value to the purchaser.

We are happy to say that the D1150 passed our listening tests with flying colors. As we increased the volume level until the DPD indicators began to flash, first at +3 dB and eventually at +6 dB, the sound remained clean (but loud!), with no signs of clipping. Few people would wish to listen at such levels, but for those who do, the D1150 compares very favorably with conventional amplifiers rated at several times its continuous output, and it is considerably less expensive than most of them.

We did not encounter any unwelcome surprises in our bench testing or listening. The D1150 was trouble-free and reliable both on the bench and in the music system. Even its internal construction showed no signs of the casual assembly techniques sometimes found in popular-priced components; removing the top cover confirmed the sense of quality we received from its performance. All in all, it is an excellent product.

**Circle 143 on reader service card**

### LABORATORY MEASUREMENTS

**1,000-Hz continuous power output at clipping:** 68 watts into 8 ohms, 105 watts into 4 ohms, 136 watts into 2 ohms

**Clipping headroom (relative to rated output):** 1.3 dB (8 ohms)

**Dynamic power output:** 324 watts into 8 ohms, 544 watts into 4 ohms, 811 watts into 2 ohms

**Dynamic headroom:** 8.1 dB (8 ohms)

**Sensitivity (for a 1-watt output):** 150 mV

**Harmonic distortion (1,000 Hz):** 8 ohms, 0.0038% at 1 watt, 0.0018% at 50 watts; 4 ohms, 0.0051% at 1 watt, 0.0028% at 80 watts; 2 ohms, 0.0079% at 1 watt, 0.0034% at 90 watts

**A-weighted noise (referred to a 1-watt output):** -91.2 dB

**Frequency response:** 20 to 20,000 Hz +0, -0.7 dB; -3 dB at 11 and 75,000 Hz

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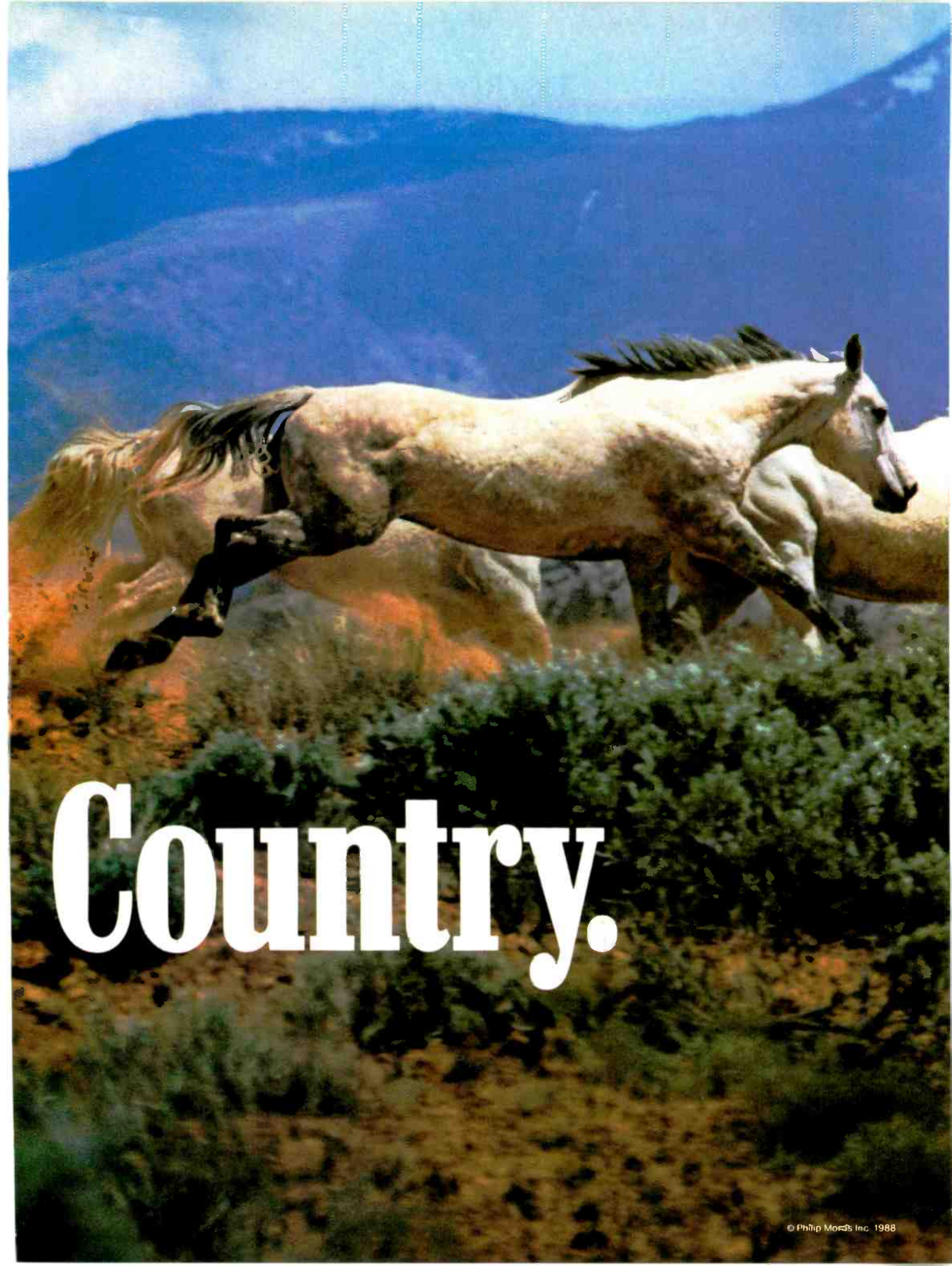


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# Country.



## REVOX B226 SIGNATURE COMPACT DISC PLAYER

*Julian Hirsch, Hirsch-Houck Laboratories*

**T**HE Revox B226 Signature is a special, limited-edition version of the standard Revox B226 CD player, which is designed primarily for use in all-Revox systems. The B226 Signature comes with its own dedicated remote control instead of being controlled by the comprehensive Revox system remote unit, and it offers several features not found on the standard version. In addition, the Signature departs from Revox's usual styling in having a black fin-

ish, with pale-gold accents, so that it can blend in with the appearance of most other audio components.

The added features include a pair of up/down output-level controls and an INDEX button that can be used to step through indexed sections on a disc or to access any index point within the current track. These controls are duplicated on the remote unit, which also contains one feature *not* provided on the front panel: a PREVIOUS button, which moves the laser pickup to the

beginning of the previous track (not of the current track, as most CD players do).

The player has separate 16-bit quadruple-oversampling digital filters for each channel. A large LCD panel keeps a user informed of the operating status. Up to nineteen selections can be programmed for playback in any order using a ten-button numerical keypad, and the same buttons provide direct access to any track. Aside from the keypad, the principal front-panel controls are a row of large buttons, also pale gold, to the right of the central disc drawer.

The LOAD button opens and closes the disc drawer, and PLAY/NEXT starts playback or advances the pickup to the beginning of the next track. There is also a pause

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## TEST REPORTS

control, the INDEX button, and a power button. Although the power switch appears conventional, the B226 Signature is actually designed to be left on at all times. Operating power is normally switched off from the remote control, leaving the player in a standby condition. When the LOAD button is pressed during standby, the player is automatically switched to full power. Besides the functions already mentioned, the remote control duplicates the main unit's keypad, PLAY/NEXT, and pause controls, as well as

a pair of high-speed scan buttons identified by left and right arrows, but it does not include any programming controls.

The remaining front-panel controls are sixteen smaller, black buttons. Some of their functions are conventional and obvious from their markings, such as STOP, PAUSE, and the directional scan arrows (during scan the sound is audible but reduced in volume). The + and - volume controls smoothly vary the level both at the headphone jack and at the variable-level

line outputs in the rear of the player (it also has a pair of fixed-level jacks). The DISPLAY button, too, is conventional in function, though some aspects of the display are not, such as a scale showing what fraction of the current track has been played. But the remaining control markings, and many of the control functions, are unlike those of most other CD players.

For example, LOCATE interrupts playback and switches the unit into pause at the point on the disc where the previous PLAY/NEXT command was entered. The LOOP button actually selects continuous replay of the entire disc. And the AUTOSTOP button puts the player into pause at the end of each track.

The rest of the controls are used for the extensive programming functions of the B226. According to the manual, it can be programmed by track number, playing time, or a combination of the two. Once a sequence is programmed, the playback can be stepped forward and backward with a pair of buttons. The programming controls can even insert a repeat loop or a pause.

In addition to the two sets of line outputs, the rear apron of the Revox B226 Signature has two digital outputs that also carry subcode information. The instruction manual indicates that these outputs can be connected to a computer, a digital recorder, or an amplifier containing its own digital-to-analog (D/A) converters. In conjunction with a computer, the B226 can be used to play a CD-ROM (read-only memory).

The Revox B226 Signature is a relatively large CD player, measuring about 17¾ inches wide, 13 inches deep, and 4¼ inches high. It weighs about 18¾ pounds. Price: \$1,600. Studer Revox America, Inc., Dept. SR, 1425 Elm Hill Pike, Nashville, TN 37210.

### Lab Tests

The instruction manual for the B226 includes complete performance specifications, from which it is obvious that this is a state-of-the-art product. A frequency response flat within ±0.1 dB from 20 to 20,000 Hz and less than 0.005 percent total harmonic distortion (THD) are typi-



### FEATURES

- 16-bit quadruple oversampling
- Programming for up to nineteen selections by track number or time.
- Direct keypad access to any track or index point
- LOOP button to repeat entire disc
- LOCATE button to return to where current play was started
- Track skipping in either direction (backward through remote control only)
- Fast forward and reverse with audible sound
- AUTOSTOP for pause after each track
- Fixed- and variable-level line outputs
- Front-panel headphone jack
- Electronic volume control
- Two digital outputs
- Display of track and index numbers, elapsed or remaining time, operating status, and program number
- Remote control of all functions except disc loading, programming, and display switching

### LABORATORY MEASUREMENTS

**Maximum output level:** 2.11 volts  
**Total harmonic distortion at 1,000 Hz:** 0.0016% referred to 0 dB, 0.0069% referred to -10 dB, 0.0097% referred to -20 dB  
**Signal-to-noise ratio (A-weighted):** 112 dB  
**Channel separation:** greater than 117 dB at 1,000 Hz, 106 dB at 20,000 Hz  
**Frequency response:** ±0.05 dB from 20 to 20,000 Hz

**Dynamic range:** 103 dB  
**Maximum phase shift (from 100 to 20,000 Hz):** 4.3 degrees at 100 Hz (1.4 degrees at 20,000 Hz)  
**Cueing time:** 1.6 seconds  
**Cueing accuracy:** A  
**Impact resistance:** top, B; sides, A  
**Defect tracking:** tracked maximum-level defects on Philips TS5A test disc



# Deceptive Engineering

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But you'll probably overlook the not-so-visible but specially engineered features such as FM optimizer II circuitry designed for superior FM reception and built-in Automatic Radio Monitor for filling the void with music while you are fidgeting with your tape. Special cassette features such as "Auto Azimuth Correction System" rotates the tape head 180 degrees whenever tape direction changes to keep perfect azimuth alignment, Keyoff Pinch Roller Release minimizes wear and tear of tape pinch roller and DC servo motor accurately controls tape movement thus minimizing wow and flutter.

Plus pre-amp outputs and CD/AUX input capability designed for flexible system expansion, two-tone illuminated control panel guarantees easy viewing and identification and replaceable Lithium back-up battery helps protect and store information in the microprocessor.

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## TEST REPORTS

cal of the ratings of this finely engineered machine.

To verify the frequency-response flatness, we had to use the 1-dB-per-inch scale on our chart recorder. The minute response "ripples" at high frequencies had a peak-to-peak amplitude of about 0.05 dB, and the overall response was well within the  $\pm 0.1$ -dB rating. Although we could not plot the response below 20 Hz, the CBS CD-1 test disc starts its frequency sweep at 5 Hz, and the player's response was essentially flat from that point to 20,000 Hz.

The output from a 0-dB recorded tone measured 2.11 volts, with a channel imbalance of only 0.04 dB. Conventional distortion measurements (THD + noise) were masked by a small amount of signal output in the 44-kHz region, but the actual harmonic-distortion level was 0.0016 percent at 0 dB, increasing to 0.0097 percent at -20 dB. The A-weighted noise level was -112 dB referred to 0 dB, and the dynamic range was 103 dB. Channel separation was greater than 120 dB at low frequencies, narrowing to 106 dB at 20,000 Hz. Interchannel phase shift was essentially zero up to 10,000 Hz and only 1.4 degrees at 20,000 Hz (it was 4.3 degrees at 100 Hz, a typical figure for a CD player using an AC-coupled analog section).

The low-level linearity of the player's D/A converters was within 1

dB down to the -80-dB level, but the error increased to -8.3 dB at -90 dB and -7.5 dB at -100 dB. The laser pickup slewed rapidly, taking 1.6 seconds to move from Track 1 to Track 15 of the Philips TS4 test disc, and its cueing from Track 17 to Track 18 of that disc, which have no silent interval separating them, was perfect. It tracked all the calibrated defects on the Philips TS5A disc without a hitch. The headphone volume was excellent with medium-impedance phones, with a maximum output of 5.2 volts (the rating is 4.5 volts) into a 300-ohm load.

The impact resistance of the B226 Signature, though very good, was not quite as high as that of a few other CD players we have tested. A violent blow on its side produced a momentary drop-out, barely audible, but no loss of tracking. A similar blow on the top cover caused either a longer drop-out or sometimes a jump to another track. No imaginable home listening situation would be likely to cause such effects, however.

### Comments

The Revox B226 Signature operated with all of the smoothness and silence one would expect from its Swiss heritage. It is built to the standards that have earned Revox its eminent reputation in the audio

industry. Although almost any CD player is capable of reaching the measurement limits of some laboratory instruments, this one pushed ours a bit further than most. For example, while the crosstalk from the right to the left channel was barely measurable (as with most CD players the interchannel crosstalk of the B226 was slightly asymmetrical), we could not find a trace of crosstalk in the other direction all the way to the noise floor of our spectrum analyzer (-150 dB or so).

In straightforward playback, the B226 Signature was easy enough to use, although a study of the manual is advisable and may be necessary. Simple programming by track number was not difficult either, although the procedure seemed more cumbersome than it is on most other CD players we have used. But we were never able to figure out how to program the machine by time—we entered the start and finish times, but we could not get it to play the selected segment. And while we were able to use the LOCATE function as a sort of phrase repeat, we could repeat a phrase only once.

I do not mean to suggest that the machine itself was not performing properly—it almost certainly was. But somehow the detailed operating instructions failed to communicate their message to me. Another minor criticism—the LCD readout was highly legible with fairly strong room lighting, but in a softly lit environment it was difficult to read. Also, we wonder why a PREV button was not placed on the front panel. Although the remote control worked well, there might be times when one would prefer to control the player directly.

Enough nit-picking. The Revox B226 Signature was not only superbly smooth and quiet in its operation, with sound quality to match, but its track and index access times were about as short as they could be. In many cases the new track was playing a moment or two after my finger had left the button initiating a change. Also, the track-fraction display is unique in our experience and could be useful. If not exactly a "best buy" for the budget conscious, the B226 is certainly a good player.

**Circle 144 on reader service card**



*"... Yes, it was back in 1955 that I bought my first system: a Newcomb Royal 712 AM/FM tuner, a Bozak B-305 speaker, a Brociner Mark 30-C control preamplifier, a Heathkit W-5M 25-watt power amplifier, a Garrard PR-456 turntable, and a Ferrograph 66/II tape recorder. When my first wife, I can't recall her name, found out how much it cost me, we had a terrible argument, and she walked out on me...."*

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“...Absolute Spitzenklasse...”

**Stereoplay Magazine, Germany**  
—Hans Ulrich-Fessler

“...Een Serieus Produkt...”

**HiFi/Video/Test Magazine, The Netherlands**  
—Hans Goddijn

“...Un Nuovo Reference Standard...”

**Stereoplay Magazine, Italy**  
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“...Superior Sound Quality...”

**Digital Audio & Compact Disc Review  
Magazine, The United States**  
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**PHILIPS**

# AMERICAN AUDIO TODAY AND TOMORROW

**F**OR the American who buys equipment to receive radio broadcasts and play records, tapes, and compact discs, audio may be a convenience, a hobby, or a passion. For the makers and sellers of that equipment, audio is part of the gigantic, rapidly changing consumer electronics industry. This year in the United States the audio portion of that industry will account for an estimated \$8.7 billion in sales to dealers.

Obviously, when such large amounts of money are at stake, fluctuations in the stock market and foreign exchange rates have repercussions that affect even those of us whose total expenditures for audio in the home and car may never exceed four figures. When the industry's leaders gathered at the Consumer Electronics Show in Las Vegas in January, it was too soon after Black Monday, the stock market crash of October 19, 1987, to know how it would affect the business and those of us who buy its products. At the show the watchword was "cautious optimism."

Later this year, when I interviewed many of those leaders to learn where American audio is today and what developments can be expected, they expressed more enthusiasm than caution as they discussed changes in the overall economy, in audio technology, and in us, their customers. When the International Tape/Disc Association held its annual seminar in Tucson in March, the theme was Coping with Economic Uncertainty. In addressing the group, John McDevitt, corporate economist for the 3M Company, said, "Managing business is managing change."

How has the business picture changed since Black Monday? Do the lifestyles of the richer and more mature American consumers require different kinds of products? What are the effects of digital technology? Is audio manufacturing returning to our shores?

These are the kinds of questions I asked the people I interviewed, and to get a balanced picture, I spoke with management representatives from large companies and small ones, from a retail chain (Radio Shack) and a pair of independent stores (Sound Goods in California).

The current value of the dollar, which encourages companies like Marantz and Harman International to talk of bringing more audio manufacturing to the United States, also encourages companies from Europe and Japan to launch new manufacturing programs here, and I spoke with representatives from such companies—Canton and Precise Acoustic Laboratories.

**W**HY should a consumer care whether current exchange rates stimulate other American companies to join Bose Corporation and Harman International in exporting their products? Because flourishing, successful companies can invest more in research and development. They make more reliable goods, give better service, and develop new products.

Changes in marketing and technology often meet resistance. Emotions run high on the question of freedom of choice offered by the car stereo aftermarket as opposed to the installation of improved autosound systems by the car manufacturers. But that situation pales by compari-

by William Livingstone





Illustration by [unreadable]



son with the resistance to the introduction of digital audio tape (DAT).

Representatives of musicians and record companies oppose the introduction of DAT without some method of limiting the recorders' ability to copy records. They claim that home taping already accounts for the annual loss to them of \$1.5 billion in income. They have asked for federal legislation to require the use of a copycode chip developed by CBS, but when Congress asked the National Bureau of Standards to evaluate the chip, it failed to perform as claimed. The Recording Industry Association of America has announced that it will sue any manufacturer who imports DAT machines into the United States before this issue is resolved.

Faced with such controversies and conflicting interests, instead of interpreting the views of the industry representatives I interviewed, I have invited them to speak to you directly in their own words. Obviously, the opinions they express are their own and not necessarily those of the editors of this magazine. The statements that follow give a picture of the changes taking place in audio in the United States today and indicate what you can expect in the months to come.



*Edward Anchel, President*  
**ALTEC LANSING**

In spite of our initial concern about the possible impact of Black Monday on sales, we see no change. Dealers and consumers continue to respond positively to Altec Lansing products. Our best-selling speaker, the Model 508, is one of the more expensive ones, and we have not seen any drift toward sales at the lower end.

When we recently introduced our flagship speaker, the BIAS 550, at \$12,000 a pair, we hoped its technological innovations would attract the attention of audiophiles, but we expected to sell relatively few. We were very pleasantly surprised by the number of orders we received.

The Altec Lansing brand name is strong throughout the world, and about 35 percent of our sales at present are for export. The current exchange rate helps us at home and abroad. It gives us a little edge in the domestic market, where we have traditionally competed against certain brands from England and Ger-

many, and it makes our products an even greater value abroad.

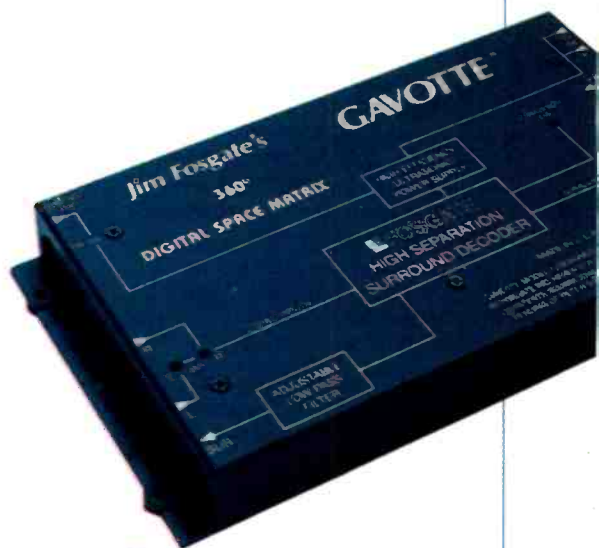
The changing demographic profile of the United States, with people growing a little older and a little wealthier, seems to be working in our favor, and another important marketing trend is the phenomenon sometimes referred to as "cocooning." It describes the way people are attempting to enjoy themselves at home more than in past years, making their homes more pleasurable and surrounding themselves with things they feel they've earned. High-quality high-fidelity products are definitely in the mainstream of that trend.

The success of the new Altec Lansing product line has been very exciting for me personally. Aside from the conventional business aspects of what we do for a living, it's a genuine source of pride to be making products that people like, products that look great and perform well. □

*Jon R. Kelly, President*  
**AUDIO-TECHNICA U.S.**

I don't think the stock-market crash affected the audio industry much, and I see no reason for it to do so down the road. Audio-Technica has

**A**coustic Research's *Connoisseur* turntables are made in Canton, Massachusetts. The ETL-1 is a manual, belt-driven model with electronic speed control and a three-point dual-spring suspension. Price: \$700.



**T**he Fosgate Gavotte, a powerful surround-sound system for cars, is made in Heber City, Utah. Fully compatible with Dolby Surround audio/video sources, it is useful for mobile video systems as well. Price: \$350.



some concerns about the industry, but in addition to "cautious optimism"—that wonderful phrase—we have the feeling that while the overall market may not be increasing, we're going to get a bigger share.

Audio prices (and prices of consumer electronics in general) have not increased at the rate of inflation. It's nearly miraculous the way manufacturing efficiency and competition have combined to keep prices low. It's a very high-value product, always has been.

As our name says clearly, we're an audio company. We're not doing telephones, VCR's, or big-screen TV's. We wear a couple of hats in the audio industry, and one of them is American. Of course, we've been sourcing some of our traditional products—phono cartridges, microphones, stereophones, cables, tape-care products and other accessories—from a variety of countries for a good while. But in 1980 we bought Design Acoustics, a California-based company, moved it to Ohio, and it's very much an American enterprise with American management and staff.

The baby boomers have passed through the system, and the traditional eighteen-to-twenty-five-year-



old market for audio components is not growing, it's diminishing. Of course, many audiophiles continue to buy equipment past the age of thirty-five. This is especially true at the very high end of the market. However, equipment today is of high quality and very reliable. Someone who bought a VCR two years ago probably doesn't have a compelling need to buy a new one, and the same is true of audio components.

Instead of major breakthroughs in the equipment itself, I see refinements for the near future. Size can come down some more if people want it to. Equipment can be concealed better, be built in better if that's what is desired. Speakers are much better today than they used to be, and I think they will continue to improve. Today there's more of a consensus than in earlier years on what constitutes a good loudspeaker, and consequently the top models from several brands are more likely to have similar characteristics.

The resurgence of interest in audio brought about by the compact

disc has greatly enhanced the speaker business. It has also brought a resurgence of interest in such accessories as cables—loudspeaker and interconnect cables. That business is thriving, which means that there is an awareness of and interest in the nuances of good sound. As the program material, loudspeakers, and other components get progressively better, each link in the chain comes under more intense scrutiny. That opens up possibilities to solve little problems that might not have been recognized previously. Cables, for example, *do* make a difference.

But in a quality audio system, *everything* makes a difference. □

*Dr. Amar Bose, Chairman*  
**BOSE CORPORATION**

If I can judge from our own experience, American audio is in a growth situation, because we [Bose Corporation] experienced considerable growth over the last year, even over the last six months. As to what the future holds, it is my opinion that the American economy is rather healthy. I don't see the forces that would be likely to cause the kind of decline we had in 1981-1982.

Considering the currency situation in general, many people believe

**D**esigned in Norwood, Massachusetts, the NAD 6300 cassette deck is a three-head model with Dolby B and Dolby C noise reduction, Dolby HX Pro headroom extension, Dyneq equalization, and a special CAR circuit that provides a 20-dB boost to low-level passages for tapes made for playback on the road. Price: \$898.



**W**orking with the Bose Corporation in Framingham, Massachusetts, Zenith incorporated Bose's Acoustimass speaker technology into its 27-inch digital television. A CD player can also be plugged into the set. Price: \$1,795.



ILLUSTRATIONS BY JEAN TUTTLE

that the minute the dollar goes down, exports should go up. On the surface that looks good, and in the long term I believe it's true. It doesn't happen instantaneously, however. If a customer is used to buying from one source, and someone else walks in from another source—let's say America—and offers the same product at a lower price, you can't expect the customer to shift overnight.

As for the American market, we look at it as being totally unsaturated. According to surveys by the Electronic Industries Association, high fidelity has penetrated to about 30 to 33 percent of American homes, and for those surveys hi-fi is defined as a system with two separate loudspeakers. So the market isn't saturated at all, but many things are changing.

The days of the audiophile interest, I think, are somewhat limited. There are other things to attract the audiophile now—video and personal computers, for example. Such fields, when they are near their birth, attract a great deal of hobbyist interest. As those fields begin to mature, that hobbyist interest naturally begins to wane. I think that's going to be the case with high fidelity. However, I don't see that it will cause a decline in the business at all, because as the audio industry matures, I think we'll see systems that are more compatible with the interests of the general public.

I also think—and hope—that there will be more science coming to the field than there has been lately. In the early days interest was generated by hobbyists, and without that interest we wouldn't have had the field, but it needs more than that to go on. Unfortunately, when it has had more than that recently, it did not come from the Americans. The cassette came from Europe and the compact disc from a combination of Europe and Japan.

I consider the compact disc the best development of the Eighties, and that's the kind of thing that has to come from good science and engineering of major corporations. The United States doesn't have that position in electronics, not just in hi-fi. Nevertheless, I think we will in the future see good music—which is what it is all about—coming to more and more American homes, though perhaps through different channels than it has come to us in the past. □



*Steven Teachout, President*  
**CANTON NORTH  
AMERICA, INC.**

Canton is now beginning to manufacture a line of car audio products in the United States, and we do this in the belief that if we design our products properly and make sure they are manufacturable, we can be competitive. We are making a long-term commitment to come up with products that we can manufacture competitively in the United States and ship not only to the American market but also to European and Japanese markets.

Back in the mid-Sixties it became expedient for certain American companies to import their products because it was cheaper than making them here. They were lulled into a false sense of security, and all of a sudden they had lost not only the *will* to manufacture, but the *facility* to manufacture. In audio, outside of loudspeakers, there is very little manufacturing left in the United States. I get a kick out of hearing Congressmen say that if the dollar goes low enough, people in other countries will start buying American products. Well, in consumer electronics that isn't the case. You cannot buy an American-made VCR. You cannot buy an American-made CD player. I don't even think you can buy an American-made cassette recorder.

I wish I had a crystal ball to analyze how changing demographics and social issues will affect the audio market. I like to think that as the population grows older, the so-called "graying of America" will be good for our kind of product, which is upscale. I have to be careful not to refer to it as "design oriented" because people then dismiss it technically—a lot of them seem to think an audio product has to be ugly to sound good.

In any event, Canton products are designed more for environmental considerations than those of many other companies. Our electronic products are designed more for function than for technofreaks. I'm tired of VCR's that require me to get out a flashlight and put on bifocals to read the little buttons or to get out the instruction manual to pro-

gram the thing. My middle-aged friends don't know how to operate half of this stuff, and so the graying of America may be advantageous for our kind of product. □

*Robert W. Carver, President*  
**CARVER CORPORATION**

Although the American audio market is mature, and its overall growth is basically what can be expected from any mature market, it's still fun to be in this business, and our company is doing fine. Within this market, some categories are growing like wildfire. One, of course, is the compact disc. The aftermarket in car audio, on the other hand, seems to be going down because automobile manufacturers have been increasing the quality of built-in equipment.

What I'm finding now that I'm in the speaker business is that there is a pent-up demand for very high-quality loudspeakers that do something beyond the ordinary—Polk's SDA's do that, and so do my new speakers and some that float a 3-D image in acoustic space across the living room. Bose started this years ago with the combination of direct and reflected sound.

There's an increased awareness of higher-end, more upscale audio. Consumers still want products that can more completely fulfill the dream we all have of making a stereo presentation in the home listening room that is more realistic, more believable, more lovely, and has greater capability of carrying you and your emotions away.

The audio industry has evolved slowly over the years, painfully clawing its way up to the point where we are close to that goal of true high fidelity. They've conquered noise, they've conquered power, they've conquered bandwidth. The fundamentals have all been conquered in such a way that the residuals that are left are outside the envelope of the human hearing mechanism.

What gives audiophiles something to look forward to is the fact that manufacturers are now looking to psychoacoustics for the next evolutionary stage. First, they have to figure out why it's not enough to conquer distortion, power, bandwidth, and so forth, and then they have to find out what to do about it. Yamaha has the DSP-1 signal processor, which addresses some of the



**C**arver's new M-4.0i magnetic-field power amplifier, made in Lynwood, Washington, puts out up to 400 watts per channel into 8 ohms from 20 to 20,000 Hz with no more than 0.5 percent distortion. Price: approximately \$920.

**T**he Audio Research SP9 is a hybrid preamplifier made in Minneapolis. It combines advanced solid-state technology with two 6DJ8 vacuum tubes, one for the phono stage and one for the high-level stage. Price: \$1,695.

**D**iscwasher record-care products are made in Laredo, Texas. The DiscKit contains a D4+ record-cleaning system, a Zerostat antistatic gun, and a SC2 stylus-care system. Price: \$60.



**H**arman Kardon, based in Woodbury, New York, says it will begin delivering its Citation Twenty-Six digital audio tape deck to American dealers in June. The price will be around \$2,000.

**F**rom Hope, Arkansas, comes the granddaddy of American high-end loudspeakers, Klipsch's horn-loaded Klipschorn. Price: from \$3,198 a pair, depending on finish.



psychoacoustic issues. I have my Sonic Hologram and some products coming up that address psychoacoustic issues even further.

Good work is being done to prepare for the next leap forward, and I think we will see huge leaps in the psychoacoustic area within the next several years. Those leaps will be shared international achievements, not limited to the United States, but I think a lot of the early work will be done by small U.S. companies like Carver. □

### *N.W. "Bill" Jasper, Jr., President* **DOLBY LABORATORIES**

For Dolby Laboratories the state of business has never been better. Our business boils down to three basic areas. At the top of the list is Dolby Spectral Recording, or SR, a second-generation noise-reduction system that is being purchased by studios around the world. It's being used for dozens of albums—classical, rock, and pop—and I think artists, engineers, producers, and studio owners are all seeing that with the addition of Dolby SR to the thousands of analog recorders out in the field they can get performance quality that is just as good as if not better than the latest digital audio recorders.

Our second area is the cinema side, the theater business. Last year we sold a record number of cinema processors to the industry around the world. We licensed a record number of Dolby Stereo film productions, almost five hundred worldwide. We are now introducing Dolby SR to the cinema market as well as the recording industry.

Our third area of business is the one most familiar to STEREO RE-



VIEW readers, the consumer level. In the last year we have continued to see very healthy royalty returns from our licensees, the manufacturers of tape equipment that incorporates Dolby technology.

Instead of having a negative impact on our business, the compact disc seems actually to have spurred the sale of cassette decks. Through the CD a lot of people have realized the quality of sound that you can get in a home playback environment and have bought a higher-end cassette deck with Dolby noise reduction to make better-quality cassettes for their cars or Walkmans. Considering the amount of equipment out there—Sony alone has sold thirty million Walkmans—I don't think people are going to stop using cassette recorders for a long time.

In the last year or so we've seen a significant consumer interest in Dolby Surround, and it's gratifying that the public is starting to see the link between the Dolby Stereo movies they see in the cinemas we've equipped and the playback of those same movies in the home via a Dolby Surround decoder. There are well over a million consumer decoders in use now, and there's a high level of consumer interest in these products.

In the future Dolby SR will spur us on as we implement it in all our professional product lines as well as on the cinema side. Anytime we have a new professional system, we always analyze ways to use it in the consumer field, and we are doing a lot of research in that area now. □

### *Thomas K. Lauterback,* *Vice President/Communications* **ELECTRONIC INDUSTRIES ASSOCIATION**

With 1987 sales to dealers of \$8.1 billion and a projection of \$8.7 billion in 1988, the audio market has grown consistently in the past few years. Spurring this growth are compact disc players, portable headset stereos, and portable radio cassettes with CD players.

Perhaps the most exciting news in audio is digital audio tape (DAT) equipment. In both its home-recorder and car-player versions it provides digital quality on a compact cassette. Having survived a challenge by recording-industry groups seeking to alter its recording capability, the technology will be vital to the future growth of the audio market. □

### *Don Duncan, Planning and Marketing Manager* **FORD AUDIO SYSTEMS**

First of all, Ford is in the car business, and that influences our positive view of the state of audio today. I think the entire country was surprised that after October 19 the car business didn't drop any more. It's looking so good, in fact, that our people aren't forecasting any recession at all. As for audio, I couldn't be more optimistic.

Our only problem seems to be a little difficulty we're having in meeting all our customers' needs on time. That's a pleasant problem to have. We supply all the radios for Ford cars in Europe and Canada as well as in the United States, and

## COUNTERPOINT

**I**n the research area in the United States recently the trend has been fairly much the same for both audio and video technology. The companies that used to engage in very good scientific research—the basic research that eventually yielded the products that are now familiar—have simply given it up because the new business climate in the United States favors short-term profits and takeovers.

The minute a company takes over another one, the new managers want to cut expenses and show a better

bottom line. To do this they get rid of things that are long-term benefits but don't show short-term returns. This has happened with many audio companies, but the first unfortunate example I took note of, because it involved both very advanced audio and video development work, was the case of CBS High Tech Center, what used to be known as CBS Labs, in Stamford, Connecticut. When Laurence Tisch took over CBS, he closed it, probably because he saw it purely as a drain on their resources. Although most of the people in the industry know that CBS Labs contributed greatly to both audio and video technology, with numerous patents that must still give the

company some income, it was closed.

When General Electric bought RCA and began looking for ways to cut down overhead, a worse thing happened—worse in my view because it was on a much larger scale. While they didn't close the prestigious David Sarnoff Research Center in Princeton, New Jersey—they probably felt that would result in bad publicity—they tried to give the laboratories away to Stanford Research Institute (SRI).

Unfortunately, SRI was not equipped to accommodate such a large gift. Consequently, the work force was reduced by about 25 percent—losing some of the best brains in the country working on the most advanced projects.



we're going to be supplying Mexico too. To supply that demand we are putting in two new plants with an additional capacity for approximately 2.3 million radios.

The mix of products we sell continues to get richer and richer. People who bought only stereo radios with their cars before are now buying cassette players. Where they bought mid-line cassette units before, they're buying premium players now. They're buying CD's and will eventually be buying DAT players.

We're introducing DAT this year, and we are pleased that other car manufacturers have announced that they are going to do the same thing. Since our unit is a player only, we are not affected by the National Bureau of Standards ruling against the anticopying chip, but we are pleased by the ruling because we hope this means that the industry will move DAT a little further along.

Digital technology has done a lot for the audio industry, but it has also been helped by changes in attitudes. People in the market now—whether you call them baby boomers, yuppies, or some more attractive name—grew up with attitudes about stereo systems that were different from their parents'. When I was a teenager the big thing to do with disposable income was to buy a jalopy. For the younger generation today one of the most important things to buy is a stereo system. Stereo is important to them in their youth and when they are grown up. The whole mentality has changed. Now digital technology has allowed them to upgrade one more notch, and a lot of people are doing it not only in their homes, but in their cars as well. □

*Thomas Jacoby, Vice President*  
**HARMAN KARDON  
AND JBL**

Harman International, with its assortment of manufacturing and distributing companies around the world, is now the largest American-owned high-fidelity manufacturer. With the various brands we own and distribute, our annual business totals slightly under half a billion dollars, and we couldn't possibly do that in the United States market alone. For years we've been operating with a global perspective.

We are very successful in the world's major and secondary markets. JBL, for example, is the leading loudspeaker brand throughout Asia, and it has a significant share in Europe and the United States. Almost all of our JBL products are manufactured in a large, very sophisticated facility in California, and the majority of the manufacturing for Harman Kardon is done in Japan, where the technology and engineering for these products can be found. We are actively involved in trying to bring back to the U.S. some of the production of mainstream audio goods, but as Dr. Sidney Harman [founder of Harman Kardon] has said many times, manufacturing is not like riding a bicycle. Once you get off, it's not easy to get back on.

In this country we don't have a ready supply of parts or a tremendous reserve of talented engineers with a lot of current experience in the latest efficient design of audio

products. We are starting by building up our engineering staff, and we are beginning to manufacture some electronic products at the California facility. As we attract the engineers, we will be making some of the Harman Kardon units there, but that will not happen overnight.

I don't see the demographic changes as necessarily bad for the audio business. The generation coming to its peak buying power now is distinguished from the prior generation by its familiarity with component audio. We are on the verge of another technological breakthrough with digital technology and the integration of many kinds of products in a whole-house concept of electronics. These lifestyle, environmental, interactive systems can only function through audio. Unless we do something foolish or blow ourselves up, I see a very healthy future for quality audio components. □

*John Eargle, Recording Engineer  
and Audio Consultant*  
**JME ASSOCIATES**

The weak dollar will help mainline companies like JBL and companies like McIntosh and Mark Levinson at the high end, where hi-fi began twenty or thirty years ago. Those people are doing very well.

And America reigns supreme in car audio. All you have to do is listen to what comes as the standard radio in any European luxury car to hear that they give it very short shrift. In terms of expectation of what a car sound system ought to be, they are now where we were perhaps fifteen years ago.

The competition among compa-

*Also, the lab was put in the position of having to peddle its work on a project or piecemeal basis. If these projects can't show a profit, the lab will simply get smaller. You can't predict where research work will take you, so unless there is a change in policy, in my view the Sarnoff Research Center will trickle down to nothing.*

*Here's an ironic result: In the past fourteen years the Japanese have spent in excess of \$100 million researching high-definition television [HDTV], and they are now trying to establish that system. They're not twisting anyone's arm—they have something to offer. It works, it's high technology, and it's the only game in town, so HDTV à la*

*Japanese is being pushed as the future world standard, which will set up a potential market for Japanese manufacturers to make that equipment if the standard is adopted.*

*On the other hand, the David Sarnoff Research Center has spent something like \$70 million, I believe, developing ACTV [advanced compatible television], and the project engineers claim now that with \$40 million more they could make it operational. That's peanuts considering this potential multibillion-dollar market. But no one has come forward to offer them the \$40 million. The National Association of Broadcasters, one of the richest organizations in the country, can't*

*seem to find it in their hearts to fund domestic research. They seem to want to go along with what somebody else gives them for free, but you know the old business about there being no such thing as a free lunch. Usually there's a string attached.*

*The current situation concerns me because if we continue to follow the same pathway, we will end up being a country where we just sell each other hamburgers and sue each other, because those are the two fastest growing parts of the American economy. I don't want to see that happen.*

—Joseph Roizen, President  
TELEGEN, Palo Alto, California

nies like Ford and General Motors has been very healthy for the automotive group, and the aftermarket people, the ones who proved to the car manufacturers that there was a market in automotive sound, have shown great creativity. Their innovations include such things as increasing power bandwidth and lowering distortion. In this field competition is bitter, but it has served the consumer in terms of more products to choose from, lower prices, and better performance.

An area that is very important to audio and one where America really sits on top is innovation in software. Small companies like Telarc and Delos were pioneers in digital recording, and they got a hefty lead in the race to build digital catalogs. Overall, American record companies do more creative programming in generating records that have broad appeal. □

*Michael Koss, President*  
**KOSS CORPORATION**

Here at Koss we are very, very bullish on the audio business, and we expect it to grow considerably over the next year. There are two main reasons for our optimism. The first is the merger of audio and video. Developments like stereo TV and hi-fi VCR's have expanded the business and helped centralize it in a whole home entertainment system. That has given rise to new technology, such as surround sound. Sound has been the driving force behind many of the recent changes in video—getting that full, rich sound of the theater instead of what comes out of the little 3-inch speaker in your television set. Sound quality, that's what it's about, and we're excited about it because we have some products that can take advantage of this merger of audio and video. Audio is the most exciting thing about video.

The other thing that excites us, of course, is digital technology, whether it's CD or DAT. There are now many more people interested in listening to music than there were before the advent of the compact disc. This has already helped to drive the business upward, and it bodes well for the future of the audio industry. First, people buy a CD player, and then they realize the quality is so outstanding that they want to upgrade the rest of their systems. That's meant a very exciting



time for those of us in the stereo-telephone business. Listening through quality stereophones is the most efficient way to listen to CD's, and it adds a critical dimension. You get the full bandwidth and also that incredible dynamic range, which is tough to do with a large full-range loudspeaker unless you spend a lot of money.

Stereophones have become a heck of a big business. It's really changed suddenly, and we're expecting even more excitement in the next couple of years. Portable CD players, stereo television, the whole infrared area—these things have really opened up for us. And we've got a couple of new things on the drawing boards right now that are going to raise some eyebrows. □

*Ruth Werback, President*  
**LINEAR POWER**

In 1974, there were no high-power amplifiers available for the car, and the low-wattage units that were available were all manufactured overseas. In 1975, Linear Power changed all that, making high-quality, high-power automotive amplifiers in Northern California. There were many people who thought we were crazy. They were quick to point out that labor rates were too high in the U.S., that U.S. government policies made exporting difficult, that labor unions were difficult to deal with, and that the buying public perceived U.S.-made electronics as inferior. Well, they were right, but thirteen years later Linear Power is having yet one more record-breaking year.

The keys to our success are the simple facts that we listen to our customers, treat our employees well, and pay an incredible amount of attention to quality control. Not even Detroit's restrictive option policies, which virtually force new car buyers to purchase an expensive and usually inferior stereo system, can hurt our business. The simple fact that we build the products our customers really want and build them better than anyone has the right to expect means that Linear Power will continue to grow and thrive in a highly competitive business. □

*James Twerdahl, President*  
**MARANTZ COMPANY**

Despite changes in its product lines and marketing strategy, Marantz has always been 100 percent American-owned, and to paraphrase Merrill Lynch, we are very bullish on America. Because of the changing world currency situation and because the markets worldwide are tending to equalize, we believe this country is going to be a good place to manufacture again, and through internal developments or acquisition we have high hopes of again becoming a true American manufacturer very soon.

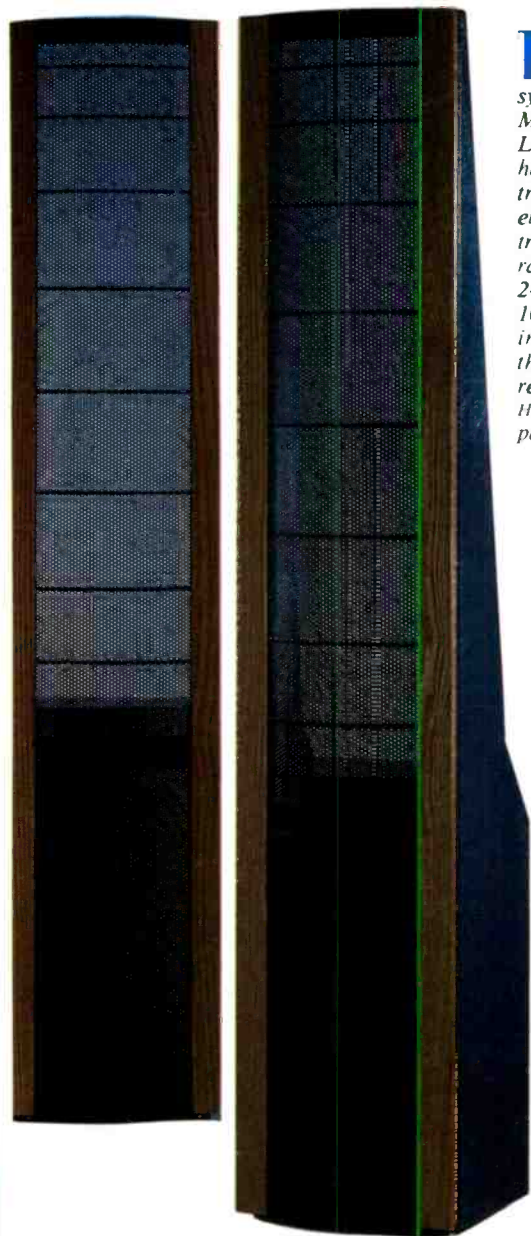
Last year I announced that Marantz intended to be the first to introduce a DAT unit in this country, but this situation has become very volatile. We recently contacted seventeen different Japanese manufacturers and two or three in Korea. Apparently, the Koreans do not yet have the DAT technology. Sixteen of those in Japan said they were unable to supply DAT machines for export to the United States because of the political situation. (And this was after the report of the National Bureau of Standards!) Our hope to introduce DAT hardware in this country is undiminished, but the seventeenth manufacturer, which said it would manufacture the equipment for us, is a supplier we have never dealt with before, so I still have to be vague about a target date for market introduction.

What is encouraging to me about the state of American audio today is that there are so many companies—both long-term companies and fledglings—that are doing quite well in audio. The high-end market may not be growing at 50-percent rates per year, but it's doing very nicely, and the enthusiasm for audio as a hobby and as a passion seems to be as great as it has ever been. □

*Sandy Gross, Vice President*  
**POLK AUDIO**

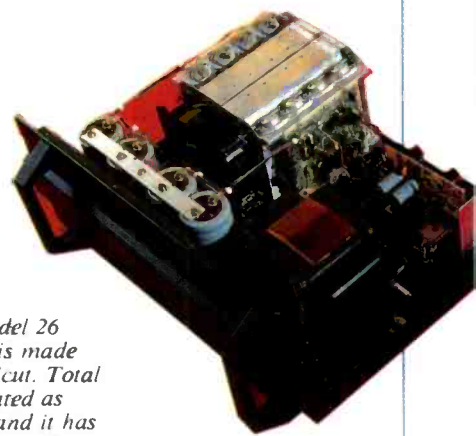
In the beginning of hi-fi, although important work was done all over the world, America was the center, and that's where the vitality of this business originated. In recent years, for various economic and political reasons, the center has moved away in many respects. Now it's moving back. We are taking a much stronger position in the world market because the value of the dollar today

**A**pogee Acoustics' loudspeakers, made in Randolph, Massachusetts, are all full-range ribbon systems with seamless internal crossovers and trapezoidal low-frequency ribbons. The speakers range in size from 48 to 80½ inches high and in price from \$1,995 to \$8,000 a pair.



**T**he Sequel speaker system from Martin-Logan in Lawrence, Kansas, has a visually transparent electrostatic transducer for the range from 200 to 24,000 Hz and a 10-inch subwoofer in a tuned chamber that extends the response down to 26 Hz. Price: \$2,750 a pair.

**H**after's XL-600 MOSFET amplifier has a rated frequency response of 10 to 50,000 Hz  $\pm 0.1$  dB. It is assembled in Tempe, Arizona, and lists for about \$1,200.



**T**he Mark Levinson Model 26 dual-mono preamplifier is made in Middletown, Connecticut. Total harmonic distortion is rated as less than 0.005 percent, and it has an absolute-phase switch for the main outputs. Price: \$3,990.



makes American products more affordable in other countries.

At Polk Audio we have always conceived of ourselves as "the speaker specialists," and we now no longer consider just the domestic market but have broadened our focus and see ourselves as a world supplier of speakers. I think this applies not only to us, but it's a major trend in American audio in general.

Good performance is not the only important aspect of product design. American companies have usually had a good, realistic concept of balancing the many factors that go into designing products that offer value as well as extremely high performance. You have to concentrate on technology, of course, but we are now also focusing on the manufacturing aspect very strongly, because you have to keep those costs down so that prices can be reasonable for consumers.

I see no loss in American technical ingenuity, but it must have a nurturing environment. The current export possibilities are enabling companies to give creative American designers the conditions they need. America has always been a place where engineers could get together with marketers and other business people and start a company in a garage and build it. Polk Audio is an example of that. Creative vitality of this kind has never been greater in the United States.

Audio is technology and business, but it's also an art. If I stress the creative aspect, it's because you can't just design a product by computer, although computers are useful tools for designers. Americans have always realized that it's the human being who originates the concept and can evaluate how well the product lives up to that concept. That's the part I think of as art. □

*Dan McGrath, National Sales and Marketing Manager*

### **PRECISE ACOUSTIC LABORATORIES, INC.**

I can't think of a more positive way to demonstrate faith in the American economy and in the vitality of the American audio market than to launch a new brand or company here. That's what Precise Acoustic Laboratories is doing this spring in introducing its new speaker line. The company is financed by Onkyo,



but it is important to understand that these speakers are made in America to American designs for American consumers. Our factory is in Tiffin, Ohio.

To develop speakers that would please buyers in the United States the company engaged the distinguished engineer Keith Johnson, well known for his work with Reference Recordings. For his recording work Keith has designed his own microphones and his own custom-built mixing console, and because of his intimate knowledge of studio monitors, he was given a completely free hand in designing the speakers for Precise Acoustic Laboratories. Bypassing exotic approaches and unconventional technology, Keith has taken much of the conventional wisdom of speaker design and refined it to a higher plane.

We realize that success in the American market depends on good distribution, and we are working with independent retailers to build a superior distribution system. We also know, of course, that in a market where there are already many excellent speakers the most important ingredient of success is a superior product. We are confident that we have got that. □

*Bernard Appel, President*  
**RADIO SHACK**

Radio Shack takes a very positive view of the American audio market. Our business was not adversely affected by the stock-market crash, and our video sales, which are extraordinarily good, are showing tremendous gains. Audio is not growing at the same rate for us, but it has been a good steady business.

You shouldn't try to track market trends by us. Radio Shack tends to do better in a market as it matures. We don't necessarily get the advantage of a boom market, but as it matures and discount houses stop going in for cutthroat competition, we come along with a basic line and do a lot more business.

We source some of our audio products in the United States, such as recording tape, some headphones, microphones, and accessories, but not major component equipment. At present we have no

plans to bring audio manufacturing—such as receivers—back to this country.

I don't foresee major changes in audio in the near future. The CD player, which is a very good item, has certainly added some momentum to the merchandising, but I don't think it will change the whole complexion of component audio. I think the popular-priced digital audio tape player is a long way off. If you can't record with it, it's useless as far as I'm concerned. That question must be resolved before it can have any impact in the American market. □

*Jim Kogen, President*  
**SHURE BROTHERS**

There are two areas of American audio that most interest Shure Brothers at present. The first is the continuing demand for phonograph cartridges. Even though it's not at the forefront of technology—people are all excited about digital things—the phonograph record is still basic to audio. Retailers continue to sell phonograph records, and last year there was even a shortage of turntables in the stores.

Many people have enormous investments in large and valuable collections of records. They realize how dangerous an inferior or worn stylus can be and recognize the need to replace the stylus and cartridge from time to time. The market for replacements is beginning to stabilize. Since we see this as a viable business, we intend to continue making phonograph cartridges of the highest quality indefinitely.

The second area of major interest to us is the great movement toward home-theater sound. It's clear that more and more people watch movies at home, and such a tremendous market has developed in rental tapes and discs that Hollywood studios are not only releasing new films but rereleasing old movies for home viewing. It's also clear that people respond to better sound in theaters—such as Dolby Surround sound—and will certainly respond to it at home.

We think that as this market grows there will be more sophisticated users, people who are looking for a high-quality product just as they did with high fidelity. Shure has a surround-sound decoder—we call it the Home Theater Sound System—and we are developing tech-



**P**olk's SDA-1C loudspeakers use a Stereo/Dimensional isophase crossover system to blend all twelve active drivers of the system. Made in Baltimore, Maryland, they list for \$1,600 a pair.



**B**oston Acoustics makes its car speakers in Peabody, Massachusetts. In the foreground is the Varimount 701 tweeter, which is rated for a frequency response of 4,000 to 20,000 Hz  $\pm$  3 dB. Price: \$100 a pair.

**M**cIntosh's MCD 7005 is a full-featured 16-bit compact disc player with four-times oversampling and a wireless remote with a volume control. It is made in Binghamton, New York. Price: \$1,599.



**M**anufactured in Wheeling, Illinois, by Shure Brothers, the HTS 5000 Dolby Surround audio processor features Shure's patented Acra-Vector logic decoder circuitry, an Acoustic Space Generator, variable time delay, and six output channels. Price: \$749.

nology to push the state of the art to satisfy the most critical requirements. We plan to be at the hi-fi end of home-theater sound. □

*Eric Abraham, audio dealer*  
**SOUND GOODS**

Like most independent retailers who sell a good percentage of American audio products, we have experienced considerable sales growth since Black Monday. Contrary to our initial fears, consumers have kept buying, and there's a trend toward higher-ticket systems.

My stores are in Campbell and Mountain View, California, bracketing Silicon Valley, and sales are very strong out here. I don't concentrate on American products—I sell what the consumer wants to buy—but looking around my warehouse I see products from companies like Hafler, PS Audio, and Conrad-Johnson, which are decidedly American, and they sell very well. Polk Audio always does well for me. The consumers continually upgrade, especially in electronics, and it's funny how they eventually end up buying American.

I don't think of myself as a high-end dealer. I try not to be a snobbish "salon." Our average system costs about \$1,800, which is not at either extreme. Our customers are mostly educated people at the upper-middle income level. Typically they're married and settled and have a home and a couple of kids. They've been through the department-store rack systems and several tradeups. At some point these customers tend to leave the Japanese electronics industry behind and start to integrate American components, not because of any flag-waving or patriotism, but simply because they appreciate the sound quality more. It's an aesthetic thing.

It's difficult to forecast the future, but the compact disc is obviously here to stay, and the better players are selling in greater numbers than before. We're seeing quite a few \$1,500 and \$2,000 players move in quantity, which means that entire systems are being upgraded.

I think people will always enjoy good stereo. Their ears become accustomed to better sound through better equipment, and they'll want even better sound next year. It's a process that tends to perpetuate itself. Apparently there is no end to the thirst for that reality, that sense



of being live in a concert-hall situation. For that reason I think the future is very bright. □

*Ralph E. Yeomans, President*  
**SOUNDCRAFTSMEN, INC.**

The audio consumer is becoming more and more concerned with separate components and higher quality. Two-thirds of Soundcraftsmen's business is in amplifiers now, and that's the part of our line that's expanding the fastest. With a view to providing the needed high-quality products for the expanding audio-with-video market, we've recently added both lower-powered and higher-powered amplifiers to our product line.

We are very proud of our manufacturing plant here in Santa Ana, California, where all of our amplifiers and almost all of our other products are made. When the dollar and the yen had different values, and when labor costs here and in the Orient were much more disparate, we had a tough time competing with foreign companies as well as with American distributing companies that actually had their products made in the Far East. There has been some change in that situation—though not a revolution—and the American level is now stronger.

Our company has always excelled in smaller-quantity manufacturing, where hand craftsmanship, entrepreneurship, and innovative engineering play major roles in creating fine products at reasonable prices. As we are very much a specialized company, we are more concerned with state-of-the-art improvements in power-amplifier circuitry than with so-called visionary products. In my opinion DAT has been overblown as to its impact on sales of currently available products, since it is a revolutionary advancement in technology, yet it can readily be added to existing systems.

Nor do I think that demographic changes will affect the market much, although Soundcraftsmen is expanding sales to all ages and income groups as high-quality audio becomes more important to the average person. Some people see

our higher-end area of audio as static or stable, but as far as I'm concerned, it is a growth industry. □

*Randy Patton, Vice President*  
**SUMO**

American audio is alive and well, and the upscale portion of it that Sumo addresses has rebounded from the recession of the early Eighties and is doing very well. Underlying that segment is the enthusiast interest in music that will always be there. Against the backdrop of that enthusiast interest, two things have come along to stimulate the growth of the high end or quality end of American audio.

One is the influx of new technology. Digital technology in the form of the compact disc and the promise of digital audio tape (DAT) has done a lot to bring people to the stores. The other is the combination of audio and video. An important part of what will be happening is the development of the media room, the home theater, or even multiroom audio/video installations. Home installation may go beyond the strictly retail level. There are already people specializing in home installations who work with architects, designers, and contractors as homes are being built or renovated.

I don't think audiophiles, those who will go to extreme lengths to get absolutely the best sound, are becoming extinct. They will always form the backbone of the kind of business that Sumo conducts. I'm not sure they provide more than a third of it at present, but they have great influence on a growing number of upscale buyers who may not read the enthusiast magazines but are interested in good equipment.

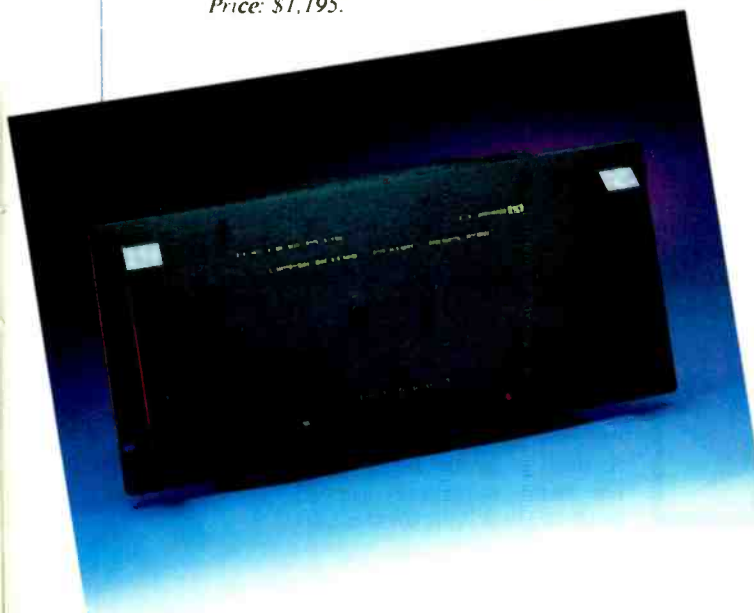
People who don't know Sumo may be surprised to learn that it is a privately owned American company, based in Chatsworth, California, that manufactures exclusively in its own facility. We take pride in the fact that we manufacture in this country and that our products are gaining in stature and reputation in a specific niche in audio. The name Sumo has a universal meaning that transcends language, communicating a sense of strength and power. The paradox that an American audio company has a name like Sumo suggests that we are prepared to turn the tables and manufacture products that can be successfully sold in the Orient. □



**S**oundcraftsmen's CD750 CD player, from Santa Ana, California, features Spectral Gradient and Differential/Compander circuitry. Price: \$599.



**T**he PS Audio 100C amplifier, manufactured in San Luis Obispo, California, features JFET inputs and high-speed bipolar Class AB outputs. Price: \$1,195.



**S**umo's Nine Plus amplifier, made in Chatsworth, California, has a Class A design and offers 65 watts per channel into 8 ohms from 20 to 20,000 Hz with less than 0.10 total harmonic distortion. Price: \$1,099.

**A** LOVE of music was a common theme of the interviews in this survey, and most of the industry representatives spoke of their pride in their products. This widespread positive attitude reinforces my faith that American audio is in good hands and in good health.

Paul Gelardi, vice president of Shape, Inc., says that he encourages young American entrepreneurs to enter the electronics field even though they must compete with enormous multinational conglomerates. Shape, which he and his brother Anthony Gelardi founded in the Seventies as a small tape business, has grown into a vast high-tech manufacturing company. Its most recent advance in audio is the Unit Disc Manufacturing System, claimed to be the most cost-efficient machinery for pressing compact discs. It was developed at Shape by Art LeBlanc, an American engineer still in his twenties, which may have influenced Gelardi's view that America has not lost its edge in inventiveness.

Designers at U.S. headquarters for Sony in Park Ridge, New Jersey, have initiated a colorful line of hi-fi products for children, My First Sony. It may extend the younger portion of the American market for hi-fi. At the opposite extreme, David Moran, president of the Boston Audio Society, sees an open field in the graying of America.

"There's a blue-sky market among fifty- and sixty-year-olds," Moran says. "They want to get rid of their old KLH systems and get—I won't say their final systems—but something with projection TV, Dolby Surround, and fancy American speakers from Polk, dbx, or Allison. Price tags don't faze them."

Which companies prosper will depend on how they react to economic, technological, and demographic changes and how we consumers respond to their products. In addressing the International Tape/Disc Association seminar in Tucson, Dr. Peggy Morrison, a management consultant, advised those present to learn to use change constructively, to accept it not as an event, but as a constant in daily life. "Change is not a phenomenon," she said. "It is on-going, a norm." □

# NORTH OF THE BORDER

Canada's world-class audio equipment

**I**N terms of choice, Canada has always been an audiophile's Valhalla. For one thing, virtually all of the major American and Japanese brands are widely available, although at premium prices. (Canadian enthusiasts routinely pay half again as much for the same piece of equipment as their cousins below the border.) In addition, a much greater selection of European audio gear, mostly British, has traditionally been available in Canada than in the States.

Because of the wide array of foreign products, a home-grown audio manufacturing industry was relatively late to develop. By the early 1970's several companies were producing single-cabinet stereo systems, and there were the beginnings of a speaker industry, but Canadian products remained primarily low-end. Discriminating listeners usually looked abroad for top-quality equipment—and resigned themselves to paying a substantial price for it.

But the rarity of Canadian-designed audio components didn't reflect a lack of interest on the part of buyers, and it was inevitable that some Canadian audiophiles would assume a more active role than merely being customers. Among the early outfits that challenged the international audio companies were Bryston Electronics, whose amplifiers quickly gained a reputation with high-end audio consumers and recording engineers alike, and Dayton Wright, whose distinctive electrostatic speakers were much acclaimed. Both brands gained substantial followings outside of Canada—larger follow-

ings, perhaps, than on their home turf.

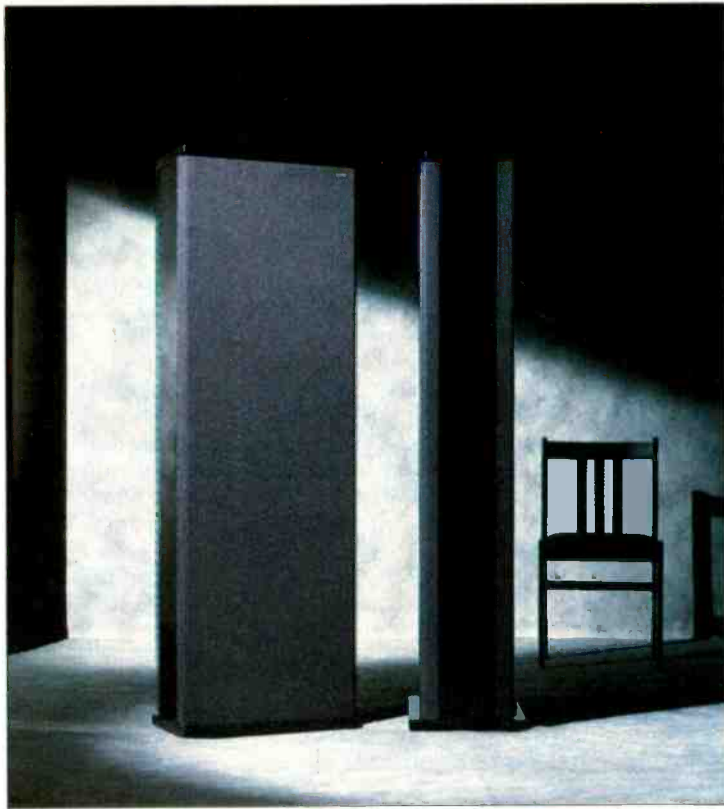
Electronics and specialty speakers have not been the major growth area for Canadian audio, however. Instead, a new breed of designers emerged, designers who had faith in the conventional dynamic speaker, and they set out to build a Canadian industry based on it. Part of the motivation for this was economic, of course—a small company can often get into the speaker business with relatively little capital outlay—but there was more to it than mere monetary considerations. For the past twenty years, Canadian audio has boasted a resource that gave speaker designers the confidence to take on the world's major audio companies and win, at least in their domestic market.

The Canadian federal government maintains a body called the National Research Council whose mandate is to provide technical support for Canadian manufacturers in a wide range of fields. The NRC performs original research, as well as various sorts of testing, and makes the fruits of its labors available to any Canadian company that asks for it. One of the most active of the NRC's scientists is Dr. Floyd E. Toole, who began a program in the 1960's to bring subjective speaker evaluation into the realm of real science and to devise measurements that would correlate closely with the results of listening tests. Toole's work was publicized early by the country's audio magazines, first *AudioScene Canada* and more recently *Sound & Vision*. The testing program he devised for these magazines served both to shed light on the cur-



by Ian G. Masters





**T**he bipolar *Mirage M1*, made by Audio Products International in Markham, Ontario, has identical driver complements on its front and back panels: a  $\frac{3}{4}$ -inch tweeter, a  $4\frac{1}{2}$ -inch midrange, and an 8-inch woofer. Each woofer has its own subenclosure, and the system stands 5 feet high. Frequency response is rated as 25 to 23,000 Hz. Price: \$4,000 a pair.

**C**lements Audio, in Richmond Hill, Ontario, uses 7-inch ribbon high-frequency drivers in its *RB-8.0* (left) and *RB-6.5* speakers. Both are available finished in hand-rubbed rosewood or oak. The 26-inch-high *RB-8.0* has a list price of \$1,300 a pair; the slightly smaller *RB-6.5* lists for \$1,100 a pair.



**M**eitner Audio in St. Laurent, Quebec, offers the *PA 6i* preamplifier (above, left) with a wired or wireless remote control. Price: \$2,295 with wireless remote. The *MTR-101* mono-block amplifiers (right) are rated for 100 watts each into 8 ohms and feature protection circuits located outside the audio path. Price: \$1,600 each.

rent state of speaker performance, in Canada and abroad (not very advanced in either case), and to attract loudspeaker manufacturers to the NRC's laboratory in Ottawa, Canada.

Beginning with PSB Speakers in 1973, most of the main speaker companies in Canada have used the NRC's measurement equipment and Toole's listening program to fine-tune their products. The speakers that have come out of this process were specifically designed to do well in the tests devised by Dr. Toole, and the best of them now regularly score higher than the majority of speakers from elsewhere in the world. They include such notable music reproducers as the Energy and Mirage lines made by Audio Products International (perhaps Canada's largest audio manufacturer), the Paradigm, and many others. There have also been several foreign manufacturers that have used the NRC's facilities. The program, which has continued to develop, is now one of the most advanced such

efforts in the world, and Dr. Toole has been recognized as one of the international leaders in speaker testing and subjective evaluation.

Gradually, domestic products have been taken to the hearts of Canadian audiophiles, and today the majority of speakers sold in the country are designed and built there. Both American and British speakers still sell briskly, to be sure, but more and more buyers are choosing speakers with such names as Angstrom, Axiom, Audiosphere, Camber, dB Plus, Laser, Mirage, Paisley, Sound Dynamics, Szabo, and Waveform—all Canadian brands. Many others purchase speakers that bear internationally known names but are actually produced in Canada.

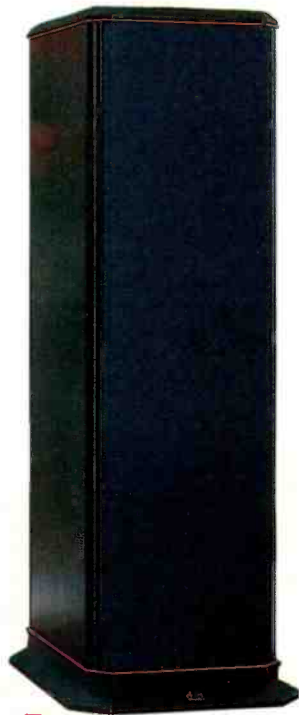
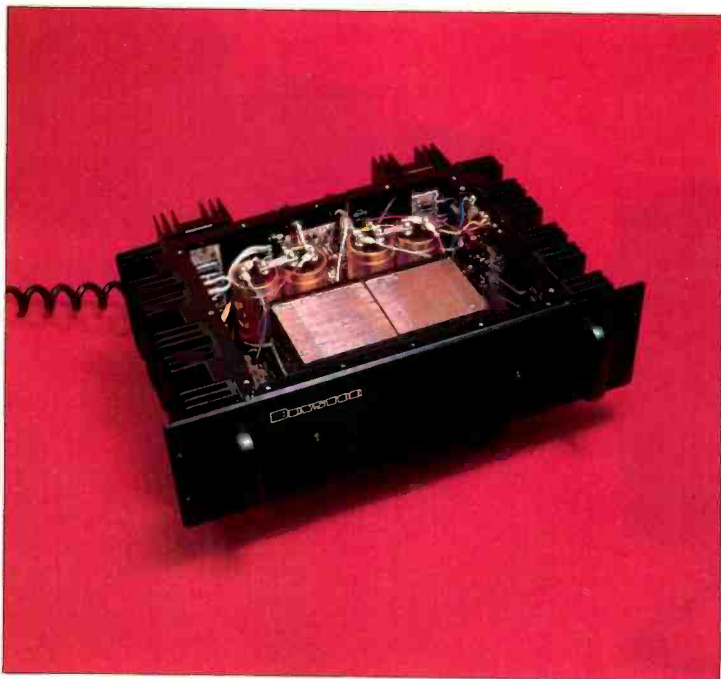
While speakers still account for the bulk of Canadian-made audio equipment, more and more companies are venturing into other areas. The granddaddy, Bryston, continues to impress the international community with its fine electronics line, and it has been joined in recent

years by such high-end brands as Meitner and Classé (pronounced Class A). Specialty products, such as Magnum Dynalab's FM Sleuth, are now being exported, along with the striking Oracle turntables.

The future for Canadian hi-fi companies is both bright and somewhat daunting. Already, the major players are beginning to penetrate foreign markets, and the projected free trade agreement with the United States—if it ever happens—can be expected to encourage more exports, at least by the companies capable of meeting the much-increased demand for good high-fidelity equipment.

But whatever happens on the export front, Canadian manufacturers have gained a secure position in their home market. Most of them believe that the performance levels achieved by the best Canadian products are equal to or better than any the rest of the world has to offer. And Canadian audiophiles are now agreeing in ever greater numbers. □

**B**ryston's dual-mono Model 4B amplifier, made in Rexdale, Ontario, is rated for 250 watts per channel, but it can be bridged for an output of 800 watts. Total harmonic distortion is rated as 0.0003 percent. Price: \$1,595.



**F**rom Toronto, Ontario, comes PSB's Stratus tower speaker. The 37½-inch-high two-way system uses an 8-inch polycone woofer with heightened midrange response and a ferrofluid-cooled tweeter. Price: \$1,400 a pair.

# AMERICAN AUDIO COMPANIES

**Ace Audio**, 532 5th St., East Northport, NY 11731. *Accessories, signal processors.*  
**Acoustat (Division of Rockford Corp.)**, 3101 Southwest First Terrace, Fort Lauderdale, FL 33315-3380. *Power amplifiers, preamplifiers, speakers.*

**Acoustic Interface**, P.O. Box 6632, Santa Barbara, CA 93160. *Speakers.*

**Acoustic Research**, 330 Turnpike St., Canton, MA 02021-2703. *Receivers, power amplifiers, preamplifiers, integrated amplifiers, tuners, turntables, speakers, compact disc players, accessories, car components.*

**ADC (Division of dbx)**, 71 Chapel St., Newton, MA 02195. *Power amplifiers, preamplifiers, tuners, turntables, cartridges, signal processors.*

**Adcom**, 11 Elkins Rd., E. Brunswick, NJ 08816. *Power amplifiers, preamplifiers, tuners, preamp/tuners, cartridges, accessories, compact disc players.*

**a/d/s/ (Analog and Digital Systems)**, One Progress Way, Wilmington, MA 01887.

*Receivers, integrated amplifiers, tuners, preamp/tuners, turntables, cassette decks, accessories, speakers, compact disc players, car components.*

**Advent (Division of International Jensen)**, 4136 N. United Parkway, Schiller Park, IL 60176. *Speakers.*

**Aero (Acoustic Engineering And Research Organization)**, Baltimore Washington Industrial Park, 8332 Bristol Court, Jessup, MD 20794. *Speakers.*

**Alaron**, 185 Park St., P.O. Box 550, Troy, MI 48099. *Pocket stereo, car components.*

**Allison Acoustics**, 7 Tech Circle, Natick, MA 01760. *Speakers, signal processors.*

**Allsop**, P.O. Box 23, Bellingham, WA 98227. *Accessories.*

**Alphasonik**, 701 Heinz Ave., Berkeley, CA 94710. *Car speakers.*

**Altec Lansing**, Milford, PA 18337. *Speakers, car components.*

**American Acoustics (Mitek Group)**, One Mitek Plaza, Winslow, IL 61809.

*Speakers, signal processors, accessories, car components.*

**Aparture (ACR Industries)**, RFD #1, Rt. #2, Preston, CT 06360. *Speakers, accessories.*

**Aphex Systems**, 13340 Saticoy St., W. Hollywood, CA 91605. *Signal processors.*

**Apogee Acoustics**, 35 York Industrial Park, Randolph, MA 02368. *Speakers.*

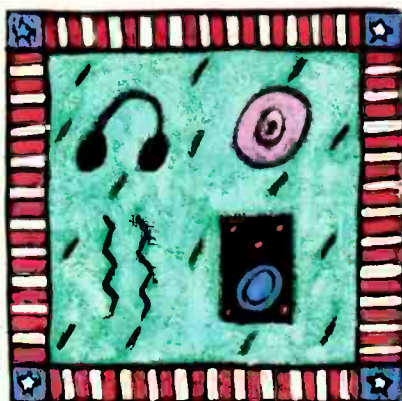
**Apt**, 176 Walker St., Lowell, MA 01854. *Power amplifiers, preamplifiers.*

**ARA Manufacturing**, 606 Fountain Parkway, Grand Prairie, TX 75050.

*Accessories, car components.*

**ARC**, 2510 N. 47th St., Suite HH, Boulder, CO 80301. *Speakers, crossovers.*

**Art Audio by OWI**, 1160 Mahalo Place, Compton, CA 90220. *Speakers.*



by Michael Smolen and Mark Lazarus



**Astatic**, Harbor & Jackson Sts., Conneaut, OH 44030-0120. *Cartridges.*  
**Audio Concepts**, 1631 Caledonia St., La Cross, WI 54603. *Speakers, signal processors.*

**Audio Control**, 6520 212th St., Lynnwood, WA 98046. *Signal processors, car components.*

**Audio Design Associates**, 602-610 Mamaroneck Ave., White Plains, NY 10605. *Custom remote-control systems.*

**Audiomobile**, 1575 Executive Dr., Elgin, IL 60120. *Car stereo: power amplifiers, preamplifiers, speakers.*

**Audionics**, P.O. Box 70, Heber City, UT 84032. *Power amplifiers, preamplifiers, signal processors, accessories.*

**Audio Research**, 6801 Shingle Creek Parkway, Minneapolis, MN 55430. *Power amplifiers, preamplifiers, signal processors, accessories.*

**AudioSource**, 1185 Chess Dr., Foster City, CA 94404. *Speakers, signal processors, accessories, car components.*

**Audio-Technica**, 1221 Commerce Dr., Stow, OH 44224. *Cartridges, headphones, speakers, accessories.*

**Audiovox**, 150 Marcus Blvd., Hauppauge, NY 11787. *Amplifiers, preamplifiers, signal processors, speakers, car components.*

**Autotek**, 855 Cowan Rd., Burlingame, CA 94010. *Car stereo: head units, speakers, amplifiers.*

**Babb Audio**, 3230-A Towerwood, Farmers Branch, TX 75234. *Car speakers.*

**B&K Components**, 1971 Abbott Rd., Lackawanna, NY 14218. *Power amplifiers, preamplifiers.*

**Barcus-Berry**, 5500 Bolsa Ave., Suite 245, Huntington Beach, CA 92649. *Signal processors.*

**Bedini Amplifiers**, 16220 Orange Ave., Paramount, CA 90723. *Power amplifiers, preamplifiers, accessories.*

**Belles Research**, P.O. Box 307, A1 Country Club Rd., East Rochester, NY 14445. *Power amplifiers, preamplifiers.*

**The David Berning Company**, 11007 Candlelight Lane, Potomac, MD 20854. *Power amplifiers, preamplifiers.*

**B.E.S. (Bertagni Electroacoustic Systems)**, 12753 Moore St., Cerritos, CA 90701. *Speakers.*

**Beveridge Loudspeakers**, 8141 E. 2nd St., Suite 515, Downey, CA 90241. *Speakers.*

**BGW Systems**, 13130 S. Yukon Ave., Hawthorne, CA 90250. *Amplifiers.*

**Bose**, The Mountain, Framingham, MA 01701. *Speakers, car components.*

**Boston Acoustics**, 247 Lynnfield St., Peabody, MA 01960. *Speakers, car components.*

**Boulder Amplifiers**, 4850 Sterling Dr., Boulder, CO 80301. *Power amplifiers, preamplifiers, accessories.*

**Bozak**, 326 South St., New Britain, CT 06051-3721. *Speakers.*

**Bush Industries**, One Mason Dr., P.O. Box 460, Jamestown, NY 14702-0460. *Audio furniture.*

**California Audio Labs**, 21962 Annette Ave., El Toro, CA 92630. *Compact disc players.*

**Calrad Electronics**, 819 N. Highland Ave., Los Angeles, CA 90038. *Speakers, accessories, car components.*

**Carver**, P.O. Box 1237, Lynnwood, WA 98046. *Receivers, power amplifiers, preamplifiers, tuners, speakers, signal processors, compact disc players, accessories, car components.*

**Cello**, 315 Peck St., Bldg. 23, New Haven, CT 06513. *Cartridges, power amplifiers, preamplifiers, signal processors.*

**Cerwin-Vega**, 555 E. Easy St., Simi Valley, CA 93065. *Speakers, car components.*

**Chapman Sound**, P.O. Box 18123, Seattle, WA 98118. *Speakers.*

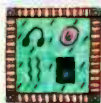
**Conrad-Johnson**, 2800R Door Ave., Fairfax, VA 22031. *Power amplifiers, preamplifiers, speakers.*

**Convergent Audio Technology**, 24 Falcon Dr., West Henrietta, NY 14586. *Power amplifiers, preamplifiers.*

**Counterpoint Electronic Systems**, P.O. Box 12294, La Jolla, CA 92037. *Power amplifiers, preamplifiers, moving-coil amplifiers.*

**Craig Corporation**, 921 W. Artesia Blvd., Compton, CA 90220. *Car stereo: head units, power amplifiers, speakers, signal processors.*

**Custom Woodwork & Design**, 7447 S. Sayer, Bedford Park, IL 60638. *Audio furniture.*

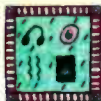


**Dahlquist**, 601 Old Willets Path, Hauppauge, NY 11788. *Speakers.*  
**DB Systems**, Main St., Rindge Center, NH 03461. *Power amplifiers, preamplifiers, signal processors, accessories.*  
**dbx (Division of BSR)**, 71 Chapel St., Newton, MA 02195. *Power amplifiers, preamplifiers, tuners, speakers, signal processors, compact disc players, accessories, test equipment.*  
**DCM**, 670 Airport Blvd., Ann Arbor, MI 48100. *Speakers.*  
**Delco Electronics**, One Corporate Center, Kokomo, IN 46902. *Car stereo: head units, power amplifiers, speakers.*  
**Dennesen Electrostatics**, 715 Hale St., P.O. Box 51, Beverly, MA 01915. *Power amplifiers, preamplifiers, cartridges, tonearms, speakers, signal processors, accessories.*  
**Design Acoustics**, 1225 Commerce Dr., Stow, OH 44224. *Speakers, car components.*  
**Desktop Loudspeaker Systems**, P.O. Box 3340, Rosedale Station, Kansas City, KS 66103. *Speakers.*  
**Discrete Technology**, 2911 Oceanside Rd., Oceanside, NY 11572. *Power amplifiers, preamplifiers, cartridges, tonearms, speakers, signal processors, accessories.*  
**Discwasher**, 4309 Transworld Rd., Schiller Park, IL 60176. *Accessories.*  
**Dynaudio**, 8982 Table Bluff Rd., Cross Plains, WI 53528. *Car speakers.*  
**Dynavector**, 1721 Newport Circle, Santa Ana, CA 92705. *Cartridges, tonearms.*  
**Ego Systems**, 23 Pleasant St., #2, Northampton, MA 01060. *Speakers.*  
**Electro-Voice**, 600 Cecil St., Buchanan, MI 49107. *Speakers.*  
**Eminent Technology**, 508 Cactus St., Tallahassee, FL 32301. *Cartridges, tonearms.*  
**Empire Scientific**, P.O. Box 486, 55 Bloomingdale Rd., Hicksville, NY 11802. *Cartridges, speakers.*  
**Epicure Products (EPI)**, 25 Hale St., Newburyport, MA 01950. *Speakers, car components.*  
**Epoch by Stanton**, Terminal Dr., Plainview, NY 11803. *Cartridges, headphones.*  
**ESS**, 2575 El Presido St., Long Beach, CA 90810. *Speakers.*  
**Euphonic Audio**, #8 Sarah Dr., Princeton Junction, NJ 08550. *Speakers.*  
**Excalibur of America**, 8757 S. Flatrock Rd., Douglasville, GA 30134. *Car speakers.*  
**Fanfare Acoustics**, 4650 Arrow Hwy., #4, Montclair, CA 91763. *Speakers.*  
**FAS Industries**, 1476 Camden Ave., Campbell, CA 95008. *Car stereo: power amplifiers, cassette receivers, speakers, accessories.*  
**Fineline Distributing**, P.O. Box 90, Londonderry, NH 03053-0090. *Audio furniture.*  
**Focus Speaker Systems**, 1101 East Second St., Dayton, OH 45403. *Speakers.*  
**Ford Motor Company**, 1700 Rotunda Dr.,

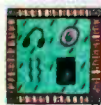
Dearborn, MI 48121. *Car stereo: tuners, cassette receivers, amplifiers, signal processors, speakers.*  
**Forté Audio**, 1955 Industrial Dr., Auburn, CA 95603. *Amplifiers, preamplifiers.*  
**Fosgate**, P.O. Box 70, Heber City, UT 84032. *Power amplifiers, signal processors, car components.*  
**Fostex**, 15431 Blackburn Ave., Norwalk, CA 90650. *Cassette decks, open-reel decks, signal processors, headphones, accessories, car components.*  
**Fried Products**, 7616 City Line Ave., Philadelphia, PA 19151. *Speakers.*  
**Fultron (Arthur Fulmer)**, P.O. Box 177, 122 Gayoso-2nd, Memphis, TN 38101. *Car stereo: speakers, signal processors.*  
**G&S Designs**, 629 Industrial Rd., Unit C, San Carlos, CA 94070. *Car stereo: power amplifiers, speakers, accessories.*  
**General Electric**, 600 N. Sherman Dr., Indianapolis, IN 46206. *Pocket stereo, compact disc players.*  
**Geneva Group**, 7255 Flying Cloud Dr., Eden Prairie, MN 55344. *Accessories.*  
**GLI Integrated Sound Systems**, 1227 Walt Whitman Rd., Melville, NY 11747. *Turntables, speakers, headphones, signal processors.*  
**GNP Loudspeakers**, 1244 E. Colorado Blvd., Pasadena, CA 91106. *Speakers.*  
**Gold Sound**, P.O. Box 141, Englewood, CA 80110. *Power amplifiers, speakers, signal processors.*  
**Grado Laboratories**, 4614 Seventh Ave., Brooklyn, NY 11220. *Cartridges.*  
**Gusdorf**, 11440 Lackland Rd., St. Louis, MO 63146. *Audio furniture.*  
**Reuben Guss Enterprises**, 61 West 62nd St., New York, NY 10023. *Speakers.*  
**Hafler (Division of Rockford Corp.)**, 5910 Crescent Blvd., Pennsauken, NJ 08109. *Power amplifiers, preamplifiers, tuners, signal processors, car components.*  
**Harman Kardou**, 240 Crossways Park West, Woodbury, NY 11797. *Receivers, power amplifiers, preamplifiers, integrated amplifiers, tuners, turntables, cassette decks, signal processors, compact disc players, DAT decks, car components.*  
**Hartley Products**, 1200 N. 23rd St., Suite 105, Wilmington, NC 28405. *Speakers.*  
**HiFonics**, 845 Broad Ave., Ridgefield, NJ 07657. *Car stereo: power amplifiers, preamplifiers, signal processors, speakers, accessories.*  
**Infinity Systems**, 9409 Owensmouth, Chatsworth, CA 91311. *Speakers, accessories, car components.*  
**Interaudio by Bose**, The Mountain, Framingham, MA 01701. *Speakers.*  
**Intraclean by American Recorder Technologies**, 4505-2H Industrial St., P.O. Box 3592, Simi Valley, CA 93063. *Accessories.*  
**JBL**, 240 Crossways Park W., Woodbury, NY 11797. *Speakers, car components.*  
**Jecklin by Astatic**, Harbor & Jackson Sts., Conneaut, OH 44030-0120. *Headphones.*  
**Jensen**, 4136 N. United Parkway, Schiller Park, IL 60176. *Speakers, car components.*  
**Jet Sound**, 2575 El Presidio, Long Beach,

CA 90810. *Car stereo: power amplifiers, signal processors, speakers.*  
**J. S. Engineering (JSE)**, 519 E. Middle Turnpike, Manchester, CT 06040. *Speakers.*  
**Kindel Audio**, 3615 Presley Ave., Riverside, CA 92507. *Speakers.*  
**Kinergetics**, 6029 Reseda Blvd., Tarzana, CA 91356. *Power amplifiers, preamplifiers, tuners, compact disc players.*  
**Kinetic Audio**, P.O. Box 31075, Chicago, IL 60631. *Speakers, signal processors, accessories.*  
**Kirksaeter**, 4648 Evansdale Rd., Woodbridge, VA 22193. *Speakers.*  
**Klipsch**, P.O. Box 688, Hope, AR, 71801. *Speakers.*  
**Klyne Audio Arts**, 828 7th Ave. S.E., Olympia, WA 98501. *Preamplifiers, moving-coil amplifiers.*  
**Koss**, 4129 N. Port Washington Ave., Milwaukee, WI 53212. *Headphones, speakers, accessories.*  
**Kraco**, 505 E. Euclid Ave., Compton, CA 90745. *Car stereo: head units, speakers, accessories.*  
**Krell Industries**, 20 Higgins Dr., Milford, CT 06460. *Power amplifiers, preamplifiers.*  
**Laser Audio**, 5007 Chase Ave., Downers Grove, IL 60515. *Speakers.*  
**Laser by Swire Magnetics**, 301 East Alondra Boulevard, Gardena, CA 90248. *Blank tape, accessories.*  
**Laserline by Creative Point**, 44936 Osgood Rd., Fremont, CA 94539. *Accessories.*  
**The Last Factory**, 2015 Research Dr., Livermore, CA 94550. *Accessories.*  
**Lazarus Electronics**, 701-03 Ivy St., Glendale, CA 91204. *Power amplifiers, preamplifiers, moving-coil amplifiers.*  
**Lazer-Tech Speakers**, P.O. Box 28342, Spokane, WA 99228-8342. *Speakers.*  
**Lebo**, 60 West St., Bloomfield, NJ 07003-4998. *Accessories.*  
**Lineage**, 1556 3rd Ave., New York, NY 10128. *Receivers, power amplifiers, preamplifiers, compact disc players.*  
**Linear Power**, 11545 D Ave., Auburn, CA 95603. *Car stereo: power amplifiers, preamplifiers, signal processors, speakers, accessories.*  
**Logan Labs by Symdex Audio Systems**, P.O. Box 359, Gloucester, MA 01930. *Preamplifiers, amplifiers.*  
**LT Sound**, P.O. Box 338, Stone Mountain, GA 30086. *Signal processors.*  
**Madisound Speaker Components**, 8608 University Green, Madison, WI 53711. *Car speakers.*  
**Madrigal**, 2081 S. Main St., P.O. Box 781, Middletown, CT 06457. *Cartridges, accessories.*  
**Magnepan**, 1645 Ninth St., White Bear Lake, MN 55110. *Speakers.*  
**Magnum Loudspeakers (Mitek)**, One Mitek Plaza, Winslow, IL 61089. *Car stereo: speakers, accessories.*  
**Majestic Electronics**, 14614 Lanark St., Panorama City, CA 91402. *Car stereo: power amplifiers, tuners, cassette decks,*





- signal processors, speakers.  
**M.A.N.**, 6301 Riggs Place, Los Angeles, CA 90045. *Power amplifiers, preamplifiers, speakers, compact disc players.*  
**M&K (Miller & Kreisel Sound)**, 10391 Jefferson Blvd., Culver City, CA 90230. *Speakers, signal processors.*  
**Marantz**, 20525 Nordhoff St., Chatsworth, CA 91311. *Receivers, integrated amplifiers, tuners, turntables, cassette decks, speakers, signal processors, compact disc players, DAT decks.*  
**Mark Levinson by Madrigal**, 2081 S. Main St., P.O. Box 781, Middletown, CT 06457. *Power amplifiers, preamplifiers, signal processors.*  
**John Marovskis Audio Systems**, 2889 Roebing Ave., Bronx, NY 10461. *Cartridges, speakers.*  
**Martin-Logan**, P.O. Box 741, Lawrence, KS 66044. *Speakers.*  
**Maxxima**, 137 Express St., Plainview, NY 11803. *Power amplifiers, receivers, speakers, accessories.*  
**McIntosh Laboratory**, 2 Chambers St., Binghamton, NY 13903-2699. *Receivers, amplifiers, tuners, speakers, compact disc players, integrated amplifiers.*  
**Melos Audio**, #8 Sarah Dr., Princeton Junction, NJ 08550. *Power amplifiers, preamplifiers, compact disc players.*  
**Memorex by Memtek Products**, P.O. Box 58118, Santa Clara, CA 95052-8118. *Blank tape, accessories.*  
**Milbert Amplifiers**, 18 Warrior Brook Ct., Germantown, MD 20874. *Car stereo power amplifiers.*  
**Monolithic Sound, Inc.**, 515 Sandy Dale, Nipomo, CA 93444. *Car stereo: power amplifiers, preamplifiers, integrated amplifiers, speakers, car components.*  
**Monster Cable**, 101 Townsend St., San Francisco, CA 94107. *Cartridges, accessories, car components.*  
**Motif by Conrad-Johnson**, 2800R Door Ave., Fairfax, VA 22031. *Power amplifiers, preamplifiers.*  
**MTX Loudspeaker Systems (Mitek Group)**, One Mitek Plaza, Winslow, IL 61809. *Speakers.*  
**NAD**, 575 University Ave., P.O. Box 98, Norwood, MA 02062. *Receivers, power amplifiers, preamplifiers, integrated amplifiers, tuners, turntables, cassette decks, speakers, preamp/tuners, compact disc players.*  
**Nady Systems**, 1145 65th St., Oakland, CA 94608. *Speakers, headphones.*  
**Nelson-Reed**, 15810 Blossom Hill Rd., Los Gatos, CA 95030. *Speakers.*  
**Niles Audio**, 12331 S.W. 130 St., Miami, FL 33186. *Switching systems, volume controls.*  
**Nitty Gritty**, 4650 Arrow Highway, #F4, Montclair, CA 91763. *Accessories.*  
**Nova Electro-Acoustics**, P.O. Box 25488, Los Angeles, CA 90025. *Power amplifiers, preamplifiers.*  
**Novak Loudspeaker**, Merritts Island Rd., Pine Island, NY 10969. *Speakers.*  
**Numark Electronics**, 503 Raritan Center, Edison, NJ 08837. *Amplifiers, turntables, accessories, speakers, headphones, signal processors, compact disc players.*  
**Ohm Acoustics**, 241 Taaffe Place, Brooklyn, NY 11205-9960. *Speakers.*  
**ORA Electronics**, 20120 Plummer St., P.O. Box 4029, Chatsworth, CA 91313. *Accessories.*  
**Orion Industries**, 118 W. Julie Dr., Tempe, AZ 85283. *Car stereo: power amplifiers, preamplifiers, signal processors.*  
**O'Sullivan Industries**, 1900 Gulf St., Lamar, MO 64759. *Audio furniture.*  
**Parasound**, 945 Front St., San Francisco, CA 94111. *Receivers, amplifiers, preamplifiers, tuners, turntables, cartridges, cassette decks, speakers, headphones, signal processors, compact disc players, car components.*  
**Parsec**, 400 W. 9th St., Wilmington, DE 19801. *Antennas.*  
**Pentagram**, 207-19 35th Ave., Bayside, NY 11361. *Speakers.*  
**Phase Linear**, 4134 N. United Parkway, Schiller Park, IL 60176. *Car stereo: power amplifiers, speakers.*  
**Phase Technology**, 6400 Youngerman Circle, Jacksonville, FL 32244. *Speakers.*  
**Phoenix Systems**, P.O. Box 1316, Columbia, TN 38402. *Signal processors.*  
**Pickering**, Sunnyside Blvd., Plainview, NY 11803. *Cartridges, headphones, accessories.*  
**Pinnacle Loudspeakers**, 517 Route 111, Hauppauge, NY 11788. *Speakers.*  
**Polk Audio**, 5601 Metro Dr., Baltimore, MD 21215. *Speakers, car components.*  
**Polydax Speaker Corp.**, 10 Upton Dr., Wilmington, MA 01887. *Speakers, car components.*  
**Precision Power**, 7901 E. Pierce St., Scottsdale, AZ 85257. *Car stereo: power amplifiers, signal processors, accessories.*  
**PS Audio**, 4145 Santa Fe Rd. #2, San Luis Obispo, CA 93401. *Power amplifiers, preamplifiers, tuners, compact disc players, accessories.*  
**Pyle Industries**, 501 Center St., Huntington, IN 46750. *Car stereo: speakers, amplifiers.*  
**Pyramid Sound**, 7306 Coldwater Canyon Ave., North Hollywood, CA 91605. *Car stereo: receivers, speakers, signal processors, accessories.*  
**Quicksilver Audio**, 3707 N. Merrimac Circle, Stockton, CA 95209. *Power amplifiers, preamplifiers.*  
**RCA**, 600 N. Sherman Dr., P.O. Box 1976, Indianapolis, IN 46201. *Receivers, integrated amplifiers, tuners, turntables, cassette decks, speakers, signal processors, compact disc players.*  
**Realistic by Radio Shack (Division of Tandy Corp.)**, 1700 One Tandy Center, Fort Worth, TX 76102. *Receivers, turntables, cartridges, cassette decks, speakers, headphones, pocket stereo, signal processors, compact disc players, car components.*  
**Recoton**, 46-23 Crane St., Long Island City, NY 11101. *Accessories, headphones, signal processors, car components.*  
**Robertson Audio**, P.O. Box 8449, Van Nuys, CA 91409. *Power amplifiers, preamplifiers, speakers.*  
**Rockford Fosgate**, 613 S. Rockford Dr., Tempe, AZ 85281. *Power amplifiers, preamplifiers, signal processors, speakers, accessories, car components.*  
**Rockustics**, 41 E. Main St., Bay Shore, NY 11706. *Speakers.*  
**Rowland Research**, 20-C Mountview Lane, Colorado Springs, CO 80907. *Power amplifiers, preamplifiers.*  
**Russound/FMP**, P.O. Box 2369, Woburn, MA 01888. *Accessories.*  
**Sabre Sound**, 7308 Campbell Rd., Dallas, TX 75248. *Car speakers.*  
**SAE**, P.O. Box 60271, Terminal Annex, Los Angeles, CA 90060. *Receivers, power amplifiers, preamplifiers, integrated amplifiers, tuners, cassette decks, signal processors, compact disc players, accessories.*  
**Scosche Industries**, 67 W. Easy St., Unit 124, Simi Valley, CA 93065. *Car stereo: speakers, crossovers, accessories.*  
**Scotch (3M Corp.)**, Building 223-5, 3M Center, St. Paul, MN 55144-1000. *Blank tape, accessories.*  
**H. H. Scott**, 5601 Westside Ave., North Bergen, NJ 07047. *Receivers, integrated amplifiers, tuners, turntables, cassette decks, speakers, compact disc players.*  
**Sears, Roebuck and Co.**, Sears Tower, 40-15, Chicago, IL 60684. *Cassette decks, compact disc players.*  
**Sentrek**, 751 Raquet Club Dr., Addison, IL 60101. *Car stereo: power amplifiers, receivers, speakers, signal processors.*  
**Shahinian Acoustics**, 33 A/B Cedarhurst Ave., Medford, NY 11763. *Speakers.*  
**Shape**, P.O. Box 366, Biddeford, ME 04005. *Blank tape, compact disc manufacturing.*  
**Shure Brothers**, 222 Hartrey Ave., Evanston, IL 60202-3696. *Integrated amplifiers, cartridges, signal processors, compact disc players, accessories.*  
**Signet**, 4701 Hudson Dr., Stow, OH 44224. *Cartridges, headphones, speakers.*  
**Snell Acoustics**, 143 Essex St., Haverhill, MA 01830. *Speakers, accessories.*  
**Sonab by AudioSource**, 1185 Chess Dr., Foster City, CA 94404. *Accessories.*  
**Sonance**, 32992 Calle Perfecto, San Luis Capistrano, CA 92675. *Speakers.*  
**Sonex by Illbruck**, 3800 Washington Ave. N., Minneapolis, MN 55412-2197. *Accessories.*  
**Sonographe by Conrad-Johnson**, 2800R Door Ave., Fairfax, VA 22031. *Turntables, compact disc players.*  
**Sonrise Cabinet Systems**, 13622 NE 20th, Suite F, Bellevue, WA 98005. *Audio furniture.*  
**Sonus by Sonic Research**, 180 Sunny Valley Rd., New Milford, CT 06776. *Cartridges.*  
**Sota Industries**, P.O. Box 7075, Berkeley, CA 94707. *Turntables, speakers, accessories.*  
**Sound Concepts**, P.O. Box 135, Brookline, MA 02146. *Signal processors.*  
**Soundcraftsmen**, 2200 S. Richey St., Santa Ana, CA 92705. *Power amplifiers,*



*preamplifiers, tuners, signal processors, compact disc players.*

**Soundesign**, Harborside Financial Center, Plaza Two, 34 Exchange Pl., Jersey City, NJ 07302. *Audio furniture, accessories.*

**Soundstream Technologies**, 2907 182nd St., Redondo Beach, CA 90278.

*Amplifiers, preamplifiers, tuners, car components.*

**Souther Engineering**, 429 York St., Canton, MA 02021. *Tonearms, accessories.*

**Southern Audio Services**, 2099 Crater Lake Dr., Baton Rouge, LA 70814. *Car subwoofers.*

**Sparkomatic**, Routes 6 and 209, Milford, PA 18337. *Car stereo: power amplifiers, head units, speakers, accessories.*

**Speakerlab**, 735 N. Northlake Way, Seattle, WA 98103. *Speakers.*

**Speco**, P.O. Box 624, 1172 Rt. 109, Lindenhurst, NY 11757. *Speakers.*

**Spectral Audio**, 550 Weddell Dr., Suite 3, Sunnyvale, CA 94080. *Power amplifiers, preamplifiers, interconnects, speaker cables.*

**Spectrum Loudspeakers**, 1021 Nevada St., Toledo, OH 43605. *Speakers.*

**Spica**, 1601 Paseo de Peralta, Santa Fe, NM 87501. *Speakers.*

**Stanton**, Terminal Dr., Plainview, NY 11803. *Cartridges, headphones, accessories.*

**Stillwater Designs**, 1210 South Main,

Stillwater, OK 74074. *Car speakers.*

**Straight Wire**, 1909 Harrison St., Suite 208, Hollywood, FL 33020. *Accessories.*

**Sumo Products**, 21300 Superior St., Chatsworth, CA 91311. *Power amplifiers, preamplifiers, tuners, speakers, signal processors, tonearms.*

**Surround Sound**, 14025 Panay Way, Marina del Rey, CA 90292. *Signal processors.*

**Switchcraft**, 5555 N. Elson Ave., Chicago, IL 60630. *Accessories.*

**Symdex Audio Systems**, P.O. Box 8037, Boston, MA 02114. *Speakers.*

**Synthesis by Conrad-Johnson**, 2800R Door Ave., Fairfax, VA 22031. *Speakers.*

**Talwar**, 311 West Point Terrace, W. Hartford, CT 06107. *Audio furniture, accessories, switches.*

**Terk**, 740 Broadway, New York, NY 10003. *Antennas.*

**Thiel Audio**, 1042 Nandino Blvd., Lexington, KY 40511. *Speakers.*

**Thorens by EPI**, 25 Hale St., Newburyport, MA 01950. *Turntables, tonearms.*

**3D Acoustics**, 601 Old Willets Path, Hauppauge, NY 11788. *Speakers.*

**Threshold**, 1945 Industrial Dr., Auburn, CA 95603. *Power amplifiers, preamplifiers, signal processors.*

**Triad (Harman America)**, 5000 Brush Hollow Rd., Westbury, NY 11590. *Blank tape.*

**Triad Design**, P.O. Box 99, Fairview, OR 97024. *Speakers.*

**Ultralinear by ESS**, 2575 El Presido St., Long Beach, CA 90810. *Speakers.*

**Vandersteen Audio**, 116 W. 4th St., Hanford, CA 93230. *Preamplifiers, speakers.*

**Vector Research**, 1230 Calle Suerte, Camarillo, CA 93010. *Receivers, power amplifiers, integrated amplifiers, tuners, turntables, cassette decks, signal processors, compact disc players.*

**Velodyne**, 2665 Scott Blvd., Santa Clara, CA 95050. *Subwoofers.*

**Visa by Interworld Electronics**, 9220 N.W. 12th St., Miami, FL 33172. *Tape.*

**VSP Labs**, 670 Airport Rd., Suite 1, Ann Arbor, MI 48104. *Power amplifiers, preamplifiers.*

**Wald Sound, Inc.**, 11131 Dora St., P.O. Box 1085, Sun Valley, CA 91352. *Speakers.*

**The Well-Tempered Lab**, 3108 McKinley Way, Costa Mesa, CA 92626. *Tonearms, turntables.*

**Wingate Audio**, 20 Sunnyside Ave., Suite A-194, Mill Valley, CA 94941. *Power amplifiers.*

**Wolcott Audio Research**, 2250 N. Bigelow Ave., Simi Valley, CA 93065. *Speakers.*

**Zapco**, 2549 Yosemite Blvd., Suite E, Modesto, CA 95354. *Car stereo: power amplifiers, preamplifiers, signal processors.*

## CANADIAN AUDIO COMPANIES

**Angstrom Associates**, 2175 Dunwin Dr., Unit 7, Mississauga, Ontario L5L 1X2.

*Speakers, cartridges, accessories.*

**Audio Products International (Audio Pulse, dB Plus, Energy, Mirage, Paisley Research, Sound Dynamics)**, 135 Torbay Rd., Markham, Ontario L3R 1G7.

*Speakers, signal processors.*

**Audiosphere**, 25 Esna Park Dr., Markham Ontario L3R 1C9. *Speakers.*

**Axiom Audio**, Box 82, Highway 60, Dwight, Ontario P0A 1H0. *Speakers.*

**Bestar**, 4220 Villeneuve, Lac Megantic, Quebec G6B 2C3. *Audio furniture.*

**Bryston**, 57 Westmore Dr., Rexdale, Ontario M9V 3Y6. *Power amplifiers, preamplifiers, accessories.*

**Camber Acoustics**, 7101 Park Ave., Suite 120, Montreal, Quebec H3N 1X9. *Speakers.*

**Classé Audio**, 9414 Cote de Liesse Rd., Lachine, Quebec H8T 1A1. *Power amplifiers, preamplifiers.*

**Clements Audio Systems**, 10176 Yonge St., Richmond Hill, Ontario L4C 1T6. *Speakers.*

**Dayton Wright Group**, 97 Newkirk Rd. N., Richmond Hill, Ontario L4C 3G4. *Speakers.*

**Laser Audio**, 1140 Eighth Line, Oakville,



Ontario L6H R42. *Speakers.*

**Lear Jet Stereo**, 18 Coldwater Rd., Don Mills, Ontario M3B 1Y7. *Car stereo: head units, speakers, signal processors, accessories.*

**Magnum Dynalab**, 8 Strathearn Ave., Unit 9, Brampton, Ontario L5T 4L9. *Tuners, antennas.*

**Mansoor Electronics (MEI)**, 310 Alden Rd., Markham, Ontario L3R 4C1. *Car stereo: head units, amplifiers, speakers, signal processors.*

**Meitner Audio**, 3143 De Miliac, St. Laurent, Quebec H4S 1S9. *Amplifiers, turntables, compact disc players.*

**Mission**, 5985 Atlantic Dr., Unit 6, Mississauga, Ontario L4W 1S4. *Power amplifiers, integrated amplifiers, tuners, speakers, cartridges, tonearms, accessories.*

**Oracle Audio**, 505 Industrial Blvd., Sherbrooke, Quebec J1L 1X7. *Turntables.*

**Paradigm Electronics**, 4141 Weston, Unit 5, Weston, Ontario M9L 2S8. *Speakers.*

**PSB by Lenbrook Industries**, 633 Granite Court, Pickering, Ontario L1W 3K1. *Speakers.*

**S.G.M.**, 8-1170 Burnhamthorpe Rd. W., Mississauga, Ontario L5C 4E6. *Car speakers.*

**Shinon**, 354A Yonge St., Toronto, Ontario M5B 1S5. *Cartridges.*

**Sima Electronics**, 2335 Howard St., St. Hubert, Quebec J3Y 4Z3. *Power amplifiers, preamplifiers, integrated amplifiers.*

**Tannoy**, 300 Gage Ave., Unit 1, Kitchener, Ontario N2M 2C8. *Speakers.*

**Waveform Research**, 60 Holmcrest Trail, West Hill, Ontario M1C 1V5. *Speakers.*

# Nanci Griffith

**F**OLKABILLY singer Nanci Griffith, wearing a roomy black tuxedo and bolo string tie, was halfway through videotaping a concert in Louisville recently when "technical difficulties," conforming to that Murphy's Law of TV-land, shut down the show. From offstage word came for Griffith to talk to the audience until things got fixed.

But Griffith, shy, puppy-eyed, and winsome, is known to be terrified of doing television. Besides, she said, "My manager doesn't like me to talk." Finally, in desperation, she began to take ques-

**"YOU SHOULD  
FEEL YOU KNOW  
EVERYTHING  
ABOUT EVERY  
CHARACTER IN  
THE SONG, LIKE  
THEY LIVE NEXT  
DOOR TO YOU."**

*by Mamma Nash*



tions from the crowd. "How you doin'?" somebody shouted from the back.

"Well, it's a good thing we're not playin' in a honky-tonk tonight," replied Griffith. "We'd have longnecks hangin' off our heads by now."

The answer got a laugh, but a woman in the crowd had a more serious question: "Why'd you leave Rounder?" A small independent recording company, Rounder released, on its Philo label, the four solo LP's with which Griffith established herself as a folk and contemporary-country artist.

"Because," Griffith answered with a grin, "I got this huge offer from MCA I couldn't resist."

After years of being one of the most revered figures on the festival-and-coffeehouse circuit, the thirty-four-year-old singer is now striking out for a larger audience, one that already knows her work—her *Love at the Five and Dime* was a Top 10 hit for Kathy Mattea—but not necessarily her face. In January 1987, MCA released Griffith's first major-label LP, "Lone Star State of Mind," which introduced her to country radio with three singles, and her second MCA album, "Little Love Affairs," appeared early this year. She co-produced both albums with MCA's Tony Brown, who gave her free rein on the arrangements and song selection.

From Bangor to Bakersfield, however, the reaction to her move to MCA was mixed. In Music City, where her four independent albums echoed the New Breed of progressive country fare, she was welcomed as part of "Nashville's new integrity," along with fellow Texans Steve Earle and Lyle Lovett, artists who eschew easy formulas in favor of thought-provoking lyrics, offbeat story songs, and character vignettes. Like Griffith, they consider themselves writers first and singers second. But Griffith's folkier following, which gave her a standing ovation at the 1986 Newport Folk Festival ("All the way back to the ocean," she says), worried that Nashville music executives would dress her up in sequins, stick her in a duet with Kenny Rogers, and generally remake her in the image of country queens before her—in short, destroy the special quality of her music, the literate, powerful poetry of her lyrics, and everything that makes her unique.

**B**ROWN, who signed Griffith to MCA, insists he only wants to take what she has going for her and put an edge on it. Essentially, that means using the same basic rhythm section she's always used but anchoring her largely acoustic sound with electric bass and more powerful percussion.

"The worst thing I could have done was make Nanci sound formula, which she ain't," Brown explained. "In the beginning, everybody said that an artist like Nanci just wouldn't work for country radio, and a lot of artists like her wouldn't want to. They just wouldn't compromise in any fashion. She could stay in that little arty folk world for the rest of her life, but down deep she has certain goals. She wants to do country music now."

The first MCA album reflects Griffith's analysis of country radio, tailoring a number of songs, including *Ford Econoline*, about a free-spirited gal who drives one, for the country market. But it also offers several progressive Texas country-folk tunes for Griffith's grassroots audience, as well as *Trouble in the Fields*

(co-written with Rick West), which packs a wallop as one of the most moving of the recent spate of songs on the plight of the American farmer. On the whole, though, the album is more simplistic and lighter in content than Griffith's previous records, and it suffers from the lack of a powerful, poetic story-song like *Love at the Five and Dime*. Her new album, "Little Love Affairs," a delicate, sensitive production, strikes a happier balance, with a return to more in-depth writing.

The daughter of a printer/publisher and his bookkeeper wife, Griffith grew up in Austin, Texas, with two constants in the household, reading and music. From her mother, Ruelene, who did some amateur acting, Nanci learned to appreciate Frank Sinatra and jazz. Her father, Griff, who sang tenor in a barbershop quartet, favored country and folk—mainly Hank Williams, Patsy Montana, Kitty Wells, Woody Guthrie, and Odetta.

**A**T six, Griffith borrowed her sister's guitar and spent Saturdays in front of the TV set learning to chord from the beginner's guitar show on PBS. Four years later, she turned on the radio and heard Sixties folk singer Carolyn Hester, another Texan, whose music sounded purer than anything she had heard on her father's records. "She just knocked my socks off," Griffith remembers. "I said, 'That's what I want to do. I want to sing from the heart like Carolyn Hester.' And I tried to sound just like her from the time I was twelve. Put on my albums and you can hear it."

From there, Griffith began making up her own tunes, and by fourteen, baby-faced but determined, she had talked her parents into letting her play at the Hole in the Wall, one of Austin's toughest bars, on Sunday nights. Fights broke out routinely around 1 a.m., and Griffith, wearing her schoolgirl white blouses, seemed too frail to survive, even if her parents did happen to be in the audience. Still, the gig lasted five years.

"The only time I ever stopped playing," she recalled years later, "was the night somebody smashed some guy's head against the cigarette machine in the middle of my set."

From songwriting she ventured into writing short stories and longer prose. An education major at the University of Texas at Austin, she was pulled between wanting to be a novelist/songwriter and opting for a more reliable career. For a while she struck a balance, teaching kindergarten and first grade by day and singing in Austin's bars by night.

Griffith was a respected performer on the lively Austin music scene in 1977, when Colorado folk singer Mike Williams asked her to appear on a sampler album for his local B. F. Deal label. The following year he and Griffith produced her first solo LP, "There's a Light Beyond These Woods." Recently rereleased, along with her second album, on Philo/Rounder, the record reveals a young artist whose writing had not yet caught up with her vocal presentation, an arresting style comprised of several "voices," shadings, and textures done up in all manner of breaks and flourishes. Whisper-fine and childlike one moment, the voice easily turns tremulous, in the manner of Buffy St. Marie, or full-bodied and exuberant, like Carolyn Hester, the next.

With her second LP, "Poet in My Window" in 1982,



'I DON'T  
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I JUST WANT  
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MUSIC.'

Griffith drew on the influence of her favorite Southern prose writers—Eudora Welty, Carson McCullers, Thomas Wolfe, and Larry McMurtry—to craft songs with a conversational feel, focusing more on character development than outside events. Unlike the deliberately ambiguous lyrics of, say, Suzanne Vega, Griffith's aimed for forthright clarity and resolve—"so that you feel you know everything about every character in the song, like they live next door to you." She also showed an affinity for characters who get stuck somewhere in between innocence and wisdom, including the real-life Marilyn Monroe (*Marilyn Monroe/Neon and Waltzes*) and Griffith herself.

At this point, having already gained a considerable following, Griffith began approaching the major record companies in Nashville, only to get form rejection letters from them all. The turning point was the release of two albums on Philo/Rounder, "Once in a Very Blue Moon," which appeared in 1985, and "The Last of the True Believers," nominated for a Grammy for Best Contemporary Folk Recording in 1986. She co-produced both of them with Jim Rooney and appeared to be hitting her stride with a personal blend of folk and progressive country, or "folkabilly," as she calls it: "There's a roughness to it—that old hillbilly rhythm is in there. My music has always been more country than folk, and more bluegrass than country."

If the instrumental backing in these recordings sparkles with expressive playing and inventive, liquid solos—going far beyond the usual "accompaniment"—the most striking thing about the albums is Griffith's maturing writing style, particularly in story songs like *Mary and Omie* and *Love at the Five and Dime*. The latter, dreamy and languid, and taken from one of Griffith's own short stories, exemplifies the romanticism and faith in enduring love running through her work.

Griffith is not without her critics, of course, who find such songs overly sentimental and precious, as affected as the white cotton anklets she wears with the old-fash-

ioned dresses she makes from prints bought on sale at Woolworth's. But judging from her fan mail, her following, mostly between the ages of fifteen and thirty, can't get enough. Last year alone, she received thirty mail-order marriage proposals.

These days, Griffith writes her songs while she's on the road but saves her time at home for writing prose. Her first novel, *Two of a Kind Heart*, about three generations of Texans, recently found a publisher, and she is working on another, *Love Wore a Halo Before the War*—also the title of a song in her new album. "I think I have a good ten novels inside of me somewhere," she said. "That's all I think about, work."



VER at MCA, however, they're thinking about making Griffith a bona fide country star. If she feels pressure, though, she doesn't show it.

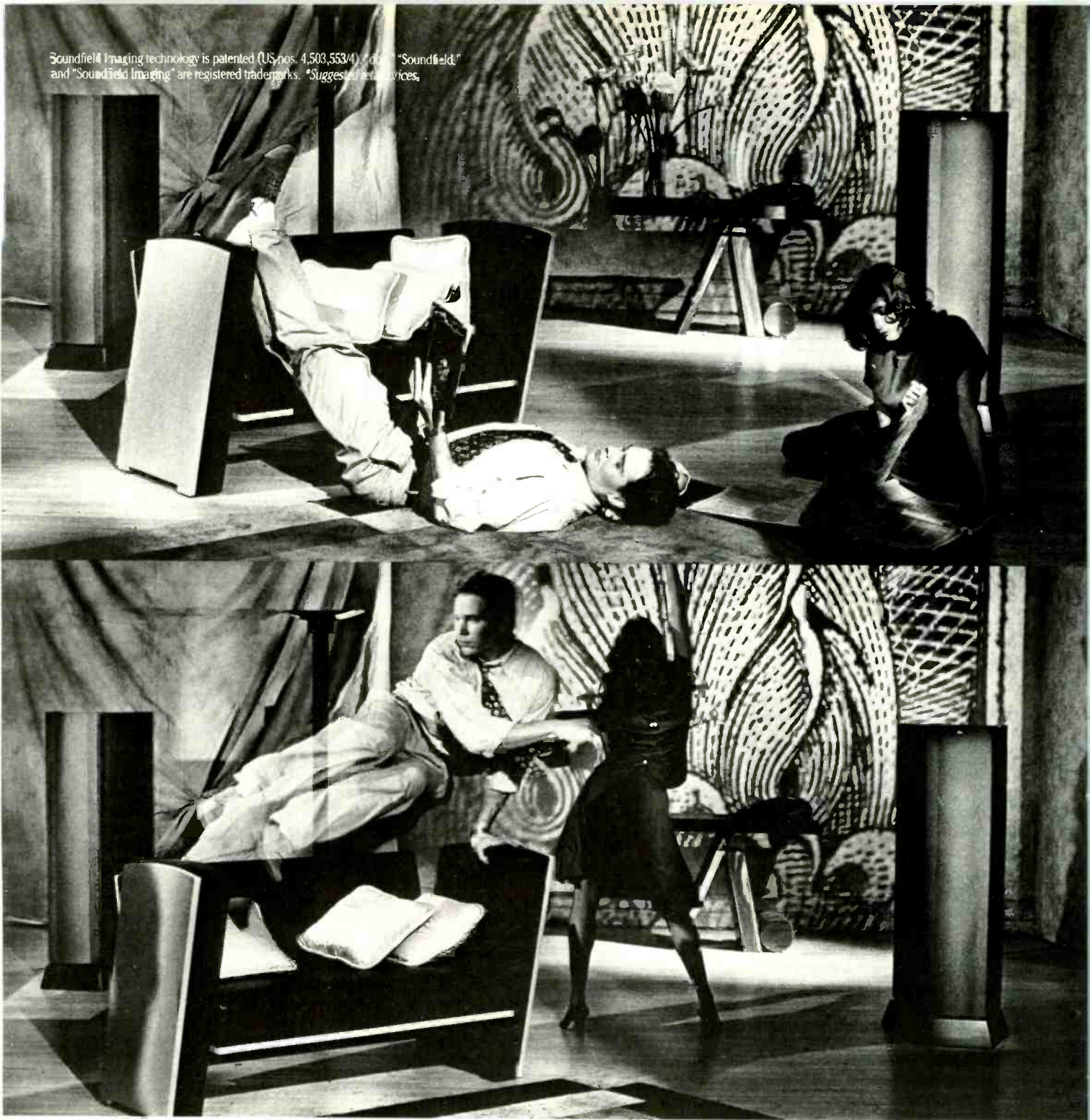
"I don't really have a desire to be a big country star," she said. "I just want to play honest, unmanufactured music, and I have this base support group around the country that's already there. So if it doesn't work out, I can always go back."

"Besides," she added, "I'm a writer. And as [veteran songwriter] Harlan Howard has told me, 'This may be a real flash thing, and it may be great for a couple of years. But you're a writer, and if you lose that, then you've lost what you had when you started.' So anything that really interferes with that, I can't have anything to do with."

The word around Nashville is that Griffith can have it all, and that if she's been slow to find acceptance, she will eventually be a big, across-the-board success. But she feels like one already.

"The way I look at it, if you wake up in the morning," she said with a smile, "you've had success. That's all you can ask for." □

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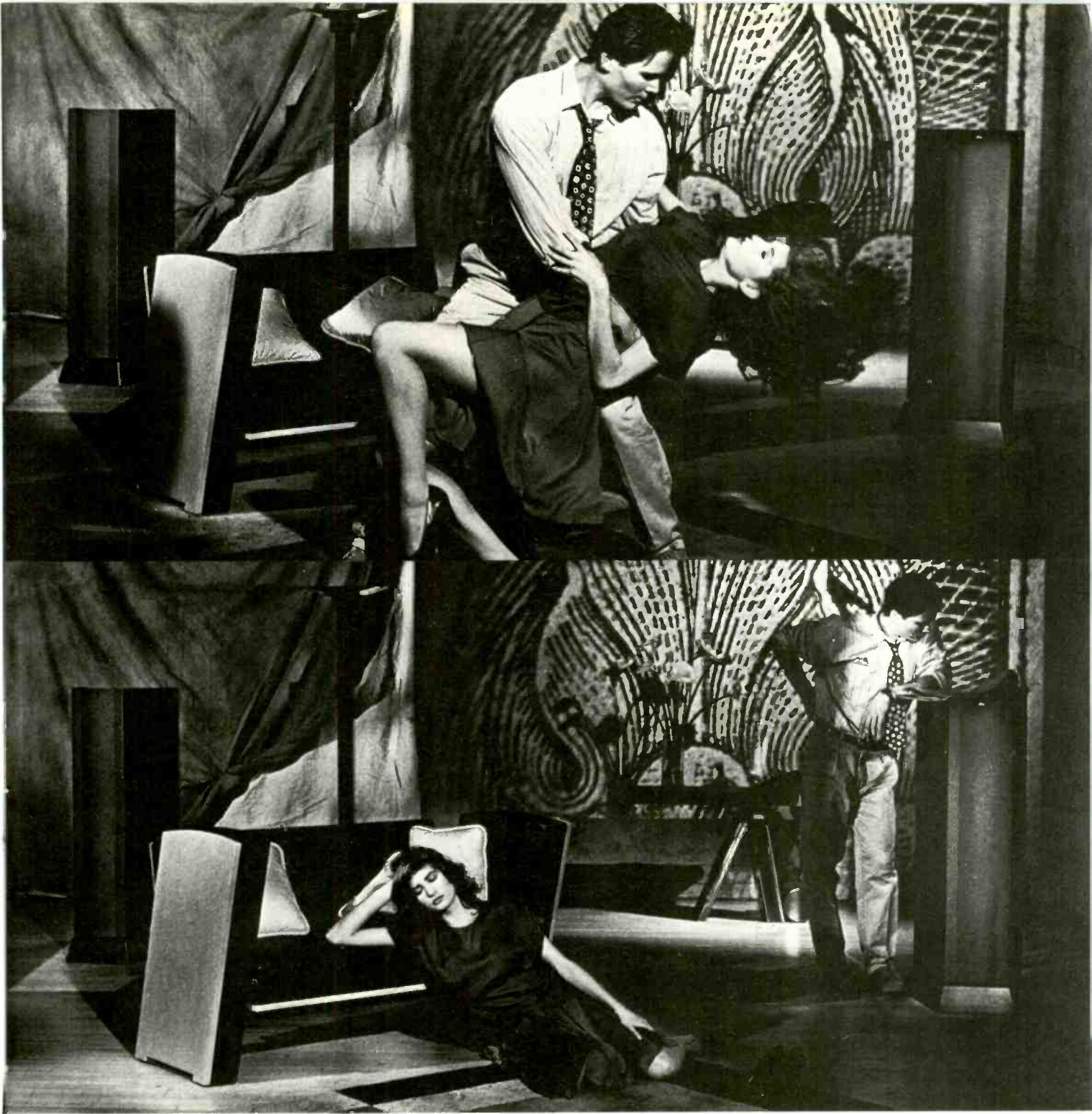
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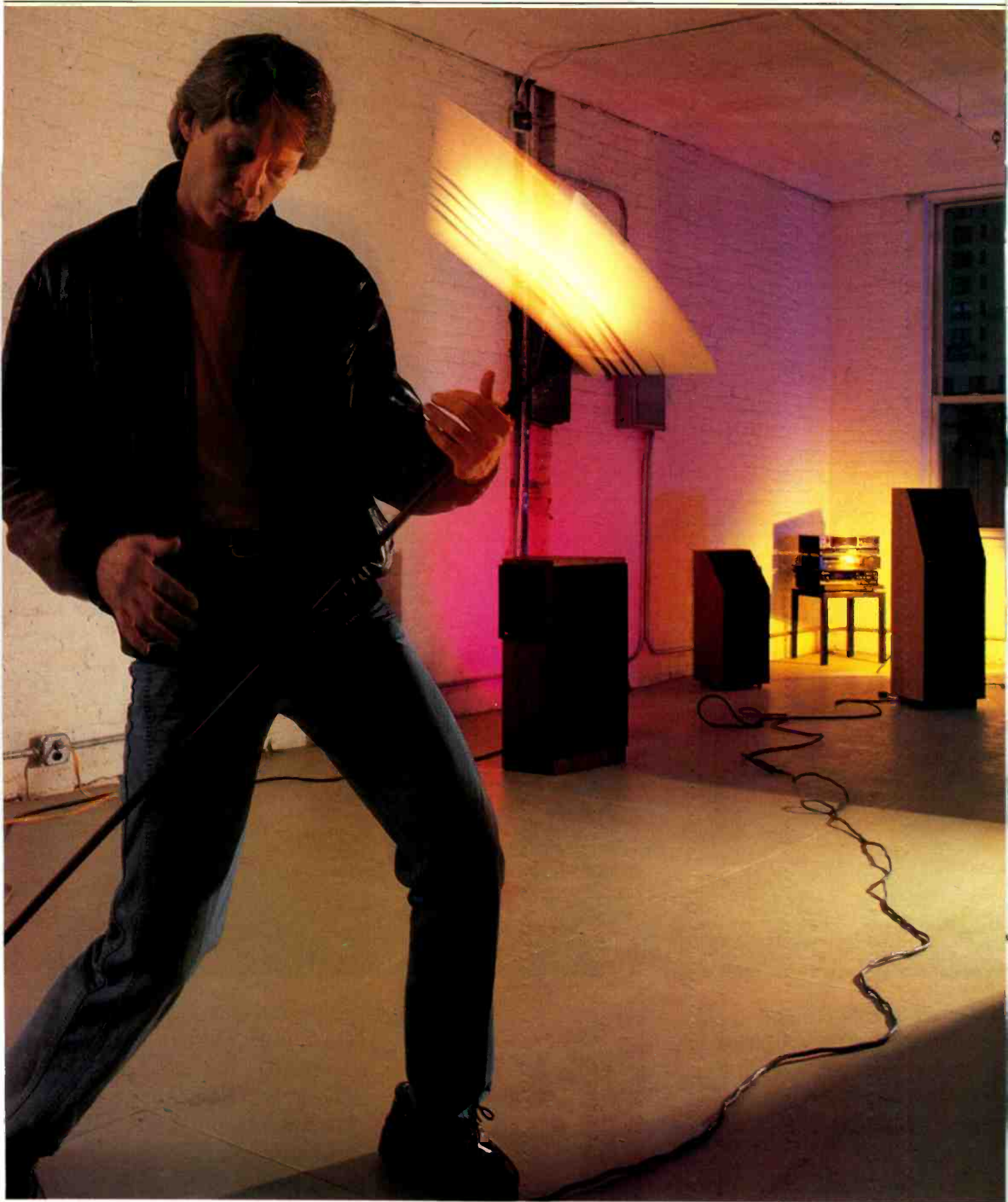
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# SOUND FINANCE

**Budgeting before you buy can increase the fun of shopping for a new stereo system.**



**BY MICHAEL SMOLEN**

**H**I-FI equipment can bring a great deal of pleasure into your life. It may tempt some record collectors to play air guitar, do Elvis impersonations, or conduct phantom symphony orchestras in their listening rooms, but the majority of record collectors prefer to sit quietly and listen less athletically.

Today's advanced technology—such as the compact disc system, the laser videodisc, surround sound, and digital signal processing—make this a particularly exciting moment to be in the market for new components. If you are ready to buy a whole new stereo system—even with limited funds—you can have a very good time shopping.

Selecting new components calls for the same kind of care you'd devote to buying a new house or car. If you have a job as a bank teller (or a magazine writer), you wouldn't be shopping for a ten-bedroom, twenty-acre estate in the country, but you could probably handle a very nice condo on the city's perimeter. Similarly, just because you have only \$500 to spend on a stereo system doesn't mean you can't achieve good sound in your apartment's living room.

A stereo system means different things to different people. To some it can be as simple as a good Walk-

man-type portable cassette player with a pair of external speakers (price: about \$225). To others it can mean separate components so large, complex, and powerful that to house them you'd need an extra wing on your mansion (price: if you have to ask, you can't afford it).

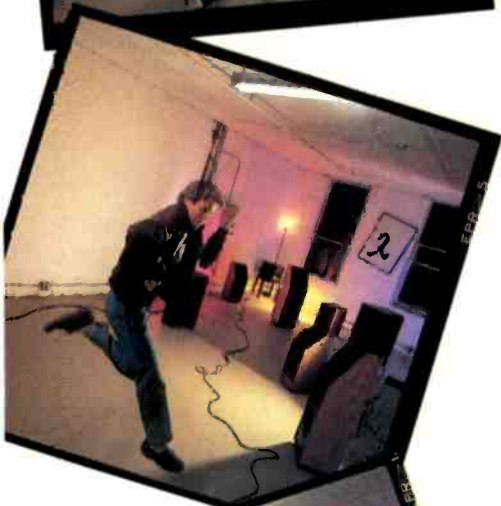
## *Advance Preparation*

Well, what *can* you afford? What equipment do you actually need? How much should you spend on which parts of it? Finding answers to those questions requires some instructive and pleasing homework. And the first thing you have to do has nothing to do with budgeting. It has to do with listening.

Before you can buy any kind of hi-fi system, you ought to know what music *should* sound like, and the only way to do that is to go out and listen to live performances. Go to concerts and make mental notes of what makes music sound good—the impact of sharp transients, the contrast of soft and loud passages, the wide range of frequencies, and the absence of recorded noises. Try to remember what real music sounds like so you can select a system that comes as close to that ideal as possible.

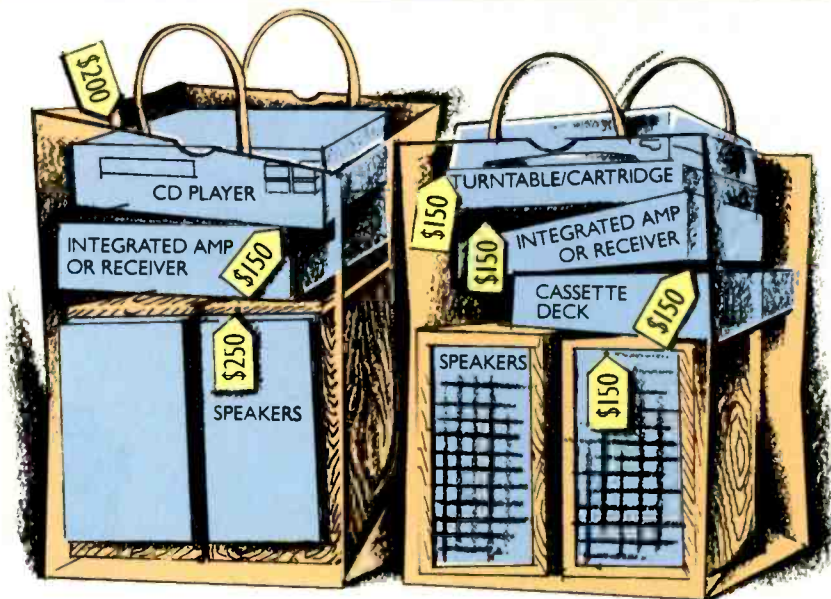
Also, listen to high-quality sound systems at the homes of friends or in upscale audio showrooms. This

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## \$600 SYSTEM FOR BETTER SOUND

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ILLUSTRATIONS BY MARK FALLS

will give you a good idea of what good reproduction can sound like, and while you may not be able to afford such a “reference” system, it will set a standard, a goal to aim for in the future.

The next thing you must consider is *where* you’ll be listening to your stereo system. Large speakers may impress you in the showroom with bass you can feel as much as hear, but if you live in a thin-walled apartment next to someone with a pacemaker, you’ll never hear that bass at home. The size of your listening room is also important because it must contain the equipment you buy and is the space you want to fill with sound. Large rooms require more amplifier power or more efficient speakers for reproduced music to be as loud as in small rooms.

Because different materials reflect or absorb sound differently, the decor of your listening room will influence the sound your system produces. A room with heavy drapes, overstuffed furniture, and plush carpeting will absorb sound. A powerful receiver and careful speaker placement (*not* behind the couch) might be required for acceptable sound reproduction in such an acoustically “dead” room. A room that is acoustically “live”—with hardwood floors, bare walls, and a lot of chrome and glass furniture—will reflect sound waves and won’t require as much power or as effi-

cient speakers as a dead room. Exactly where you intend to place the speakers should be considered before shopping since placement affects overall tonal balance and perceived stereo imaging, not to mention the appearance of the room.

The last thing you need to do before figuring your hi-fi budget is to decide what your main sound source will be. For example, if you plan to buy nothing but CD’s for the rest of your life, there’s no need to spend money on a turntable. Instead, you may want to apply that money toward an amplifier or receiver with a good dynamic-headroom rating, to cope with the expanded dynamic range of compact discs, and better speakers, to handle a CD’s extended frequency response and powerful transients. And if you never listen to the radio, you certainly shouldn’t buy a receiver. Instead, look at integrated amps.

You can build a single-sound-source system (integrated amplifier, turntable, and speakers) for as low as about \$300, or you can go all out with a multisource component system costing up to \$100,000 or even more. Follow the preshopping recommendations above, read magazine test reports, and study buying guides such as *STEREO REVIEW’s Stereo Buyers’ Guide* or *Compact Disc Buyers’ Guide*. They will show you the wide selection of components in *every* price range and help you to narrow down your choices.

All amounts given are based on manufacturers’ suggested list prices.

## Budget Systems

There are two ways to approach the budget system—as a single-source system or as an all-purpose system. Let's say you have \$500 to \$600 to buy a single-source system (all amounts are based on manufacturers' suggested retail prices) and you've determined that CD's are going to be your source. One way to budget this system would be \$150 for an integrated amplifier, \$200 for a CD player, and \$150 for speakers. The positive aspects of this type of system far outweigh the negative ones. While \$150 is not a lot to spend on a pair of loudspeakers, you'll be amazed at how good a CD player can make inexpensive speakers sound. Also, while \$150 will probably buy a maximum of around 35 watts of power, speakers at that price are generally very efficient.

With \$600 you could shoot for a more general-purpose system—spending, for example, \$150 for a receiver or integrated amplifier, \$150 for loudspeakers, \$150 for a cassette deck or CD player, \$100 for a turntable, and \$50 for a phono cartridge. For better sound you might try \$150 for an integrated amp or receiver, \$250 for speakers, and either \$200 for a CD player or \$150 for a turntable and \$50 for a phono cartridge.

It's not hard to see that shifting

around \$25 here and there can create quite a different system. There is one guideline, however, that applies equally to the budget-priced system and the extravagant component system. *Always spend as much money as you possibly can on the speakers*, as these are what you're going to be listening to all of the time. While it's practically impossible to hear the difference between a half-dozen \$150 receivers, you can hear the difference between six different loudspeakers in the same price range.

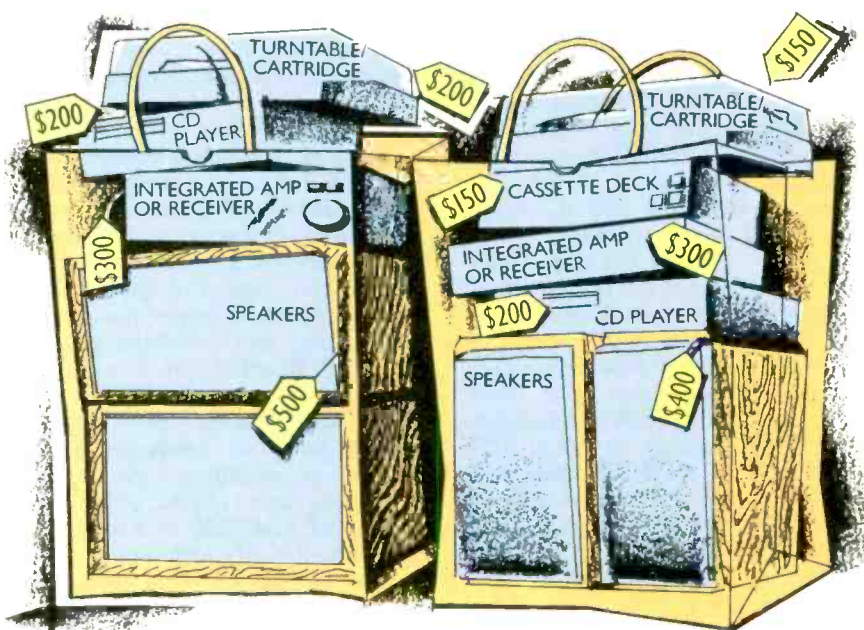
## The Vast Middle Range

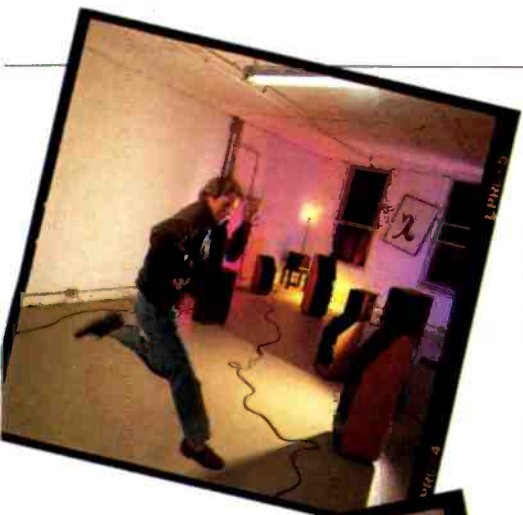
Truly excellent sound becomes a reality in the \$800 to \$1,500 range. With this kind of budget, there is little reason to limit yourself to a single-source system, and you'll be able to consider better amplification systems and such "extras" as equalizers (\$60 to \$1,500) and surround-sound decoders (\$150 to \$849). Remember, though, that with some surround-sound decoders you'll need a second amplifier for the rear channel, as well as extra speakers.

In the \$800 to \$1,200 range a "basic" system budget might be divided into \$400 for speakers, \$300 for a receiver or integrated amplifier, and \$300 dollars for either a CD player or a turntable and cartridge. An all-purpose system could contain a \$300 receiver or integrated ampli-

**\$1,200 SYSTEM FOR BETTER SOUND**

**\$1,200 ALL-PURPOSE SYSTEM**





## \$2,500 SYSTEM FOR BETTER SOUND

## \$2,500 ALL-PURPOSE SYSTEM



fier, a \$350 pair of speakers, a \$200 CD player, a \$175 turntable/cartridge combination, and a \$175 cassette deck.

For better sound with a minimum of two sound sources, the \$1,000 to \$1,500 range allows you to explore the possibilities of separates—a power amplifier and a preamplifier instead of an integrated amplifier or receiver. One system might consist of a \$300 amplifier, a \$300 preamplifier, a \$200 CD player, a \$200 turntable/cartridge combination, and a \$500 pair of loudspeakers. If you like the idea of separates and must have a tuner, you might try a \$300 power amplifier, a \$500 preamplifier/tuner, a \$200 CD player or turntable and cartridge, and a \$500 pair of speakers.

If you're a video fan and would like an A/V system with surround sound, you might want to try a \$500 A/V receiver or integrated amplifier with built-in surround sound, a pair of \$400 speakers for your front channel, a pair of \$100 speakers for your rear channel, a \$300 CD player, and a \$200 turntable and cartridge. This system could be made complete by changing to a \$200 CD player and a \$150 turntable/cartridge combination, using the remaining \$150 in your audio budget for a cassette deck, and

adding a \$550 color monitor with MTS and \$700 for a hi-fi VCR.

Again, in the \$800 to \$1,500 price range, you will want to spend as much as possible on your loudspeakers. But with the flexibility of more money to spend, you will want to concentrate on better power sources to bring out the best from your speaker system. More money will also enable you to tailor your hi-fi system to the types of signal sources you prefer and to afford the essential extras for "tweaking" the system for superior reproduction.

### *The High End*

Although you could easily spend \$100,000 and up on a stereo system, for the sake of reality we will consider the high-end range to fall somewhere between \$1,500 and \$5,000. Here's your chance to buy a really fantastic speaker system, a sophisticated power and switching system, and the signal sources of your choice. If you can spend \$2,500, say, you should probably spend around \$1,000 on your speakers, about \$800 on an amplifier, a preamplifier, and a tuner, maybe \$300 on a CD player, and \$200 on a turntable and cartridge. By spending a little less on the speakers and separates, you could easily work in a good three-head cassette deck.

If you're able to go for the full \$5,000, sit yourself down in the high-end room of a reputable audio salon and listen to speakers costing between \$1,000 and \$2,000 a pair. When you find something you like, buy it; you'll still have \$3,000 left for the rest of the system!

As a member of the high-end school, you'll also have the opportunity to purchase some of the myriad accessories available for keeping both your equipment and your recordings in optimum playing condition. Examples include all kinds of noise-reduction systems, electronic stylus cleaners, full-system remote controls, turntable and CD player isolation systems, high-performance speaker and patch cables, record vacuums, special contact-enhancement formulas, program-route selectors, demagnetizing systems, special headshells, super antennas, cooling systems, and every possible cleaning and polishing formula ever conceived.

### *This System's for You*

Although the component prices and price ranges discussed have been based on manufacturers' suggested retail prices, *you should never pay retail price for anything!* Try all kinds of stores—audio salons, stereo chain stores, discount outlets,

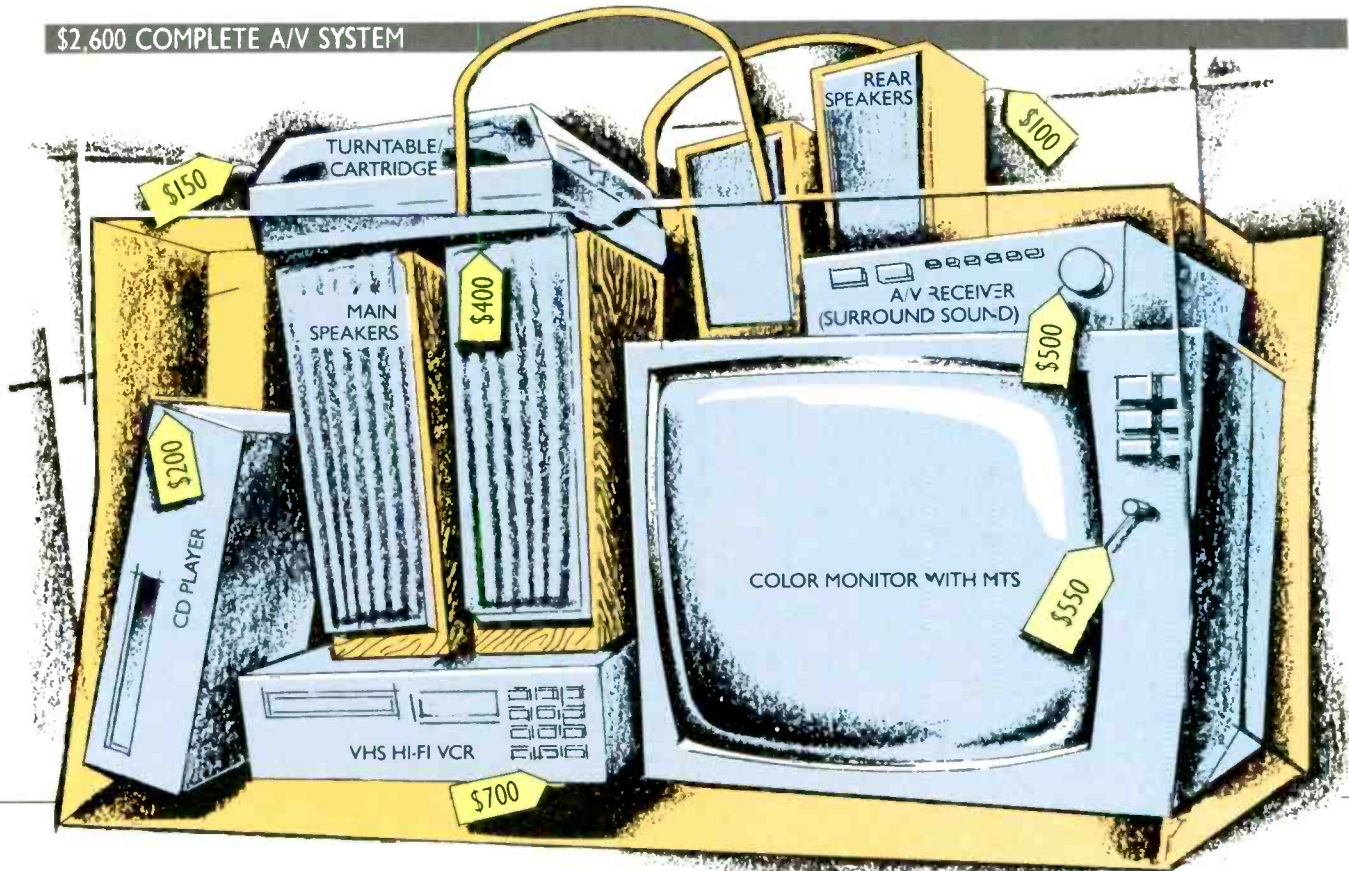
and department stores. Each has its own advantages and disadvantages, and one or another may be right for you because of price, service, selection, location, or just how you feel about a particular store or salesman. A store with good service and friendly, knowledgeable salespeople can be very helpful if your system doesn't sound as good at home as it did in the store.

Remember, you're buying this system for your ears and your music. Take both along when you shop. Depending on the sound sources you plan to purchase, take along a favorite CD, LP, or tape cassette—or all three—when you shop. Choose contrasting selections that you are very familiar with, and remember you are testing components, especially speakers, for how well they reproduce all types of musical sounds, from the soft piano or violin tones of a Mozart concerto to the thundering Moog Taurus bass found on a Genesis record. And finally, before hooking anything up, read all of your owner's manuals, no matter how poorly written. It can save you both time and money while you educate yourself in the pleasures of musical reproduction.

Most important, however, have fun. That's what it's all about anyway, isn't it? □



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The latest components from Harman Kardon's complete line of mobile electronics are designed to perform both together and in conjunction with existing systems. Sleekly styled, these units offer American-designed ergonomics for ease of operation: A calculated, precise front panel layout truly makes listening easy, even under the most demanding conditions.

The CR131 and CR151 powered\* cassette/receivers feature the same premium heads used in Harman Kardon's renowned high-end home systems. Teamed with Dolby B noise reduction and precise, bi-directional azimuth adjust, they provide true 20Hz to 18kHz bandwidth (+/- 3dB) while driving hiss and distortion to new lows. Both models include quartz-synthesized FM sections, 18 FM and 6 AM presets, and dual fader-controlled pre-amp outputs. The CR151 adds Dolby C, full-logic feather-touch transport, special Hi-Q interference rejection and external processor loop.

To double the output, add the CA212 half-DIN in-dash power amplifier for solid, clean, reliable power\* with advanced protection circuitry and 0.5% THD. Incorporate the CQ10 7-band equalizer and you can optimally contour the sound to the specific environmental conditions of any automotive system. Convenience features include a front panel mini-jack input for portable stereos or CD's. It offers a built-in electronic crossover to allow for additional subwoofer system expansion. The CQ10's extraordinary flexibility makes it an important addition to any sophisticated component system.

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\*Our ratings are as distortion-free as our amps. Unlike many manufacturers, Harman Kardon uses only the conservative FTC measurement standard. The CR131 and CR151 deliver 12 Watts per channel into 4 Ohms, 20Hz-20kHz with less than 0.9% THD. Beware of "peak power" ratings, measurements at 1k bandwidth only or those with as much as 10% harmonic distortion.

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*Stereo Review's critics choose the outstanding current releases*

## TALKING HEADS GO "NAKED" IN PARIS

HAVING been through art-school funk, yuppie angst, relatively straightforward pop rock, African poly-rhythms, dance music for Twyla Tharp, and even off-kilter American country music, you might wonder what could possibly be next for Talking Heads and leader David Byrne. John Cage silences? Homages to *Looney Tunes* composer Carl Stalling? Well, their new album, "Naked," may surprise you. As Paul Simon did with "Graceland," the Heads have looked outward, specifically to Paris, where the band's trademark rhythmic grooves have been overlaid by an international group of musicians, including exponents of Zouk, a music of Caribbean origin that is now largely produced in Paris, and of an Algerian-Moroccan hybrid called Rai. The result is one of the most fascinating, if initially rather conservative-sounding, records of this fascinating band's career.

The opening track, *Blind*, is more or less a preview of what's coming. Vocally, Byrne lurches through one of his by-now-familiar surrealist anxiety attacks ("Dogs start twitching, and they're looking at you!" he wails), while around him the band, anchored as usual by Chris Frantz and Tina Weymouth, still the best married rhythm section in rock, sets up a sort of *Afro-Tonight Show* groove with spectacular horn charts. Later on, there are chattering African guitar licks, an almost Ray Davies-like paean to the joys of living like a primitive (*Totally Nude*, which features pedal steel by Eric Weisberg of *Dueling Banjos* fame), and even a great Bo Diddley-ish rock-and-roll number (*Ruby Dear*) with great metallic guitar figures courtesy of the Smiths' Johnny

Marr. In short, although none of this is exactly like anything the band has done before, it is still recognizably Talking Heads.

What does it all mean? The notes claim that the lyrics at least are "self-explanatory," but I'm not really sure. If anything, "Naked" suggests that the Heads, for all their vaunted stylistic foraging, have reached the point at which they can be said to have created their own genre, much as has happened to, say, Bob Dylan. Call "Naked" the Talking Heads' neoclassic album, perhaps. But whatever you call it, there's no mistaking the intelligence and craft behind it. And Steve Lillywhite's production, splendid as always, is especially well served in the compact disc version, which includes a bonus track (and CD graphics, if you're one of the few folks in the Western world who own a graphics decoder). *Steve Simels*

**TALKING HEADS:** *Naked*. Talking Heads (vocals and instrumentals);

Johnny Marr (guitar); Eric Weisberg (pedal steel guitar); Lenny Pickett (tenor saxophone); other musicians. *Blind*; *Mr. Jones*; *Totally Nude*; *Ruby Dear*; (*Nothing but*) *Flowers*; *The Democratic Circus*; *The Facts of Life*; *Mommy Daddy You and I*; *Big Daddy*; *Cool Water*; *Bill* (CD only). FLY/SIRE 25654-1, © 25654-4, © 25654-2 (50 min).

## KOCSIS PLAYS BARTÓK IN BUDAPEST

THE people at Philips definitely caught the right man in the right place at the right time when they went to Budapest to record Zoltán Kocsis in all of Béla Bartók's works for piano and orchestra. The basic items, the three concertos, are given enormously attractive performances. Kocsis is really "inside" the music, his rapport with the conductor, Iván

*Chris Frantz, David Byrne, Tina Weymouth, and Jerry Harrison*



DEBORAH FEINGOLD/TOWARD BLOOM



*Kocsis: a little more poetry*

Fischer, is quite exceptional, and the Budapest Festival Orchestra makes a stronger impression than any Budapest orchestra I've heard in recordings heretofore. The recording itself, a co-production with Hungaroton, is stunning in its shimmering brilliance, remarkable clarity of detail, and superb balance. Kocsis perhaps finds a little more poetry here and there than the other fine pianists who have recorded the concertos, without diminishing any of the music's other qualities, and the outstanding sound makes the most of every detail.

The set is especially valuable for bringing us recordings of the early Rhapsody and Scherzo that are absolutely first-rate in respect to both performance and sound quality. The Rhapsody has had a bit of circulation in the concert hall as well

as on records, but the colorful Scherzo has remained virtually unknown despite a prior recording or two. It is not the short piece its title suggests but is, in fact, at a full half-hour, the longest of the five concerted works. And although it is also the least Hungarian in character, it has plenty of substance. Both of these early works would be refreshing additions to our concert repertoire; in the meantime, it would be hard to imagine them more persuasively presented than they are here.

The one negative aspect of this otherwise irresistible set is the inclusion of the Music for Strings, Percussion, and Celesta. The performance is a very good one, if not quite on the compelling level attained in the five concerted works, but this masterwork is something everyone is likely to have already in at least one or two indispensable recordings, and it simply does not belong in this set. Indeed, András Wilhelm's cogent annotation points out that "the work is not a piano concerto. The piano has no greater independence and is no more important than the other instruments." He even notes that Bartók himself refused to play the piano part in this work "because it is not a solo part." Perhaps Kocsis feels differently about it, or perhaps the work was meant to fill out the sides in the LP and cassette versions, but it is hard to justify its inclusion in the more costly CD version when only two discs, instead of three, would have been required if it had been omitted.

Nevertheless, the performances of the five other works are outstanding in every respect, the Rhapsody and the Scherzo are especially welcome, and the sound quality makes the entire set a joy. It should be a basic part of any serious collection of Bartók's music or of the music of our century—or of any serious collection, period.

*Richard Freed*

**BARTÓK:** *Piano Concertos Nos. 1, 2, and 3; Rhapsody for Piano and Orchestra, Op. 1; Scherzo for Piano and Orchestra, Op. 2; Music for Strings, Percussion, and Celesta.* Zoltán Kocsis (piano); Budapest Festival Orchestra, Iván Fischer cond. PHILIPS ● 416 831-1 three LP's, © 416 831-4 three cassettes, © 416 831-2 three CD's (157 min).

## JANE SIBERRY: "THE WALKING" EXPERIMENT

**J**ANE SIBERRY is a Canadian artist who uses a part of the brain the rest of us haven't found yet. A singer/writer who knows no boundaries of time or space, Siberry offers in her fourth album, "The Walking," an avant-garde, stream-of-consciousness tour through eight microcosms of life.

Sometimes compared with Laurie Anderson, Joni Mitchell, and Suzanne Vega, Siberry is like Mitchell and Vega only in the vivid imagery of her lyrics and occasional vocal similarities. Comparison with Anderson is more apt, however, since they share a similar wildly experimental approach, flashing wit, and bold intensity.

Siberry works within a spare framework of keyboards, guitar, bass, and drums, mostly forsaking melody for a sort of river of music that flows under and around her compelling, nonlinear stanzas. Her songs are not so much musical offerings as they are interlocking pastiches, some of her lyrics divid-

*Siberry: cinema in sound*



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## BEST RECORDINGS OF THE MONTH

ing off into conversational asides printed on the sleeve but not incorporated into the performance. A couple of songs get tedious before their resolution, but others—among them *Lena Is a White Table*, with the chorus, "Well, maybe she should go to school/No, no . . . she's a table/Lena's a white table"—rivet your attention on trying to make conventional sense of them.

It probably goes without saying that Siberry isn't for everyone. But anybody looking for fifty-odd minutes of "cinema-in-sound," as she calls it, will be challenged, absorbed, and, quite possibly, changed. "The Walking" makes for a totally unorthodox, pleasantly bewildering experience.

*Alanna Nash*

**JANE SIBERRY:** *The Walking*. Jane Siberry (vocals, guitar, keyboards); vocal and instrumental accompaniment. *The White Tent the Raft; Red High Heels; Goodbye; Ingrid (and the Footman); Lena Is a White Table; The Walking (and Constantly); The Lobby; The Bird in the Gravel*. REPRISÉ 25678-1, © 25678-4, © 25678-2 (52 min).

### A LYRICAL MAHLER "RESURRECTION"

**S**IMON RATTLE'S new recording of Mahler's Symphony No. 2 is his first of a Mahler symphony since his highly dramatic reading of the Tenth several years ago. He opts for a predominantly lyrical treatment of the *Resurrection* Symphony—even in the opening movement, where the temptation is to pull out all the theatrical stops.

Rattle's tempos throughout the first movement are freer than usual, though not quite as far from the norm as those in Leonard Bernstein's CBS recording. His deliberate and somewhat idiosyncratic articulation of the main theme is immediately noticeable, as is his treatment of the savage descending minor scale that concludes the movement. He imparts an effective undercurrent of menace to the minor-key episodes in the *Ländler*-style second movement, and his *sotto voce* dynamic scheme in much of the scherzo is also interesting.

Janet Baker makes a major contribution with her rapt rendering of the *Urlicht* solo in the fourth movement. And the apocalyptic finale is both spacious and dramatic, as the music demands, with Arleen Augér's soprano emerging exquisitely from the choral texture. The blending of the two soloists toward the close also comes off most successfully. The choral forces acquit themselves superbly throughout the movement, especially in the great outbursts for the male voices.

The bright and spacious acoustics of Watford Town Hall make for a resplendent sonic surround, notably in the final pages where an organ underpins the massive tutti. Only the bells sound a shade anemic. This particular realization of the *Resurrection* Symphony may not be for every taste, but I found it a stimulating and often moving listening experience.

*David Hall*

**MAHLER:** *Symphony No. 2, in C Minor ("Resurrection")*. Arleen Augér (soprano); Janet Baker (mezzo-soprano); City of Birmingham Symphony Orchestra and Chorus, Simon Rattle cond. ANGEL © CDCB-47962 two CD's (86 min).

*Rattle and Baker: resplendent, moving Mahler*



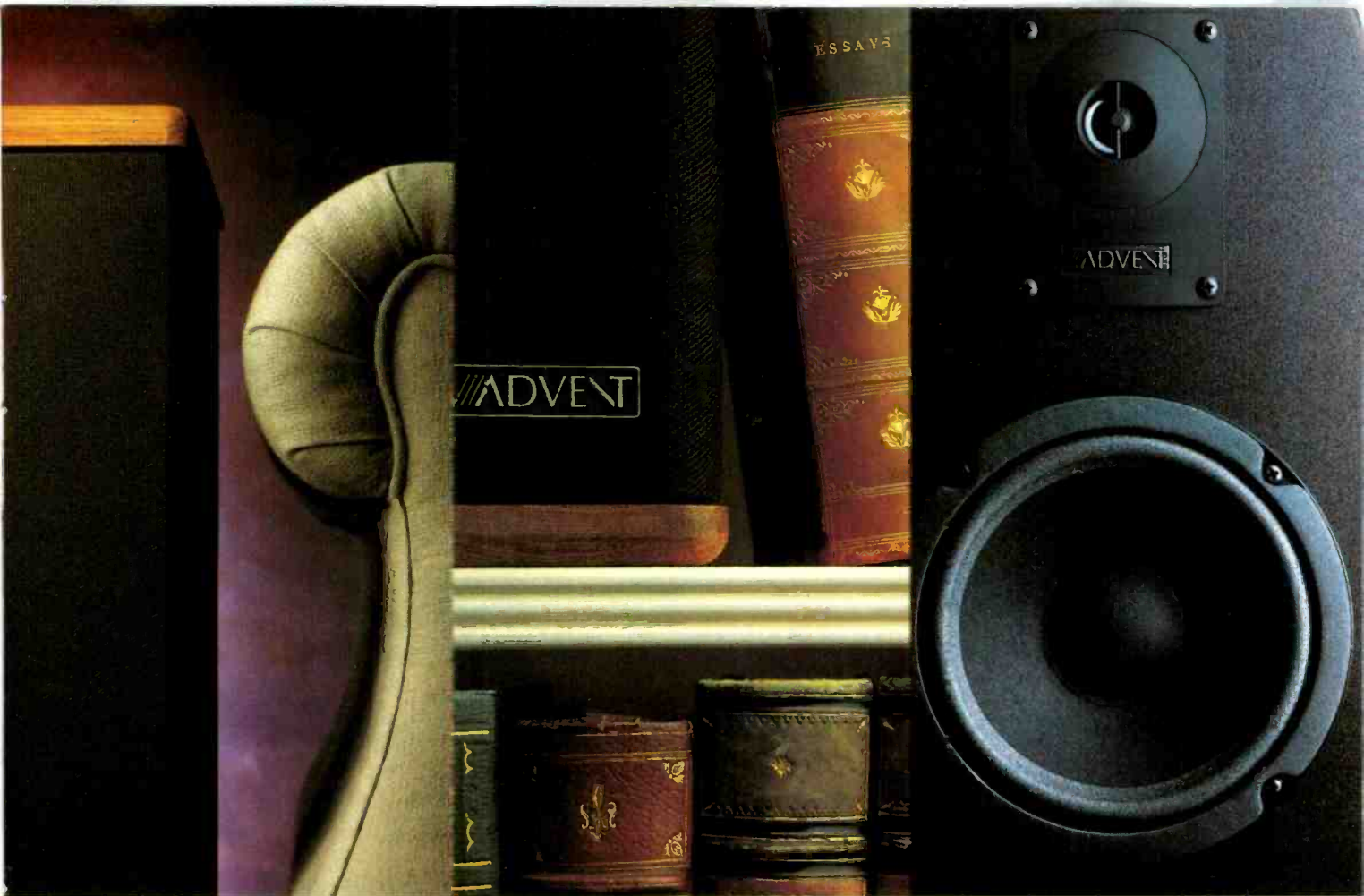
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#### POPULAR

- **THE DB'S:** *Like This*. BEARSVILLE/RHINO RZ 70891. "Undeniably excellent stuff" (November 1984).
- **ECHO AND THE BUNNYMEN:** *Ocean Rain*. SIRE 25084-2. *Porcupine*. 23770-2. "Dense, grating, even terrifying" (August 1983).
- **DARYL HALL AND JOHN OATES:** *Past Times Behind*. MOBILE FIDELITY MFCD 879. Previously unreleased tracks from 1969-1972.
- **JETHRO TULL:** *Living in the Past*. CHRYSALIS VK 41035. "Theatrical demonism and feigned madness—maybe not so feigned" (May 1973).
- **JOHN LENNON:** *Rock 'n' Roll*. CAPITOL CDP-46707. "A joy" (Best of Month, May 1975).
- **LITTLE FEAT:** *The Last Record Album*. WARNER BROS. 2884-2. *Waiting for Columbus*. 3140-2. "Outstanding" (February 1976).
- **NEW ORDER:** *Brotherhood*. QWEST/WARNER BROS. 25511-2, *Low-Life*. 25289-2. *Power, Corruption and Lies*. 25308-2. "Fierce guitar work and thrashing rhythms" (November 1985).
- **JAMES TAYLOR:** *Walking Man*. WARNER BROS. 2794-2. "Ingratiating" (November 1974).

#### CLASSICAL

- **BACH:** *The Well-Tempered Clavier, Book I*. Landowska. RCA 6217-2-RC (two CD's). *Sonatas and Partitas for Solo Violin*. Heifetz. 7708-2-RG (two CD's). Two of the immortals in recordings from the late Forties/early Fifties.
- **CORIGLIANO:** *Clarinet Concerto*. **BARBER:** *Third Essay*. Drucker, Mehta. NEW WORLD NW 309-2. Works written for the New York Philharmonic in performances of "irresistible conviction" (Best of Month, May 1981).
- **CRUMB:** *A Haunted Landscape*. **SCHUMAN:** *Three Colloquies*. Weisberg/Mehta. NEW WORLD NW 326-2. "Definitive" readings of two other New York Philharmonic commissions (November 1985).
- **DEBUSSY:** *Pélieas et Mélisande*. Stilwell, Von Stade; Karajan. ANGEL CDCC 49350. "A splendid production" (March 1980).
- **KHACHATURIAN:** *Violin Concerto*. **SIBELIUS:** *Violin Concerto*. D. Oistrakh, Khachaturian/Rozhdestvensky. MELODIA/MOBILE FIDELITY MFCD 899. "Absolutely brilliant" (March 1968).



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by Christie Barter  
& Steve Simels

**G**OOD news for fans of the Pretenders and Chrissie Hynde: Warner Reprise Video has just released "Pretenders: The Singles," which collects, in chronological order, the fifteen videos the band has made to promote its uniformly splendid hits and near hits. Everything you'd want to see is here, from the Nick Lowe production of *Stop Your Sobbing*, the video that launched the group, to the great mod black-and-white staging of *Talk of the Town* to the more recent *Don't Get Me Wrong*, in which Hynde is intercut with an old clip of Patrick Macnee in *The Avengers*. The selections more or less duplicate the band's similarly packaged "Greatest Hits" collection, but for once we'd say get the video instead of the LP or compact disc. This is terrific music, to be sure, but it's twice as terrific when you can see Hynde staring down the camera. □



Hynde: staring down the camera

**E**ARLY music is alive and well in California, and much of that happy state of affairs can be credited to the efforts of Nicholas McGegan, the music director of the San Francisco-based Philharmonia Baroque Orchestra, which has been making records for

plete *Water Music* of Handel and the Mozart horn concertos, with Lowell Grier as soloist.

McGegan has also recently made his debut as music director of the small but celebrated Ojai Music Festival in the Ojai Valley just north of Los Angeles, and on June 23-25 he tops off the second annual E. Nakamichi Baroque Music Festival at UCLA by conducting the first fully staged U.S. performances of Stefano Landi's early opera *Il Sant'Alessio*.

In addition to McGegan's Philharmonia Baroque, the Bay Area supports a second early-music ensemble, called La Corte Musical, which was recently "discovered" by Nonesuch Records. Its first Nonesuch album, of Spanish music dating from the twelfth century, is due for release this summer. □

**R**YKODISC has released a number of ambient-sound CD's, so we were not too surprised to receive a press release describing eight new titles in the Atmosphere

Collection. Under the general heading of "8 Hours in the Big Apple," the series captures the sounds of New York City. For example, "Lower East Side Afternoon" is said to feature the pitches of "charming street vendors" and "the lunchtime trade in Needle Park," "Busy Office" is recommended "for lonely freelancers," and "L Train to Canarsie" promises the "soothing rhythms of the train tracks . . . the effervescent hustle bustle of the happy crowd."

According to Rykodisc, the recordings are intended to provide "a stress-filled backdrop to our stress-filled everyday lives" and "are designed to pummel the listener into resigned desperation." If programmed for indefinite repeat, the discs can "[induce] a low-grade psychosis in most listeners." We were ready to order a complete set when we noticed the date of the press release: April 1.

No kidding, though, you can get a free CD sampler of Rykodisc's recordings, along with a catalog—see page 19. □

**T**HE latest young artist being groomed for future stardom by a major classical label is American-born violinist Joshua Bell. At twenty-one, he already has two London/Decca releases: a compilation of familiar showpieces by Brahms, Paganini, Sarasate, and Wieniawski in which he is accompanied by pianist Samuel Sanders and a coupling of the popular Bruch and Mendelssohn violin concertos with the Academy of St. Martin-in-the-Fields under Neville Marriner.

Bell has been playing for American audiences since the age of six and in recent years has had frequent dates overseas as well. This summer his concert schedule ranges from Seattle, where he performed in the Seattle Symphony's Mozart Festival, to the two Spoleto Festivals (in Charleston, South Carolina, and in Italy) and from concerts with the Montreal Symphony this month to a performance of the Mendelssohn concerto with the Pittsburgh Symphony at the Hollywood Bowl in August. □

**M**ETAPHYSICAL comedian/magicians Penn and Teller, who just finished a Broadway run of their critically acclaimed two-man show, are turning into regular multimedia guys. For example, Lorimar has just released

Bell: groomed for stardom



ROBERT MATHEU/RETNA

JOSEF ASTOR/BYERS, SCHWALBE



McGegan: early music out west

Harmonia Mundi USA. Just released is an album of Vivaldi flute concertos, with Janet See as soloist, and coming up later this year are the com-





their interactive video *Cruel Tricks for Dear Friends*, in which they help the viewer play practical jokes on unsuspecting loved ones. Penn (Jillette) is also a burgeoning record mogul. His Florida-based Fifty Skedillion Watts label has already released a charming EP by legendary Velvet Underground drummer Maureen Tucker, and, just now, an album by his own band, *Bongos, Bass and*

weirdest organ solo in recording history). All of Orbison's hits are here, and the finale, worth the price of the tape all by itself, is a version of *Pretty Woman* in which Springsteen gracefully loses a guitar duel with the great James Burton (of Rick Nelson and Elvis Presley fame). The rest is terrific as well, and the hi-fi sound is pretty cool, too. Incidentally, Orbison can also be heard in

titles by Bon Jovi, Kiss, Eurythmics, and Rush, and a selection of classical recordings in a twelve-inch format. Among the latter are two complete operas—a *La Bohème* in a Franco Zeffirelli production conducted by Herbert von Karajan and a *Marriage of Figaro* staged by Jean-Pierre Ponnelle and conducted by Karl Böhm—and a Wagner program by Georg Solti and the Chicago Symphony.

The twelve-inch CDV's are fully compatible with existing LaserDisc players, but the five-inch pop releases are not. All the music on the smaller discs can be heard on standard CD players, but the video signals can be retrieved only by one of the combination players, which are usually capable of playing all CD and videodisc formats. □

**G**RACENOTES. In light of the recent Rat Pack Reunion Tour, we note with sadness that the Smithereens' remake of the Frank and Nancy Sinatra classic *Something Stupid* did not make it to the final version of the band's "Green Thoughts" album. Featuring singer Marti Jones and the actual string tracks from the Sinatra original, the tune was deemed inappropriate to the album's serious tone. Word is, however, that it will appear as a future B side. . . . Rhino Records, in its continuing campaign to digitalize the old Bearsville Records catalog, has just come out with a CD version of the dB's' sublime "Like This." □



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POLYGRAM CLASSICS

New CD videos: *Lovett* (top) on MCA and two complete operas from PolyGram

Orbison: rocker on a roll



EBET ROBER T'S



EMMETT MARTIN/CINDY VALK

Penn and Teller: multimedia guys

Bob. We haven't heard it, but according to Penn it features "an acoustic speed mariachi psychedelic combo." □

**R**oy Orbison, the legendary rocker whose career was revitalized when his *In Dreams* turned up in David Lynch's movie *Blue Velvet*, is on a roll these days. He's been inducted into the Rock and Roll Hall of Fame, he's got a new album due featuring songs written by Elvis Costello and other notables, and he's also the subject of a superb new video. "Roy Orbison and Friends: A Black and White Night" (HBO Video) finds the man, still hidden behind impenetrable shades and with his stratospheric voice intact, backed up by an all-star aggregation including Bruce Springsteen, Jackson Browne, T Bone Burnett, Bonnie Raitt, and Tom Waits (who contributes perhaps the

the just-released video version of *Less Than Zero* (CBS/Fox), where his *Life Fades Away* plays over the final credits. □

**C**OMPACT DISC VIDEO is really here! We just got our first five-inch CDV for review, a Curb/MCA release featuring Lyle Lovett and containing six tracks from his new album, "Pontiac." The first track on the twenty-minute disc is a video of Lovett's *She's No Lady*, which lasts a little over three minutes, and the other five tracks are audio-only cuts.

The first sizable release of CDV software, as far as we know, will come from the PolyGram group of companies and at presstime was due to hit the street in June. By the time you read this, you should be able to buy at least a handful of pop CDV's in the five-inch format, including ti-

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*Discs and tapes reviewed by Chris Albertson, Phyl Garland, Ron Givens, Roy Hemming, Alanna Nash, Mark Peel, and Steve Simels*

**AC/DC: *Blow Up Your Video*.** AC/DC (vocals and instrumentals). *Heatseeker*; *That's the Way I Wanna Rock 'n' Roll*; *Meanstreak*; *Go Zone*; *Kissin' Dynamite*; and five others. ATLANTIC 81828-1, © 81828-4, Ⓢ 81828-2 (42 min).

Performance: *Pre-emptive strike*  
Recording: *Good*

In some quarters, AC/DC has succeeded Blue Öyster Cult as the thinking man's heavy-metal band. Angus Young's relentless guitar attacks are part of the reason. Young has fashioned a demented style in which familiar power chords are hammered into submission through endless and unflinchingly energetic repetition. There are lots of metal bands that play loud and fast, but you're always aware that they're *performing*; Young sounds as if he plays this way because he *has* to. He is capable of taking an unexpected detour now and again, but subtlety isn't really what he's all about—wanton aggression is more like it. Then there's lead singer Brian Johnson, whose grizzled vocals sound as if he had been raised by apes but was thrown out of the pack for unsocial behavior.

"Blow Up Your Video" doesn't measure up to AC/DC's most inspired work ("Who Made Who"), but it's a real headbanger. Produced by Harry Vanda and Angus Young's brother George (the two recorded a couple of albums under the name Flash and the Pan), "Blow Up" recycles Lynyrd Skynyrd-style electric blues, a point of departure that makes the album seem lazier than it really is. Angus Young has a military-industrial complex, writing songs with titles like *Heatseeker*, *Kissin' Dynamite*, and *This Means War*—not the most original metaphors for lust, but this is a "must" party album if you're ever entertaining Adnan Khashogi. Otherwise it's recommended chiefly for those needing an immediate heavy-metal fix. *M.P.*

**KAREN AKERS: *In a Very Unusual Way*.** Karen Akers (vocals); instrumental accompaniment. *Unusual Way*;

## EXPLANATION OF SYMBOLS:

- = DIGITAL-MASTER LP
- Ⓢ = TAPE CASSETTE
- Ⓢ = COMPACT DISC (TIMINGS ARE TO NEAREST MINUTE)



## NICK LOWE: PROUDER

**N**ICK LOWE is a prodigiously talented guy. Among other things, he's a terrific, ironic tunesmith (his *Marie Prevost* is the catchiest song ever written about a silent-movie actress eaten by her dog), a criminally underrated bass player (check out his work on John Hiatt's "Bring the Family"), and an ace producer (early Graham Parker and Elvis Costello)—and all that's not even counting what he did as co-leader of Rockpile, possibly the best traditional rock band of the late Seventies. Unfortunately, for the last several years he's also been something of an underachiever. Since his two brilliant solo albums, "Pure Pop for Now People" and "Labour of Lust," his efforts have been hit or miss, and some, like "The Abominable Showman," have been out-and-out throwaways.

"Pinker and Prouder than Previous," Lowe's last record for Columbia (he's recently jumped ship for Warner Bros.), is a collection of odds and ends recorded over the last two years with a variety of musicians, including members of the Fabulous Thunderbirds, and initially it feels like a throwaway, too. There's an unfinished feel to many of the tracks (stunning exception: the Dave Edmunds-produced *Lovers Jamboree*, a boogie-woogie workout that could be vintage Rockpile), and the lyrics seem mundane, devoid of irony,

tossed off. And yet... and yet, something here stays with you.

You find yourself humming *Wildest Dream*, which seems just an average blues song until you realize how hooky the harmonica line is, or nodding knowingly at the subtle, charming evocation of a million Buddy Holly songs in *I Got the Love*, or grinning with pleasure at the Dylanesque organ and Beatles-derived harmonies that decorate Lowe's version of Hiatt's *Love Gets Strange*. And eventually everything, with the exception of *Cry It Out*, a bogus reggae number, gets to you on one level or another.

In short, what Lowe has pulled off here is characteristically sneaky. Just when we'd least expect it, and with supreme understatement, he's made his best record in years. It may lack the demented humor and compulsive humbability of his earliest efforts, but it is, nonetheless, a keeper. *Steve Simels*

**NICK LOWE: *Pinker and Prouder than Previous*.** Nick Lowe (vocals, bass, guitar); Paul Carrack (piano, organ); Terry Williams (drums); Martin Belmont (guitar); other musicians. (*You're My Wildest Dream*; *Crying in My Sleep*; *Big Hair*; *Love Gets Strange*; *I Got the Love*; *Black Lincoln Continental*; *Cry It Out*; *Lovers Jamboree*; *Geisha Girl*; *Wishing Well*; *Big Big Love*. COLUMBIA FC 40381, © FCT 40381.

*Don't Let Me Be Lonely Tonight; I Loved You Once in Silence; I've Been Taught by Experts; Just a Housewife;* and seven others. RIZZOLI LP-1004, © MC-1004, © CD-1004 (51 min).

Performance: *Stunning*  
Recording: *Excellent*

Few song stylists have developed as impressively in recent years as Karen Akers. I used to think it was her striking physical appearance as much as her voice that held club audiences mesmerized when she sang, but this new album proves that her singing has itself become the real communicator. Her voice is velvety, warm, and vibrant, occasionally plaintive and melancholy, but most often positive and precise in saying exactly what she means to say with each song.

There's a splendid mix of old and new songs here—from Lerner-and-Loewe and Kalmar-and-Ruby to James Taylor, Peter Allen, and Amanda McBroom. Most are ballads about relationships—those that work and those that don't. A few of the songs are afflicted with the "poor me" aura that plagues the lyrics of so many contemporary ballads, but even in these Akers has a refreshing way of injecting a sardonic tone just where it's needed. And her version of the Gershwins' *How Long Has This Been Going On?* made me feel I was hearing this standard for the first time. R.H.

**VIRGINIA ASTLEY:** *Hope in a Darkened Heart.* Virginia Astley (vocals); Ryuichi Sakamoto (keyboards, synthesizers). *Some Small Hope; A Father; So Like Dorian; Tree Top Club; Darkness Has Reached Its End;* and four others. GEFREN GHS 24184, © MSG 24184, © 24184-2 (39 min).

Performance: *Idiosyncratic*  
Recording: *Good*

What do you get when you match Virginia Astley's ethereal, English-school-girl voice with Japanese experimental electronic music? Well, what you get is a highly esoteric record, made even more so by there not being any real lyrics to speak of, not even in the duet with David Sylvian, *Some Small Hope*. The press release calls this album "atmospheric . . . filled with hypnotic textures . . . dreamily opaque," and certainly that's all true. But it also can be a bit unsettling. Astley's multilayered vocals seem to come from the stratosphere, and Ryuichi Sakamoto's synthesizers support them with a filmy, sometimes sinister-sounding accompaniment. At times it is evocative and lovely, at times appallingly monotonous. All in all, this stuff grows on you. The problem is, I'm not really sure you'll want it to. A.N.

**CLANNAD:** *Sirius.* Clannad (vocals and instrumentals); other musicians. *In*

*Search of a Heart; Second Nature; Turning Tide; Skellig; Stepping Stone; White Fool;* and four others. RCA 6846-1-R, © 6846-4-R, © 6846-2-R (42 min).

Performance: *Buried*  
Recording: *Overstuffed*

With "Sirius," its third American album, Clannad continues to cross over from its Irish roots to mainstream rock. Unfortunately, the production itself overpowers the five-piece band's ethnic purity with dense arrangements played by a bunch of additional, hyperactive musicians. In *Second Nature* and *Skellig*, for example, the Uilleann pipes of Tom Keane get lost in a sonic swamp created by guitar, synthesizer, and saxophone. Throughout the album, the drum work of co-producer Russ Kunkel seems more appropriate to the bombast of Toto than to Clannad's subtle melodies and harmonies. The songs by the Brennan brothers, Ciaran and Pól, and the lovely voice of their sister, Máire, need more sensitive accompaniment than they get here. R.G.

**LITA FORD:** *Lita.* Lita Ford (vocals, guitar); vocal and instrumental accompaniment. *Back to the Cave; Can't Catch Me; Kiss Me Deadly; Falling In and Out of Love; Under the Gun; Broken Dreams;* and three others. RCA 6397-1-R, © 6397-4-R, © 6397-2-R (40 min).

Performance: *Adolescent*  
Recording: *Good*

Lita Ford is the kind of woman that male hard rockers sing about: blonde, attractive, shapely, barely dressed. These facts are established by the cover photo of Ford's fourth solo album. The material itself sounds as if it could have been written and performed by just such a group of guys. It has a slightly crunchy, guitar-heavy sound and some inspired solos by Ford, who was lead guitarist for the Runaways. It also has lyrics that range from the vapid to the incomprehensible.

*Falling In and Out of Love*, with a dynamic instrumental track, features this puzzling verse: "Like a diamond, never our love would break/But in a heartbeat thrown us both away/Set me free to live my life like a rolling stone/And look away from the homeward road." In *Can't Catch Me*, which sounds like a pretty good Led Zeppelin impression, Ford sings, "I need more than just a pretty face/I deserve an ace with a little taste/Don't come sniffin' round my tree/I'm off 'n' runnin' 'n' you can't catch me." Men who sing about women this way are often considered sexist. In a peculiar way, "Lita" must be considered a result of equal opportunity. R.G.

**MAUREEN FORRESTER:** *From Kern to Sondheim—Great American Theater Songs.* Maureen Forrester (contralto); John Arpin (piano). *Falling*

Virginia Astley: exotic, multilayered vocals



in *Love with Love; What'll I Do?; All the Things You Are; The Song Is You;* and ten others. FANFARE/PRO ARTE © PCD 334, © CCD 334 (60 min).

Performance: *Warm and winning*  
Recording: *Exemplary*

Maureen Forrester's choice of songs here is good, although there are a few miscalculations, such as a too-coy Gershwin-DeSylva *Do It Again* and an unconvincing Arlen-Mercer *Come Rain or Come Shine*. But what she does with the Kern-Hammerstein ballads (*All the Things You Are, The Song Is You*), the Schwartz-Dietz *Alone Together*, Jerry Herman's rarely heard *And I Was Beautiful*, and most of the others may help give crossover a good name again after some of the recent fiascos by other concert artists. R.H.

**JAN HAMMER: *Escape from Television*.** Jan Hammer (instrumentals). *Crockett's Theme; Theresa; Colombia; The Trial and the Search;* and eight others. MCA ● MCA-3407, © MCAC-3407, © MCAD-3407 (41 min).

Performance: *Slick*  
Recording: *Pristine*

Jan Hammer's tech-noir music for *Miami Vice*—part fusion, part mood-mongering synth pop—works like (pardon) gangbusters in the context of the show, but otherwise it's somewhat less than thrilling. Perhaps that shouldn't be surprising, given that the show itself is a triumph of style over content. Divorced from the pastel-and-neon visuals, what's offered in this Hammer/*Vice* retrospective is basically schematic and simplistic, sort of the musical equivalent of closed captions for the hearing impaired. S.S.

**JOHNNY HATES JAZZ: *Turn Back the Clock*.** Johnny Hates Jazz (vocals and instrumentals); vocal and instrumental accompaniment. *Heart of Gold; Shattered Dreams; Turn Back the Clock; Don't Say It's Love; What Other Reason; I Don't Want to Be a Hero;* and four others. VIRGIN 90860-1, © 90860-4, © 90860-2 (36 min).

Performance: *Irresistible*  
Recording: *Very good*

The problem with most synth-pop bands is that the music they make sounds, well, synthetic. That can be a good thing, of course, but most bands cannot overcome the artificiality, stiffness, or harshness of synthesizers. One that can is Johnny Hates Jazz. In this debut album, the British trio coaxes completely natural music from these utterly unnatural instruments.

Singer-songwriter Clark Datchler has a considerable gift for smooth, infectious melodies, and his effortless crooning blends seamlessly with his cool tunes. Synthesists Calvin Hayes and Mike Nocito manage to give Datchler's songs a compelling danceability while



## DANNY WILDE

**D**ANNY WILDE is the classic rock-and-roll journeyman—three albums on three different labels, with two different bands, and a solo LP that never sold much beyond his immediate family. That kind of experience can wear a musician down or it can build his character. In Danny Wilde's case, apparently, it's given him a chance to master his trade.

His new "Any Man's Hunger" is a smart, solidly built album that manages to be serious while capturing the top-down exuberance of rock-and-roll the way it used to be. The opening track, *Time Runs Wild*, could be the anchor in a four-man rock-and-roll relay from Dylan to the Byrds to Tom Petty to Wilde's jangling twelve-string guitar, the rolling thunder of the back beat, and his reedy, urgent vocal. If the rest of "Hunger" sounds more like the Everly Brothers, the metaphor still holds up—this album is rooted in rock from a generation ago. And it's a winner.

Wilde's spirited vocals make the workmanlike lyrics of the songs here seem more illuminating than they are. But it's his writing and arrangements—and Matt Downs's lead guitar—that you find grabbing your attention. Wilde

just doesn't seem to be able to write a dull song. The verses unfold easily against chunking guitar riffs, then the choruses unleash their monster hooks—two- and three-part harmonies, cascading rhythm-guitar chords, and a churning bass-and-drum back beat—while Downs pulls out all the stops with soaring, swaggering solos. They go so far with just the basic tools of rock-and-roll that you wonder why more bands haven't figured out how to do it.

Like a man on a tightrope, Danny Wilde could make one misstep and wind up falling into the Everyman mannerisms of John Cougar Mellencamp or the hipness of Marshall Crenshaw. But if he keeps making albums like "Any Man's Hunger," he'll be a tough one to knock off. Mark Peel

**DANNY WILDE: *Any Man's Hunger*.** Danny Wilde (vocals, rhythm guitar); Matt Downs (guitar); other musicians. *Time Runs Wild; Ain't I Good Enough; Wouldn't Be the First Time; Bitter Moon; In a Bordertown; Set Me Free; Every Goodbye; Any Man's Hunger; This Old Town* (on cassette and CD only). *Contradiction; Too Many Years Gone By.* GEFEN GHS-24179, © M5G-24179, © 24179-2 (47 min).

## “NEVER BEFORE”



Byrds in 1967: Hillman, Michael Clarke, Crosby, and McGuinn

**T**HE Byrds' "Never Before," a collection of outtakes and alternate mixes, is an album that a lot of people have been looking forward to for years, and now that it's here I'm happy to be able to report that it lives up to expectations. First of all, it's the very model of how this kind of archival project should be done. The band members themselves were involved in remixing the material, the liner notes (including session details) are informative, and the behind-the-scenes photos beautifully evoke their era. Even the cover art, which faithfully recaptures the look of a vintage Byrds album, is perfect.

Second, and more important, the music is by and large wonderful, providing convincing evidence that at their peak (1965-1967), the Byrds were not only the premier American band of the day but one of the most innovative and influential bands ever (just ask Tom Petty or R.E.M.). From angelic folk-rock to hard-edged, avant-metal instrumental explorations to a pioneering country-rock synthesis, they did it all first—and often best. And while "Never Before" is not *all* topflight Byrds, it's close enough to be an Event.

So what do we get? Well, for starters, the first-ever release of the stereo mix of *Mr. Tambourine Man*, with the sound opened up so breathtakingly you feel you're hearing it for the first time. And *It's All Over Now, Baby Blue*, a projected single recorded just prior to *Turn, Turn, Turn*, with Bob Dylan and the Beatles in attendance. And David Crosby's *Triad*, the notorious *ménage à trois* number that, according to legend, led to Crosby's dismissal from the band, in a version that sounds somewhat unfinished, although Crosby sings it quite

gorgeously. And *Eight Miles High*, in an alternate version recorded at RCA's cavernous Hollywood studios by Rolling Stones engineer Dave Hassinger—it's fascinating for how closely it resembles the more famous single version (the structure is identical) and for how it differs (Jim McGuinn's twelve-string solos are angrier, the group vocals less focused). And, best of all, *Lady Friend*, available for the first time in stereo and simply a masterpiece—driving, gorgeously melodic, superbly arranged and produced, it's one of the great "lost" singles of the Sixties, and it's worth the price of the album all by itself.

Jim McGuinn, Gene and Michael Clarke, Chris Hillman, and David Crosby have all had their ups and downs over the years, and except for Hillman, whose Desert Rose Band is currently one of the most interesting things in country music, a lot of their post-Byrds output has cheapened their collective reputation. "Never Before" is therefore a welcome reminder that when these five guys were together, thinking and working as a unit (unlike their disastrous 1973 reunion effort, which was a collection of solo turns), they were as good as it gets. Buy a copy immediately, agitate for a CD version, and let's hope there's a second volume in very short order. *Steve Simels*

**THE BYRDS:** *Never Before*. The Byrds (vocals and instrumentals); Hal Blaine (drums); Larry Knechtel (bass); other musicians. *Mr. Tambourine Man*; *I Knew I'd Want You*; *She Has a Way*; *It's All Over Now, Baby Blue*; *Never Before*; *Eight Miles High*; *Why*; *Triad*; *It Happens Every Day*; *Lady Friend*. RE-FLYTE/MURRAY HILL MH 70318, © MHC 70318.

maintaining a generally relaxed atmosphere. The overall effect is a seductive push-pull. *Shattered Dreams*, *Heart of Gold*, *Turn Back the Clock*, *Don't Say It's Love*, *Listen*, and *Foolish Heart*, with their quick tempos and understated hooks pushed by slightly funky rhythms, all sound as if they have hit potential. And the slower songs—*What Other Reasons*, *Different Seasons*, *Don't Let It End This Way*—have equal charm.

Johnny Hates Jazz falls somewhere between two quite different kinds of music that have come out of Britain in recent years—the songs of George Michael and, for lack of a simple term, neo-cool jazz. Along with some of the same commercial qualities as Michael, but without his forced, almost desperate intensity, the trio has some of the cool restraint of such faux-jazz pop groups as *Everything But the Girl*, *Sade*, and *Swing Out Sister*. Johnny Hates Jazz works the soulful side of the street, but without working up a sweat. *R.G.*

**GEORGE JONES:** *Too Wild Too Long*. George Jones (vocals); vocal and instrumental accompaniment. *I'm a Survivor*; *The Real McCoy*; *One Hell of a Song*; *The Bird*; *I'm a Long Gone Daddy*; and five others. EPIC FE 40781, © FET 40781, © CK 40781 (31 min).

Performance: *Solid-gold Jones*  
Recording: *Fine*

No matter what mental, emotional and spiritual gymnastics George Jones may go through to commit ten songs to vinyl, the finished product almost always pours out of the speakers with such ease as to suggest that Jones could deliver the album in his sleep. He is such a master of the country song, in fact, that if you didn't know better, at times you'd think the country idiom was invented for him. Virtually every track here proves it, but Jones is particularly stunning on *Too Wild Too Long* and *One Hell of a Song*, both confessionals that expose human frailty for the obvious and inevitable thing it is.

In concept alone, "Too Wild Too Long" is an exemplary commercial country album—entertaining, touching, memorably amusing, and nicely paced. The fact that it also has George Jones makes it nearly perfect. *A.N.*

**THE KINKS:** *Live/The Road*. The Kinks (vocals and instrumentals). *The Road*; *Destroyer*; *Apeman*; *Come Dancing*; *Art Lover*; *Clichés of the World (B Movie)*; and six others. MCA MCA-42107, © MCAC-42107, © MCAD-42107 (50 min).

Performance: *Vital Kinks*  
Recording: *Excellent*

Read an interview with Ray Davies, and it seems the last thing he's interested in these days is the Kinks or rock-and-roll. Listen to "The Kinks Live/The Road," and you realize they're

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probably the only things he *really* cares about. The performances in this album are so energized, so driven, they make the mediocre material (*Think Visual, Give the People What They Want*) seem good and the good stuff (*Apeman, Destroyer, Clichés of the World, Art Lover*) seem legendary. Given the paranoia level in this band (Dave Davies probably spent most of his time looking over his shoulder to see whether Ray was poised to attack), its sound is remarkably crisp, full, and well defined.

Davies tweaked the audience a bit at the concert recorded here, teasing them with the opening chords of *You Really Got Me* before sliding into *Destroyer*, but once the electrifying rhythm guitar kicked in, I doubt if anyone cared. To top it off, one of the album's two new songs suggests there may be more life in the Kinks yet. While the title cut is boilerplate, life-on-the-road stuff, *It*, which features dubbed snippets of the Reykjavik summit, finds Davies at his sardonic best. *M.P.*

**BONNIE KOLOC:** *With You on My Side*. Bonnie Koloc (vocals); vocal and instrumental accompaniment. *With You on My Side; Mama Chicago; Gun for the Game; Hot Night in New York City; Lani Mori*; and six others. FLYING FISH FF 437, © FF90 437.

Performance: *Ravishing*  
Recording: *Lovely*

In the early Seventies Bonnie Koloc was, by some estimates, as integral to the Chicago folk scene as John Prine and Steve Goodman. Her voice was a shimmering instrument with enormous range and pinpoint precision, and her songs were both energizing and emotionally affecting. After five albums on Ovation and two on Epic, Koloc suddenly found herself without a label and moved to New York to pursue an acting career.

Now Koloc is back in Chicago and singing again. "With You on My Side," her first album in a decade, finds her working in a sort of jazz-cabaret style but still drawing on her folk, blues, and pop roots to craft an exquisite collection of original songs, several of which trace her life from her Iowa childhood to Chicago to New York and back again. This is quality work, an album of quiet power and sophistication that should earn Koloc a whole new set of fans without alienating the old ones. A truly marvelous record. *A.N.*

**TED NUGENT:** *If You Can't Lick 'Em... Lick 'Em*. Ted Nugent (vocals, guitar); vocal and instrumental accompaniment. *Can't Live with 'Em; She Drives Me Crazy; If You Can't Lick 'Em... Lick 'Em; Skintight; Funlover*; and five others. ATLANTIC 81812-1, © 81812-4, © 81812-2 (40 min).

Performance: *Metal by numbers*  
Recording: *Good*

In the production notes for "Lick 'Em," Ted Nugent talks about the recording session: "Our studio is constantly filled with fun-lovers and fine American women." It's no wonder Nugent consistently produces the trashiest, most turgid records in heavy metal today—he's too busy entertaining to whip up anything more taxing than generic Fender bashing. Nugent's guitar has been in hibernation for ten years, but his playing sounds exactly the same now as it did on "Cat Scratch Fever"—and it was stale then. Among the "fun-lovers" who pitched in on "Lick 'Em" were Jon Bon Jovi and members of Mötley Crüe. They must have been happy to help sabotage a competitor's album. *M.P.*

**JANE SIBERRY:** *The Walking* (see Best of the Month, page 112)

**TALKING HEADS:** *Naked* (see Best of the Month, page 111)

**VIEW FROM THE HILL:** *In Time*. View from the Hill (vocals and instru-

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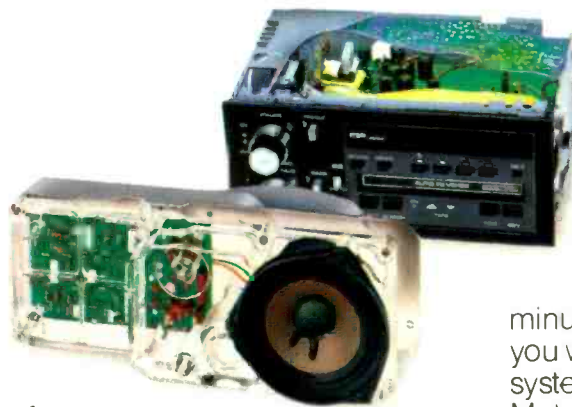




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mentals); other musicians. *No Conversation; I'm No Rebel; Stay and Let Me Love You; Desperately; Boys in Blue;* and three others. CAPITOL CLX-46703, © C4X-46703, © CCT-46703 (41 min).

Performance: *Eclectic*  
Recording: *Good*

View from the Hill is a promising but puzzling trio—Angela Wynter, Trevor White, and Patrick Patterson—that doesn't seem to fit into any convenient slot. Its music is being touted as a blend

of soul and pop, but the style is more reminiscent of the sort of airy, folk-flavored music prevalent in the Sixties. Although some of the selections here seem overly repetitious and dull, there is real excitement in the reggae-flavored *On the Corner* and *Turn Out the Light*. View from the Hill is at its best when it leaves the vocals to Wynter, who has a sweet, affecting sound. "In Time" is a somewhat uneven set, but there are enough good moments to justify giving it a good listen. P.G.

## JAZZ

**MOSE ALLISON:** *Ever Since the World Ended*. Mose Allison (vocals, piano); Dennis Irwin (bass); Tom Whaley (drums); other musicians. *Ever Since the World Ended; Top Forty; Puttin' Up with Me; Josephine; I Looked in the Mirror;* and five others (six others on CD). BLUE NOTE BLJ-48015, © B4J-48015, © 48015-2 (46 min).

Performance: *Unique*  
Recording: *Excellent*

Mose Allison, apart from sounding ageless, is one of the great jazz unclassifiables. Is he a bebopper? A Delta blues singer? A satirical songwriter? An aging hepcat? A proto-rocker? Well, actually, he's probably all of the above. He was also a major, though often unheralded, influence on the original British Invasion. Both the Who and the Yardbirds covered his songs, and even today you hear a lot of his ironic bluesman's phrasing in the vocal style of, for instance, Joe Jackson.

In his latest album, Allison continues to mine his trademark vein of Deep South Gothic Goes Big City Irreverent. As usual, there are some drily funny songs (*Top 40* is an accurately observed outsider's take on rock) and terrific, eccentric piano work. Moreover, Allison gets unusually sympathetic accompaniments (jazz stalwarts Arthur Blythe and Kenny Burrell play on two cuts each). Pick hits: *Gettin' There*, an apt ode to the American "malaise" diagnosed by Jimmy Carter, and *Puttin' Up with Me*, which treats contemporary romance with just the mixture of cynicism and hopefulness the subject deserves. Recommended. S.S.

**RAN BLAKE QUARTET:** *Short Life of Barbara Monk*. Ran Blake (piano); Ricky Ford (tenor saxophone); Jon Hazilla (drums); Ed Felson (bass). *I've Got You Under My Skin; Una matica de ruda; Artistry in Rhythm; In Between; Short Life of Barbara Monk;* and five others. SOUL NOTE SN-1127, © SN-1127C, © SN-1127CD (42 min).

Performance: *Touching*  
Recording: *Good*

It isn't surprising that Ran Blake, an exponent of what has been called the Third Stream, a fusion of Sixties modern jazz with "classical" music, has titled his new album "Short Life of Barbara Monk." He knew Thelonious Monk's daughter well as a child, and when she died of cancer at an early age, less than two years after her father's death, it must have affected him deeply. The association is also an aesthetic one. Although Blake's work is studiously eclectic, the single overriding influence is the music of Monk.

In many respects, this is the most melodic, down-to-earth album Blake

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has recorded. He benefits from the quartet setting, with excellent input from Ricky Ford on tenor saxophone, and covers a broad range, from the traditional Sephardic *Una matica de ruda* to Stan Kenton's famous theme song, *Artistry in Rhythm*, which is reshaped in a surrealistic fashion. A delightful surprise is the lush *In Between* by one of Blake's students at the New England Conservatory of Music, Claire Ritter, who captures in her writing the impressionistic shadings of the classic Duke Ellington-Billy Strayhorn collaborations. The centerpiece, though, is the title cut, which gets an extended seven-and-a-half minute treatment. Based on the simple motif of a children's song, it is haunted not by Monk's ghost but by Charles Mingus's, especially when the tempo shifts and the bass begins to walk. In sum, this is a consistently interesting and often touching album. *P.G.*

**GARY BURTON AND THE BERKLEE ALL-STARS.** Gary Burton (vibraphone); the Berklee All-Stars (instrumentals). *Fat Lady; First Memory; The Blues Walk; Crystal Silence; Firm Roots*; and four others. JVC/GRP © SC-3301, © JD-3301 (53 min).

Performance: *Excellent*  
Recording: *Excellent*

Gary Burton graduated from the Berklee School of Music twenty-five years ago, but he returns occasionally as an instructor to help foster the talents of those who would follow in his footsteps. The Berklee All-Stars is a group of seven of his colleagues there, and they play as well as any of the more famous names in jazz. This album was recorded live by JVC at a 1985 concert in Japan, and it is being distributed here by GRP. Like Japanese video recordings of live performances, which never show the audience, in this concert take we hear neither clap nor cough.

Among the highlights are tenor saxophonist Bill Pierce's solo in *Firm Roots*, which show that his go rather deep into the soil of bop, and trumpeter Jeff Stout's fine, lyrical reading of John Scofield's *Why'd You Do It?* Although the most interesting ensemble playing is in a piece called *Inner Voyage*, all the performances are of high quality. Recommended. *C.A.*

**BENNY CARTER AND THE AMERICAN JAZZ ORCHESTRA:** *Central City Sketches*. Benny Carter (alto saxophone, trumpet); American Jazz Orchestra. *Doozy (two versions); When Lights Are Low; Blues in My Heart; Symphony in Riffs; Souvenir; Easy Money*; and ten others. MUSICMASTERS ● 60126Z two LP's, © 60126Y two cassettes, © 60126X one CD (72 min).

Performance: *Superb*  
Recording: *Very good*

The American Jazz Orchestra, John Lewis's big band, contains some rather



Gary Burton: all-star jazz

impressive "sidemen," but eighty-year-old Benny Carter dominates this set, which takes its title from a new extended work he has written. He also wrote all but one of the other selections in this well-filled album, he arranged them all, he conducts the orchestra, and he plays both trumpet and alto saxophone—an awesome accomplishment at any age.

The results are superb, which should come as no surprise to anyone familiar with Carter and the pursuit of excellence that has characterized his career for the past sixty years. Indeed, that career is sharply reflected in the program, which includes such familiar fare as *Blues in My Heart, Lonesome Nights, Symphony in Riffs*, and *When Lights Are Low* from the early years as well as *Souvenir, Doozy, Easy Money*, and *A Kiss from You* of more recent vintage. Of course, the new suite, *Central City Sketches*, brings us up to date. This is a sparkling swing session called to order by a grand master of the art. *C.A.*

**ROSEMARY CLOONEY: *The Lyrics of Johnny Mercer***. Rosemary Clooney (vocals); instrumental accompaniment. *Laura; I Remember You; G.I. Jive; Something's Got to Give; Skylark; P.S. I Love You; Any Place I Hang My Hat Is Home; Talk to Me Baby*; and four others. CONCORD CJ-333, © CJ-CX333, © CCD-4333 (50 min).

Performance: *Rosie is riveting*  
Recording: *Excellent*

Rosemary Clooney is in great shape, the band consists of some of today's brightest young jazz stars, and the lyrics are all by Johnny Mercer. Is there any need to say more? Not really, but I will point out such highlights as trombonist Dan

Barrett's silky introduction to *Laura*, Scott Hamilton's fortified tenor saxophone in *Goody Goody*, Warren Vaché's beautiful cornet phrasing in *Any Place I Hang My Hat Is Home*, Ed Bickert's caressing guitar work in *P.S. I Love You*, and pianist John Oddo's excellent arrangements throughout. Given solid bass support by Michael Moore, the performances here make for a delectable treat with a topping they call Rosie. *C.A.*

**CY COLEMAN: *Comin' Home***. Cy Coleman (piano); Grady Tate (drums); Ben Tucker (bass). *Blue Grass Groove; Green Dolphin Street; Time After Time; Sweet Georgia Brown; For Heaven's Sake; Fly Me to the Moon; But Not for Me; I've Got Your Number*; and five others. DRG SL 5205, © SLC 5205, © CDSL 5205 (34 min).

Performance: *Very musical*  
Recording: *Very good*

These days, pianist/singer/composer Cy Coleman is best known for his Broadway and Hollywood scores, but when he recorded this album for Capitol in 1963 he was mainly known as a hip entertainer. "Comin' Home," featuring Coleman with bassist Ben Tucker and drummer Grady Tate, is an excellent example of the brisk, melodic, and highly rhythmic style with which Coleman set chic feet tapping in posh jazz-oriented supper clubs. It's strange that such a delightful album should have remained unreleased for a quarter of a century. *C.A.*

**GEORGE SHEARING: *Breakin' Out***. George Shearing (piano); Ray Brown (bass); Marvin "Smitty" Smith (drums). *Day Dream; What'll I Do; Twelve Tone Blues; Break Out the Blues; Prelude to a Kiss; Hallucinations*; and five others (seven others on CD). CONCORD CJ-335, © CJ-CX335, © CCD-4335 (54 min).

Performance: *Two-fisted*  
Recording: *Excellent*

I have liked George Shearing's piano style since the Fifties, when some people, including a few critics, tended to downgrade his jazz status simply because he appealed to such a wide audience. About thirty years ago he pointed out in an interview how ludicrous it was that people thought less of his playing the minute he became successful, even though his style had not changed. Today, however, I believe there is a perceptible change: Shearing seems much freer in his improvisations, he swings harder, and there is a splendid feistiness I had not noticed before. There isn't a more down-to-earth version of Irving Berlin's *What'll I Do*, for example, than the one he plays in this new Concord album. He also gets great support from bassist Ray Brown and drummer Marvin "Smitty" Smith. Try to get the CD version; it has an additional nine minutes of fine music. *C.A.*

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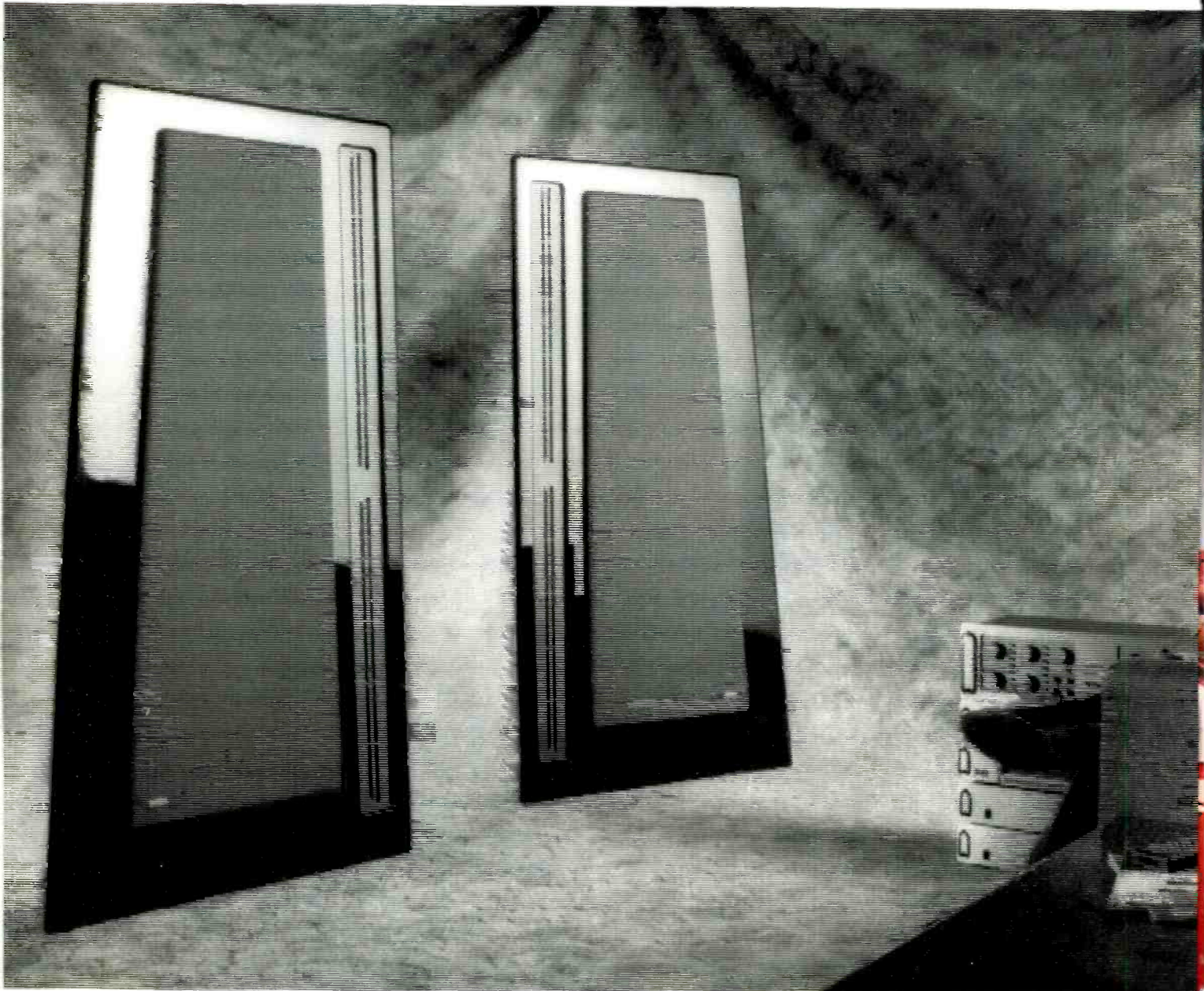
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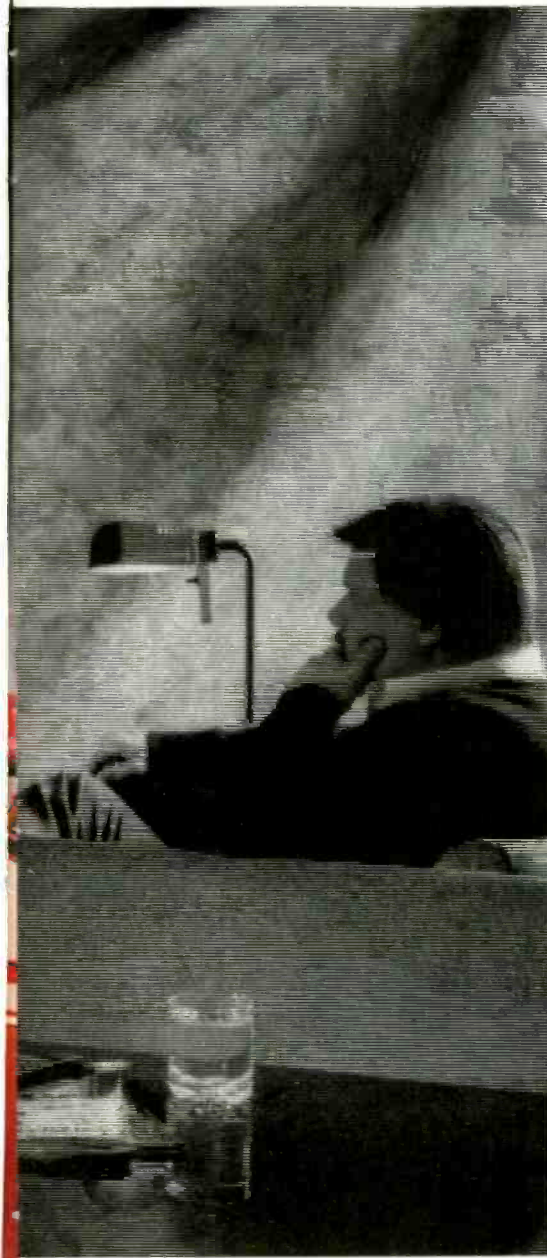
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*Discs and tapes reviewed by Robert Ackart, Richard Freed, David Hall, Stoddard Lincoln, and Eric Salzman*

**BARTÓK:** *Works for Piano and Orchestra* (see Best of the Month, page 111)

**BEETHOVEN:** *Piano Sonata No. 23, in F Minor, Op. 57 ("Appassionata"); Piano Sonata No. 18, in E-flat Major, Op. 31, No. 3.* Sergei Edelmann (piano). RCA © 6773-4-RC9, © 6773-2-RC (45 min).

Performance: *Good, but no cigar*  
Recording: *First-rate*

It's heartening to have more good things from young Sergei Edelmann, even if these two Beethoven performances strike me as rather less winning than his recent Schumann and Chopin recordings. The *Appassionata* makes the stronger impression; it's lean and clean, classically poised, with no puffing or gratuitous emphases. The earlier E-flat Major Sonata, the essence of which is charm, disappoints because that quality is wanting here. In the scherzo Edelmann seems to miss the point altogether: He's a little too fast and plays without inflection, without the mischievous quasi-syncopated lilt that Rubinstein, most memorably, brought to the piece. There is much to admire but rather less to enjoy than in other performances. The compact disc is not too generously filled, but the sound (from an analog tape) is first-rate. R.F.

**BERLIOZ:** *L'Enfance du Christ, Op. 25.* Anthony Rolfe-Johnson (tenor), Narrator; Anne Sofie von Otter (mezzo-soprano), Marie; Gilles Cachemaille (baritone), Joseph; José van Dam (bass), Herod; Jules Bastin (bass), Father of the Family; Michel Fockenoy (tenor), Centurion; René Schirrer (baritone), Polydorus; others. Monteverdi Choir; Lyons Opera Orchestra, John Eliot Gardiner cond. ERATO © ECD 75333 two CD's (95 min).

Performance: *Affecting*  
Recording: *Atmospheric*

This is a lovely performance, so filled with conviction and so evocative that it seems churlish to point out its few deficiencies. That John Eliot Gardiner has a

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**I**F the Guarneri String Quartet's first recording under its new affiliation with Philips is any indication, the celebrated ensemble has taken a splendid new lease on life. Both of the deservedly popular masterpieces on the record—Dvořák's *American Quartet* and Smetana's *First Quartet, From My Life*—were recorded by the Guarneri and released separately more than a decade ago, but these impassioned new performances make their coupling here all the more attractive.

The Dvořák quartet, which is more often than not played in a lightweight, easygoing fashion, emerges here with startling intensity and rhythmic thrust, reaching its apogee in a slow movement of near-lacerating poignance. The bird-call-based scherzo is more than usually assertive, and the finale is gloriously vivacious.

Smetana's autobiographical quartet is

played at white heat throughout, its fiery qualities balanced by a rich, intense reading of the slow movement. The piercing high E toward the end, which represents the onset of the composer's deafness, strikes an authentic note of terror.

Just as impressive as the remarkable readings of these works is the splendid digital recording, which achieves an ideal compromise between intimacy and spaciousness. The enormously wide dynamic range is like what you'd expect to hear at a live performance under near-perfect conditions. Unreservedly recommended!  
*David Hall*

**DVOŘÁK:** *String Quartet No. 12, in F Major ("American").* **SMETANA:** *String Quartet No. 1, in E Minor ("From My Life").* Guarneri Quartet. PHILIPS ● 420 803-1, © 420 803-4, © 420 803-2 (51 min).

splendid feeling for the work, and for the Berlioz style in general, is made clear in his illuminating notes as well as in the performance itself. Some of his singers, however, are better than others. Anthony Rolfe-Johnson could have been a little crisper in the Narrator's role, though he makes a "comfortable"

storyteller, and the usually reliable Jules Bastin is not at his best. Anne Sofie von Otter and Gilles Cachemaille, however, are not only in fine voice, but they convey superbly the radiant innocence and humility of Mary and Joseph.

I have no major complaints about the work of the chorus or orchestra, or

about the way all the elements are integrated. I've never heard a performance of the Trio of the Ismaelites that failed to charm, but the pure, unforced, spontaneous quality of this section rings especially true here, as does the insinuating undercurrent in the earlier scene with the soothsayers. Only the shepherds' chorus in Part II strikes me as being too deliberate, verging on the nineteenth-century "fake religiosity" that Gardiner rightly derides in his notes. Otherwise his sense of drama is

unerring, reminding us that this is Berlioz, after all, with unlabored but unmistakable echoes of the Requiem and even of *Les Troyens* and *The Damnation of Faust*. My chief criticism is that the brief Part II is unnecessarily split between the two CD's, when it could easily have fit in its entirety on one or the other, but the recorded sound is delightfully atmospheric. *R.F.*

**BIRTWIISTLE:** *Carmen Arcadiae mechanicae perpetuum; Silbury Air; Secret Theatre.* London Sinfonietta, Elgar Howarth cond. ETCETERA ETC 1052, © CTC 1052, © KTC 1052 (58 min).

*Performance: Impressive*  
*Recording: Ditto*

*Performance: Impressive*  
*Recording: Ditto*

Harrison Birtwhistle is perhaps best known in this country as the composer of some attractive and fascinating music theater, but the works here are, in spite of the titles, purely orchestral. They were written between 1976 and 1984 for the London Sinfonietta. *Carmen Arcadiae mechanicae perpetuum* (the title means something like "The Perpetually Mechanical Song of Arcadia") is the shortest and catchiest of the three. *Silbury Air*, named for a prehistoric site somewhere in England, is a little more mysterious. *Secret Theatre* is long—by far the longest of the three and, at thirty minutes, at least five minutes longer than the timing given on the cover. The title comes from Robert Graves; the theater is more ritualistic than dramatic, and the dissonant-modernist sensibility is elusive. The orchestra is unendingly colorful and full of fantasy, but the line of musical thought is difficult to grasp and to follow. The orchestral performances and sound, however, are impressive. *E.S.*

**DONIZETTI: *L'elisir d'amore.*** Barbara Bonney (soprano), Adina; Gösta Winbergh (tenor), Nemorino; Bernd Weigl (baritone), Belcore; Rolando Panerai (bass), Dulcamara; Antonella Bandelli (soprano), Giannetta. Maggio Musicale Fiorentino Chorus and Orchestra, Gabriele Ferro cond. DEUTSCHE GRAMMOPHON ● 423 076-1 two LP's, © 423 076-4 two cassettes, © 423 076-2 two CD's (122 min).

*Performance: Ingratiating*  
*Recording: Excellent*

There's no denying the charm of this bucolic romance by Donizetti, and of the three performances currently available on CD, this newest one may be the most winning. The recording itself is clear and well balanced, and the chorus and orchestra perform with verve and a nice sense of pace under Gabriele Ferro's direction. Though the cast is less stellar than in the Sutherland-Pavarotti recording on London, the soloists are more effective than in the Philips version with Ricciarelli and Carreras. The ensemble work is of the first order, and the singers infuse the opera with a bouncy sense of fun.

Barbara Bonney uses her clear, well-focused voice to create a charming and capricious Adina, never allowing her character to become shrill. As Nemorino, Gösta Winbergh is properly bumpkinish when he should be and suitably tender when a romantic mood is called for; his "*Una furtiva lagrima*" is a true show stopper. Bernd Weigl makes a particularly credible Belcore without overplaying the role's swashbuckling aspect, and Rolando Panerai imparts an



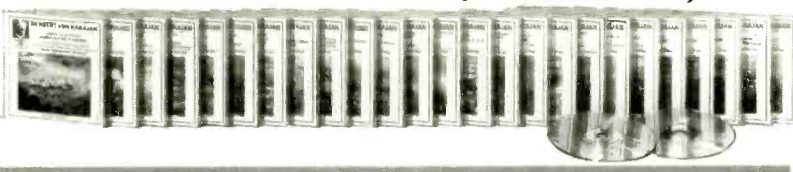
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## STEREO REVIEW'S CALENDAR OF CLASSICAL COMPOSERS



In response to popular demand, we have reprinted the five-page, fold-out Calendar of Classical Composers by William Livingstone published in the November 1987 issue. In addition to showing the life spans of 147 major composers, the calendar includes pithy descriptions of the principal musical stylistic periods. For each full-color copy, please send a mailing label with your name and address along with a check or money order for \$2 to cover postage and handling (no cash or stamps) to Stereo Review, Calendar of Classical Composers, 1515 Broadway, New York, NY 10036. Outside the United States, send \$3 (payable in U.S. funds).

infectious humor to Dulcamara without reducing the amiable charlatan to slapstick. Antonella Bandelli's lively Gianetta completes the roster of principals.

A successful performance of *L'elisir d'amore* does not necessarily need superstars, but it does require a good sense of ensemble and true *bel canto* in the set pieces. This recording offers both, combined with a real comic flair. R.A.

**HANDEL: Arias for Senesino.** Drew Minter (countertenor); Philharmonia Baroque Orchestra, Nicholas McGegan cond. HARMONIA MUNDI USA © HMC 905183 (57 min).

Performance: *Beautiful*  
Recording: *Fine*

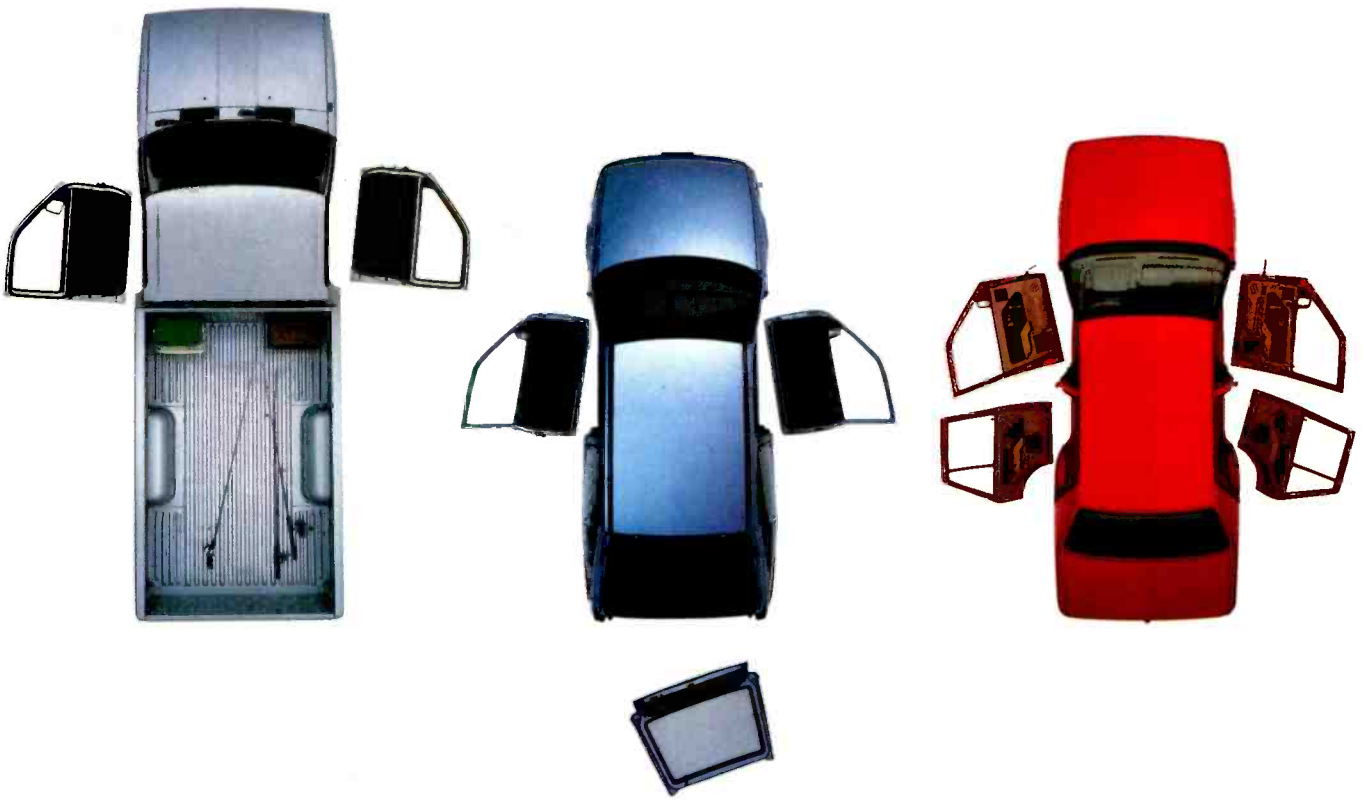
Hearing the famous castrato Senesino in Dresden, Handel was so impressed that he brought him to London. Senesino was the city's leading male singer from 1720 until the demise of the Royal Academy in 1728, during which time he was featured in thirteen of Handel's operas. Drawing from those operas, Drew Minter, one of this country's finest young countertenors, has created a unique musical portrait of the fabled singer, revealing the wide range of his musical gifts. Of course, it's a portrait of Drew Minter as well. Endowed with a beautiful voice, a fine technique, and sensitive musicality, Minter demonstrates the full scope of Handel's writing in the Italian style, from the brilliantly dramatic to the lyrically tender. Handel's skillful use of the orchestra is also demonstrated by San Francisco's Philharmonia Baroque Orchestra under the keen direction of Nicholas McGegan. Harmonia Mundi USA has done us a real service by producing this original and engaging recital. S.L.

**HAYDN: Cello Concerto in C Major (Hob. VIIb:1); Cello Concerto in D Major (Hob. VIIb:2); Violin Concerto in G Major (Hob. VIIa:4).** Mischa Maisky (cello); Chamber Orchestra of Europe, Mischa Maisky cond. DEUTSCHE GRAMMOPHON © 419 786-1, © 419 786-4, © 419 786-2 (64 min).

Performance: *Elegant*  
Recording: *Splendid*

Cellists today sometimes bring too much intensity to bear in their performances of Classical works calling more for clarity and finesse, but such is not the case in these elegant readings by Mischa Maisky of three Haydn concertos. His tone is light but focused, his playful style is particularly well suited to the music, and he tosses off the bravura passages effortlessly. The lucidity of Maisky's playing, in fact, is such that he performs the G Major Violin Concerto absolutely convincingly on the cello. The Chamber Orchestra of Europe, which he also conducts, provides splendid support throughout. S.L.

(Continued on page 142)



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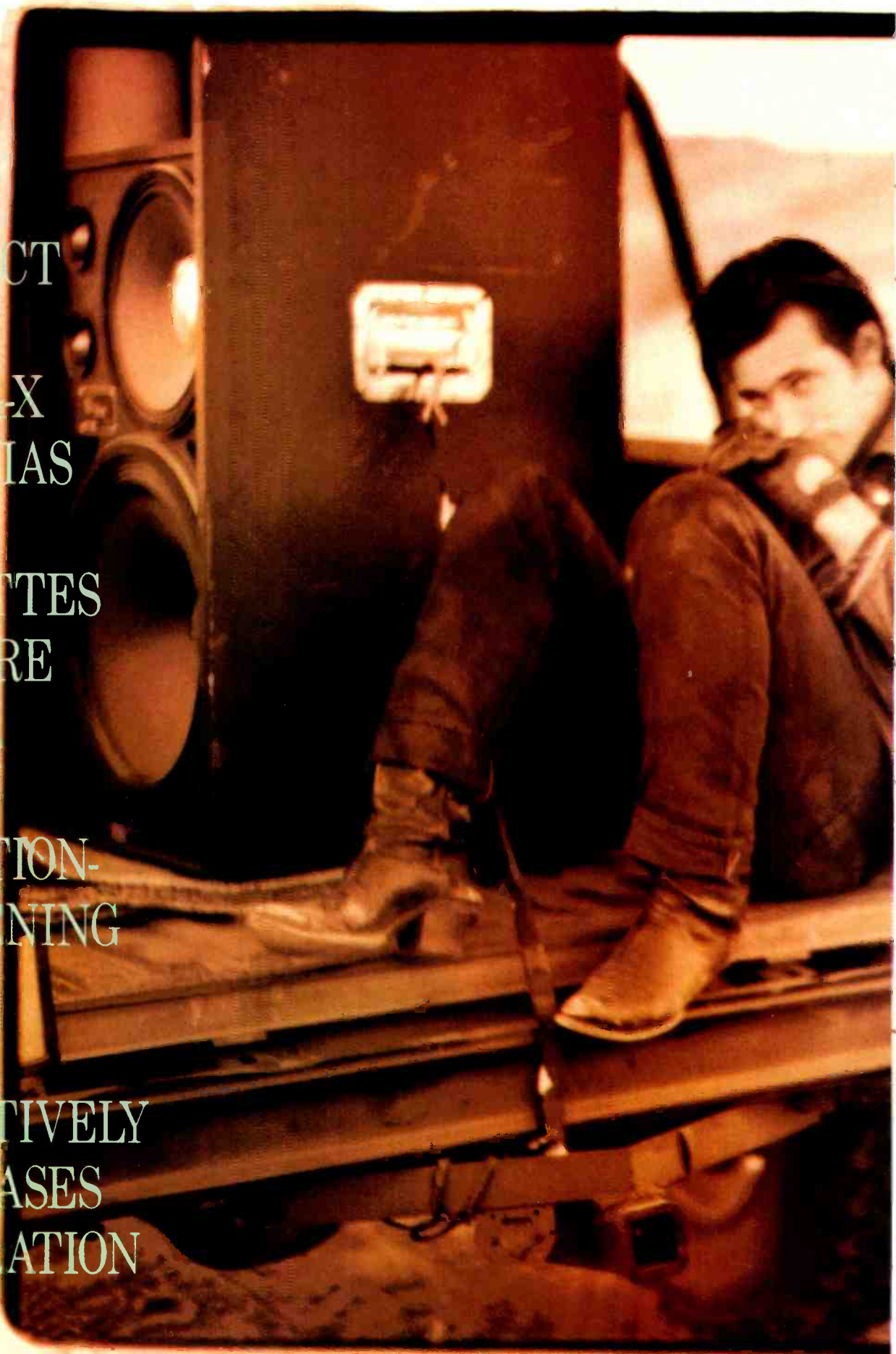
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# CRUTCHFIELD

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**MAHLER:** *Symphony No. 2, in C Minor, "Resurrection"* (see Best of the Month, page 114)

**MENDELSSOHN:** *Paulus, Op. 36.* Gundula Janowitz, Rosemarie Lang (soprano); Hans Peter Blochwitz (tenor); Theo Adam (bass), Paulus; others. Gewandhaus Children's Choir; Leipzig Radio Chorus; Gewandhaus Orchestra, Kurt Masur cond. PHILIPS © 420 212-2 two CD's (116 min).

Performance: *Impressive*  
Recording: *Splendid*

**MENDELSSOHN:** *Paulus, Op. 36.* Rachel Yakar (soprano); Brigitte Balleys (alto); Markus Schäfer (tenor); Thomas Hampson (bass), Paulus; others. Chorus and Orchestra of the Gulbenkian Foundation, Lisbon, Michel Corboz cond. ERATO © ECD-75350 two CD's (121 min).

Performance: *Smooth*  
Recording: *Good*

Mendelssohn's oratorio *St. Paul*, as it is known in English, was a staple of the Victorian choral repertoire, but both of these new CD versions are well paced and entirely free of the sanctimoniousness associated with the music in the past. The work abounds in stirringly beautiful passages that suggest a remarkable amalgamation of the Romantic spirit with that of the Baroque choral masterpieces, especially those of Bach. There is some impressive use of chorales, both traditional and original. There are also fine arias and some lovely duets, particularly the one for Paul and Barnabas as they prepare to set out on their ministry. And Mendelssohn's decision to have the voice of Christ in the pivotal conversion scene represented not by an imposing male solo, but by a small choir of women or boys, makes for an otherworldly effect.

Of these two recordings, there is little contest between Leipzig and Lisbon. Kurt Masur and his forces from Leipzig, a city as closely associated with Mendelssohn as with Bach, are the more impressive and musically convincing. The acoustics of the Neues Gewandhaus concert hall and the expert work by the Philips engineers are also major factors in the success of the recording. The sound is lively and enveloping, with startling realism in the choral episodes and apt placement of the soloists.

In comparison, the Erato recording conducted by Michel Corboz seems to be an "economy" production, smoothly wrought but not in the same class. For example, the basses who sing the roles of false witnesses are drawn from the Lisbon choir, whereas Masur uses the excellent soloists Gothart Stier and Hermann Christian Polster. Again, Corboz assigns the voice of Christ to the women in the chorus, but Masur employs, to greater effect, a separate boys' choir.

The contest is a bit more even when it

comes to the principal soloists. As St. Paul (and, before his conversion, Saul of Tarsus), Masur's Theo Adam is more overtly dramatic but has less tonal beauty than Thomas Hampson under Corboz. Conversely, while soprano Rachel Yakar produces lovely sounds for the Lisbon performance, she is not able to achieve the sustained radiance of her Leipzig counterpart, Gundula Janowitz. And tenor Markus Schäfer on Erato is marginally more mellifluous than Hans Peter Blochwitz on Philips, while Blochwitz brings more dramatic intensity to his performance.

Overall, though, the Masur recording is the one I'd recommend. *D.H.*

**PENDERECKI:** *Violin Concerto.* Christiane Edinger (violin); Radio Symphony Orchestra, Katowice, Krzysztof Penderecki cond. THOROFON/QUALITON IMPORTS © CTH 2017 (43 min).

Performance: *All-out*  
Recording: *Excellent*

Krzysztof Penderecki's 1976 Violin Concerto, dedicated to Isaac Stern, departs from the hyperexpressionism of the Polish composer's Sixties scores for a more mainstream, if still eclectic, idiom. Stern gave the premiere performance of the concerto in Basel, Switzerland, in 1977 and recorded it two years later with Stanislaw Skrowaczewski and the Minnesota Orchestra on CBS. Now that Stern's exclusive performance rights have expired, the composer himself has conducted a recording with the formidable German violinist Christiane Edinger.

Penderecki's one-movement concerto, constructed on a scale comparable to that of the biggest Romantic violin concertos, develops out of a pair of contrasting motives heard at the start. The prevailing expressive tone is somber, but the pyrotechnics called for on the part of the soloist include almost every trick in the book, past and present. The prevailing gloom that shadows much of the score finds relief in a sardonic march about two-thirds of the way through. After this passage various musical elements are recapitulated and further elaborated, coalescing in a final passacaglia-like episode that leads to a genuinely moving coda.

The work is extremely effective as an alternately brilliant and dark sonic kaleidoscope, but after repeated hearings I wondered whether forty-three minutes was not a bit much for the material. Though the performance here is slower than in the Stern-Skrowaczewski recording, Penderecki the conductor presumably knows what Penderecki the composer wants. Edinger's solo work is absolutely superb, the orchestral response is excellent, and the sound is first-rate. *D.H.*

**TELEMANN:** *St. Matthew Passion (1730).* Martin Klettmann (tenor), Evangelist; Andreas Lebeda (bass), Je-



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Stereo Review wants to know more about our readers. How much equipment you buy (and how often), how much you spend on it, what sort of product features you like. That will help us create a better, more informative magazine, specially geared to your tastes and preferences.

To gather this important information, we've created the Stereo Review Buyer Poll. And we need your help to make it work.

If you've bought any equipment within the past 30 days, we'd like you to participate (see instructions below). We'll use the information you give us to keep manufacturers up to date on the buying habits of stereo enthusiasts—the most knowledgeable group of audio buyers in the country. And in the long run, that will mean better service for you.

## HOW TO PARTICIPATE

You can participate in the Stereo Review Buyer Poll by sending in the Reader Service Card appearing next to this page. We've provided space for you to list any equipment purchased in the past 30 days. Any kind of audio/video equipment qualifies.

For example:

### Home Audio Components

- Amplifier ■ Receiver/Tuner
- Speakers ■ Turntable
- Cassette Deck ■ Equalizer
- CD player

### Portable Stereo

- Portable Cassette Player
- Portable CD Player
- Headphones

### Car Stereo

- Tuner ■ Cassette Deck
- Speakers

### Home Video

- VCR ■ Camcorder
- Videodisc Player
- Stereo TV

Fill in the type of equipment, manufacturer, model number, and price you paid. Include *all* the equipment you bought this month. Then print your name and address and drop it in the mail (we pay the postage). It's that simple!

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Get free literature on stereo products featured in this issue. Simply fill out your name and address, circle the number on the card that corresponds to the key number at the bottom of the advertisements and mail this card today.

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STEREO REVIEW BUYER POLL

1. In the past 30 days, have you purchased any audio or video equipment or accessories?  
A  YES B  NO → Thank You

2. Which type(s) of equipment did you purchase in the past 30 days?  
A  Home audio B  Portable stereo  
C  Car stereo D  Video

3. In the space below, please write in the type (speakers, car CD player, stereo VCR, etc.), the make, the model number and the price paid for each item purchased in the past 30 days.

TYPE	MAKE	MODEL	PRICE PAID
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Speakers	Bliss	BS3	\$ 450.00
car radio/cassette deck	Speaker	KT 9372 (4)	\$ 1699.00

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## LOOK FOR THE BUYER POLL EVERY MONTH

The Stereo Review Buyer Poll will appear in every issue—just check the Table of Contents for that month's location. You can participate in any month in which you purchased audio/video equipment. Of course, even if you don't join our Poll, you can still send in the Reader Service card to get information about products advertised in that month's issue.

We hope you'll participate regularly in the Stereo Review Buyer Poll. Your answers are important to us—and you'll find the resulting benefits important to you.

Thanks for helping us out!

# Stereo Review

# Want more product information?

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sus; Gertraud Wurzinger (soprano), Pilate's Wife; Berthold Brandstetter (baritone), Judas, Pilate, Caiphas; Harumi-chi Fujiwara (tenor), Peter; others. Collegium Vocale of the Schlägler Music Seminar; Baroque Orchestra of Munich, Rupert Gottfried Frieberger cond. CHRISTOPHORUS/KOCH IMPORT SERVICE SCK 70366 three LP's, © CD 74517 two CD's (118 min).

Performance: *Elegant*  
Recording: *Fine*

Georg Philipp Telemann is reputed to have written no fewer than forty-six Passions, and if none of them can compete with Bach's in size, weight, or complexity, they are nonetheless full-scale works with recitatives, ariosos, arias, duets, and choruses. Heavyweight they are not. This 1730 *St. Matthew* Passion is charming, elegant, tender, even witty. No heavy tragedy here; you wait in vain for inner compulsion, deep feeling, philosophical content, or even just some dramatic accent. For Telemann the retelling of the Passion story seems to have been an occasion not for torment or self-examination but for celebration, good feeling, and even self-satisfaction.

This is an epicurean score, and every note of this performance breathes good taste—fine ingredients excellently prepared. The sound of the old instruments and the singing style (equally "authentic," no doubt) are unfailingly gorgeous but always delicate, captivating, insinuating—and virtually without force, accent, or contrast. Is this the right approach for this piece? Perhaps, but I can imagine a more vigorous and even rough-hewn performance of it, one that might bring out other values. What we have here is decorative and engagingly sweet—the *St. Matthew* Passion as tender divertissement. *E.S.*

**WOLF: *Twenty-four Mörke-Lieder.*** Olaf Baer (baritone); Geoffrey Parsons (piano). ANGEL © 49054-2 (67 min).

Performance: *Musically*  
Recording: *Fine*

Hearing this many settings by a single composer of verses by a single poet offers an opportunity to experience the art of songwriting in some depth. Regardless of the differences in mood from one poem to another and despite the variability of musical invention, there remains a unifying signature. Wolf's songs are indisputably Wolf. And of all lieder composers, none is more dependent than Wolf upon his interpreter for the final polish and effect of each vignette. He is well served here by Olaf Baer, whose light, cultivated baritone capably embraces and communicates the nuances of the texts, and by Geoffrey Parsons, a pianist who not only plays with extraordinary accuracy but also becomes the musical alter ego of the soloist in his sensitive and expressive accompaniments. *R.A.*

## COLLECTION

**VLADIMIR FELTSMAN: *American "Live" Debut.*** Schubert: *Piano Sonata in A Major, Op. 120 (D. 664).* Messiaen: *Vingt regards sur l'enfant Jésus, Nos. 13, 11, and 16.* Schumann: *Etudes symphoniques, Op. 13 and Op. posth.* Rachmaninoff: *Prelude in G-sharp Minor, Op. 32, No. 12.* Beethoven: *Variations on an Original Theme, Op. 76.* Vladimir Feltsman (piano). CBS © M2X 44589 two LP's, © M2T 44589 two cassettes, © M2K 44589 two CD's (89 min).

Performance: *Disappointing*  
Recording: *Good*

In 1985 CBS released a recording of the Chopin preludes made by Vladimir Feltsman in the Moscow residence of the U.S. ambassador the year before. It was a very good recording, and it focused attention on the plight of the pianist, who had not been allowed to play in public in the Soviet Union or abroad since 1979, apparently as a consequence of his having applied for a visa to emigrate to Israel. Last August he and his family were finally allowed to leave Russia, and they came to the U.S., not Israel. Shortly after his arrival Feltsman played at the White House and followed that recital with formal debuts in both New York and Washington. Politically, they were a smash, but what I heard in Washington was a little disappointing after the expectations aroused by the Chopin recording, and this swiftly produced live recording of the New York recital at Carnegie Hall only confirms that impression.

The program—Schubert, Messiaen, and Schumann, with Rachmaninoff and Beethoven encores—encouraged high expectations too, in terms both of seriousness and of technical brilliance. Feltsman does have the technique, but I felt in Washington, and I felt again listening to the New York recording, that all he does with his technique is play the piano. The music does not come to life. It seems less a matter of pacing—though his tempos are generally on the slow side—than of spirit, or pulse. You feel this at once in the Schubert A Major Sonata, which opens the program: It is well executed, but there is no sign of vitality, charm, or regard for tone.

Feltsman remarks in the notes that he feels it important to include the five supplemental variations in the Schumann Symphonic Etudes, but he omits the middle one, the only one with a really energetic character; it might have relieved the weight of dullness that his lifeless elongation of Variations Nos. 2 and 4 brings to the performance. The three Messiaen pieces do not shimmer and flash, but are merely loud. The Beethoven variations, the second of two encores, come across as rather heavy-handed but at least alive, and the preceding Rachmaninoff prelude shows genuine character. *R.F.*

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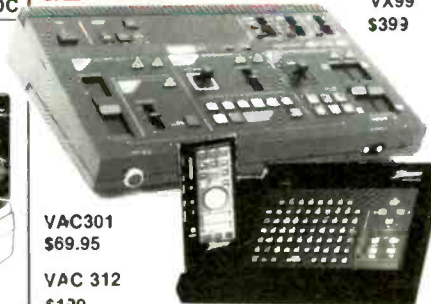


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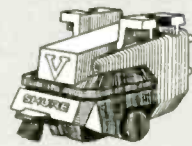


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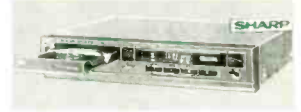


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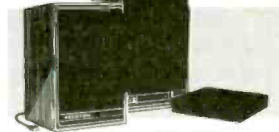
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*Discs and tapes reviewed by Robert Ackart, Chris Albertson, Louis Meredith, Alanna Nash*

**CLAUDIO ARRAU: Volume One—The 80th Birthday Recital.** Beethoven: *Piano Sonata No. 21, in C Major* ("Waldstein"); *Piano Sonata No. 23, in F Minor* ("Appassionata"). Debussy: *Reflets dans l'eau*. Liszt: *Les Jeux d'eaux à la Villa d'Este; Ballade No. 2, in B Minor*. Chopin: *Scherzo No. 1, in B Minor*. Claudio Arrau (piano). VAI 69040 VHS Hi-Fi, 29040 Beta Hi-Fi (111 min).

Performance: *Fine*  
Recording: *Very good*

**CLAUDIO ARRAU: Volume Two—The Emperor.** Beethoven: *Piano Concerto No. 5, in E-flat Major* ("Emperor"). Claudio Arrau (piano); Symphony Orchestra of the University of Chile, Victor Tevah cond. VAI 69041 VHS Hi-Fi, 29041 Beta Hi-Fi (85 min).

Performance: *Regal*  
Recording: *Very good*

Part of VAI's Signature Performance Series, these two videocassettes are the first of several releases celebrating the great and enduring artistry of Claudio Arrau. Now in his eighty-fifth year, the Chilean-born Arrau is possibly the most recorded pianist in history as well as an exceptionally active touring performer. These tapes preserve two significant events in his long career: his eightieth-birthday recital at New York's Avery Fisher Hall in 1983 and his triumphant homecoming to Chile in 1984, his first visit there in seventeen years.

Arrau has recorded all thirty-two Beethoven sonatas, and he opened his birthday recital with two of the better-known ones, the *Waldstein* and the *Appassionata*. The stunning vigor of the performances is in sharp contrast with the delicacy he brings to the following piece, Debussy's *Reflets dans l'eau*. The program concludes with sparkling, virtuoso performances of works by Liszt and Chopin. Throughout, the music is interspersed with brief interview segments.

The second tape, devoted entirely to Beethoven's *Emperor* Concerto, was made in Chile, where Arrau received a hero's welcome. Tickets to his concert with the Symphony Orchestra of the University of Chile sold out so fast that Arrau decided to give an additional, free concert in Santiago's Metropolitan Cathedral, the only place large enough to hold his many admirers. It is this second performance we see and hear, along with footage of Arrau's arrival and preparations for the concert and other



## HAIL! HAIL! CHUCK BERRY!

**C**HUCK BERRY, the man who invented rock-and-roll, if anyone did, has been an enigma for so long that it's no surprise the recent filmed portrait of him, *Hail! Hail! Rock 'n' Roll*, doesn't solve his riddle. What is surprising is how revealing this exemplary combination of documentary and concert film manages to be despite the star's best efforts at obfuscation.

Loosely structured around a sixtieth-birthday show organized by long-time Berry fan Keith Richards of the Rolling Stones, and beautifully shot by director Taylor Hackford, the film intercuts interview footage with Berry, who talks mostly about money; reminiscences by rock greats including Little Richard, Jerry Lee Lewis, and Bruce Springsteen (who tells a wonderful story about backing Berry in the early Seventies); and a generous helping of superb music. The crack band Richards assembled for the concert—including legendary boogie-woogie pianist Johnnie Johnson, who was brought out of retirement for the occasion—is probably the best Berry has ever worked with, and all the

guest stars do their best to live up to the historic nature of the event. Thankfully, except for poor Julian Lennon, a fish out of water, most of them do. Particularly impressive are Robert Cray's sly performance of *Brown Eyed Handsome Man* and a nice late-night-sounding *Wee Wee Hours* by Eric Clapton.

Berry himself has a riveting screen presence (if I were a movie director, I'd cast him in a minute). And some of the behind-the-scenes sequences, particularly one rehearsal where Berry deliberately drives Richards and the band crazy, are as memorable and hilarious as anything in any recent film. It all makes for a terrific home video even if you don't much care for rock-and-roll. If you do, there's the bonus of a spectacular, digitally recorded stereo soundtrack.

*Louis Meredith*

**CHUCK BERRY: *Hail! Hail! Rock 'n' Roll*.** Chuck Berry, Eric Clapton, Robert Cray (vocals, guitar); Etta James, Linda Ronstadt, Julian Lennon (vocals); Keith Richards (guitar); other musicians. MCA 80465 VHS Hi-Fi and Beta Hi-Fi (121 min).

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documentary material. The performance itself is a stunning affirmation of his genius.

Technically, both of these videotapes are good. The picture quality is a bit fuzzy, but that is in the nature of the tape medium. The stereo audio, on the other hand, is excellent. C.A.

**CELEBRATING BIRD—THE TRIUMPH OF CHARLIE PARKER.** Documentary featuring interviews with Dizzy Gillespie, Roy Haynes, Rebecca Parker Davis, Jay McShann, and others. SONY J0509VH VHS Hi-Fi, J0509BE Beta Hi-Fi; PIONEER SIGNATURE PS-87-022 LaserDisc (59 min).

Performance: *Flawed*  
Recording: *Good*

"Celebrating Bird" could have been an absorbing video documentary about one of the most fascinating creative forces American music has known. Instead, it is a crazy quilt of fragments, some of them absolutely fascinating, others inexplicably inappropriate. The film's strength lies in the interviews, especially the ones with Parker's early boss, bandleader Jay McShann, his common-law wife, Chan Parker, and his first wife (and childhood sweetheart), Rebecca Parker Davis. Davis is a real find; her moving, intensely personal recollections help make this release special. When the film blends personal recollections with interesting, sometimes rare, performance footage, it is excellent. Unfortunately, there is also an obtrusive narration read with a painful lack of authority by actor Ted Ross, who played the Cowardly Lion in Broadway's *The Wiz*. It's no way to "celebrate" such an innovative musician as Charlie Parker. C.A.

**DAVID SANBORN: *Love and Happiness.*** David Sanborn (alto saxophone); Don Grolnick (keyboards); Hiram Bullock (guitar); Marcus Miller (bass); Buddy Williams (drums). *Run for Cover; Lisa; Hideaway;* and three others. PIONEER PS-87-019 LaserDisc (37 min).

Performance: *Solid*  
Recording: *Excellent*

Pop saxophonist David Sanborn has a tone like any other player whose instrument has been electronically downgraded and the technique required for the kind of semi-jazz pop fare that lazy ears find comfort in. "Love and Happiness," which takes its title from the 1972 Al Green hit, was filmed in black and white before an audience in a New York recording studio. It is a more interesting release visually than it is musically, but thanks to guitarist Hiram Bullock and Sanborn's long-time rhythm anchor, bassist Marcus Miller, it is far from being a lethargic, one-foot-in-jazz pop-sax affair. The digital sound is excellent, and there are moments when the performances seem to take wing. C.A.

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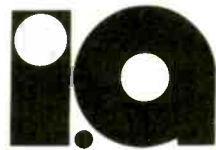


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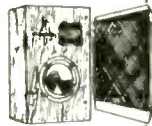
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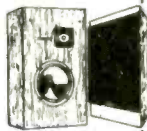
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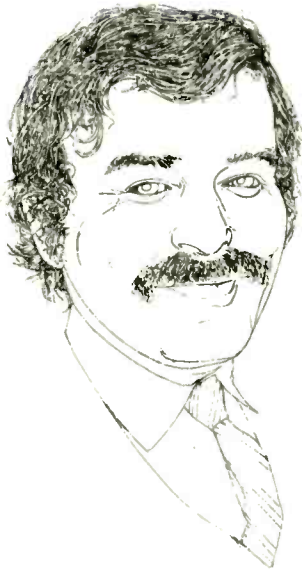
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JUNE

by *Ralph Hodges*



## Getting It Fixed

**T**HE proudest possession of my early teenage years was a Dynaco Mark IV power amplifier—until it died. The late and much lamented Harold Burbank of Burbank Labs in Hartford, Connecticut, told me what to do: "It has to be the power transformer. Disconnect the secondary windings from everything and fire the sucker up. If it pops a fuse somewhere, rip the transformer out, clip the leads short, and send it back to Dynaco in Philadelphia. And give 'em hell."

I did, and it did, and I gave them all kinds of colorful hell. Virtually by return mail, and without one retaliatory word, came a brand-new power transformer. Technical reasons caused me to part with the Mark IV long ago, but I wouldn't be surprised to learn that it's still going strong.

Last year my telephone answering machine became erratic. With solemn determination I pried the covers off and saw, as I had expected, a long line of integrated circuits marching back to the general vicinity of the power-cord's entry. Without a comprehensive set of application notes and a superstable power

supply, one just doesn't muck around with IC's much. So I called the manufacturer's headquarters, where I learned the address of the nearest independent fix-it shop, which could probably cure my problem if it wasn't all in my head. When I mentioned that this particular shop, which I knew well, had not really satisfied me in the past, I was told that I was making unnecessary trouble.

Perhaps. But I decided to break into my Aesopian bullfrog routine about being an important member of the audio press and all that. "There's always Osaka," was the reply. Osaka as in Honshu? As in Japan? As in many miles away across the wide, blue Pacific? Yes indeed.

I could complete this story (it didn't end very happily), but you've perhaps already lived it, or may be destined to. It is, in part, an inevitable consequence of letting our consumer electronics industry slip so far offshore that there are few company people left to talk to in this country except marketing types and warehouse managers. Poor service also has much to do with the complexity of modern electronics, compared with which even the most elaborate of Fifties audio components seem about as technically advanced as a yo-yo. But appreciating these factors is, of course, no real help at all when you have a product that needs service.

Some audiophiles believe they have been well served by buying exclusively from American, or at least English-speaking, companies, and I must admit I derive a certain amount of mental comfort from this practice myself. Yet it is impossible to do this with some product categories. No matter what name is on the faceplate, things like CD players, and even tuners, are going to have some overseas-made subassemblies on board—highly critical ones, most likely. Experience indicates that it is with these that the truly insoluble problems begin. Also, some American companies have exhibited high volatility of late. The brand name may remain, but the company changes hands, often being moved somewhere else in the process. When this happens, product design

may change radically, and parts inventories may be sold off or discarded. You can guess the consequences of that, even if the product is still under warranty.

On the other hand, the repair policies and capabilities of overseas manufacturers are extremely variable, even for warranty assistance, and they are far from easy for an outsider to judge. According to Mike Zazanis, head of a dealership called Audio Associates and the current president of the Professional Audio Retailers Association, a trade group, there are some Far East organizations with repair or replacement policies so accommodating as to seem almost foolhardy. There are others, as I have been able to confirm, that will not replace defective equipment under any but the *most* extraordinary circumstances and that will rarely consider offering a "loaner" piece to a customer whose original purchase will be out of action for an indeterminate (that is, long) period of time. The company's level of visibility and prestige in the marketplace appear to have little to do with the formulation of these policies, incidentally.

Zazanis takes the position that buying from a long-established specialty dealer is the most practical route to service satisfaction, and he points to his own in-house warranty and service facilities, which are capable, he says, even of basic CD player repairs. The idea is that responsible specialty dealers so vigorously defend their reputations and ways of doing business that manufacturers clear service mine fields for them instantly or the supplier is dropped.

But suppose you didn't buy from a specialty dealer—is it now too late? Well, it's never too late to cultivate a relationship with a good, straightforward dealer—if you can offer him loyalty and the incentive of further sales down the road. Even if he doesn't carry your troublesome product, or has already discarded the line, he may very well know someone who will listen to your plaint with a modicum of sympathy. And in the very uncertain world of product service, the best recourse is to know someone—or to know someone else who does. □



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