

# Stereo Review

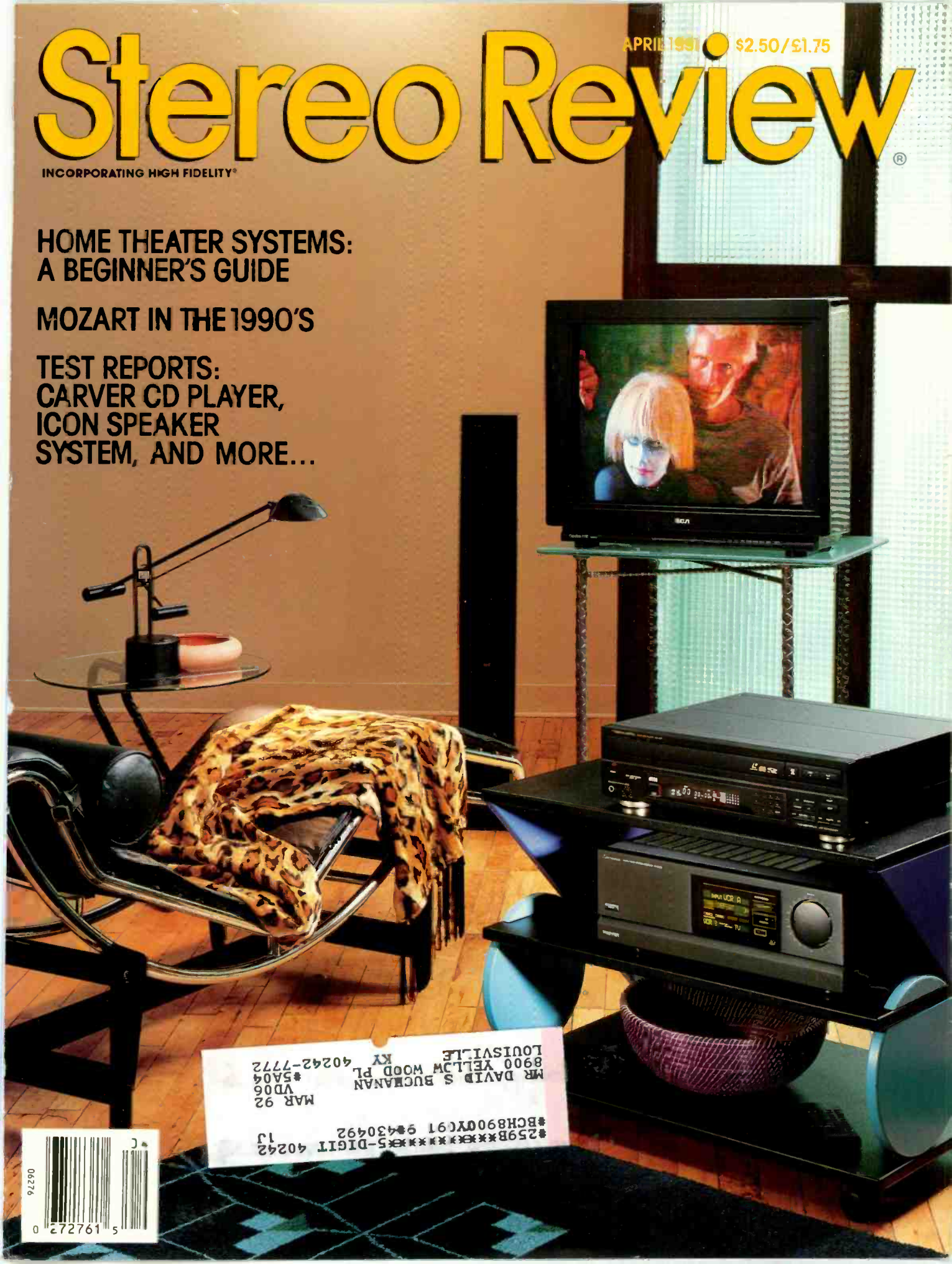
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**Cover**

The NHT VT-1 loudspeaker, RCA ColorTrak 2000 27-inch monitor/receiver, Realistic MD-1000 combi-player, and Mitsubishi M-R8010 audio/video receiver might all be part of a basic home theater setup (see page 64). Rug from ABC Carpets.

Photograph by Geoffrey Gross

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# Stereo Review®

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**Chill.**

**It's the "how to"**

**on how to**

**kick back,**

**relax, and**

**say ahhhhh.**

**Smirnoff.**

**No question.**



# BULLETIN

by Rebecca Day and William Livingstone

## COLUMBUS 500

Just as the Mozart Bicentennial is hitting its stride, the first recording inspired by next year's celebration of the five-hundredth anniversary of Columbus's discovery of America in 1492 has been released by Golden Apple. It is "Spain in the New World," performed by Hesperus, an ensemble of recorders, viols, Baroque guitar, harpsichord, and soprano. In addition to Spanish Renaissance music, it includes Baroque works from Mexico, Peru, and other New World countries. Available on CD or cassette, the recording is now in stores, and it can be ordered from Hesperus, 3706 N. 17th St., Arlington, VA 22207. Price: \$15 plus \$1.50 shipping for the CD; \$10 plus \$1 shipping for the cassette.

## MORE ON COPYRIGHT

In response to an inquiry from the U.S. Copyright Office regarding the impact of emerging digital audio broadcasting and cable audio services on the recording industry, the Recording Industry Association of America has urged the Copyright Office to recommend to Congress legislation that would: 1) reiterate its past support of public-performance rights for sound recordings, 2) require broadcasters and cable operators to transmit the digital subcode information embedded in CD's and other digital recordings, and 3) endorse restrictions on the broadcast or transmission of whole albums or multiple cuts from a single album or artist.

The Electronic Industries Association, which represents hardware manufacturers, remains staunchly opposed to legislation restricting home recording.

## NOTEWORTHY BROADCASTS

On April 6, the PBS show *Austin City Limits* will feature Texas rocker Joe Ely with Foster and Lloyd. The show's theme on April 13 will be cowboy songs with Michael Martin Murphey and Riders in the Sky. On April 24, PBS will telecast a Carnegie Hall performance of Verdi's *Otello* with Luciano Pavarotti and Kiri Te Kanawa conducted by Georg Solti. . . . National Public Radio begins a new series of concerts by the Los Angeles Philharmonic on April 2. Conductors include Esa-Pekka Salonen, André Previn, and Vladimir Ashkenazy. On April 3, NPR begins a similar series by the St. Louis Symphony conducted mostly by the orchestra's music director, Leonard Slatkin. . . . Many public radio stations and a number of commercial ones carry *Audiophile Audition*, a program of recordings, commentary, and interviews currently underwritten by Technics and Maxell. The program for April 14 includes an interview with one of the editors of this column, William Livingstone. Check local listings.

## CIVIL WAR HITS

The phenomenal success of Ken Burns's *The Civil War*, the highest-rated series in PBS history, continues on audio and video. The complete series is available on nine VHS videocassettes from Time-Life Video. Call 1-800-323-2652 to order. The original soundtrack recording on CD and cassette has been a runaway best seller on Nonesuch. In addition to the music from the PBS series, it includes the reading of the last letter of the Union soldier Sullivan Ballou to his wife.

Rhino has released "Songs of the Civil War" by the Cumberland Three, a compilation of such rebel songs as *Aura Lee*, *Hallowed Ground*, and *The Yellow Rose of Texas* and such Yankee songs as *Shipmates Come Gather*, *Marching Home*, and *Battle Hymn of the Republic*.

## TAPE NEWS

TDK says that it has reformulated and updated its normal-bias, high-bias SD, and metal MA and MA-X cassettes to improve their dynamic range. . . . Maxell's frequent-buyer program rewards users of its XLII audio tape with bonus points that can be redeemed for premiums such as compact discs and Maxell tape and accessories. . . . Consumers who buy specially marked packages of Fuji audio cassettes beginning in March will receive coupons good for free L.A. Gear accessories.

## PRODUCT NOTES

Harman Kardon has introduced its first CD changers, the top-loading carousel models TL-8500 (\$449) and TL-8600 (\$599). . . . Mitsubishi's new M-V8000 combi-player (\$1,499) incorporates an eight-times-oversampling digital filter and features a jog dial on both the front panel and the remote control. . . . The Singer Sewing Co. is introducing a line of compact and portable audio products under the Singer brand name.



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# LETTERS

## Welcome DCC

I was very pleased to read in February "Bulletin" that Philips is coming out with a Digital Compact Cassette (DCC) the same size as an analog cassette and with a machine that (miraculously) plays both formats at a reasonable price. I bought one of the first Sony DAT decks, only to be disappointed—not with the sound quality but because I cannot connect microphones directly and the cassette is too small to include readable notes. And I have already had trouble with the proper insertion and operation of those touchy mini cassette shells.

The new, larger DCC format will be better for notes and operation. I hope Philips will include microphone inputs on its decks, as there are surely other amateur musicians interested in making the best possible live recordings.

ROBERT L. BRIMNER  
Pittsburgh, PA

For more on DCC, see "Technical Talk" and "CES Showstoppers" in this issue.

## Backbeat

What a nice treat to read Steve Simels's commentary on the back page of the February issue. His ideas on the Byrds' retrospective CD's were pleasant enough (I'm always glad to see other people get as goofy as I do about music), but mostly I enjoyed getting more thoughts about music itself. Technology is fine, but you have to remember why you get the hardware in the first place.

The more STEREO REVIEW prints subjective, opinionated, and inflammatory stuff about the *raison d'être* for all this fancy equipment, the better.

JAMES HENDRIX  
Burbank, CA

Steve Simels wrote in February "Backbeat" that "Looking back at the Eighties . . . it's hard to decide what was the most annoying pop-cultural trend." In my opinion, it was the compulsion of pop-culture writers to define everything in terms of decades. I'm sick to death of this lazy and stale device, this dime-store sociology. What is so significant about an artificial method of segmenting time that it should be the yardstick for all achievement? Imagine an eighteenth-century journalist writing something like, "Wolfgang Mozart's new opera

We welcome your letters. Please address correspondence to Editor, STEREO REVIEW, 1633 Broadway, New York, NY 10019. You should include your address and telephone number for verification. Letters may be edited for clarity and length.

*Così Fan Tutte* brilliantly illumines and encapsulates the 1790's."

DAVID ENGLISH  
Somerville, MA

## Infested Components

The other day while I was loading my CD changer, a cockroach crawled out of the drawer compartment. As much as this repulsed me, it also alarmed me. Can these parasites damage my stereo system? I thought I read something about them eating wire insulation. How can I safely rid my system of these insects?

W. KIRK LUTZ  
Alexandria, VA

*Audio components don't contain anything of much interest to your average roach, so the one you saw was probably just passing through. Unless one of these pests gets mashed in some critical portion of the changer's mechanism, they're not likely to do any real harm.*

## Prince of the Pagodas

I was delighted by Eric Salzman's highly enthusiastic review in January of Virgin's "first complete recording" of Benjamin Britten's ballet *The Prince of the Pagodas* (and also by its receiving a Record of the Year Award in February). But the music isn't quite the unknown quantity Mr. Salzman suggested when he wrote that the ballet "left behind a legacy of rumors about the extraordinary score, rumors that turn out to be true."

For many years I've had what I always believed to be a complete recording by the Orchestra of the Royal Opera House, Covent Garden, conducted by the composer. Released in the U.S. on two LP's in London's Stereo Treasury Series, the recording runs just under 100 minutes, about 20 minutes less than the new Virgin recording. This may mean that the Virgin release is "more complete" than the London or just that Virgin's Oliver Knussen and the London Sinfonietta take slower tempos.

MARKLAND TAYLOR  
Southbury, CT

## Live Recording

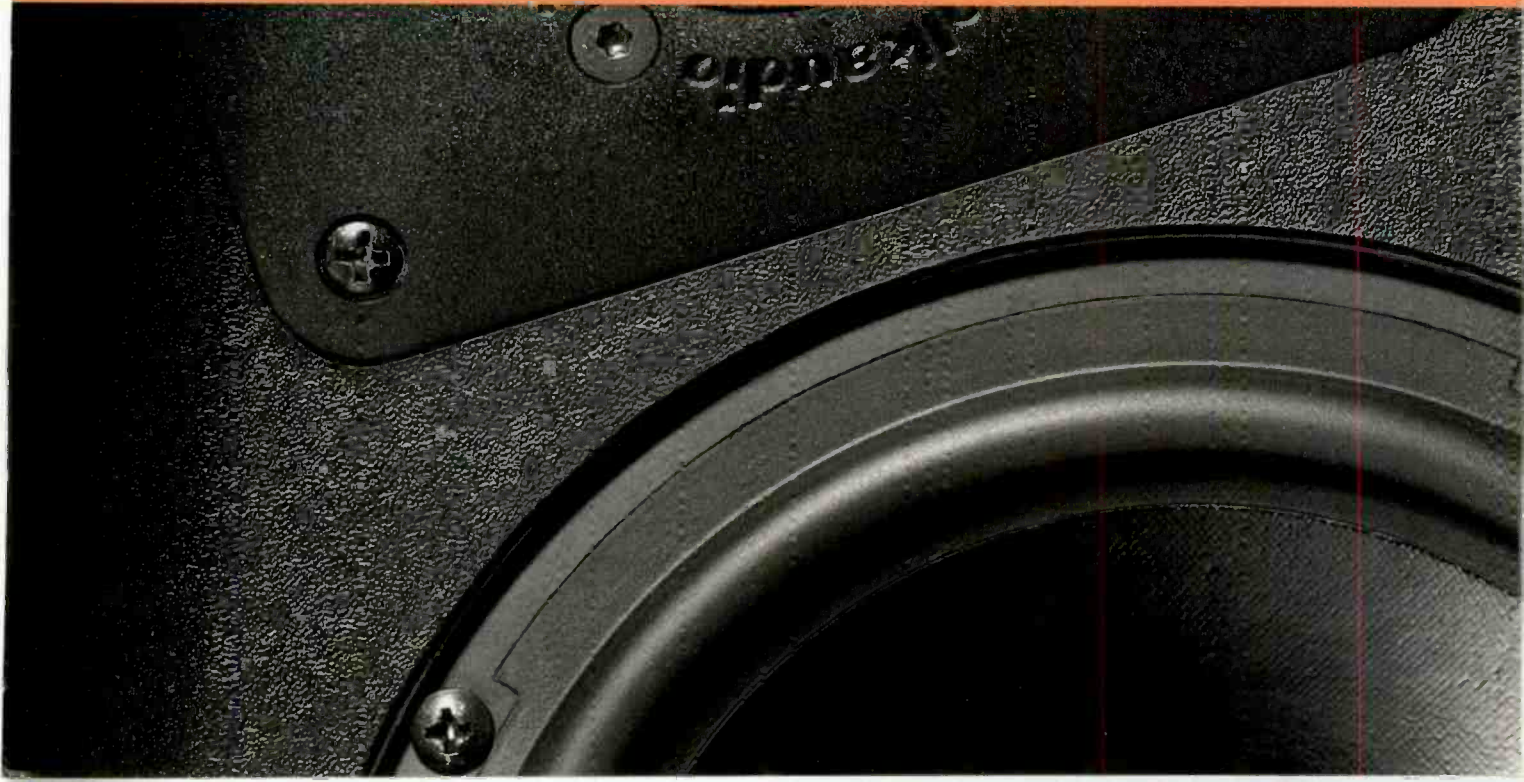
My applause to critic Richard Freed and reader David Chamberlin (in February "Letters") for their criticism of applause in live recordings. I, too, find it intrusive and disconcerting (pun intended), especially in opera recordings when the applause is not only at the end of each act but during it as well. Applause belongs in the theater, not my living room. Thank you to the CD stores that permit auditioning and returns.

DAVID L. KIRK  
Wheaton, IL





Sound that astonishes the ear...



## Today's Generation Of Music Lovers

Years ago, it didn't matter what speakers looked like as long as they sounded good. Admittedly, some of the best sounding speakers did not always blend perfectly into everyone's decor.

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*By using a rare ULV Magnetic Fluid to cool a tweeter's voice coil, both performance and reliability are vastly increased.*

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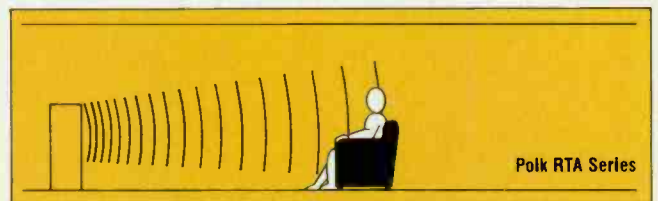
...from speakers that seduce the

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eye.

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Where to buy Polk Speakers? For your nearest dealer, see page 103.

# LETTERS

If reader David Chamberlin "would never knowingly buy a live recording of anything," then he's cheating himself of some true gems among CD releases. Yes, a live recording may be blemished by the occasional cough from the audience, a loud *clunk* here and there (source unknown), or even—God forbid—unedited applause at the conclusion of a piece. The sonic quality may fall short of the pristine clarity of a topnotch studio taping. But in the best live recordings the inspiration of the actual musicmaking more than compensates. Would Mr. Chamberlin pass up Furtwängler's great 1951 Beethoven Ninth or Bernstein's historic 1989 recording of same merely because they were recorded at concerts?

PAUL BUBNY  
Belleville, NJ

## Video Measurements

In the January test report on the Panasonic LX-1000 combi-player, Edward J. Foster states that the video frequency response is down 6½ dB at 4.1 MHz and the corresponding horizontal resolution is around 330 lines. The December 1990 *Video Review* reviewed the same player,

and their lab measured only a 2.10-dB drop at 4.20 MHz; the report also states that the testers easily discerned 425 lines of horizontal resolution, which bears out the manufacturer's specifications. Please explain your figures.

J. FRANK TOMS  
Spartanburg, SC

*Executive Editor Michael Riggs replies: It is not at all uncommon for two samples of the same product to measure somewhat differently, and differences in test discs and equipment can also affect the outcome to some degree. In addition, the issue of how best to measure horizontal resolution is somewhat complex. Since it is directly tied to video bandwidth, the most straightforward and repeatable method is to measure video frequency response and calculate the horizontal resolution from that.*

*Most often, the resolution calculation is based on the frequency at which the response is down 14 dB, which has always seemed a little optimistic to us, and we therefore have chosen to use the frequency at which response is down only 6 dB. This does yield lower figures; on the other hand, some authorities use the frequency*

*up to which response is perfectly flat, which gives even poorer figures.*

*Another way of determining resolution—the only way for display devices—is to put up some sort of test pattern and estimate by eye. But then you are stuck with such variables as the quality of the monitor used for the tests, the sharpness of the particular reviewer's eye on that particular day, and the reviewer's judgment of when lines cease to be distinct from one another. We think it is best to base comparisons on the video response measurements themselves, rather than on resolution figures, as that sidesteps most of these interpretive difficulties.*

## CD Mixup

I just played a Deutsche Grammophon CD that I recently purchased. It is supposed to be the Berlin Philharmonic with Herbert von Karajan performing *The Moldau*, *Les Préludes*, *Aufforderung zum Tanz*, Hungarian Rhapsody No. 5, and the *William Tell* Overture. Instead, there are some rock songs. The label on the CD and the jewel case are what I thought I bought, but not the content of the CD. Is there any chance this CD has collec-

# A More Perfect 10.

Over the years, the Design Acoustics PS•10 loudspeaker system has garnered enthusiastic reviews from some of the most respected critics in audio. *High Fidelity* said, "The overall sound is smooth, clean, and detailed." *Rolling Stone* concluded, "...the PS•10 loudspeakers could be the last pair you'll ever buy." *Ovation* noted that the PS•10 "...provided a very open and transparent sound with excellent and stable stereo imaging." And *Stereo Review* concluded that, "...the PS•10s delivered a smooth balanced sound...enabling them to fit almost anywhere both aesthetically and acoustically."

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AUDIO SYSTEMS  
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# LETTERS

tor's value like a mistruck coin or a misprinted stamp?

HERBERT L. COHEN  
Cherry Hill, NJ

*Not likely. As far as we know, the only people collecting CD's are people who want to hear the music on them, not just look at and catalog them.*

## Absolute Pitch

I must disagree with a statement by Ian Masters in his February "Audio Q&A" column. One does not need absolute pitch (the ability to *identify* musical pitches and their intonation, flat or sharp) to hear if a cassette tape is out of tune from deck to deck. I've found slight

variations of pitch (speed) in almost all cassette decks. My deck and my turntable are "mid-fi" models because most high-end ones lack pitch controls. It's always seemed to me that when it comes to the pitch (speed) of an LP or cassette, if you want it in tune, adjust it yourself.

K. RYAN SHULTZ  
Chicago, IL

## Speaker Placement

Regarding Peter Mitchell's "Room for Improvement" article on speaker placement in December: What's next? Are you going to tell readers to toss out their hammers because the handle end of a screwdriver will work as well? Good grief, can you imagine how many acoustical professionals are now reconsidering their subscriptions?

Mitchell's "rule of thirds" [page 87] belongs in the wastebasket along with other old saws. I have been in the audio business for over twenty years and have yet to find a situation where this fantasy produced good results.

C. REAGAN  
Phoenix, AZ

*Peter Mitchell replies: In my twenty-odd years in audio I have found situations in which the rule of thirds produced good results, but it is not a panacea. No single rule is. Happily, a personal computer can short-cut the trial-and-error process by mapping the effect of standing waves on system response. I recommend The Listening Room, an easy-to-use \$30 program for IBM and compatible PC's produced by Sitting Duck Software, P.O. Box 130, Veneta, OR 97487.*

What a splendid article on "speaker placement for great sound" by Peter Mitchell! I followed his recommendations for a toe-in placement of my speakers and, boy, what a great improvement in sound! Thank you very much.

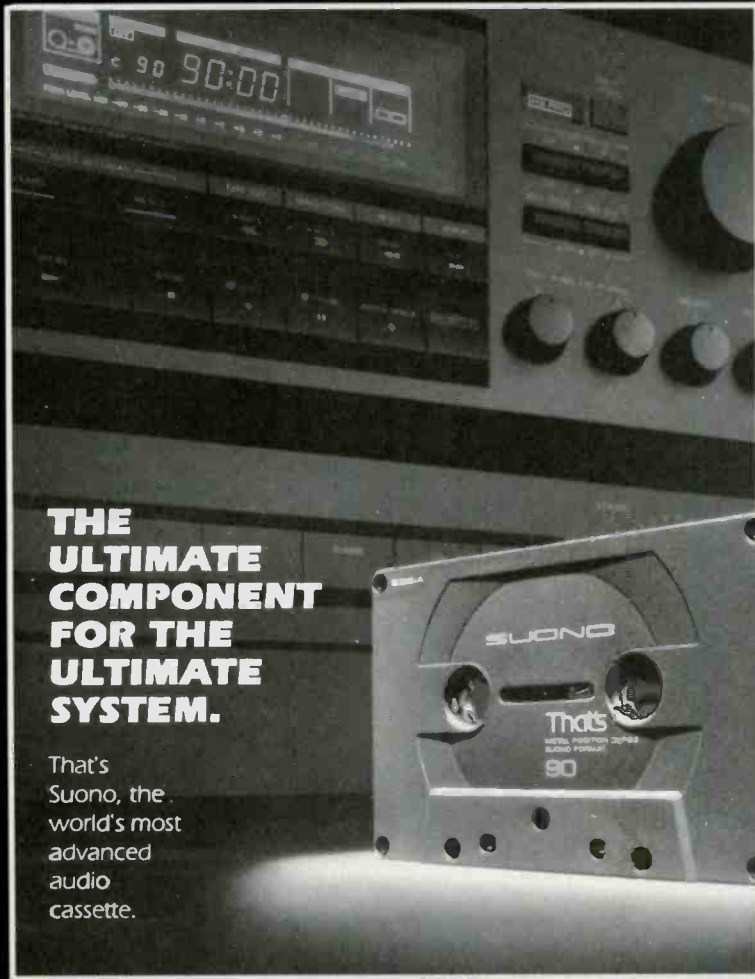
MOHAMED MAMI  
Bellevue, WA

## Corrections

In March "Best Recordings of the Month," the record information at the end of Richard Freed's review of the Peter Donohoe-Yevgeny Svetlanov recording of the Brahms First Piano Concerto indicated that the CD contains the *Second* Piano Concerto. The CD that Mr. Freed reviewed (EMI/Angel CDC 49934) does, in fact, contain the Piano Concerto No. 1, in D Minor, Op. 15.

Also in March "Best of the Month," Robert Ackart's review of the James Levine recording of Donizetti's *L'Elisir d'Amore* mistakenly stated that Luciano Pavarotti made his Metropolitan Opera debut in *La Fille du Régiment*. He first sang at the Met in *La Bohème*. □

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to set a new standard for bass quality and authority in a system of this size. The voice coil of this woofer is vented for increased power handling and effortless reproduction of dynamic musical passages.

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20-bit SLCs enable Denon to offer Variable Pitch, which lets you compress recordings, tune your CD player to musical instruments, adjust tempo for dancing, create perfect segues while mixing, etc. Peak Search finds the point in a disc with the highest level to set recording levels most accurately. Auto Space inserts four second pauses between tracks to help locate selections. A Digital Fader fades recordings in and out while dubbing. Time Edit allows you to input the tape length you are using. Pick enhances this function by letting you rearrange the order of tracks for the best fit on the tape. Link extends the process over 2 CDs for longer tape lengths.

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34504

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# NEW PRODUCTS

## Harman Kardon

The Harman Kardon TL8600 top-loading carousel compact disc changer uses the company's single-bit digital-to-analog (D/A) conversion technology, in which nearly all of the processing is done in the digital domain. The system's third-order digital filter and discrete low-pass analog filters are said to provide better sound quality than lower-order filters

and integrated circuits. Features include A-B repeat, intro scan, auto space, and a variable-level output. Disc-selection and track-selection buttons are located on the top of the changer for easy access. The TL8600 comes with a twenty-seven-key remote control. Price: \$599. Harman Kardon, Dept. SR, 240 Crossways Park W., Woodbury, NY 11797.



## Parsec

Parsec's Model 2000 AM/FM antenna can be placed either vertically or horizontally for omnidirectional or unidirectional reception, respectively. Under ideal conditions, the company says, the antenna can improve reception range by up to 400 percent while dramatically reducing interference and multipath distortion. Gain in the FM band is adjustable from -20 to +40 dB with less than 1.5 dB added noise and up to +15 dB in the AM band with 1.5 dB added noise. Dimensions are 5¼ x ¾ x 6½ inches. Price: \$90. Parsec, Dept. SR, 400 W. Ninth St., Wilmington, DE 19801.



## Monster Cable

Monster Cable's M Series is said to provide improvements in sound stage, imaging, resolution of inner detail, dynamic range, and transient response and a reduction of intertransient noise. The cable's Multi Twist manufacturing technique is said to couple the magnetic fields around the cable conductors, and the IsoTec dampening material isolates the conductors from air and room vibrations, which are said to generate extraneous signals. Each cable is equipped with an RCA gold-contact connector. Prices: \$1.50 to \$35 a foot for speaker cable, \$40 to \$750 a pair for interconnects. Monster Cable, Dept. SR, 274 Wattis Way, South San Francisco, CA 94080.

## NAD

The NAD Model 2400THX is the first stereo power amplifier approved by Lucasfilm for use in a THX home theater. A THX system is designed to achieve intelligible dialogue, accurate spectral balance, good localization, and extended low-bass response. All of the Model 2400THX's circuitry has been optimized for flat frequency response, extremely

low noise, and clean power, with large dynamic reserves for peaks. The amplifier is rated to deliver 100 watts per channel minimum rms into 8 ohms, 370 watts dynamic power, with no more than 0.03 percent total harmonic distortion. Price: \$599. NAD, Dept. SR, 575 University Ave., P.O. Box 9124, Norwood, MA 02062-9124.



# NEW PRODUCTS



## Denon

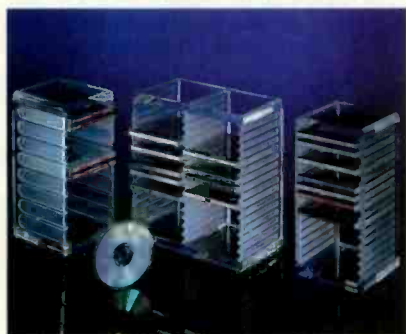
Denon's AVC-1000 six-channel integrated audio/video amplifier has two center-channel amplifiers to drive a pair of center speakers. The AVC-1000 is rated to deliver 55 watts each into the left and right front channels and 25 watts each into the two center and two rear channels. It is bridgeable to four channels for use with a separate amplifier for the main front channels. There are four Dolby Pro Logic modes and three other surround modes. The digital delay sys-

tem is user-adjustable in steps from 5 to 40 milliseconds. The Cinema switch is said to restore dialogue to its natural sonic quality, and there is an Audio Visual Sound Effect Circuit to "punch" up the low frequencies. There are five video and five audio inputs, a two-mode REC OUT selector for combining video and audio sources, and a mono output for a powered subwoofer. Price: \$700. Denon America, Dept. SR, 222 New Rd., Parsippany, NJ 07054.



## Sennheiser

Sennheiser's HD 560 Ovation headphone, designed using laser interferometry to analyze diaphragm behavior, has a rated frequency response of 16 to 30,000 Hz. The diaphragms are ridged at the edge for greater stiffness, to minimize distortion without adding mass. The centers of the diaphragms are made of silk, which allows air to vent behind the drivers, thus improving bass response. Neodymium magnets are combined with lightweight aluminum voice coils for greater efficiency. Tuned bass ports are built into the earpieces, which have velvet-covered ear cushions for wearing comfort. Price: \$269. Sennheiser, Dept. SR, 6 Vista Dr., P.O. Box 987, Old Lyme, CT 06371.



## Votaw

The Votaw DiscDrawer line of CD storage units is made of 1/2-inch to 3/4-inch sheet acrylic. From left, the line includes the 1012C (\$40), which holds eight double CD's; the 1010-32C (\$60), which holds thirty-two discs; and the 1010C (\$40), which holds sixteen discs. All are available in clear or black. The 1012C and 1010C measure 5 1/2 x 11 1/8 x 5 3/4 inches, the 1010-32C 10 1/2 x 11 1/8 x 5 3/4 inches. Votaw Corp., Dept. SR, P.O. Box 10479, Aspen, CO 81612.

## Celestion

The Celestion 5 bookshelf speaker has a two-piece, 1-inch titanium-dome tweeter and a 6-inch woofer, both mounted on a rigid polycarbonate fascia. Frequency response is given as 70 to 20,000 Hz -3 dB and sensitivity as 88 dB sound-pressure level at 1 meter with a 1-watt input. Amplifier requirements are 10 to 90 watts per channel. Five-element, second-order high/low-pass crossover filters are bonded to the terminal pod, and four-way binding posts are used with a hard-wired crossover. The 1/2-inch particleboard cabinet has tapered edges to reduce diffraction and is finished with simulated black-ash or dark-oak vinyl veneer. Dimensions are 13 3/4 x 8 x 9 3/4 inches; weight is about 10 1/2 pounds. Price: \$400 a pair. The optional LS24 stands, 24 inches tall, are \$100 a pair. Celestion Industries, Dept. SR, 89 Doug Brown Way, Holliston, MA 01746.



## Technics

The Technics SL-XP700 portable compact disc player, roughly the size of two stacked CD jewel boxes, has a miniaturized laser pickup and an ultra-thin transport mechanism. Features include separate 18-bit, eight-times-oversampling digital-to-analog converters for each channel, an extra amplification circuit to boost low-bass signals, twenty-four-track programming, random play, automatic shut-off after 5 minutes in stop or pause mode, and resume play, which returns to the last track played before the unit was turned off. Price: \$280. Technics, Dept. SR, One Panasonic Way, Secaucus, NJ 07094.



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I'm Your Baby Tonight 10663

Steve Winwood:  
Refugees Of The Heart (Virgin) 54232

Don Henley:  
The End Of The Innocence (Geffen) 01064

Madonna: The Immaculate Collection (Sire) 54164

The Cure: Mixed Up (Elektra) 74190

INXS: X (Atlantic) 64378

Heart: Brigade (Capitol) 64305

Deee-Lite: World Clique (Elektra) 52050

Neil Young: Ragged Glory (Reprise) 34621



35078



34791



24690

Peter Gabriel: So (Geffen) 14764

Pat Metheny: Question And Answer (Geffen) 73522

Kenny G: Live (Arista) 64505

Styx: Classics (14 Gt. Hits) (A&M) 14822

Frank Sinatra: Capitol Collector's Series (Capitol) 64362

Norrington: Beethoven, Symphony No.9 (Choral) (Angel) 00467

Randy Travis: Heroes And Friends (Warner Bros.) 74597

Paul Simon: Graceland (Warner Bros.) 72315

Guns N' Roses: Appetite For Destruction (Geffen) 70348

Carly Simon: Have You Seen Me Lately? (Arista) 20912

Take 6: So Much 2 Say (Reprise) 53580

Great Love Songs Of The '50s & '60s, Vol. 1 (Laurie) 20768

Tom Petty: Full Moon Fever (MCA) 33911

Fleetwood Mac: Behind The Mask (Warner Bros.) 43766

Supertramp: Classics (14 Greatest Hits) (A&M) 04891

Marvin Gaye: 15 Gt. Hits (Motown) 53534

Skid Row (Atlantic) 01038

AC/DC: The Razor's Edge (ATCO) 33379

Depeche Mode: Violator (Sire) 73408

Janet Jackson's Rhythm Nation 1814 (A&M) 72386

Prince: Graffiti Bridge (Paisley Park) 34107

Damn Yankees (Warner Bros.) 14852  
Roger McGuinn: Back From Rio (Arista) 81997

Edie Brickell: Ghost Of A Dog (Geffen) 73923

Best Of The Blues (Pair) 11140

Music Of Bali (Nonesuch) 44671

Gipsy Kings: Allegria (Elektra) 11178

Andrew Lloyd Webber: The Premiere Collection (MCA) 53868

Best Of Robert Palmer: Addictions (Island) 10819

Best Of Eric Clapton: Time Pieces (Polydor) 23385



83701



73266



73953

Bird/Original Recordings Of Charlie Parker (Verve) 01044

Gershwin, Overtures/McGiinn (Angel) 70391

Lita Ford: Stiletto (RCA) 63893

Best Of Dire Straits: Money For Nothing (Warner Bros.) 00713

Nelson: After The Rain (DGC) 74079

Jon Bon Jovi: Blaze Of Glory (Mercury) 44490

Pretty Woman/Sdtrk. (EMI) 34631

Faith No More: The Real Thing (Reprise) 63719

Bell Biv DeVoe: Poison (MCA) 00547

Jane's Addiction: Ritual de lo Habitual (Warner Bros.) 10020

Acoustic Alchemy: Reference Point (GRP) 82967



52142



13519



73694

Chicago: Greatest Hits 1982-'89 (Reprise) 63363

Billy Idol: Charmed Life (Chrysalis) 62264

Twin Peaks/TV Sdtrk. (Warner Bros.) 63540

The Cole Porter Songbook: Night And Day (Verve) 10613

The Best Of Steely Dan: Decade (MCA) 54135

Solti: Tchaikovsky, 1812 Overture (London) 25179

Mario Lanza: The Great Caruso (RCA) 80259

Paula Abdul: Shut Up And Dance (Remixes) (Virgin) 80326

Spyro Gyra: Fast Forward (GRP) 00829

The Go-Gos: Greatest Hits (I.R.S.) 50315

Rod Stewart: Greatest Hits (Warner Bros.) 33779



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# NEW PRODUCTS



## Audio Control

The Architect "speaker optimizer" from Audio Control is a six-band equalizer designed specifically to improve the sound from in-wall and small bookshelf speakers. Its programmable "frequency-match" infrasonic filter enables the user to set a low-frequency cutoff in

order to improve power handling, reduce distortion, and extend the life of the speakers. The preamp-level Architect can be connected to any home stereo system. Price: \$189. Audio Control, Dept. SR, 22313 70th Ave. W., Mountlake Terrace, WA 98043.

## NHT

The NHT Model 1C loudspeaker is designed to be used for the center channel in a surround-sound system. Magnetically shielded for placement close to a TV set, the Model 1C has a 6½-inch woofer and a 1-inch ferrofluid-cooled semi-dome tweeter. Frequency response is rated as 65 to 22,000 Hz  $\pm$  3 dB, and nominal impedance is 8 ohms. Sensitivity is rated as 89 dB at 1 meter with a 1-watt input. Maximum power handling is given as 150 watts per channel. Finished in high-gloss black, the speaker measures 12 x 7½ x 8½ inches. Price: \$170 each. NHT, 537 Stone Rd., Suite E, Benicia, CA 94510.



## Ohm Acoustics

The Ohm Theater home video sound system consists of two satellite speakers and a Center Channel Module (CCM), which contains a subwoofer and can be used to hold a TV set or video monitor up to 32 inches in size. The system has inputs for a discrete center-channel home theater processor and amplifier, and rear-channel speakers can be added. For use in two-channel systems, the Ohm Theater has a built-in matrix that derives a center-channel signal from the left and right channels. The CCM has a ferrofluid-cooled tweeter and a 12-inch woofer with a 4-inch vent; bass response is said to go down to 28 Hz. Its dimensions are 19 x 28 x 14½ inches. The tiny satellites are made from cast aluminum and have phase-aligned 5¼-inch woofers and ferrofluid-cooled ¾-inch dome tweeters. Price: \$950 for three-piece system; additional satellites, \$400 a pair. (The stands shown are not included.) Ohm Acoustics, Dept. SR, 241 Taaffe Pl., Brooklyn, NY 11205.



## Case Logic

Case Logic's CLS-36 portable storage case is designed to hold thirty-six cassette singles in their "O" cards or thirty album-length tapes in their protective boxes. The nylon shell is padded with thick foam and has a plastic insert to align the cassettes; there is an adjustable shoulder strap. Colors are black, gray, red, blue, or black with teal trim. Price: \$15. Case Logic, Dept. SR, 6930 Winchester Circle, Boulder, CO 80301.



## JVC

The JVC MX-1 compact component system includes a compact disc player, a dual-well autoreverse cassette deck, an AM/FM tuner, and a pair of magnetically shielded speakers. A 5-inch subwoofer is built into one of the speaker cabinets and powered by its own amplifier. Features include four edit modes for recording

from a CD to tape and a graphic equalizer with six preprogrammed ambience settings as well as a user-definable setting. Tuner features include forty preset stations, auto memory, and preset scan. A remote control is included. Price: \$1,000 complete. JVC, Dept. SR, 41 Slater Dr., Elmwood Park, NJ 07407.



# The inside story on what really makes a great audio component.



**ONKYO**  
*Artistry in Sound*

**Technology without quality is meaningless.**

"It would be very easy for our engineers to add a lot of flashing lights and dials to our equipment but 'bells and whistles' are not what we're all about," Ted Green said. Mr. Green, Onkyo's National Sales and Marketing Manager, is on the firing line in the battle to design electronics equipment for today's critical, value-oriented enthusiasts. And because Onkyo is an engineering-driven firm, their emphasis is on quality and substance, not glitz and glamor.

"Consumers can quickly hear, see and feel the difference between Onkyo equipment and the competition," Mr. Green added. "Look at the front and you won't be overwhelmed by LEDs or buttons. Our components are made to be used—easily. Lift an Onkyo receiver and you'll immediately notice the increased weight from the metal chassis, heavy duty transformer and heat sink. And Onkyo has always featured the most up-to-date technology," Mr. Green stated. "Throughout the design, engineering and manufacturing process, our objective is to deliver the finest quality at a better feature per dollar ratio than any other components on the market."



*Metal chassis, metal faceplates, even metal transports in the CD players add up to structural integrity throughout the entire Onkyo line.*

**ONKYO... Built to be Better**

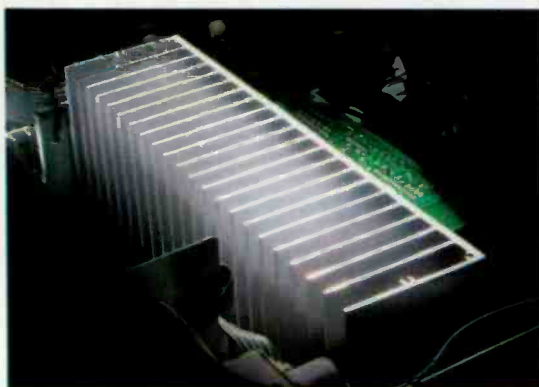
Quality is a word used by companies in many different industries. But what does it really mean to someone buying new hi-fi components? If you love music, it's the ability to experience the full dynamic range of a compact disc or cassette. Or drive a pair of sophisticated speakers to their utmost potential. Or hear the dramatic impact of a movie soundtrack on a Dolby Pro Logic system. All of the buzzwords and acronyms mean nothing, unless there is a proven real-world result that you can hear and appreciate, not simply a fancy decal on a faceplate, or slick slogan in an ad.

Onkyo's mandate couldn't be more clear. Onkyo will never make sacrifices or take shortcuts that impact upon the music you'll enjoy in your home. Whether it's a CD player, receiver, cassette deck or other component, if it bears the Onkyo name, you can be sure the quality was designed and built in, starting right at the drawing board. Onkyo's

demanding engineers oversee every step of manufacture so the end results are award-winning products that perform well and, just as importantly, are a lasting value... from the least expensive models to the top-of-the-line. In fact, the long-term reliability of all Onkyo components—when compared to the competition—is far superior.

What makes Onkyo better? Here are some reasons why...

Many hi-fi companies will use plastic parts in critical areas to keep down your initial cost. The price may be attractive *at first* but you'll lose the structural integrity of Onkyo's metal chassis or the accuracy of their die-cast aluminum CD tray... deficiencies that will unquestionably affect the sound heard in your home. The next time you're in a store, check out the vast number of components that utilize plastic or some other synthetic in their faceplates and chassis. Then examine Onkyo. It's easy to see why Onkyo sounds well made.



*Heat sinks sound as if they belong in a high tech kitchen, but Onkyo's heavy duty versions prevent thermal overload when you've pumped up the volume.*



## Power Plays

One of the most important functions of any receiver or amplifier is the ability to provide sufficient power during key musical moments. It's really simple: the larger, more powerful the transformer, the more critical current is supplied. Without proper power, you won't be able to drive loudspeaker systems or components to their peak ability. A shortcut here severely impacts upon music quality. Onkyo's heavy duty power supplies are renowned for their ability to handle the most demanding and complex musical passages, which is why you'll find all our amps and receivers rated into 4 ohms (and in some cases even 2 ohms), the ultimate test of a power supply. And although a transformer may not have as much sex appeal as a flashy display, it's infinitely more vital to the bottom line—performance—which is why you buy a component in the first place. Consequently, Onkyo engineers are always in the forefront of technical advances in component power. One of these is the breakthrough Anti-Electromagnetic Interference (AEI) transformer that produces even lower distortion levels and more power than toroidal transformers found in high end, high priced separates.

## Independent Thinking

Dedicating power supplies to perform specific tasks in components won't create banner headlines, but again, it makes for a better quality product.

In a CD player, the independent power supplies control the transport, analog and digital circuits. This prevents any spurious signal interference and resulting distortion. The independent power supplies Onkyo uses in its cassette decks eliminate interference between the meter electronics and the recording circuitries. As a result, the music signal retains its purity both in recording and playback.

As well as its "independent thinking" in terms of power, Onkyo also believes in being discrete. Virtually all Onkyo components use



*At the heart of every Onkyo receiver and amplifier is an oversized, heavy duty transformer. When it comes to power, Onkyo refuses to take any shortcuts.*

discrete output devices (individual transistors, resistors and capacitors) rather than Integrated Circuits (ICs) that combine all three into a less costly format. The drawback to ICs occurs in its impact on overall performance. Using discrete outputs involves more time and money, but the results are well worth it.

## Technology with Imagination

While Onkyo maintains a "nuts and bolts" approach to insure basic quality, the company continues to be on the cutting edge of sonic technology as well. Two of Onkyo's highly regarded breakthroughs were Accubias which automatically fine tunes the bias on a cassette and the Automatic Precision Reception (APR) system for receivers and tuners. Critics feel APR delivers the best possible FM reception. In digital

audio, Onkyo created AccuBit technology and now has introduced AccuPulse, the most advanced single bit digital-to-analog conversion (DAC) system available. Here again, Onkyo engineers refused to take short cuts and used two separate chips for the DAC and digital filter, cutting down on potential interference. The result is natural, true-to-life sound that finally achieves the real world musicality digital audio has promised since its inception.

## Buyers Guide

Quality is what dictates a component's performance. It should also be what dictates your product choice. The next time you look at hifi equipment, remember to look for some of the differences pointed out here. You'll find that quality and Onkyo are one in the same.



*While most manufacturers use Integrated Circuits to save money, Onkyo uses costlier power transistors, resistors and capacitors because of their better performance characteristics.*

# Home Theater Powerhouses



The '90s have ushered in a new era of entertainment—the Home Theater Age. Enthusiasts are now constantly striving to re-create the movie palace experience in their living rooms. Onkyo has risen to this challenge by designing a complete line of critically acclaimed A/V power components that meet the demands for the most realistic movie sound—and musical reproduction.

As with all Onkyo components, quality, dependability and ease-of-use are the guiding philosophy behind the new Integra A/V amplifier, the A-SV810PRO. It not only features advanced Dolby Pro Logic decoding for blockbuster Hollywood soundtracks, but offers a total of nine simulation modes (DSP) that let you create the acoustic ambience of different soundstages. Pro Logic goes beyond basic Dolby

Surround Sound found on less expensive components by adding a center channel to the front and rear channels. The result is more accurate sound effects and your sofa becoming a front row orchestra seat! The A-SV810PRO delivers 85 watts per channel in the surround mode for the left, center and right speakers and a powerful 35 watts for the rear speakers. And there's enough dynamic power (180 watts into 2 ohms) to handle the most critical passages from any CD or soundtrack.

The sleek, new A-SV810PRO can be the heart of the most sophisticated audio/video system. There are six video inputs (5 are S-video) and 10 audio input jacks... enough to handle a wide variety of components. And, to make this integrated amplifier even simpler to use, the

A-SV810PRO has a series of on-screen displays that make taking advantage of its advanced capabilities as easy as watching TV.

The 39-pound powerhouse has the same heritage as all Onkyo components—heavy duty transformers, massive heat sinks, and discrete outputs using top-quality resistors, transistors and capacitors. The A-SV810PRO even separates the audio and video signal paths to ensure the purity of the sound and image.

Along with Onkyo's cutting edge A-SV810PRO, the company offers a full line of Pro Logic A/V receivers, the TX-SV90PRO, TX-SV70PRO and the TX-SV50PRO. All deliver true five channel Dolby Stereo decoding (left, center, right and surround) as well as variable digital delay and Hall and Matrix settings.

An added benefit is Onkyo's special room-to-room capability on select models. By adding optional infrared remote sensors in other rooms, you can control all A/V capabilities from different parts of the house. The three receivers are packed with real-world conveniences and leading edge technology... from Onkyo, a company that only knows how to make components one way—the right way.



## ONKYO®

200 Williams Drive, Ramsey, N.J. 07446 201-825-7950



# AUDIO Q & A

by Ian G. Masters



## Cable Lengths

**Q** I am considering placing one speaker near my stereo cabinet and the other across the room. Would any problems result from having a short cable (about 10 feet) for one channel and a longer one (about 50 feet) for the other?

VAUGHAN GARRETT  
Garland, TX

**A** Considering that the difference in time for a signal to pass through the two wires is about one five-millionth of a second (half a microsecond), the effect of the unequal lengths should be negligible, at least in terms of phase. The only factor that should concern you is the thickness of the cables. Longer runs require heavier wires, so if you make sure that the 50-foot cable is thick enough—12 gauge, say—you should encounter no problems. (It doesn't matter if the shorter cable is heavier than it needs to be.) Wire of that thickness is readily available at low cost, and virtually all specialty audiophile cable is adequate, but not the skinny transparent stuff that's often labeled "speaker wire." If you're still concerned, you can cut equal lengths for both channels and coil the excess for the closer speaker behind it or the amplifier.

## Video Interference

**Q** Why is it that you often see interference in the video portion of a TV signal but almost never hear it?

BRENT IVERSON  
Foster City, CA

**A** You must have a better monitor than I do; some channels in my area are often accompanied by a distinctly unmusical array of buzzes and beeps. Still, in general, your observation is correct: The video signal is typically more vulnerable to disturbances than the audio. I suspect one reason is that the audio

is frequency modulated (FM) whereas the video is amplitude modulated (AM) and therefore more susceptible to noise and other disruptions. It is probably also true that our eyes are more sensitive than our ears to the effects of interference. For one thing, the ability of one sound to mask another makes some audio problems bearable; the corresponding video glitches are usually only too obvious.

## CD Storage

**Q** At present I store my compact discs horizontally, but I have learned that videodiscs should be stored on edge to prevent warping. Should I change to vertical storage for my audio recordings, too?

JERRY L. MCKINLEY  
Trenton, TN

**A** As long as you keep your CD's in their jewel boxes, or in one of those multi-page CD portfolios, their orientation is less critical than with other types of discs. For one thing, most of what can go wrong will be offset by the playback system's error-correction circuitry.

Over long periods of time, however, it is still wise to store CD's vertically for a number of reasons. One is that the clip that secures a disc in its box suspends it ever so slightly above the facing surface; with time, gravity may cause the disc to deform slightly, particularly in hot weather. The distance it can travel is small but perhaps enough to cause problems with some players. Furthermore, a horizontal surface tends to collect dust, smoke, and other things floating in the air; eventually enough of these may penetrate the case to cloud the disc surface. Vertical storage provides nowhere for the grunge to land.

## Speaker Size

**Q** Now that I have added a subwoofer to my system, I am wondering whether I might be able to improve my sound even more by replacing the main speakers with smaller satellite units. Is smaller better when it comes to handling high and midrange frequencies?

KEVIN MACK  
Listowel, Ontario

**A** Unless you're dissatisfied with your original speakers for other reasons, I can see no purpose in replacing them. If you were starting from scratch with a subwoofer, full-size satellites would be unnecessary as they would just duplicate the low-frequency output that the subwoofer probably handles better in any case. But having that extra bit of bass output certainly can't hurt.

Small is definitely better when it

comes to a tweeter and—perhaps—mid-range driver, but that doesn't have anything to do with cabinet size. The drivers in your speakers are probably small enough already even if the overall systems are large. Listen critically to the system; if you like what you hear, stick with it.

## Morse Interference

**Q** Both my television set and my audio system pick up Morse-code signals and the occasional radio-telephone voice. There is an amateur radio operator about a block away from me, but the speed and professional sound of the dots and dashes lead me to believe that what I am hearing is marine radio-telegraph transmissions; my home is on a hill overlooking the harbor about 3 miles away. How can I eliminate this interference?

CHARLES E. BOSWORTH  
Santa Barbara, CA

**A** Radio-frequency interference (RFI) is notoriously hard to get rid of. You first have to find out where it is getting into your system by disconnecting components one at a time to narrow down the possible entry points. Once you have figured out how the unwanted signals are entering the chain, you can often reduce or eliminate the interference by relocating components, replacing worn or corroded plugs, varying cable lengths, or substituting cables with better shielding. Detailed tips are available free from the Federal Communications Commission (FCC), and it would be worth your while to contact its local field office to get the appropriate literature.

The interference you are experiencing may be resistant to such simple measures, however, especially since it is affecting both your audio and video equipment. Check with your neighbors; if they are experiencing the same problem, it may be necessary to try solving the problem at the source.

Chances are the culprit is your neighborhood ham rather than marine radio. Most RFI comes from local transmitters, not distant ones (don't be fooled by the speed of the code—amateur-radio buffs are among the most proficient keyers around). Ham-radio operators are almost always very knowledgeable and cooperative in matters of RFI, so probably the first thing you should do is visit the one down the block and solicit his help. Even if it turns out his transmissions are not the source of your trouble, he may be able to identify the sender's call sign, which you can then trace through the FCC. If you are picking up commercial or government transmissions, you should definitely alert the FCC. □



# TAKE ANY 8 COMPACT

**Bette Midler—Some People's Lives.**  
From *A Distance: The Gift Of Love*;  
plus more. (Atlantic) 411-934



**Madonna—The Immaculate  
Collection (Greatest Hits).**  
*Justify My Love; Rescue  
Me; Vogue*; many more.  
(Warner Bros./Sire) 414-557

**C & C Music Factory—**  
Gonna Make You Sweat  
(Columbia) 416-933

**Frank Zappa—**  
Apostrophe/Overnite  
Sensation (Rykodisc)  
412-395

**The Best Of Little  
Anthony & The Imperials**  
(Rhino) 410-001

**Hollies—Epic Anthology**  
(Epic) 409-730

**Tommy James & The  
Shondells—Anthology**  
(Rhino) 405-746

**Crosby, Stills, Nash And  
Young—Deja Vu (Atlantic)**  
404-202

**The Band—To Kingdom  
Come... The Definitive  
Collection (Capitol)**  
388-181/398-180

**Crosby, Stills, Nash and  
Young—So Far (Atlantic)**  
378-745

**Grateful Dead—Skeletons  
From The Closet**  
(Warner Bros.) 378-406

**Roy Orbison—The All-  
Time Hits, Vols. 1 & 2**  
(Columbia Special Prod.)  
377-945

**The Who—Who's Better,  
Who's Best (MCA) 376-657**

**Harry Chapin—The Gold  
Medal Collection (Elektra),  
375-824/395-822**

**Steppenwolf—16 Greatest  
Hits (MCA) 372-425**

**Marvin Gaye—Greatest  
Hits (Motown) 367-565**

**The Best Of The Doors**  
(Elektra) 357-616/397-612

**Jimi Hendrix—Are You  
Experienced? (Reprise)**  
353-102

**Yes—Fragile (Atlantic)**  
351-957

**Rolling Stones—Sticky  
Fingers (Rolling  
Stones Rec.) 350-645**

**Van Morrison—  
Moondance (Warner Bros.)  
349-803**

**Jethro Tull—Aqualung**  
(Chrysalis) 345-157

**Bad Company—10 From 6**  
(Atlantic) 341-313

**A Decade Of Steely Dan**  
(MCA) 341-073

**Elton John—Greatest Hits**  
(MCA) 319-541

**Stevie Wonder—Orig.  
Musiquarium I Greatest  
Hits (Tamlia)**  
314-997/394-999

**Creedence Clearwater  
Revival—20 Greatest Hits**  
(Fantasy) 308-049

**Original Soundtrack—  
The Civil War**  
(Elektra/Nonesuch) 415-828



INXS—X. (Atlantic) 412-106



**Warrant—Cherry Pie. Title cut plus  
Sure Feels Good To Me; I Saw Red;  
Bed Of Roses; Blind Faith; etc.**  
(Columbia) 411-389

**Indigo Girls—Nomads**  
Indians Saints (Epic)  
411-355

**Led Zeppelin—Houses Of  
The Holy (Atlantic) 293-597**

**Woodstock—Orig.**  
Soundtrack (Atlantic)  
291-864/391-862

**Eagles—Greatest Hits**  
1971-75 (Asylum) 287-003

**Fleetwood Mac—**  
Rumours (Warner Bros.)  
286-914

**Boston (Epic) 269-209**

**Simon & Garfunkel—**  
Greatest Hits (Columbia)  
219-477

**Santana—Spirits Dancing  
In The Flesh (Columbia)**  
408-773

**Roger McGuinn—Back  
From Rio (Arista) 416-149**

**Various Artists—The  
"Amadeus" Mozart Music  
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Winning Film (CBS)**  
416-123

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**Dr. John—In A  
Sentimental Mood**  
(Warner Bros.) 384-040



**Vladimír Horowitz—  
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Featuring Liszt; etc.  
(Sony Classical) 405-985



**Horowitz—The Last Recording.**  
Chopin, Haydn, Liszt, Wagner

**The Cure—Mixed Up. Never  
Enough; Love Song; Close To Me  
etc. (Elektra) 413-492**

**The Connells—One  
Simple Word (TVT) 415-810**

**The Pogues—Hell's Ditch**  
(Island) 415-661

**Adam Ant—Antics In The  
Forbidden Zone (Greatest  
Hits) (Epic) 415-612**

**Ralph Tresvant—Ralph  
Tresvant (MCA) 415-547**

**Celine Dion—Unison**  
(Epic) 415-430

**Devo—Greatest Hits**  
(Warner Bros.) 415-455

**Vivaldi—The Four  
Seasons, English  
Chamber Orch. Nigel  
Kennedy (Angel) 414-672**

**Big Daddy Kane—Taste  
Of Chocolate (Cold Chillin')  
414-284**

**The Alarm—Standards**  
(I.R.S.) 414-201

**AI B. Sure—Private Times  
... And The Whole 9!  
(Warner Bros.) 414-144**

**Schubert: Symphonies  
No. 5 & 8 (Unfinished);  
Norrlington, London Classi-  
cal Players (Angel) 414-102**

**Piaco Domingo—  
Roman Heroes. National  
Phil. Orch., Eugene Kohn,  
cond. (Angel) 413-849**

**Christopher Parkening/  
David Brandon—Virtuoso  
Duets (Angel) 413-823**

**Mussorgsky: Pictures At  
An Exhibition; Stravinsky:  
The Firebird, Carlo Maria  
Giulini, Conducting.**  
(Sony Classical) 413-625

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**Soho—Goddess (Alco)**  
414-664

**10,000 Maniacs—Hope**  
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**Slaughter—Stick It Live**  
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**Morrissey—Bona Drag**  
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**Michael McDonald—Take  
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**Johnny Gill (Motown)**  
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**Bad Company—Holy  
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**Winger—In The Heart Of  
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406-678

**Greenpeace: Rainbow  
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406-603/396-606

**Paula Abdul—Shut Up  
And Dance (The Dance  
Mkxes) (Virgin) 406-264**

**Bangles—Greatest Hits**  
(Columbia) 405-977

**Depeche Mode—Violator**  
(Sire/Reprise) 405-423

**Pretty Woman—Original  
Soundtrack (EMI) 405-407**

**David  
Bowie—Changes-  
Bowie**  
(Greatest  
Hits).  
*Fame '90*; etc.  
(Rykodisc)  
412-247

**David  
Bowie—Changes-  
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(Greatest  
Hits).  
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(Rykodisc)  
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**Traveling Wilburys—  
Vol. III. She's My  
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(Warner Bros.) 413-872

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(Warner Bros.) 405-886

**Cheap Trick—Busted**  
(Epic) 408-344

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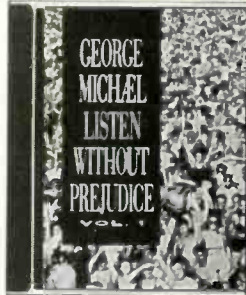
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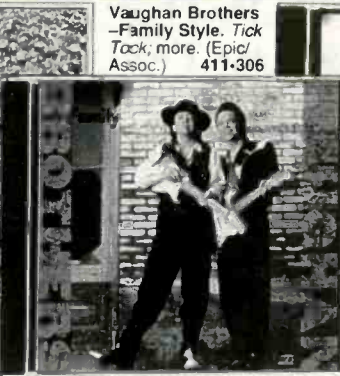
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- Robert Palmer**—Addictions, Volume One (Island) 400-937
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- Linda Ronstadt**—Cry Like A Rainstorm, How Like The Wind (Elektra) 389-874
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- Aerosmith**—Pump (Geffen) 388-009
- Tracy Chapman**—Crossroads (Elektra) 387-951
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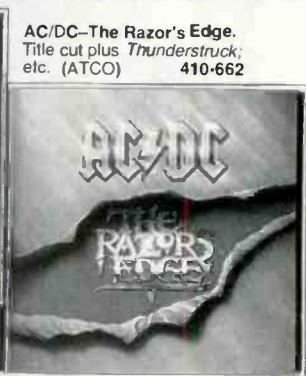
**George Michael**—Listen Without Prejudice, Vol. 1. Praying For Time; Freedom; etc. (Columbia) 411-181



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**Vanilla Ice**—To The Extreme. Ica Ice Baby; Stop That Train; many more. (SBK) 413-203



**AC/DC**—The Razor's Edge. Title cut plus Thunderstruck; etc. (ATCO) 410-662

**Jimi Hendrix**—Radio One (Rykodisc) 412-379

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**Alannah Myles** (Atlantic) 404-475

**Lever7**—Rope A Dope Style (Atlantic) 413-575

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**Night Ranger**—Greatest Hits (MCA) 383-729

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**Billy Joel**—Greatest Hits Vols. 1 & 2 (Columbia) 336-396/396-390

**Toto**—Past To Present 1977-1990 (Columbia) 411-371

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**Wynton Marsalis**—Tune In Tomorrow.../Orig. Soundtrack (Columbia) 414-193

**Joe Sample**—Ashes To Ashes (Warner Bros.) 414-151

**Gerald Albright**—Dream Come True (Atlantic) 414-003

**Michael Brecker**—Now You See It (Now You Don't) (GRP) 411-769

**David Benoit**—Inner Motion (GRP) 411-751

**Bobby Lyle**—The Journey (Atlantic Jazz) 411-215

**Wynton Marsalis**—Music From Mo' Better Blues. (Featuring Terence Blanchard) (Columbia) 410-928

**The Rippingtons**—Welcome To The St. James' Club Featuring Russ Freeman (GRP) 410-498

**Bob James**—Grand Piano Canyon (Warner Bros.) 408-906

**Michel Camilo**—On The Other Hand (Epic) 408-682

**Sonny Rollins**—Falling In Love With Jazz (Milestone) 408-518

**Electric Light Orchestra**—Greatest Hits (Jet) 300-095

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**Larry Carlton**—Collection (GRP) 407-825

**Spyro Gyra**—Fast Forward (GRP) 407-817

**Jack DeJohnette**—Parallel Realities (MCA) 407-270

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## Science, Not Magic

**W**HEN I first heard the rumor that green ink painted around the edges of a CD improved fidelity, I ignored it. When I started reading newspaper articles supporting it, I got mad. This kind of irresponsible, get-something-for-nothing attitude is symptomatic of what's ailing America. Too many people are unwilling to work to achieve something. They would rather find a quick and easy fix. That's why businessmen greenmail existing corporations instead of investing in new ventures, why people read their horoscopes rather than assume responsibility for their lives, and why lotteries take in billions.

Okay, I'll get off my soapbox. But it's the same thing with audio. If you want to improve the sound of a playback system, don't look for magic; try a little science instead. For example, instead of worrying about the imaginary subtleties of green ink, maybe people should consider some basic acoustics—such as the way a listening room can cause massive (10-dB) deviations in the frequency response of a playback system.

The listening room is the final link in the music-reproduction chain. Its size, relative dimensions, and construction all influence the playback signal. Even the placement of loudspeakers in the room plays a major role. Given a little insight into acoustics, and a willingness to roll up your sleeves and try

# SIGNALS

by Ken C. Pohlmann

some old-fashioned hands-on experimentation, you can find the right loudspeaker placement for your listening room and greatly improve your system's performance.

In a rectangular room, loudspeakers should usually be placed along the short dimension. This will help to create the proper stereo perspective. The distance between loudspeakers is determined by the distance of your listening position from them. In general, the speakers and your listening position should form an equilateral triangle, with speakers at an angle of 60 degrees. Check the instructions that came with the loudspeakers and temporarily position them according to the manufacturer's suggestions. Depending on their design, that might mean on the floor, off the floor, against the wall, away from the wall, etc. Both loudspeakers should be placed in the same kind of location—for example, both along a flat wall or both in corners. The tweeters should be at ear level, and the loudspeakers should be angled to face your listening position.

Now do some listening to determine a more exact placement of the loudspeakers for optimal results. Speaker position in a room is critical to bass response—by moving the speakers you can help flatten the response. Play a pink-noise source or interstation radio noise (FM hiss) through your system and walk around the room listening for changes in bass level. Now move the speakers a foot or two and listen again. Keep trying until their bass response is as consistent as possible, especially in the primary listening area.

If the sound is deficient in bass, you can compensate by putting the speakers in corners. If you couple each loudspeaker to three boundaries (two walls and the floor), low frequencies are reinforced, boosting bass response. Corner placement could cause the low end to become boomy, however. Conversely, if loudspeakers are bass-heavy, move them away from one or more room boundaries. For example, try putting them on stands.

While you are listening to music, move the speakers—closer to the walls, farther from them, to the left and right. Listen for smooth tonal balance. If you have hard, reflective

floors (wood, vinyl, or ceramic), try placing a thick rug in front of the loudspeakers to absorb sound and thereby weaken floor reflections that can interfere with the direct sound from the speakers, causing response irregularities. Clarity is sometimes enhanced when loudspeakers are pulled away from the wall behind them because reflections from the nearby surface can create similar interference effects. Alternatively, you might try placing sound absorbers on the wall. If the loudspeakers have driver-level or other response-shaping controls, use them to make subtle adjustments. Listen for good stereo imaging; in particular, there should be a solid center image. If speakers are placed too far apart, the width of the stereo image may be exaggerated, weakening the center.

There is no end to the intricacies of acoustics and to the difficulties that sound can experience as it travels through a room on its way to your ears. That's why the acoustical character of your listening room may be

---

**Instead of worrying about the imaginary subtleties of green ink, consider some basic acoustics.**

---

more important than the performance of your audio equipment. A poorly designed room can completely negate the quality of even the finest playback equipment—unless, of course, you listen only through headphones.

With a little understanding of room acoustics, considerable patience, and careful listening, you can tune most rooms to achieve a good listening environment. Start with a book on basic acoustics, then feel free to experiment. Almost any reasoned changes will improve the sound over the perhaps haphazard speaker locations you're now using. Have confidence—you can use real science to improve the performance of your playback system in clearly audible ways. More important, you will have solved a problem, not simply painted over it. □



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# TECHNICAL TALK

by Julian Hirsch

## DAT or DCC?

**T**RUE breakthroughs in audio technology and really *new* products are infrequent, but they do happen every so often. At the recent Winter Consumer Electronics Show in Las Vegas, a new recording/playback medium was officially announced by Philips. For the hi-fi consumer, it may well prove to be the most important development since the arrival of the compact disc about eight years ago.

For several years both the general and the audio press have been extolling the virtues of the digital audio tape (DAT) system and heralding its imminent arrival from Japan. A few of these machines have been reviewed in *STEREO REVIEW*, and they have acquitted themselves very well, although for political reasons the availability of DAT decks in this country was restricted until the development of the Serial Copy Management System (SCMS) to prevent unlimited, multigenerational digital copying from CD's.

Almost from the beginning, I have wondered about the place of DAT in the consumer audio marketplace. True, DAT can provide the same audio quality as the CD, but for the most part this potential will be realized only when making copies of CD's. Few people, audiophiles included, have the opportunity, inclination, or necessary ancillary equipment to do a live recording of the sort that would tax the abilities of a good analog cassette deck. As for copying CD's for use in a car equipped with a DAT player, it is

hard to find any real advantage to DAT that justifies its price and the considerable cost of blank tapes. Since DAT cassettes do not lend themselves to economical mass duplication, there is unlikely to be any sizable repertory of commercially recorded DAT's. It seems to me that DAT is really a medium for the professional or very serious amateur recordist rather than for the mainstream audio market.

Apparently Philips, the giant Netherlands company that created both the compact cassette and the compact disc, came to a similar conclusion. At January's CES, Philips unveiled the Digital Compact Cassette, or DCC. The DCC format is intended to bring digital quality to the average person's home taping at a price comparable to that of today's cassette decks. In addition, it is backward-compatible with analog audio cassettes, which will be playable by DCC machines.

A DCC deck records on (and also plays back) a special cassette, similar in size to today's analog cassettes. Since all DCC machines will have autoreverse operation, a cassette can

be played or recorded in its entirety without its being turned over. The unbroken top surface of a DCC shell can carry album-cover graphics for easy identification. Like a 3½-inch computer floppy disc (or a videocassette), a DCC has a sliding metal cover that protects the tape when it's not in use and automatically slides back to expose the tape when it's loaded into a machine. This eliminates the need for a protective box like that used with conventional cassettes.

The DCC format uses chromium-dioxide tape similar in formulation to VHS videotape but the same width as in today's analog cassettes. The standard length will be a D-90, with 45 minutes in each direction, but Philips says work is under way on longer tapes, up to a D-120 (2-hour) length. The tape moves at the same speed of 1½ inches per second as analog cassette tapes, but the tape head of a DCC

machine is very different from that of today's tape decks. The head is a thin-film design, fabricated much like an integrated electronic circuit. Each half of the head, used for one direction of tape travel, records or reads eight digital record/playback tracks and a ninth track for auxiliary control and display information. A separate analog stereo head is part of the head structure, which turns over automatically when the tape reverses direction.

The DCC recording and playback circuitry features a unique data-compression system, which Philips calls Precision Adaptive Sub-band Coding (PASC), that enables the format to store about four times as much digital information on a tape as would be possible using conventional 16-bit linear PCM encoding.

PASC operation is based on the "masking" effect, whereby strong signals tend to suppress the audibility of weaker signals at nearby frequencies. The PASC circuit constantly monitors the program's frequency and energy distribution, and whenever it determines that certain frequency compo-

nents will not be audible because of masking by stronger signals, it reassigns the digital bits that would have been used for the masked components to different frequencies. The effect of this process (which is considerably more complex than this description suggests) is to provide an effective 18-bit dynamic range,

greater than 105 dB. The rated total harmonic distortion (THD) plus noise is less than -92 dB (0.0025 percent). The DCC system can play back or record at the same sampling frequencies as the DAT format allows, 48, 44.1, or 32 kHz, with respective upper-frequency limits of 22,000, 20,000, and 14,500 Hz.

There is much, much more to the DCC system than I have space to describe, and it will certainly be covered in this magazine and others in the months and years to come. Aside from its obvious advantages of analog com-

### TESTED THIS MONTH

•  
Carver SDA-490t  
Compact Disc Player

•  
Mordaunt-Short  
MS3.30 Speaker

•  
Onkyo TA-2700  
Cassette Deck

•  
Icon Parsec Speaker



# WIMPY CAR STEREO NEED CAR STEREO REVIEW.

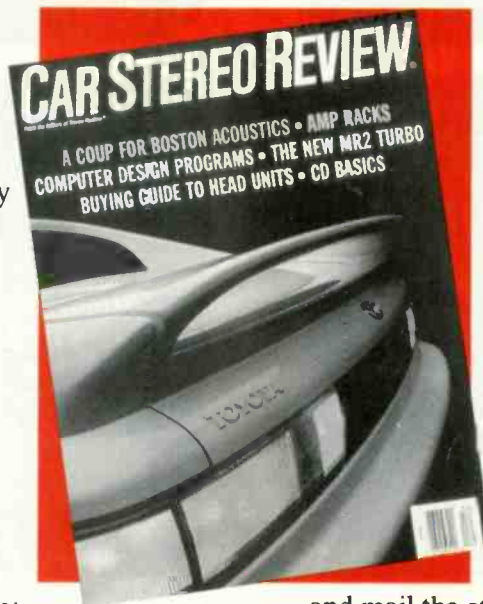
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**CAR STEREO REVIEW** T.M.

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**Inc.** Magazine

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# TECHNICAL TALK

patibility and CD quality, it has the ability to rapidly locate specific portions of a recording (though not as rapidly as with a CD or DAT), and it also has the ability (unlike DAT) to display auxiliary graphic or alphanumeric information encoded on the tape. By no means the least of DCC's attractions is the projected low cost of the machines, comparable to that of a good analog cassette deck, thanks to the mechanical simplicity of its stationary-head design and extensive use of dedicated integrated circuitry.

At a Philips technical meeting at CES, a prototype DCC deck was demonstrated and compared with a CD player. Within the constraints of such a comparison, there were no audible differences between the two (both used the same program material). Even the lowest level of ambience information was preserved in the DCC playback. To demonstrate the special features of the DCC format, a fluorescent display showed not only the usual operating information but also the lyrics of a song as it was being played.

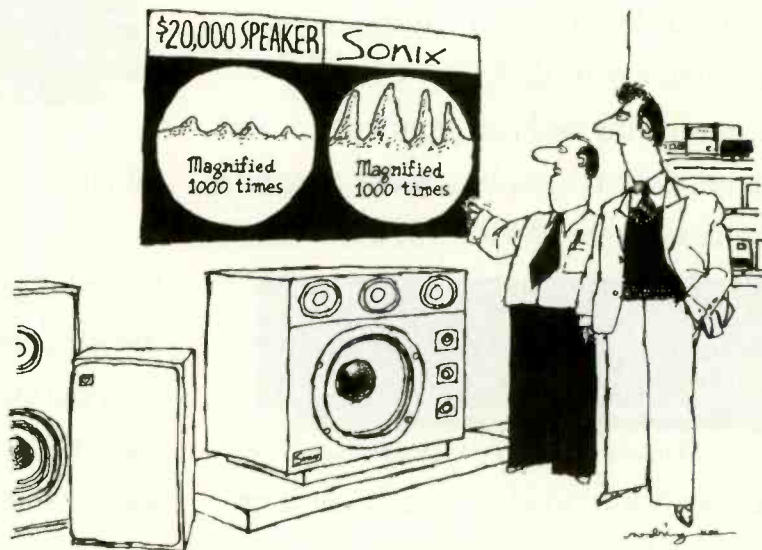
Several recording companies, including PolyGram, EMI, and BMG, have shown interest in issuing recordings in the DCC format when it becomes available. Since, unlike DAT's, prerecorded DCC's can easily be duplicated at high speed, they will probably be priced comparably to ordinary analog cassettes. Tandy Corporation

is the first company to be licensed to develop and market DCC hardware, and a large Japanese manufacturer is said to be involved as well. Philips expects DCC machines to be available in 1992. They will incorporate the

**At the Consumer Electronics Show, a prototype Digital Compact Cassette deck was demonstrated and compared with a CD player. Within the constraints of such a comparison, there were no audible differences.**

same SCMS copy-protection scheme now used in DAT machines.

It is unfortunate, perhaps, that DCC did not precede DAT, but what I saw and heard at the DCC demonstration in Las Vegas convinced me that this is the way to go in advancing home tape recording into the digital age. It offers the best of both worlds at an affordable price. We'll be hearing more about it in the months to come. □



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# TEST REPORTS



## Carver SD/A-490t Compact Disc Player

Julian Hirsch, Hirsch-Houck Laboratories

**T**HE Carver SD/A-490t, a full-featured CD player, offers an unusual combination of the new and the old in audio technology. For example, it uses the latest in 1-bit MASH digital-to-analog (D/A) conversion, yet its analog output stages are vacuum tubes, a 6DJ8 double-triode amplifier for each channel. The advantages of 1-bit D/A conversion are well known, including excellent linearity at the lowest signal levels and a correspondingly wide dynamic range. According to Carver, the vacuum tubes give the player "the warm, melodious sound that is typical of tube technology."

The SD/A-490t also incorporates Carver's Soft EQ circuit (formerly called the Digital Time Lens). This switchable circuit slightly modifies the player's frequency response and re-

duces the ratio between difference (L - R) and sum (L + R) signals in the program. Carver claims that the Soft EQ processing produces a more pleasing sound from many discs, especially early releases that were mastered by engineers accustomed to working with vinyl records.

The SD/A-490t can be programmed to play up to twenty-four tracks in any selected order or in a random order. A group of small buttons below the display window provides direct access to any track up to No. 21. A music calendar shows the numbers of the unplayed tracks (to a maximum of twenty). The display normally shows the current track and index numbers and the elapsed time on that track, but it can be switched to show remaining time on the track or disc. The display window also indicates when any of the

SD/A-490t's special features are being used.

Other features include repeat of the entire disc, any programmed track sequence, or any defined segment. A fader button smoothly lowers the playback level to zero in 2 to 10 seconds (the time is adjustable), then puts the player into pause mode. Touching the button again resumes playback from the point where it paused, with a smooth fade up to the original level setting. For efficient dubbing of CD's, the SD/A-490t has an Edit feature to select the tracks that will fit optimally onto a C-46, C-54, C-60, or C-90 cassette. It can also be set for any other desired time span, and you can do some things with it that you can't with similar features in other players. For example, you can specify some tracks you want on the tape and let the SD/A-490t figure out the best way to fill the rest of the cassette.

The transport controls are at the right of the display window. The pause/stop button selects those modes on successive operations (pressing the play button restores normal operation), and the pairs of scan and skip buttons operate conventionally, with a

# TEST REPORTS

faster speed when a button is held down.

At the right of the panel is a large level knob that affects the variable analog outputs on the rear apron and at the headphone jack. To the left are a large, square power button and a small STAND BY button with a red LED. Engaging the latter control keeps the heaters of the output tubes energized constantly at a reduced voltage in order to provide a fast turn-on after the main power switch is activated (otherwise a warm-up of perhaps 30 seconds is required before a disc can be played).

The infrared remote control furnished with the SD/A-490t duplicates all of its front-panel functions except for power switching, drawer open/close, Edit/Time Fade, and Time Set. The player's rear apron has, in addition to the variable-level outputs, conventional fixed-level analog output jacks and both coaxial and optical digital outputs.

The Carver SD/A-490t measures 19 inches wide, 12¼ inches deep, and 3¾

inches high. Finished in black, it weighs 9 pounds. The front panel is fitted with sturdy handles. Price: \$700. Carver Corp., Dept. SR, 20121 48th Ave. W., P.O. Box 1237, Lynnwood, WA 98036.

## Lab Tests

The SD/A-490t's maximum open-circuit output (from a 0-dB-level, 1,000-Hz test track) was 2.55 volts, somewhat higher than the standard CD player output of 2 volts. The player produced excellent volume levels with medium-impedance AKG K340 headphones. The maximum variable output was identical to the fixed output. Interchannel phase shift was very low in the midrange but reached about 20 degrees at 20 Hz, 16 degrees at 20,000 Hz, and 8 degrees at 10,000 Hz. Channel separation was 90 dB at 100 Hz, 97 dB at 1,000 Hz, 87 dB at 10,000 Hz, and 78 dB at 20,000 Hz, and channel imbalance was less than 0.01 dB. The A-weighted signal-to-noise ratio (S/N) was 106.3 dB, and the dynamic range was approximately 95 dB.

The player's frequency response was flat within  $\pm 0.05$  dB from 20 to 7,000 Hz, rising to a maximum of +0.2 dB at 16,000 Hz before dropping off above 20,000 Hz. With Soft EQ activated, the output rose below 600 Hz and fell above that frequency. The low-frequency portion leveled off at about +1.2 dB below 200 Hz, and the high frequencies were down 1 dB above 2,000 Hz.

Carver's specifications for the SD/A-490t include total harmonic distortion (THD) of 0.5 percent at 1,000 Hz. Although this is considerably higher than the 0.002- to 0.003-percent ratings typical of conventional CD players, it is still negligible from a listening standpoint. Our measurements showed THD of 0.1 percent at 0 dB, decreasing to 0.01 percent at -20 dB and 0.006 percent at -30 dB. As we have come to expect of players using 1-bit D/A converters, the SD/A-490t's low-level linearity was superb, with an error of only 0.2 dB at -90 dB.

The heaters of the 6DJ8 tubes are operated from a DC supply to minimize hum and noise. The heater voltage was 5.7 volts, somewhat lower than the tubes' rated 6.3 volts, presumably also in order to reduce the noise contributed by a vacuum-tube stage. In the standby mode, the voltage was further reduced to 4.6 volts. The plate voltage of the tubes (each was used as a direct-coupled amplifier and cathode-follower) was less than 62 volts.

The SD/A-490t was fairly insensitive to impact, requiring a firm slap on the top or sides to cause momentary mistracking. Its error correction was satisfactory though not exceptional. It played the 1,000-micrometer defects of the Pierre Verany #2 test disc with only a slight mistracking, but it definitely mistracked at 1,250 micrometers. The laser pickup's slewing time was average, requiring 3 seconds to go from Track 1 to Track 15 of the Philips TS3 test disc.

## Comments

In normal operation and listening, the Carver SD/A-490t was everything we would expect from a top-quality CD player. Although its measurements did not push the state of the art (already at "overkill" levels in many respects) to new limits, it was not deficient in any significant way.

Two features of this distinctive

## FEATURES

- ▶ 1-bit MASH D/A conversion
- ▶ Programmable for up to twenty-four tracks
- ▶ Vacuum-tube output stages
- ▶ Soft EQ (Digital Time Lens) circuit
- ▶ Random play
- ▶ Full-function random-access remote control (motorized volume knob)
- ▶ Automatic Edit function to select optimum track sequence
- ▶ Variable-length fade (2 to 10 seconds)
- ▶ Fixed- and variable-level analog outputs; coaxial and optical digital outputs

## LABORATORY MEASUREMENTS

**Maximum output level:** 2.55 volts

**Total harmonic distortion** at 1,000 Hz: 0.1% at 0 dB, 0.01% at -20 dB, 0.006% at -30 dB

**Signal-to-noise ratio** (A-weighted): 106.3 dB

**Channel separation:** 90 dB at 100 Hz, 97 dB at 1,000 Hz, 78 dB at 20,000 Hz

**Maximum interchannel phase shift:** 20 degrees at 20 Hz, 16 degrees at 20,000 Hz

**Frequency response:** +0.2, -0.05 dB, 20 to 20,000 Hz

**Dynamic range** (A-weighted, average of both channels): 95 dB

**Linearity error:** 0.2 dB at -90 dB

**Slewing time:** 3 seconds

**Cueing accuracy:** A

**Impact resistance:** top, B; sides, B

**Defect tracking:** tracked 750-micrometer errors on Pierre Verany #2 test disc; very slight mistracking of 1,000-micrometer errors



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## TEST REPORTS

player merit special comment. The Soft EQ circuit is supposed to reduce the harshness of some CD's. (In our experience, harsh-sounding discs have been mostly very early releases.) Being switchable, the function's effect is easy to assess. With most discs we tried, it was negligible, but a few were noticeably improved, with a slight softening of their "edginess" and a more mellow quality. On the other hand, really good recordings could just as easily have their brilliance and

**With most CD's we tried, the effect of the Carver SD/A-490t's Soft EQ circuit was negligible, but a few were noticeably improved, with a slight softening of "edginess" and more mellow quality.**

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definition diminished by Soft EQ processing, so it's good that the feature is switchable.

The second special aspect of the SD/A-490t is its use of vacuum-tube output stages. One obvious and measurable result is a nearly hundredfold increase in distortion at maximum output level. Such distortion is typical of vacuum-tube amplifiers without heavy negative feedback, but in practice it means nothing, and the distortion we measured from the SD/A-490t was totally inaudible (being limited to low-order harmonics).

A more pertinent question concerns the audible *benefits* of tubes. It is largely a matter of faith: If you believe that vacuum tubes have some magical quality, you may hear it. I do not and did not. On the other hand, the tube stages had no flaws that I could hear or measure. Their DC heater supply and low operating voltages reduce their contribution to the player's output quality to a slight measured distortion at maximum level; there was no audible noise or hum.

The bottom line is that the Carver SD/A-490t is a very good CD player with a full complement of features that also happens to use vacuum tubes in its output circuits. □



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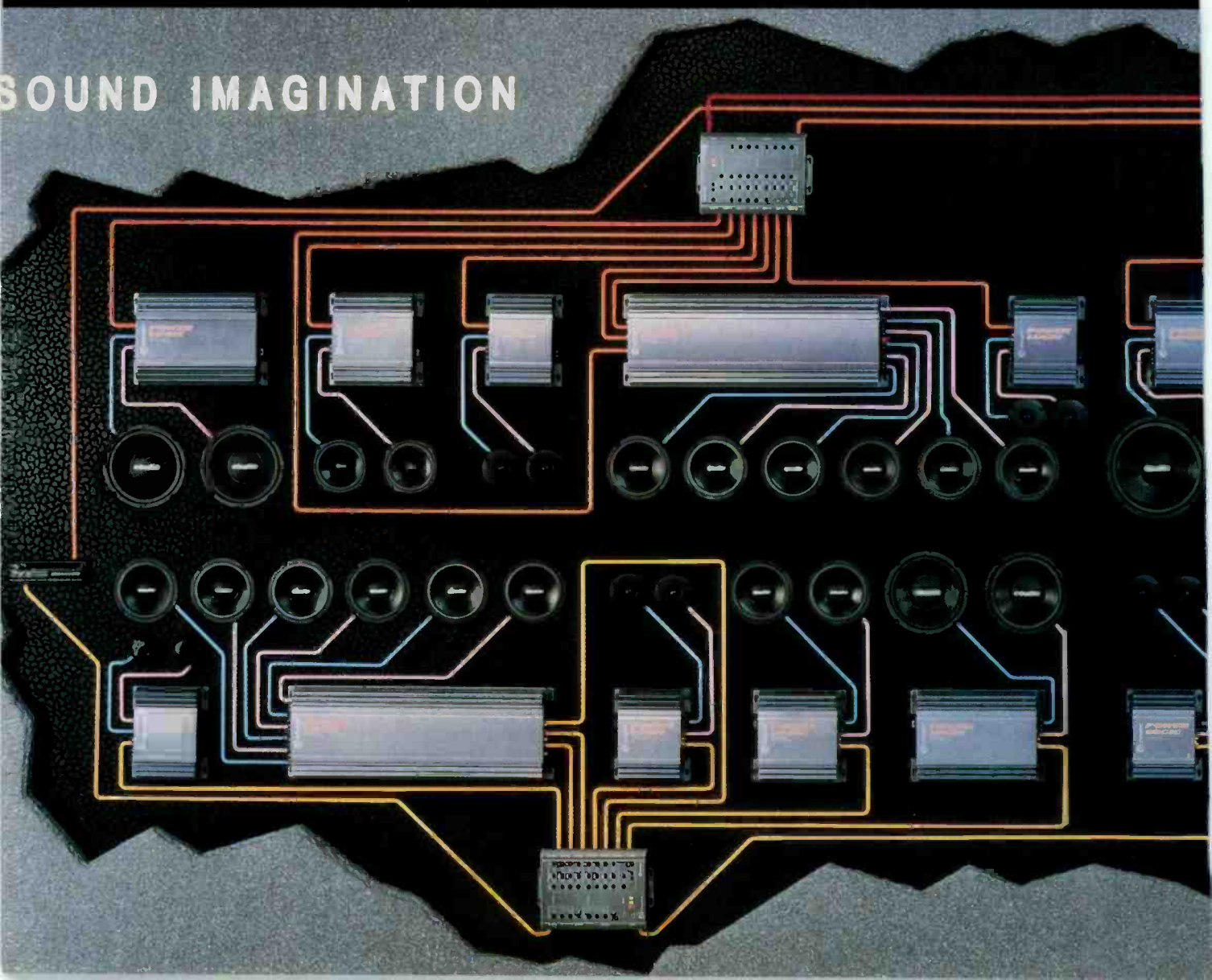
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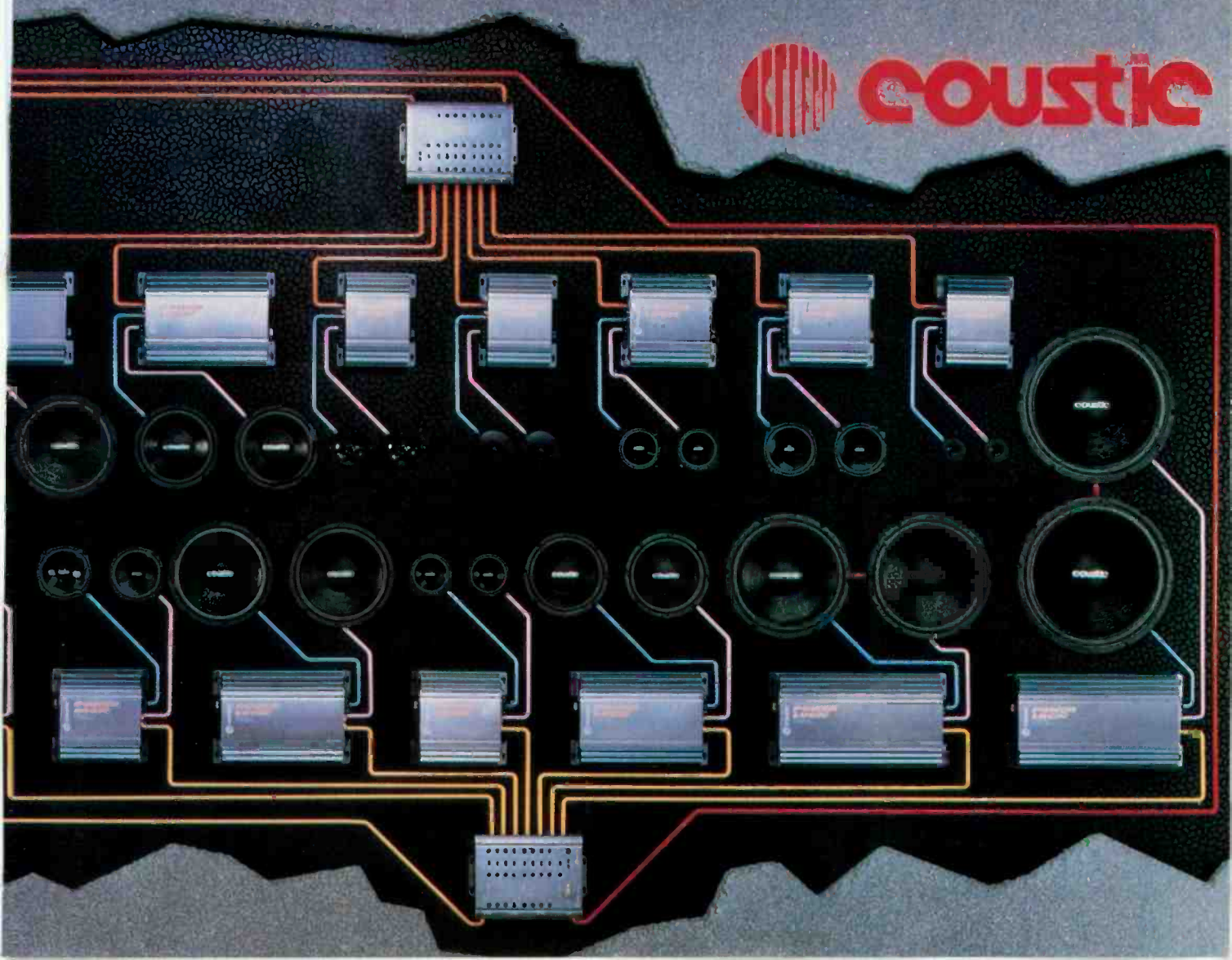
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# TEST REPORTS



## Mordaunt-Short MS3.30 Speaker System

Julian Hirsch, Hirsch-Houck Laboratories

**A**S Mordaunt-Short succinctly describes it, the MS3.30 loudspeaker is a "medium-sized vented system with front-facing reflex port, intended for use on floor stands, in small to medium-sized listening environments." To this can be added that it is a two-way system, with an 8-inch woofer and a 1-

inch dome tweeter, and that it is affordably priced.

In common with many other products, however, especially speakers, there is a lot more to the MS3.30's design and construction than can be conveyed by such a brief description. The particleboard cabinet (about  $\frac{5}{8}$  inch thick) has a two-layer, injection-

molded front baffle made of a polypropylene-based plastic. The baffle is light in weight, with molded internal ribs to control vibration. Considerable care has been taken to minimize diffraction by rounding the side edges of the baffle and fitting rubber rings around the driver frames, effectively eliminating any discontinuity at the junction with the front panel. The frameless cloth grille, with elastic sewn into its edge, is retained by inserting its edge into a groove around the periphery of the cabinet.

The nominally 8-inch bass driver, which has an actual cone diameter of  $6\frac{1}{2}$  inches, is constructed on a die-cast aluminum basket. Its 32-millimeter-diameter voice coil is wound on an aluminum former and bonded with high-temperature resin. The cone is formed of polypropylene, with a synthetic rubber surround and an injection-molded dust cap bonded directly to the voice coil.

The woofer was designed to have a natural response rolloff above its pass-band, eliminating the need for a low-pass filter section in the crossover network. This omission of the usual series inductor is also said to improve the driving amplifier's electrical damping effect on the woofer.

The 1-inch aluminum tweeter dome is supported by a polyamide suspension. Magnetic fluid in the voice-coil gap stabilizes and damps the dome's motion and improves heat transfer from the voice coil to the magnet system. The tweeter dome is said to operate as a piston well beyond audible limits, with its lowest break-up mode occurring at 25,000 Hz. As with the woofer, the crossover components have been reduced to a minimum, with only a single polypropylene capacitor in series with the tweeter voice coil.

To protect the system from damage by overdriving, each driver has a Positec device (a type of bistable resistor) in series with its voice coil. Normally, these have a very low resistance and do not affect the speaker's performance. When an excessive signal voltage is applied, the resistance of the Positec device increases rapidly and reduces the current through the voice coil to a safe value. When the overload



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is removed, the resistance quickly falls to its original value.

The MS3.30 was designed for optimum performance with the cabinet placed from a few inches to a foot in front of a wall, at least 18 inches from a side wall, and high enough to place the woofer axis (near the top of the cabinet) approximately at the listener's ear level. Mordaunt-Short makes a novel speaker stand, whose height is adjustable over a wide range, that can be used with any of the five speakers in the MS3 series (the MS3.30 falls midway in the line).

The MS3.30's specifications include a frequency response of 60 to 22,000 Hz, a sensitivity of 90 dB, and a nominal 8-ohm impedance. It can be used with amplifiers rated between 15 and 300 watts per channel, although the suggested upper limit is about 100 watts. Gold-plated multiway binding posts that accept dual banana plugs are recessed into the rear panel. Each speaker measures 18 inches high, 9 $\frac{1}{4}$  inches wide, and 10 $\frac{3}{4}$  inches deep and weighs 18 pounds. The cabinet is available in black-ash or rosewood vinyl laminate, with a black front panel and grille. Price: \$459 a pair; MS3.1S stands, \$129 a pair. Mordaunt-Short/TGI, Inc., Dept. SR, 1225 17th St., Suite 1430, Denver, CO 80202.

## Lab Tests

We installed the MS3.30 speakers on the MS3.1S stands at their full height of 21 $\frac{1}{2}$  inches. Although the manufacturer supplied response measurements run on our samples of the MS3.30, we found very little correlation between those data and our own. Clearly, the test environments and conditions were quite different.

Our composite response curve was very smooth through the bass and midrange, varying only  $\pm 2$  dB from 50 to 2,000 Hz. At higher frequencies the response, though still very smooth, sloped downward by about 5 dB from 2,000 to 10,000 Hz and then rose by about 3 dB from 10,000 to 20,000 Hz. The curves plotted from the left and right speakers had almost identical shapes, although the right speaker's output, measured 30 degrees off-axis, was 3 to 5 dB lower than the on-axis output from the left speaker over the range from 1,500 to 20,000 Hz. This result is fairly typical, representing the speaker's increasing directivity at high frequencies.

Mordaunt-Short does not specify the system's crossover frequency, but the company's test data suggest that it is about 4,000 Hz. No clear evidence of a crossover was visible in our measurements. The bass response (close-miked) was flat within  $\pm 1$  dB from 85 to 600 Hz, with irregularities appearing at higher frequencies because of interference from energy received from different parts of the cone. At low frequencies, the output sloped off at 6 dB per octave below 60 Hz, to  $-11$  dB at 20 Hz.

Quasi-anechoic response measurements made with the IQS FFT system essentially confirmed the room-response measurements in respect to the downward-sloping high-frequency re-

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**The Mordaunt-Short MS3.30 speaker proved to have exceptional imaging qualities. The vertical imaging was among the best we have heard from any speaker.**

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sponse. Similarly, the horizontal-dispersion measurements over a 45-degree angle followed the pattern we had observed in the room response. The curves measured on-axis and at 45 degrees off-axis were very similar except for their levels, which differed by 5 or 6 dB over the full range from 1,000 to nearly 20,000 Hz. The tweeter resonance at 28,000 Hz caused a rise in output above 20,000 Hz, to a maximum of +12 dB, followed by a sharp 22-dB drop at 29,000 Hz. Group delay was constant within 0.1 millisecond (ms) from 3,000 to 20,000 Hz, but this variation increased to 0.4 ms or more at several frequencies within the woofer's operating range.

The minimum system impedance was about 7.3 ohms at several frequencies between 180 and 400 Hz and between 15,000 and 20,000 Hz. The maximum of 22 ohms occurred at 73 Hz.

The MS3.30 had a sensitivity of 91 dB sound-pressure level (SPL) at 1 meter with an input of 2.83 volts (equivalent to 1 watt into 8 ohms), slightly higher than the rated 90 dB. Distortion at a 2.55-volt drive level

(corresponding to a 90-dB SPL) was between 0.4 and 0.5 percent from 100 to 2,000 Hz, rising to 1 percent at 4,000 Hz. The output from the port predominated below 80 Hz, and its distortion rose from 1 percent at 80 Hz to 20 percent at 40 Hz.

A single-cycle tone burst at 100 Hz produced a loud rasping sound at a level of 355 watts into the speaker's 12-ohm impedance at that frequency. This signal apparently was not sustained long enough to trip the Positac protection, and it did not harm the speaker in any way.

## Comments

With some program material, the MS3.30's sound had a slightly bright quality that seemed inconsistent with the shape of its response curve. Sometimes this quality was heard as a "presence," or forward character, to the sound, which is usually associated with an *increased* output in the upper midrange. Most of the time, however, it was not obtrusive and would not be noticed except in comparison with speakers not possessing it. We found the MS3.30 to be a pleasant-sounding, always listenable speaker, easily able to hold its own (or better) in a comparison with other speakers in or not too far above its modest price range.

Compensating in some measure for its brightness, the MS3.30 proved to have exceptional imaging qualities, as demonstrated by the Chesky "Jazz Sampler" CD. Not only did it have excellent left/right imaging, but its vertical imaging was among the best we have heard from any speakers playing that disc.

The Mordaunt-Short stand is unusual, being composed of a number of small modules ("vertebrae") that can be stacked to form a column ("spine") to support any Mordaunt-Short MS3 series speaker at a height from a few inches to 21 $\frac{1}{2}$  inches off the floor. The three-point base can be fitted with flat support feet or adjustable spikes (we chose the feet). Although the support column had some lateral flexibility, as befits a spine, it appeared to be very rigid on its vertical axis. At any rate, it was an ideal support for the MS3.30 speaker, which screwed firmly to its top plate.

In sum, then, the Mordaunt-Short MS3.30 is a fine value in its price range and altogether a very satisfying speaker to listen to and live with. □



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# TEST REPORTS



## Onkyo TA-2700 Cassette Deck

Craig Stark, Hirsch-Houck Laboratories

**A**CHIEVING better than average performance for a lower than average price seems to have been the plan for the new Onkyo TA-2700 cassette deck. It has three motors, three heads, a dual-capstan transport, Dolby B and Dolby C noise-reduction systems, Dolby HX Pro headroom extension, and a user-adjustable bias control. What the machine lacks are mostly frills, features that would boost its price without improving its sound or ease of use.

The TA-2700's three-head design enables instant comparison between the input signal and the recorded result. Record and playback elements are housed in a single casing, but their separate head gaps enable each to be optimized for its function: a wide gap

for recording and a narrow one for playback. The heads are made of hardened Permalloy, which combines adequate wear-resistance with good playback linearity, and their coils have oxygen-free-copper windings.

The transport's dual capstans are belt-coupled to a DC servomotor; a second DC motor turns the cassette reel hubs. A third motor is used to swing the head assembly against the length of tape isolated between the two capstans (which minimizes wow and flutter).

The cassette well has no interior illumination, though a reflective surface behind the tape reels makes it possible to gauge roughly the amount of tape remaining on a side. Cassette labels are not visible through the window in the door. The back of the door

contains a spring-loaded stabilizer mechanism and a pair of resilient pads to damp out any mechanical vibrations that might otherwise be transmitted to the tape. The door is removable for routine cleaning of the heads and capstans, though access to them is a little more difficult than in older Onkyo cassette decks that lacked the stabilizer mechanism.

The TA-2700's central fluorescent display panel can be viewed either at normal or reduced brightness and can even be switched off altogether. Signal levels are shown on a pair of fifteen-element peak-holding displays calibrated from  $-30$  to  $+10$  dB. Dolby level is not specifically marked, but we were delighted to find that it corresponded to a 0-dB indication.

A four-digit electronic display reads out either the elapsed or the remaining time on a side. (For the remaining-time indication, you press a button for the cassette length being used.) The display panel also shows whether the source or the tape is being monitored and which noise-reduction option (if any) has been selected. Since the Dolby HX Pro headroom-extension



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# TEST REPORTS

## FEATURES

- ▶ Separate recording and playback heads
- ▶ Closed-loop, dual-capstan transport
- ▶ Dolby B and Dolby C noise reduction
- ▶ Dolby HX Pro headroom extension
- ▶ User-adjustable bias control
- ▶ Bidirectional music search
- ▶ Fifteen-segment-per-channel, peak-holding level indicators
- ▶ Dimmer control for display
- ▶ Four-digit electronic elapsed-time or remaining-time indicator
- ▶ Full or block memory repeat
- ▶ Infrared remote control
- ▶ Switchable stereo-FM multiplex filter
- ▶ Front-panel headphone jack
- ▶ Switchable for external timer operation

## LABORATORY MEASUREMENTS

**Fast-forward time (C-60):** 71 seconds

**Rewind time (C-60):** 71 seconds

**Speed error:** +0.08%

**Dolby tracking error:** Dolby B, +0.7, -1 dB; Dolby C, +1.5, -2 dB

**Wow-and-flutter:** 0.039% wrms, 0.075% DIN peak-weighted

**Line input for indicated 0 dB:** 85 mV

**Line output at indicated 0 dB:** 0.59 volt

**Meter indication at IEC-standard 0 dB:** +2 dB

▶ **Tape: TDK AD (Type I, ferric)**

**IEC 0-dB distortion:** 0.50%

**Meter indication at 3% THD + N:** +5 dB

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

	Unwt.	A-wtd.	CCIR/ARM
NR off	55.2	59.7	56.3
Dolby B	62.9	69.4	66.8
Dolby C	66.2	77.3	77.7

▶ **Tape: TDK SA (Type II, chrome-equivalent)**

**IEC 0-dB distortion:** 1.11%

**Meter indication at 3% THD + N:** +5 dB

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

	Unwt.	A-wtd.	CCIR/ARM
NR off	57.4	62.4	59.4
Dolby B	62.8	71.5	69.8
Dolby C	65.8	79.8	81.0

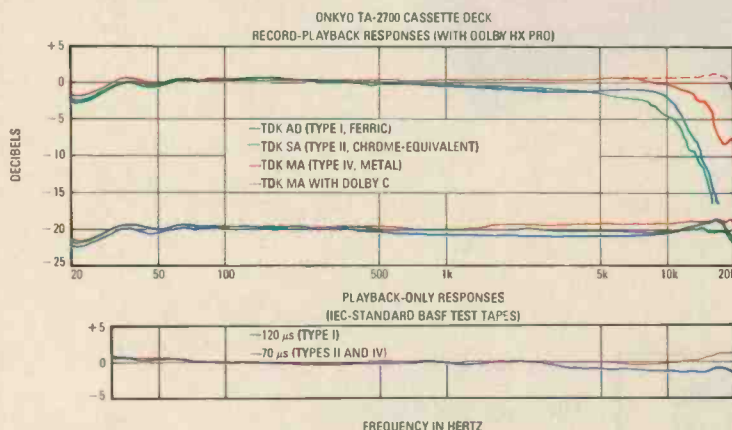
▶ **Tape: TDK MA (Type IV, metal)**

**IEC 0-dB distortion:** 0.96%

**Meter indication at 3% THD + N:** +7 dB

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

	Unwt.	A-wtd.	CCIR/ARM
NR off	57.8	61.8	58.4
Dolby B	62.7	71.0	68.8
Dolby C	67.2	79.8	80.4



system operates only during recording and does not require any corresponding playback processing, it is not switchable.

The deck sets bias and equalization automatically for the tape type in use based on standard identifying cutouts in the rear of the cassette shell. Since the optimum recording bias varies somewhat among cassettes within the same type, the TA-2700 also provides a user-adjustable Accubias control. The manual contains a table of recommended settings for many cassette brands and formulations. Proper bias can also be determined fairly accurately by ear by recording a treble-rich source such as FM interstation hiss. Use a low recording level (-10 dB or below) and switch back and forth between tape and source, adjusting the bias control to minimize the difference between them.

The TA-2700 has an Automatic Music Control System (AMCS) that enables it to move rapidly in either direction to the next recorded selection. The user can preview the first few seconds before deciding whether to let the deck switch into play mode. The system also permits either the full side or a specific part of it to be repeated automatically as many as five times.

A switchable multiplex (MPX) filter is included to remove any residue of the 19,000-Hz stereo-FM pilot tone when recording with Dolby noise reduction from a tuner or receiver with inadequate internal filtering. The customary three-position switch for operating the deck from a timer is also provided. The TA-2700 does not, however, provide playback level controls either for its main outputs or for its front-panel headphone jack. Recording levels are set with a single large control and a supplementary input-balance control.

The Onkyo TA-2700 measures 17½ inches wide, 5½ inches high, and 13½ inches deep, and it weighs 15 pounds. Price: \$480, including infrared remote control. Onkyo U.S.A. Corp., Dept. SR, 200 Williams Dr., Ramsey, NJ 07446.

## Lab Tests

Our BASF IEC-standard playback calibration tapes showed that the TA-2700's playback frequency response varied by less than ±1 dB from 20 to 20,000 Hz. Our center-line sample of TDK MA (Type IV, metal) showed



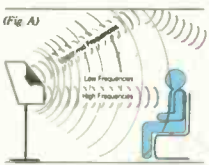
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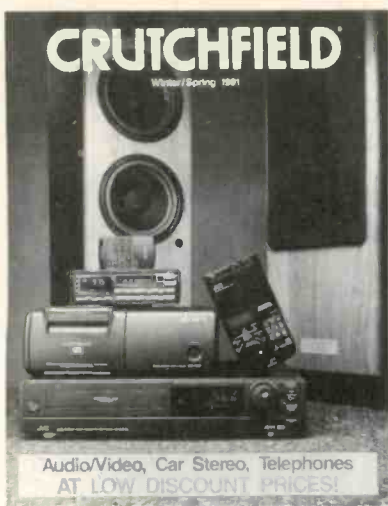
FIG. C.



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## TEST REPORTS

equally flat overall record-playback response to 20,000 Hz at the customary -20-dB measurement level. Indeed, using Dolby C (which has a built-in antisaturation equalization curve for high-level treble frequencies), the overall response was almost as flat at a 0-dB level. Samples of both TDK AD (ferric) and TDK SA (chrome-equivalent) showed a slight rolloff above 18,000 Hz, but this was both within specification and audibly inconsequential.

The TA-2700's level indicators read +2 dB at the IEC-standard 0-dB level of 250 nanowebers per meter, which is a good choice for today's cassette tapes. Total harmonic distortion plus noise (THD + N) reached 3 percent at indicated readings of +5 dB for the ferric and chrome-equivalent tapes and at +7 dB for the metal-particle cassette. At this distortion level and with Dolby C noise reduction, the A-weighted signal-to-noise ratio (S/N) was 77 dB with TDK AD and very nearly 80 dB with TDK SA or MA, which is excellent performance for any cassette deck.

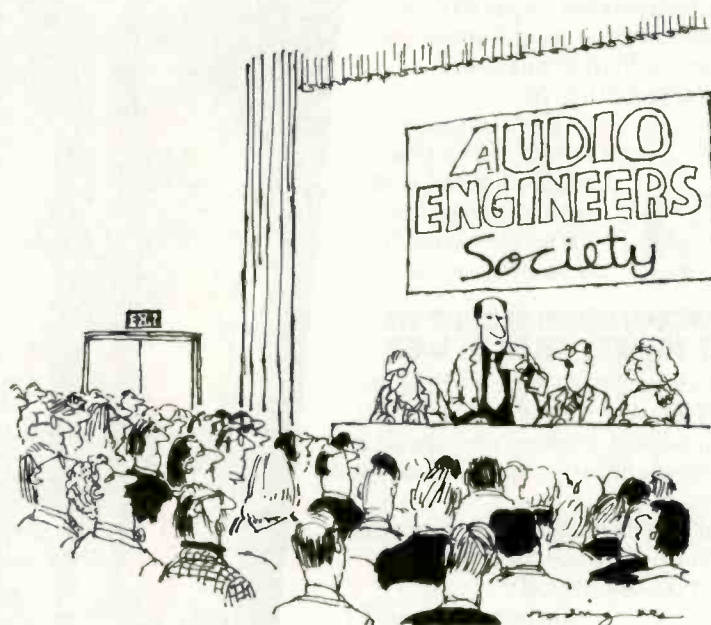
Speed was accurate to within 0.08 percent, which is excellent. The wow-and-flutter measurements of 0.039 percent weighted-rms and 0.075 percent IEC peak-weighted were good though not outstanding. High-speed

winding times were average, and the input and output levels were entirely normal. Dolby encoding errors were extremely low.

### Comments

The Onkyo TA-2700 is certainly a comfortable deck to use. Its knobs are large and have a solid, smooth feel, and its display, even when dimmed halfway, is quite legible. The transport mechanism is entirely silent, and in our tests cassette handling in all modes was sure. The deck lacks such finishing touches as a power-assisted door and automatic take-up of tape slack on loading, but omission of these luxuries helps keep the price moderate.

The TA-2700's sound quality was also extremely good, with smooth frequency response and (with Dolby C) inaudible distortion and noise. Stereo imaging was solid. If I were to find a fault, it would be that there seemed to be a slight loss of the "air" around the individual instruments in a group. The sound stage was not shifted, putting one instrument acoustically on top of another, but it was very slightly narrowed. Nonetheless, the difference between source and tape was so slight that the TA-2700 compared favorably with decks we have tested that cost very much more. It's an excellent performer and an outstanding value. □



"... The resolution is adopted—power amplifiers shall have rack handles only when rated output is at least 150 watts total stereo, 40 watts mono."





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# A System That Thinks.

AV COMPU LINK

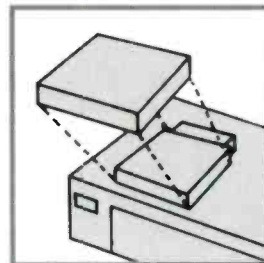
JVC innovation has led the way in high quality audio and video components for more than 60 years. But these components have always been separate, discrete elements in a system. Until now. Because JVC has connected these components by computer with the COMPU LINK control system, so that they "talk" to each other. The result is an extremely sophisticated, fully integrated system that redefines convenience.

With COMPU LINK components, when you press "play" on any source component, the receiver "knows" that's what you want to hear and switches to that source automatically. When you choose the source from your receiver, the chosen component will start to play, automatically. It just takes one touch.

COMPU LINK also synchronizes recording from CD's or records to tape. When recording from a CD, if you set the cassette deck on "record-pause" and then program the CD selections you want to record, when you press "play" on the CD player, the cassette deck will automatically start recording exactly what you want.



With JVC's Home Audio Station you can connect your Personal CD Player to this interactive system in a snap, without any wires to worry about.



Just slip the player into the station and you're ready. And while you listen to music, the station is recharging the batteries.





## A System That Knows What You Like

COMPU LINK knows not only which component you want to hear, it remembers how you want to hear it. CSRP—COMPU LINK Source Related Presetting—stores your own preset preferences for different parameters such as Volume, Balance, Loudness, Equalization, Front and Rear Channel Levels, Dolby Surround On/Off, and Hall Surround Effects for each source component. So when you switch from playing the tape deck to the CD player, with just one touch all the parameters change in harmony with your listening tastes.

## Smart Dubbing

When you want to record from CD to tape, the system also sets the optimum recording level with just one touch. With DDRP—Dynamics Detection Recording Processor—the CD is scanned for peak levels in a matter of seconds. So every tape you dub from a CD is perfect, with the widest possible dynamic range.



REPRINTED FROM DECEMBER 1990

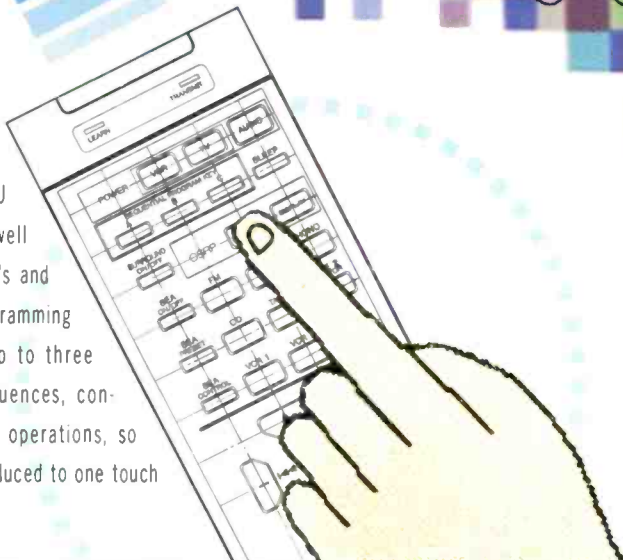
### Stereo Review

### TEST REPORTS

.....One, marked DDRP, for Dynamics Detection Recording Processor, is unique in our experience. When the XL-Z431 is connected to a compatible JVC cassette recorder for making copies of CD's, the DDRP automatically scans the disc for a selected portion for its highest peak level and

sets the CD player's output and the cassette deck's recording level so that this peak will not exceed the maximum capability of the recorder and the tape. When the search is completed—it takes about 2 minutes for a 40-minute recording time—the recording process begins automatically.....

The unified AV Remote Control allows you to control all COMPU LINK components as well as JVC's full line of TV's and VCR's. Sequential programming allows you to store up to three different command sequences, consisting of up to 16 key operations, so that each function is reduced to one touch convenience.





Slip in the CD magazine and six discs are ready to play. Program the magazine for the sequence you want. And with the XL-M705 you can even store the program in the magazine memory to play the same sequence automatically every time.



The convenience of carrying a magazine instead of six jewel boxes is obvious. Even when you just want to listen to one disc, slipping a magazine into a changer is more convenient than taking CD's out of jewel boxes.

Pack a magazine full of CD's in your briefcase, even if you do take them out individually to play in your personal CD player, it's more convenient than a case full of jewel boxes.

# Go.

## Music Systems For People On The Move

JVC's six disc magazine system is the smartest way to take the music to wherever you're going. It slips into JVC CD changers, for your home, car, and personal use. There's nothing more convenient.



There's no fumbling at the wheel with jewel boxes—the CD magazine slips right in and plays six discs in order or according to your personal preferences.







Our new UX-1 takes the high quality audio system to micro size, with components no wider than that of a personal CD player. Its Hyper-bass technology offers a depth of sound you'd never expect from speakers this small. Your eyes just won't believe your ears.



# Home.

## Music Systems For The Way You Live

JVC makes music systems for every environment, and for every family member. Whether it's a system no wider than a CD jewel box that can still deliver full hi-fi sound, or one that can turn your den into a concert hall, we've got a system that's just right for the way you live, and listen.

JVC's compact MX-70 offers flexibility of arrangement—components can be stacked vertically or horizontally. Any way you stack them, MX-70 components stack up to the challenge of today's digital sound dynamics.



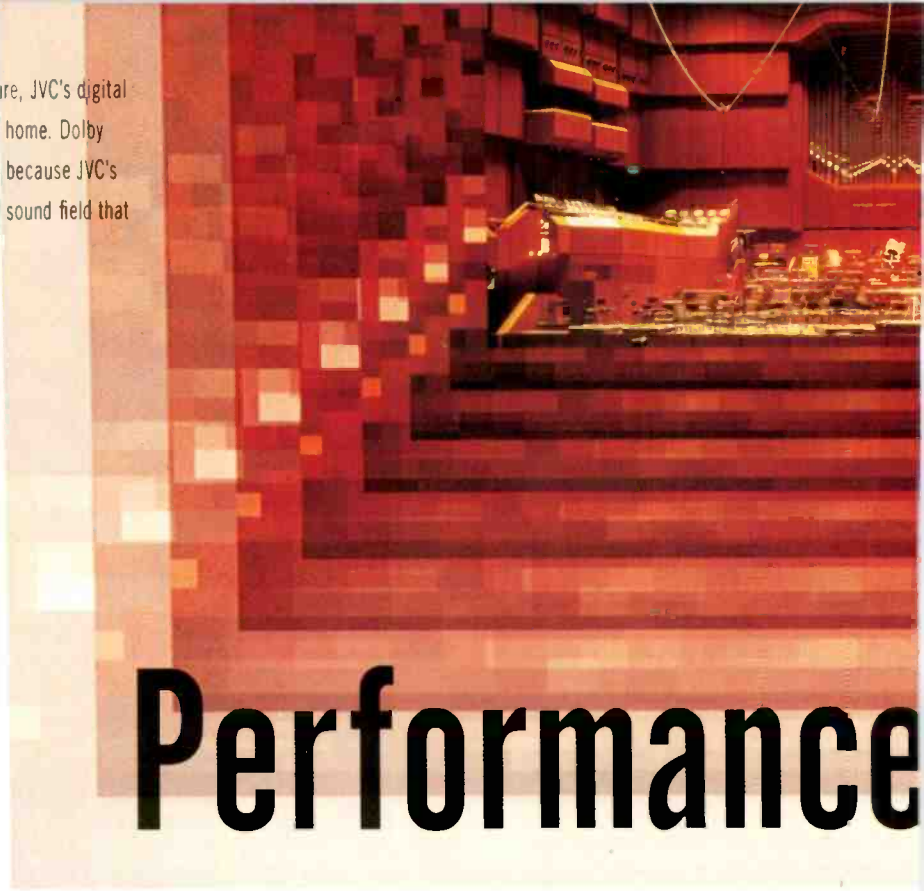
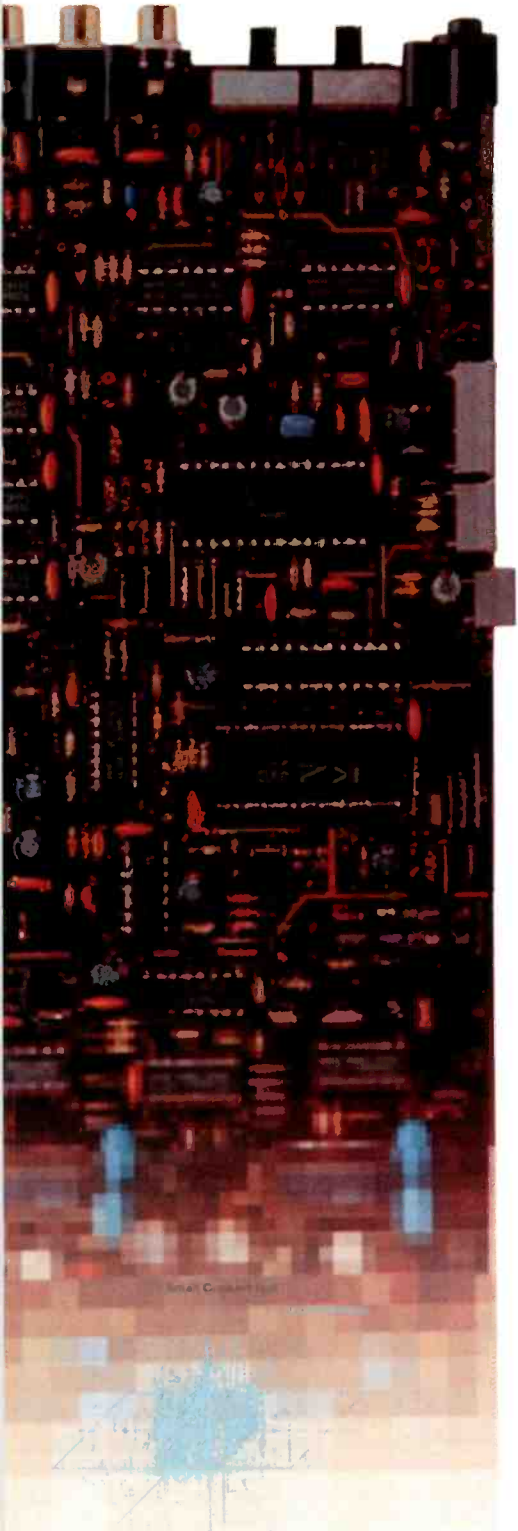
The PC-X1000 is no larger than a desktop computer, but don't let its size fool you. With a 6-disc auto changer CD, dual cassette decks, and Live-Effex—a JVC exclusive that widens the sound field for a concert hall ambience—this is a system for the discriminating digital enthusiast. The PC-X1000 also provides a home for your six-disc magazine no matter where you go.



The XL-P50 and XL-P70 personal CD players match component quality to portable technology. They are completely compatible with the COMPU LINK system for easy integration with your JVC home system.



Whether you're listening to Bach or watching Back To The Future, JVC's digital signal processing is your ticket to the "theater experience" at home. Dolby Surround delivers all the power and immediacy of being there, because JVC's Digital Dolby Pro-Logic Processor creates a three dimensional sound field that surpasses the acoustics of most movie theaters.

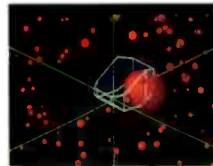
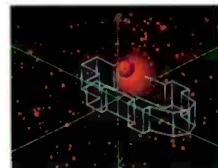
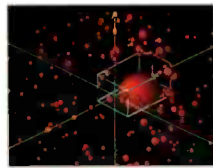
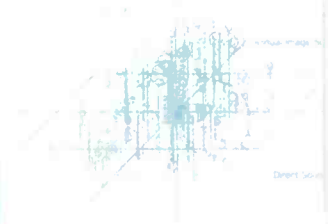


# Performance

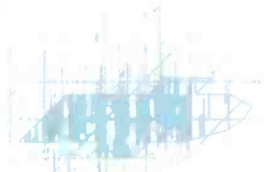
## Turn Your Living Room Into A Cathedral

JVC's Digital Acoustic Processing system captures the reverberation dynamics and subtle echoes of 20 different acoustic environments—from cathedrals to night clubs to concert halls—and recreates these characteristics in your own home. JVC has measured and analyzed the sound field patterns in all these environments; with this information programmed into JVC's Digital Acoustic Processors, electronic technology finally replicates live performance. Be there—with JVC.

Opera House



Cathedral

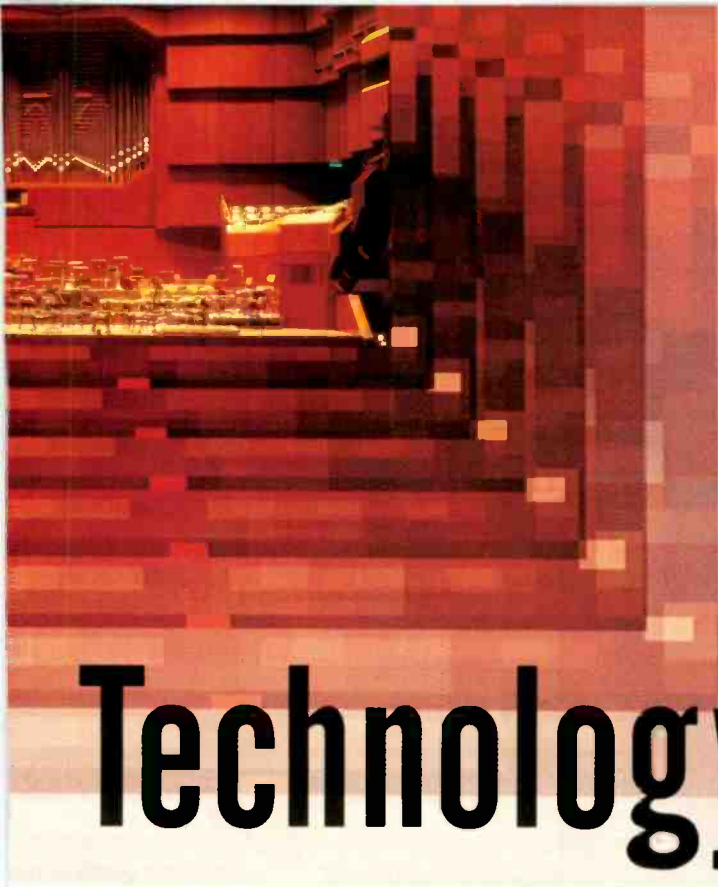


Club Sound

Direct Sound





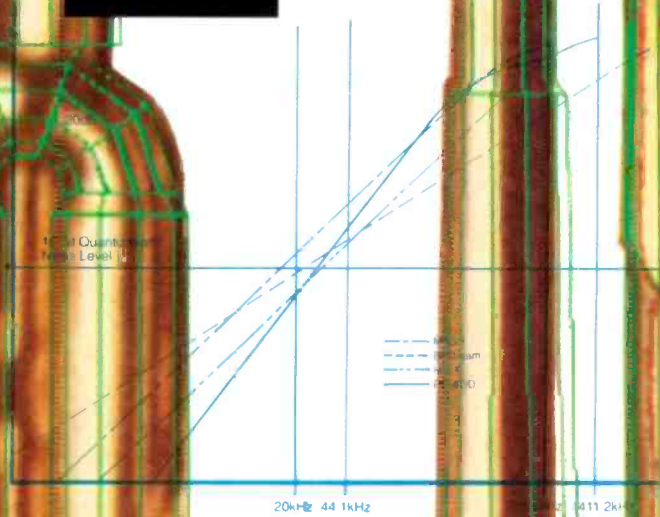
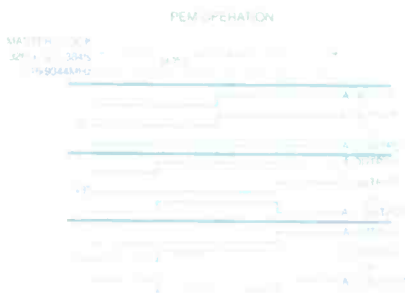
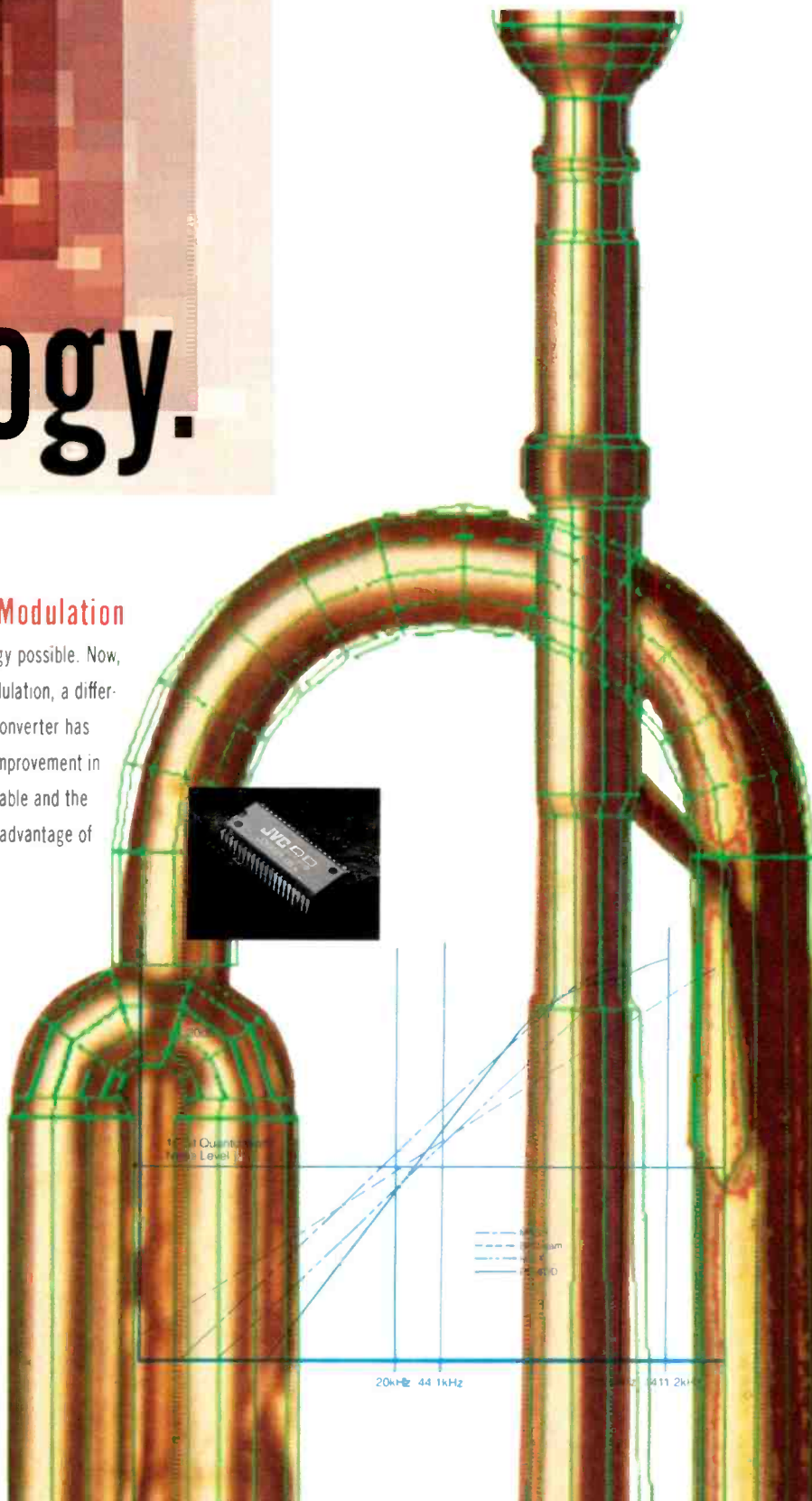


**S/N = 112dB**  
**THD+N = 0.0015%**

# Technology.

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Electronics made the incredible dynamic range of CD technology possible. Now, JVC's engineers have extended that range with Pulse Edge Modulation, a differential-linearity errorless digital/analog converter. This P.E.M. converter has only 1/30th the noise of conventional 16 bit converters. This improvement in the signal-to-noise ratio is as dramatic as that between a turntable and the first CD players. That's quite a statement. But then, that's the advantage of JVC technology.



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See entry form for official rules.



# TEST REPORTS



JOOK P. LEUNG

## Icon Parsec Speaker System

Julian Hirsch, Hirsch-Houck Laboratories

ICON ACOUSTICS' Parsec is a moderately large three-way, floor-standing columnar speaker system. Standing 47 inches high, 16 inches deep, and 12 inches wide, each Parsec weighs 86 pounds (110 pounds in its inner and outer shipping cartons).

The Parsec's woofer is a single 10-inch graphite-impregnated cone located at the bottom of its front panel, with

two ducted ports above it. The cabinet interior is extensively braced, in its lower half by side-to-side and front-to-rear panels and in its upper half by a slanting full-width panel extending from the front to the rear of the cabinet. The internal cavities of the enclosure are damped and tuned by fourteen pieces of foam or fiberglass.

The upper portion of the speaker

board holds a 6½-inch polypropylene-cone midrange driver and a 1-inch aluminum-dome tweeter. The tweeter, 40 inches from the floor, is approximately at a listener's ear level. The woofer crossover, at 350 Hz, has a 12-dB-per-octave slope, as do both midrange crossovers. The tweeter, operating above 1,500 Hz, has a 6-dB-per-octave crossover slope.

On the rear of the cabinet is a metal plate with four gold-plated Tiffany five-way binding posts. These provide separate access to the woofer and the higher-frequency drivers for use in biwired or biamplified systems. Metal straps join the two sets of terminals for normal operation.

The crossover network uses low-inductance resistors and polypropylene or polystyrene capacitors. Internal wiring is by means of AudioQuest Type 4 cable. The black cloth grille that covers the entire front of the speaker is retained by plastic snaps at its corners. It includes a sheet of foam plastic that surrounds the tweeter to reduce diffraction from the edges of the cabinet. According to the manufacturer, removing the grille will increase the speaker's brightness slightly, and many users prefer to leave it off for that reason.

The Parsec's specifications include a sensitivity of 87 dB, nominal impedance of 8 ohms, and frequency response of 25 to 22,000 Hz. It is recommended for use with amplifiers rated from 50 to 300 watts. The cabinet is made of ¾-inch particleboard finished in walnut, oak, or black-oak veneer. Each speaker is furnished with three spikes, whose use is optional, for making better contact with the floor.

The Parsec is available only direct from the manufacturer. It can be ordered by calling Icon's toll-free number, (800) 669-9662, and charging a credit-card account. Icon ships the speakers to you for a thirty-day trial in your own listening environment. If you are not satisfied, Icon will have them picked up at your home and will issue a full refund upon their arrival at the factory. All shipping charges are included in the price of \$1,795 a pair. Icon, Dept. SR, 13 Fortune Dr., Billerica, MA 01821.

# TEST REPORTS

## Lab Tests

We installed the Icon Parsec speakers as recommended, about 18 inches in front of a wall and several feet from either side wall. The averaged room response of the two speakers was within  $\pm 3$  dB from 350 to 20,000 Hz, and although the variation increased at lower frequencies, its average level was not far from the higher-frequency average all the way down to 20 Hz.

Response curves supplied by the manufacturer did not include the woofer range because of the difficulty of separating room effects from the speaker's true bass response. The supplied curves from 400 Hz upward confirmed our measurements of the speaker's exceptionally flat response in that range.

The close-miked woofer response reached its maximum at 70 Hz. When this was combined with the adjusted port output, the overall bass variation was 11 dB between 20 and 450 Hz. The bass response sloped down smoothly, by about 8 dB, from 70 to 350 Hz and more steeply above that frequency. The process of splicing this curve to the room curve was not as unambiguous as we would have liked, and the final composite curve showed an appreciable bass emphasis in the range between 35 and 350 Hz, reaching a maximum of 7 or 8 dB at 70 Hz relative to the average midrange and high-frequency level.

Quasi-anechoic FFT response measurements with the IQS system, on the tweeter's axis, showed a variation of  $\pm 1.5$  dB from 300 to 15,000 Hz, and the response was down only an additional 2 dB at 20,000 Hz. The tweeter resonance at 25,000 Hz showed up as a large jog ( $\pm 15$  dB), but this had no significant effect in the audible range.

The system's 45-degree horizontal dispersion was good up to about 10,000 Hz, with the usual drop in the off-axis output at higher frequencies. We also measured the axial response with and without the grille in place. There were only the most minor differences in response between the two conditions, mostly narrow-band effects in the range of 1,000 and 3,000 Hz, none exceeding 2 dB. There were no audible differences that we could detect, however.

The group delay (which also agreed closely with the test data from Icon) varied less than 0.2 millisecond overall

from 2,000 to 20,000 Hz, increasing to about 1 millisecond and higher at frequencies below 1,000 Hz.

We measured the sensitivity of the Parsec as 88 dB sound-pressure level (SPL). With a constant input of 3.5 volts, equivalent to a 90-dB SPL, its bass distortion was between 0.2 and 1 percent from 70 to 500 Hz and rose to 4 percent at 30 Hz and 14 percent at 20 Hz. The system impedance reached its minimum of 5.2 ohms at 80 Hz, its maximum of 32 ohms at 28 Hz, and varied between 7 and 14 ohms from 100 to 20,000 Hz.

The Parsec had an impressive peak power-handling capacity. Our amplifier clipped before the speaker distorted at 1,000 and 10,000 Hz, which is not uncommon, but at 100 Hz the woofer absorbed a single pulse of 1,040 watts (the amplifier's limit) into its 5.8-ohm impedance without audibly bottoming, possibly a unique occurrence in our speaker-testing experience.

## Comments

The Icon Parsecs sounded as large as they look. Spaced about 12 feet apart, they delivered a broad sound stage that rarely seemed to have its origins in the two big boxes facing the listening area. We did not use the

optional spikes, in deference to our carpeting and because we have never found them to make the slightest difference in the sound of a speaker.

The speakers created a solid wall of sound across the room. Occasionally they showed a trace of brightness, but when required, they delivered the kind of deep, strong, solid bass that is rarely, if ever, experienced from smaller speakers. Although their 20-Hz output was not particularly audible, at 30 Hz they filled the room and massaged the listener's skin with their output even at moderate listening levels. They can play as loud as any reasonable person would wish, and we never felt we were coming close to their power-handling limits using a conservatively rated 100-watt amplifier.

Normally, we recommend that no one buy a speaker (especially a large or expensive one) without hearing it first. There are simply too many differences between listening rooms, to say nothing of individual preferences, to justify choosing without an audition. Nevertheless, Icon's marketing system is both sensible and practical. The buyer risks (literally) not a cent and has the opportunity to judge the speakers in his own home, which is the *only* environment that really matters.



"Sorry, sir, we're not allowed to talk technical during a sale."



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# A BASIC



# SYSTEM

Getting started with your  
audio/video home theater

THE much-heralded marriage of audio and video is finally upon us, and its fast-sprouting firstborn is clearly the audio/video home theater. Loosely, this could be taken to mean any combination of a TV set and a stereo system, but the term has more and more come to imply multichannel, multi-speaker surround sound mated to high-performance television and top-quality audio and video sources. Granted, it's a complex field. But getting started with your own home theater system can be far less con-

by Daniel Kumin







5 PM 32.3MHz  
TUNE DEFEAT ON  
PHONO INPUT

HITACHI  
5A 02

RCA  
SERIES 2000

PHOTO BY GEOFFREY GROSS

fusing than you might at first expect.

Let's assume you already have in hand—or well planned—the video-display half of your home theater system: a big, sharp direct-view or projection television. The audio portion, then, will of necessity include loudspeakers and amplifiers, a surround-sound processor, and appropriate audio-video sources. The brain of any A/V sound system is its surround processor (or decoder), most often based on Dolby Surround or Pro Logic circuitry, though sometimes on another design capable of handling signals with Dolby Stereo encoding. (Shure and Proton, for example, have proprietary systems for decoding Dolby Stereo soundtracks.) The processor's job is to duplicate as nearly as possible the sound of a first-rate movie theater—so it's worth taking a look at what that is.

## Surround Selections

A home A/V surround processor extracts these four channels from stereo sources—hi-fi videotapes, laserdiscs (and recently some CD's), or TV broadcasts—encoded in the Dolby Surround format, which is what the Dolby Stereo professional cinema-sound format is called in the consumer world. Encoded releases are usually emblazoned with the Dolby Surround logo, or sometimes the Shure Stereo-Surround logo (meaning simply that the encoding has been done with processors built by Shure rather than Dolby). Once in a while a nonencoded stereo source may yield effective surround sound as well.

Most basic home decoders are labeled simply "Dolby Surround," which means they just use simple cir-

## THE MOST ELABORATE PROCESSORS PROVIDE NUMEROUS SURROUND MODES.


Since about 1975 and the advent of Dolby Stereo films, high-quality cinema sound has come in (usually) four channels: left, right, and center up front and surround in back. By far the most important is the center channel (sometimes called the dialogue channel). Reproduced by speakers located directly behind the movie screen and aimed straight at the audience, it insures that dialogue and other sounds at the center of the action are localized there rather than at some inappropriate position, such as the nearer of the two main stereo speakers—a vital element of cinematic realism. The center channel also carries a lot of the music and sound effects. The left and right channels are reproduced by loudspeakers on either side of the screen, which establish the stereo image and carry much of the musical score, plenty of sound effects, and occasional off-screen voices.

The surround, or effects, channel (which carries a mono signal) is delayed slightly relative to the front channels and reproduced by multiple speakers distributed high up around the sides and rear of the house. It lends a sense of spaciousness to music and effects and from time to time carries sound effects that move—"pan" in movie parlance—from front to rear or that are supposed to originate from behind the audience.

cuitry to extract the surround channel, leaving the center-channel information to be reproduced by the main left and right stereo pair. Recently, decoders carrying the Dolby Pro Logic logo have become common. A bit more costly than basic Dolby Surround boxes, Pro Logic and similar systems exploit active-logic steering circuits to emulate very closely the processing of professional cinema decoders. The result is a stable, reliable, and very useful discrete center channel as well as better separation between the front and surround channels.

Though video surround sound includes only four channels, many recent processors have more numerous outputs. Six are common in Pro Logic-type units: left, center, and right front; left and right rear (surround), which are identical, parallel mono outputs in Dolby modes; and a subwoofer output, which is usually simply a mono blend of the left and right front channels, with a low-pass filter to remove high frequencies. Dolby Surround processors of the older variety usually have only four outputs: left, right, and two (identical) surround. Pro Logic is unquestionably a real enhancement, and decoders equipped with it (or an equivalent system) are rapidly becoming affordable enough that you should hold out for one if you can.

The most popular way of getting a



Control becomes a major issue in an elaborate A/V system. A universal remote control, such as the Harman/Kardon MasterWorks or the Proton UV-2000, preprogrammed to handle a full range of components from nearly any manufacturer, can make life easier.





Two approaches to making the sound surround: Atlantic Technology's Pattern Surround System (left), with powered speakers and decoder, and Snell's MultiMedia Series speakers (below).

surround-sound processor is in an audio/video receiver, which combines the classic elements of a stereo hi-fi receiver—AM/FM tuner, stereo amplifier, extensive controls, and, often, wireless remote control—with an on-board surround decoder and the extra channels of amplification necessary to power the center and surround speakers. Another alternative is an A/V amplifier, which is essentially the same thing without a tuner section.

Outboard processors, on the other hand, usually provide only the surround circuitry itself and line-level (unamplified) outputs for each of the four to six speakers (including sub-woofer) of a Dolby Surround system. A handful of outboard units include amplification for the center and surround channels, but most require separate amplifiers for all channels. An outboard processor might be wired between the outputs of a separate pre-amplifier and two or three stereo power amps, but more often it would be in the tape-monitor or external-processor loop of your preamp, integrated amp, or receiver, the way you would normally hook up an equalizer. With an integrated amp or receiver, you might get by on just one external power amp, running the center speaker from one channel, both surround speakers in parallel from the other, and the main stereo pair from the internal power amps of the receiver or integrated amp. A more conventional setup would use two stereo power amps—one for the two surround speakers, the other for the center speaker and (if you use one) the sub-woofer.

If you already own a good system with which you are generally happy—particularly if it is a component audio system—an outboard design is proba-

bly the best way to go. But if you are starting from scratch or planning a big upgrade, an integrated A/V receiver or amp can have a clear edge in value, and it is often easier to set up and use as well. This is especially the case when it comes to signal routing and switching, since A/V amps and receivers normally switch audio and video simultaneously for A/V sources, which is simpler and less confusing than switching them separately and may reduce considerably the quantity of wiring required. On the other hand, an outboard box lends itself to future upgrading: You can change amplifiers, preamp, or tuner as you see fit without changing processors at the same time, or vice versa.

Which route you should go depends as much on temperament as on your pre-existing inventory of audio gear. If you're a hi-fi fan and inveterate fiddler, a more elaborate processor—outboard or integrated—will let you explore the sonic environment and fine-tune it to your room, taste, and listening habits. Simpler models can be equally satisfying, however, and they almost always prove a great deal easier to use for the less technological-adventurous.

### Beyond Dolby

Most processors include extra, non-Dolby surround modes. Some of these perk up the sound from unencoded video programs; others are ambience-



enhancement modes meant to intensify the realism of music reproduction from conventional stereo sources such as CD's. Very sophisticated designs use digital signal processing (DSP) to mimic the acoustics of various types of performance spaces—concert halls, clubs, cathedrals, and so forth—by electronically simulating patterns of sound reflection.

The most elaborate (and expensive) models provide numerous—and extensively user-adjustable and programmable—surround modes. Several have outputs for as many as six surround speakers when used in DSP music modes. On the other hand, a typical midline A/V receiver might furnish only three fixed modes beyond Dolby Surround, all based on relatively simple delay processing: "Hall," for concert music listening; "Stadium," for big-reverb rock or pop; and "Matrix," for simulated stereo surround from mono sources. The comparative quality of these extra ambience programs is one significant

## Home Sweet Theater

You need more than equipment to make a home theater—you also need a place to put it. Most of us are unequivocally stuck with what we already have: living room, den, TV room, or whatever. But for the record, and for the lucky few who really can start from ground zero, here are a few goals for a home-theater interior.

Bigger is better—we're trying to re-create the genuine cinematic experience. We've all noticed how much more engrossing good movies are when seen in a big, old-fashioned theater instead of those modern, cracker-box multiplex movie houses. High ceilings are preferred over low ones, and a roughly shoebox rectangular shape is probably ideal, with the screen on one of the short walls. A space with four complete walls is nice—speaker placement is grievously complicated by archways, L-shaped rooms, and other open-style arrangements.

We'd prefer our home-theater acoustics to be quite "dead," which implies thick carpeting, perhaps some draperies, soft furniture to absorb reflected sound, and no large, focusing reflective surfaces such as bay windows, mirrored walls, or enormous skylights. Isolation from external noise sources, such as kitchens, garages, or teenager-bonded telephones, would be a bonus. Control over lighting—not too many windows, with shades or drapes over those present—is another desirable feature.

These are a few architectural ideals. If you've got an unlimited budget, an empty lot, and plenty of time, great: Hire an architect and an acoustical consultant, and go to it. Everybody else, feel free to dream, but meditate on how you might make the best use of what's at hand.

difference among competing models; unfortunately, in-store demos of surround sound are often confusing, so an at-home trial is a good idea.

### What Watts?

Power is as important—and confusing—an issue for A/V systems as for conventional stereo setups. How much power you need depends on your listening habits (how loud?), room size, and speaker type (how sensitive?). But there's a wild card in an A/V system: You may have as many as six loudspeakers and amplifier channels delivering acoustic output into the room at the same time.

If you choose an integrated A/V receiver or amplifier, a lot of your power decisions will essentially be made for you. But as you shop, take a careful look at the power ratings of all five outputs (in the case of a Dolby Pro Logic design), not just of the front stereo pair. The center channel is critically important in Dolby Surround. Usually it plays the loudest and most frequently. So it makes sense for the center channel to get plenty of power in an A/V setup. Unfortunately, it often gets short shrift in integrated A/V designs. It's not impossible to find an A/V receiver that produces 80 watts per channel for the main speakers but doles out a stingy 15 watts to the center channel. Look for a design that gives the center speaker at least half as much power as the left and right speakers. Happily, many late-model A/V amps and receivers do even better, distributing equal power to all three front speakers.

The surround or rear channels of any A/V system do legitimately require less power than the front channels. In Dolby Surround, this is partly because of intentionally reduced bandwidth in the rear channel. And in no surround system are the rear speakers primary sound sources, so they never need to play as loudly as the front speakers. In a typical setup, one-third the power of the main channels is probably ample—though a quarter is what you'll find in many integrated designs. In large rooms where surround speakers must be located a good distance away, however, surround-channel power needs can double or triple. Using more sensitive speakers in the rear than the main ones up front can be a big help in situations where the surround amplifiers might otherwise be overburdened, since a relatively small alteration in sensitivity can change the power requirement quite a bit. A 3-dB increase in sensitiv-

ity is equivalent to cutting your power needs in half, and 3 dB less sensitivity means you need twice as much power for the same loudness.

So how much power is enough? Impossible to say. Variations in room size and speaker sensitivity—to say nothing of listening habits—can easily change power requirements by a factor of ten. That said, let me go well out on a limb and estimate the power needed in a hypothetical five-channel Dolby Pro Logic system.

Take a smallish, softly furnished home theater—let's say 18 x 13 x 7 feet—with five excellent speakers, all of a sensitivity fairly typical for high-performance designs, say 87 dB sound-pressure level at 1 meter with a 1-watt input. In this case, 100 watts for each of the three front channels and 35 watts for each surround speaker should do it, giving you the ability to match the peak undistorted loudness of a good cinema sound system (which is very loud indeed, by the way).

Remember, however, that in conventional stereo listening with only two speakers playing, your main-channel power may or may not be adequate for your room, speakers, and tastes. Fortunately, even with an A/V amp or receiver, increasing the power—a potentially worthwhile upgrade path—is usually just a matter of adding a bigger power amplifier (or amplifiers), because most provide line-level outputs for each channel alongside their own speaker outputs.

### Speaker Specifics

As in any sound system, loudspeaker choices for an A/V setup will play a primary role in how it ultimately sounds. If you are upgrading an existing audio system, you may already have a good pair of speakers. These could remain your front left/right pair, or if they are small bookshelf units, you might consider relegating them to surround duty and buying better speakers for the front. In either case, speaker selection remains largely a matter of taste. But an important and often overlooked point is the relationship between center and front left/right speaker designs.

Ideally, the left, center, and right speakers should be identical. If size, placement, or monetary constraints make this impossible, and it usually is, try to choose a center unit that closely matches the main pair in tonal balance and directivity (dispersion). For instance, if your main speakers are Shouter QX Towers, a single Shouter Model Z—a two-way bookshelf sys-



tem with the same tweeter found in the hulking QX's—might be the perfect choice. Matching the front speakers sonically will keep sounds that pan left-center-right from changing character as they move or seeming to jerk across the screen.

There is an exception to this rule. The center speaker should *not* be of a type that produces a great deal of reflected sound via multiple tweeters, reflectors, dipole radiators, or the like. These can reduce dialogue intelligibility. Even if your main speakers are one of these types, it's probably better to choose a more conventional, direct-radiating design for center-channel duty. As regards bass: Although the center channel need not have a giant subwoofer attached to it, it *can* carry significant energy well below 100 Hz. (Remember Darth Vader?) So don't err on the side of undersizing the center speaker, either. One way around this problem is to make use of a feature in Dolby Pro Logic decoders that sends center-channel bass to the left-right pair but everything above about 150 Hz to the center speaker itself.

Dolby Surround standards strictly limit the bandwidth of the surround channel, rolling off response below 100 Hz and above 7,000 Hz, so expensive, extended-range speakers are unnecessary in the rear. What's usually appropriate are speakers small enough for flexible placement, with relatively wide dispersion to discourage the ear from localizing them as discrete sound sources. Two-way bookshelf speakers with 6- or 8-inch woofers and dome tweeters are often a good choice, but the variety of designs that can work well is very large.

A/V systems sometimes include what are known as video speakers, which are shielded to prevent stray magnetic fields from their drivers from inducing picture distortion on your television screen—usually evidenced by a persistent mauve or magenta tinge in one or more corners. Speakers placed more than 18 to 24 inches from a direct-view TV set rarely cause trouble, and most modern sets automatically degauss themselves whenever they're turned on, so magnetic distortion is actually an infrequent problem.

## At the Source

The audio/video sources for home theater are the same ones we've been enjoying for years. Videocassettes—VHS is all but universal today—are the bread and butter. For serious A/V listening, VHS Hi-Fi is a must. Its audio quality is enormously better

than that of the standard linear soundtrack, and it is mandatory for Dolby Surround, which requires stereo. Super VHS can add the same sort of improvement to the picture that VHS Hi-Fi lends to the audio portion.

But the clear champion of A/V sources is the laser videodisc. Laserdiscs provide at once the best picture quality (by far) and the best sound quality (CD-grade) available. If you're getting into home theater in a big way, put a laserdisc player—or better still, a combi-player, which will handle CD's as well—on your shopping list.

## Places, Everyone!

Wiring up an A/V home theater is not nearly as difficult as it might at first appear. Read your manuals, and think things through—twice. Even make a diagram if you like. Everything should

stereo listening might dictate relatively wide separation, more realistic home-theater sound/sight synergy is often gained by moving the left/right pair considerably closer to the screen edges.

The center speaker usually works best centered directly below the monitor. Tilting it slightly upward tends to improve clarity; for the same reason, don't push the center speaker back into a furniture recess or cubbyhole. In a pinch, the center speaker can go atop the TV set. All three front speakers should be close to the same plane as the video screen.

Surround-speaker placement is wide open to experimentation based on room layout. The objective is diffuse, nonlocalizable sound. The first place to try is on the side walls, up high and well toward the back of the listening



Fosgate's DSL-2 Pro-Plus (above) is representative of high-end outboard surround decoders; Denon's AVR-1010 receiver (right) incorporates Dolby Pro Logic decoding and six channels of amplification.



work perfectly the first time. Remember to locate your main components with a good line-of-sight path to the main viewing/listening position for easy remote-control operation.

You aren't done yet, however. Getting the best from an A/V home theater requires some trial and error in terms of speaker placement and listening/viewing positions. It's a complex topic, and we can only brush the surface.

Positioning loudspeakers is not a cut-and-dried matter. Front left and right speakers should present their acoustic centers (usually halfway between tweeter and midrange or woofer) about at the video screen's midline. Whereas good placement for ordinary

area, and angled down a bit. This often yields the best sound—the most spacious and diffuse. But countless other possibilities exist: on the rear wall, lower down (even on the floor angled sharply upwards), perhaps well to either side of the theater space in an open-style floor plan. It's never a mistake to try different approaches—my own installation employs a second pair of surround speakers aimed backward, bouncing sound off the rear wall.

Whatever you do, don't be afraid to experiment. In audio/video home theater setups, experimentation has a way of blending seamlessly into simple enjoyment, which was the whole idea in the first place. □

# HOW TO GET BETTER FM RECEPTION



by Ian G. Masters

WHEN FM radio first started gaining popularity, about thirty years ago, it was touted as a cure for all the ills that plagued "traditional" AM radio, and it is commonly regarded in that light even now. True, supporters of AM—primarily broadcasters—point out that it can have almost as wide a bandwidth as FM, and with the recent addition of stereo capability, AM has gained a benefit previously exclusive to the newer system. Even so, FM still provides better interference rejection, and whatever capabilities AM might have potentially, they became a reality with FM first. Consequently, FM has been seen as a true high-fidelity medium while AM has not.

But FM is hardly perfect. For one thing, whereas AM has the ability to bounce around and cover huge distances, particularly at night, FM's higher carrier frequencies restrict its range to a line of sight from the transmitter. For broadcasters, this means that the coverage area of an FM station is limited by the curvature of the earth; for listeners near the periphery of this area, it often means unacceptably noisy reception.

In FM radio, the amount of hiss in a tuner's audio output depends primarily on the strength of the signal reaching its antenna terminals. As signal strength increases, noise decreases until the tuner reaches what is known as "full quieting," which is the best signal-to-noise ratio (S/N) it can deliver. Further increases in signal strength

will not yield greater quieting. But if the signal strength is significantly below that required for full quieting, as it often is in locations far removed from the transmitter, the result is obtrusive noise, especially in stereo. City dwellers encounter this situation less often than people who live in the country, since the signals from local stations are almost always strong enough to insure adequate quieting. On the other hand, an urbanite who wants to listen to stations in the next town or to a weak station relatively close to a strong local one may run into interference.

And there are other problems that tend to disrupt FM reception in cities. For example, if you live very near an FM station's transmission tower, its signal may overload the first stages of your tuner—a condition called "front-end overload." The main symptom is that the same station pops up at various places on the dial, usually very distorted and often obliterating the signals that are supposed to be there.

Perhaps the worst blight on urban FM reception is multipath distortion. An FM signal can reflect off buildings, hills, and other obstacles in its path, and in many cases two or more versions of the same signal will reach a tuner's antenna inputs at roughly the same level but with one slightly later than the other because of the longer path it has traveled. The result is analogous to "ghosting" of television images, except that in audio it results in a very unpleasant sort of audible distortion. If the tuner is moving, as in an

automobile, the multipath can come and go rapidly, causing an effect usually called "picket fencing."

Any of these difficulties can seriously disrupt your enjoyment of FM listening, and the insidious thing is that they are very hard to anticipate. There is no way to know for sure just what the reception conditions will be in a particular room without buying a system and setting it up there. You won't know you're in trouble until the tuner starts making funny noises.

## Choosing a Tuner

There are, however, steps you can take in choosing your equipment to lessen the chances of reception woes. A basic one is to find a tuner or receiver with appropriate *sensitivity*—a measure of the minimum signal level required to achieve a specified degree of quieting. At one time, it was usual to specify sensitivity as the signal strength in microvolts ( $\mu\text{V}$ ) at which total harmonic distortion plus noise (THD + N) is 30 dB below the level of the audio signal. This "usable sensitivity" rating is often quoted still, but it is not very helpful. For one thing, the sound will usually be pretty bad at that signal strength, and the measurement is almost always for mono reception, which is much quieter than stereo. Nor does usable sensitivity take into account differences in antenna impedance, which can greatly skew a voltage measurement.

To counter these objections, most manufacturers now also specify the





signal level in dBf—decibels referred to 1 femtowatt of power at the antenna terminals—for a quieting level of 50 dB in both mono and stereo. In most cases you should look for low numbers in the 50-dB quieting specification (12 to 15 dBf in mono and 36 to 40 dBf in stereo are typical sensitivity ratings by this method



for modern tuners and receivers, and some can do a little better). High sensitivity will insure that the tuner squeezes everything possible out of distant stations. That may not be necessary in all situations, however. If all your listening is local, paying extra for the last smidgen of sensitivity probably doesn't make sense. And if you live near a transmitter, very high sensitivity may even aggravate front-end overload problems.

If you do want to pull in faraway stations, *selectivity* may be as important as sensitivity. Selectivity is a tuner's ability to separate two stations close together in the band; it's specified in decibels, and the higher the number the better. The figures quoted in spec sheets should be approached with some caution, however, because there are two types of selectivity, and not all manufacturers specify both.

The FM band is divided up into channels spaced 200 kHz (0.2 MHz) apart, carefully allocated so that two adjacent channels are never occupied by stations in the same immediate area, to prevent their interfering with one another. In a given locale, the closest two neighboring stations can be is on alternate channels, 400 kHz apart. Virtually all tuner manufacturers specify *alternate-channel selectivity*, partly because it is fairly easy to achieve good performance in this respect and partly because this is the type of selectivity that matters most to the majority of people who listen only to local stations. Much more difficult is attaining good *adjacent-channel selectivity*, but this can be the more important figure for anyone wanting to do long-distance listening, as stations on the fringe of your reception range stand a good chance of occupying channels adjacent to those of strong nearby stations. Consequently, picking up a weak distant signal may depend on your tuner's ability to prevent a much stronger signal on an adjacent channel from overwhelming it.

One of the banes of AM radio is the tendency of receivers to pick up more than one station transmitting on the

same frequency. As with FM, broadcast authorities have taken care that such stations are spaced well apart geographically, but AM signals sometimes carry far enough that such interference becomes a real problem. All FM tuners, on the other hand, have the ability to discriminate between two signals on the same frequency, ignoring the weaker one entirely. The difference in signal strength necessary for a tuner to suppress the weaker transmission completely is its *capture ratio*, which is expressed in decibels. The lower the number, the better. Capture ratios in the range of 1 to 2 dB are common and normally quite adequate for preventing interference between stations on the same channel.

For most people, the greater importance of good capture ratio lies in its ability to help tame multipath distortion, which is caused by multiple copies of a signal reaching the tuner at slightly different times. Suppression of spurious AM artifacts in the signal helps with multipath, too. A tuner's *AM suppression* is also specified in decibels; higher numbers are better.

## Antennas

Simply picking the most appropriate tuner for your situation may result in perfect reception, but that is unlikely. Once you get your system hooked up, you may well find that the FM is unbearable, which usually means that you need to work on your antenna arrangements.

Almost all tuners are supplied with a simple T-shape *wire dipole*, which can be tacked along a wall or slid under a rug. In some cases, this may be enough, especially if you listen to one station all the time and it's close enough to deliver a good signal level to your antenna terminals. Dipoles have a figure-eight reception pattern, however, and they must be placed carefully to obtain adequate signal strength without getting into multipath trouble. In fact, much of the trick in preventing multipath distortion is in making sure that either the direct signal from a station or one of its reflections is enough stronger than the others for the tuner to capture it and ignore the rest. Careful orientation of a *directional antenna* is the most effective method for magnifying such differences, thereby taking maximum advantage of your tuner's capture ratio. An easily movable dipole, such as a set of rabbit ears, can be used, but it's not always easy.

And unless all your local stations broadcast from the same tower, it's unlikely that any one position of a

dipole will be the best for all available stations, so if you like to listen to a variety of sources, that sort of antenna is probably not good enough. A small, more nearly unidirectional antenna may be the answer, as it can be aimed in such a way as to focus on the wanted station or a strong reflection and away from potential multipath sources.

A further refinement is a *tunable antenna*, which can be adjusted to increase signal strength in one frequency range while attenuating signals at frequencies above and below. That won't help with multipath, but it can do wonders in preventing front-end



overload. If it doesn't get rid of overload entirely, a *signal attenuator* might be necessary to cut down the level at your tuner's antenna inputs.

In rural areas, the problems are usually different, and a dipole is even less likely to work well. Depending on your distance from the stations you want to receive, a small indoor antenna may do the trick, but in true fringe areas, a *high-gain rooftop antenna* is usually necessary. It need not be a very elaborate affair, however, and if the stations you want to hear are all in the same town, it can simply be pointed permanently in that direction. Dedicated FM antennas are quite small and can easily be mounted on a chimney or roof peak; the higher you can place them, the better they work.

If you already have a rooftop TV antenna, it may work well for FM too (the FM band is tucked into the middle of the television band, between Channels 6 and 7, which is why the audio signal of a local Channel 6 station can usually be picked up on an FM tuner). You can use a *splitter* that feeds the antenna signal to an FM tuner and a TV set at the same time, or you can use an *RF switch* that sends the full signal to one or the other; both devices are inexpensive. A *rotor* on the antenna is a definite plus as well. It can enable you to pick up stations from different directions, expanding your listening and viewing options.

Some problems yield to none of these remedies, in which case about the only solution is to subscribe to the FM feed of your local cable-TV service, if one is available. But such drastic measures are rarely necessary. A little forethought, some experimentation, and a willingness to fiddle until everything is right should guarantee clear, undistorted FM reception. □



# WCES SHOWSTOPPERS

It was hard to miss important world events last January if you were one of the 73,516 journalists, manufacturers, distributors, and retailers walking the aisles of the Las Vegas Convention Center and the corridors of nearby hotels for the Winter Consumer Electronics Show. There were TV's everywhere. But even between NFL playoff games and news reports on the imminent war in the Gulf, attendees managed to do business as usual, scouting out the latest in audio/video equipment, games, and novelty products.

The talk of the town this time around was Philips's new digital recording format, the Digital Compact Cassette (DCC). Unlike digital audio tape (DAT), DCC cassettes will be recorded and played on machines that also play conventional analog cassettes, using a single solid-state autoreverse head. The decks will be able to find individual selections quickly and precisely, and the tapes initially will have a maximum playing time of 90 minutes. Philips and its first licensee, the Tandy Corporation, demonstrated prototypes but stressed that players won't be available until 1992.

Not to be outdone by the hubbub over DCC, Sony renewed its commitment to DAT, showing its new flagship home deck, the DTC-87ES (\$1,800), and Sharp introduced its new DAT portable, the \$1,499 RX-PI. Muddling the digital recording picture even further, Pioneer and Kenwood showed prototypes of recordable CD systems, although consumer versions are still years away.

Digital audio was also the major theme among car stereo manufacturers: Yamaha, Technics, JVC, Sony, Eclipse, and Clarion all demonstrated outboard digital signal processors. Other car audio hits included Pioneer's satellite-based car navigation system and Sanyo's voice-recognition system for control of audio functions.

**By Rebecca Day** Home theater continues to generate a lot of interest. Six companies—NAD, Fosgate, Duntech Audio, Miller & Kreisel, Altec Lansing, and Triad Speakers—announced they would introduce components approved for the Lucasfilm Home THX system this year. Thomson Consumer Electronics said it would market a line of RCA TV's equipped with the Hughes Aircraft Sound Retrieval System. And Sharp whetted appetites with its prototype SharpVision LCD projection system for high-definition television (HDTV).

It was a show heavy on technology for the future, but there were also a number of winners that should be in stores by summer. We profile a few of the hottest products from WCES on the following pages.



A Digital Compact Cassette has the same external dimensions as an analog audio cassette. Holes for the tape-drive spindles and tape head are protected by a sliding steel cover, eliminating the need for storage boxes.

# CES SHOWSTOPPERS



Yamaha's DSP-A1000 seven-channel integrated amplifier (\$1,499) employs enhanced digital Dolby Pro Logic circuitry to create the ambience of a wide-screen theater. It has ten audio and five video inputs.

Pioneer's Premier KEX-M900 is the first DIN-size car stereo head unit with built-in digital signal processing. Ambience modes include Studio, Jazz Club, Concert Hall, and Stadium. The three-source unit includes a CD controller, AM/FM tuner, and cassette player. Price: \$1,200.



Acoustic Research's six Holographic Imaging speakers range from the M1 (far left, \$250 a pair) to the M6 (far right, \$1,300 a pair). The tilt of the speaker panels is said to optimize sound-radiation patterns for better imaging and ambience.







Rockford-Fosgate's Symmetry is a modular audio/security/control system for the car. Shown at left are the twelve-slot controller housing, the amplifier box, and a wired remote control. Price for one amplifier module and three controller cards is \$2,000.



Miller & Kreisel's MX-70 subwoofer uses a push-pull, dual-driver design to reproduce frequencies below 125 Hz, and its steep crossover can be set as low as 50 Hz. The two 8-inch drivers and the 125-watt amplifier that powers them fit in a single 18 x 10 $\frac{1}{8}$  x 13 $\frac{1}{4}$ -inch enclosure. Price: \$795.



Soundstream and Krell joined forces to create the DTA 1, the first outboard automotive digital-to-analog processor (\$495). It has a dedicated power supply and two digital inputs, which can automatically switch between CD and DAT sampling frequencies.



Sanyo's voice-recognition car audio system can respond to twenty user-programmable words or phrases to control a tuner, cassette player, and CD changer. It is due in stores late this year. The price of about \$1,200 includes a CD changer.

# CES SHOWSTOPPERS

Genesis Technologies' IM-8300 Imaging Module speaker (right, \$1,695) is part of the company's first speaker line. The three-way system has a cabinet that measures 25 inches high and 14 inches in diameter.



Onkyo's A-SV810PRO five-channel integrated audio/video amplifier (\$1,100) offers on-screen display, Dolby Pro Logic, six video and ten audio inputs, and an eight-mode digital ambience-enhancement processor.



The BP20 bipolar loudspeaker from Definitive Technology (below left) has two 6½-inch woofers and a 1-inch dome tweeter on its front panel and the same array of drivers on its rear. Dimensions are 46 x 9 x 15 inches. Price: \$1,600 a pair.



The components in Sony's new modular Mobile ES line (below) perform all signal transfers and processing digitally. The XES-P1 preamplifier/controller (\$1,300) is the heart of the system, which consists of a full-DIN-size display unit, a subchassis, two wireless remotes, and an optional joystick.





# MODERN VIEWS OF MOZART



by WILLIAM LIVINGSTONE

WHO is the greatest composer of classical music who ever lived? If you had asked that question in 1940, the average American record collector or concert-goer would probably have answered that it was Beethoven. In 1965, after the great Baroque revival that followed World War II, the first choice would most likely have been Bach. Today the vast majority of music lovers around the world would surely give top honors to Wolfgang Amadeus Mozart.

Born in Salzburg, Austria, January 27, 1756, Mozart died in Vienna, December 5, 1791, a few weeks short of his thirty-sixth birthday. During the observances this year of the two-hundredth anniversary of Mozart's death, everyone laments that so gifted a musician died so young, but the Mozart Bicentennial is not an occasion for sadness. It is, instead, a joyous celebration of the life and work of one of the most remarkable creative geniuses the world has ever known.

January 27 of this year may have been Superbowl Sunday for American football fans, but for music lovers it marked the kickoff of a gigantic tribute to Mozart that will involve record companies, museums, publishing houses, libraries, and performing arts institutions in Europe, America, Japan, and anywhere else that Western classical music is appreciated. I know of nothing in history that rivals the scope of the Mozart Bicentennial.

Lincoln Center for the Performing Arts in New York is pulling out all the

stops. Over the period of a year and a half the New York Philharmonic, the Metropolitan Opera, the New York City Ballet, the Chamber Music Society, and the other constituents of Lincoln Center will perform all of the 835



Tom Hulce as Mozart in the film *Amadeus*

compositions that scholars definitely attribute to Mozart.

Although he suffered periods of hardship, throughout his life Mozart enjoyed considerable fame and success. He and his sister Nannerl were child prodigies, and their father took them to foreign countries where they played public concerts and private re-

citals for royalty. When he grew up, as a pianist and composer Mozart won the respect and admiration of his peers, his patrons, and the public.

Nevertheless, Mozart's emergence as the most valuable player on the all-time musical team is a twentieth-century phenomenon, and the public perception of him as the superstar of the eternal artistic firmament is a decidedly modern view. As his reputation has grown in the last few decades, our ideas about his music, his character, and even his looks have changed.

When as an adolescent I first became interested in classical music in the 1940's, Mozart was known to general audiences only for his greatest hits—Symphonies No. 40 and No. 41, *Eine Kleine Nachtmusik*, and the operas *Don Giovanni*, *The Marriage of Figaro*, and *The Magic Flute*. At that time he was usually depicted as a prettified young man with a white wig and a red suit, the image still shown on the boxes of Mozartkugeln (Mozart balls) and other chocolate confections made in Austria and sold all over the world.

By the early 1950's articles began to appear in such popular magazines as *Life* proclaiming that *Don Giovanni* was the greatest work of art ever created. The general public, however, still thought of Mozart as a dainty porcelain figurine, a composer of deedle-deedle music, just tinkly tunes suitable for clocks or music boxes.

Recordings issued in 1956 during the celebration of the two-hundredth anni-



versary of Mozart's birth expanded the range of his music available to collectors beyond the operas, concertos, and symphonies to include more solo piano pieces, oratorios, masses, motets, and a great deal of chamber music. After the introduction of stereo, it was all recorded again in up-to-date sound. In the 1960's the attention that scholars and record companies had given to Bach, Handel, and other Baroque composers began to be lavished also on the Viennese Classical school, which was dominated by Haydn and Mozart.

Recordings of the Sixties and Seventies showed either idealized por-

small man, and Bach didn't win any beauty prizes. By the late 1960's Mozart was edging Beethoven and Bach out of the top spot in the annual lists of composers with the largest number of new recordings.

At that time STEREO REVIEW was publishing a series of tutorial articles on great composers—Bach, Haydn, Vivaldi, Debussy, Schubert, and so forth. They were written by James Goodfriend, who was then our music editor, and each article was illustrated by a new portrait of the composer in question by a living artist.

In 1972 we got around to Mozart, and the American artist Bernard Childs was commissioned to give us his view of the composer in an etching or lithograph. In due time he delivered the lithograph shown on the facing page, depicting Mozart in a modern re-creation of the silhouette form that was popular in the eighteenth century. Apparently charmed by his discovery that Mozart was a billiards player, Mr. Childs showed him in front of the traditional green table finger- ing a cue.

Mr. Goodfriend and the art director (both avid print collectors) were delighted with the image. Not so, the editor in chief. In fact, he disliked it so much that he refused to publish it, and the ensuing discussions in our offices generated enough ill will that the articles on great composers were discontinued.

No one now on the staff remembers exactly what the problem with the picture was. Bernard Childs died in 1985, and according to his widow, he was told simply that "STEREO REVIEW's readers want to know what Mozart looked like." I suspect that the editor found the low-life associations with billiards and pool halls to be inconsistent with the sublime quality of, say, the slow movements of Mozart's piano concertos. He probably felt that the composer of such spiritual works as *The Magic Flute* and the Requiem should not be shown shooting pool even if he did it.

The fact that he enjoyed billiards was documented in Marcia Davenport's biography *Mozart*, first published in 1932 and still widely read. In 1938, Emily Anderson published her translations of Mozart's letters, which revealed his fondness for smutty jokes and bathroom humor, and midcentury

editions of *Baker's Biographical Dictionary of Musicians* contain the statement that Mozart was "fond of pleasant company and fine dress, of dancing, bowling, billiards, and kindred pleasures." But he was not yet up for the cosmic award of all-time greatest composer.

TODAY, in any case, the lithograph seems completely innocuous. Mr. Childs printed a limited edition from the plate, and the remaining copies are on sale at the Hirschl & Adler gallery in New York. A poster based on this image will be issued by Lincoln Center in the course of the Bicentennial, and a copy of it will enter the permanent poster collection of the Metropolitan Museum of Art. Nobody seems to mind about the billiards anymore.

Informal summer concerts of Mozart's music like those in Lincoln Center's Mostly Mozart Festival have further popularized his work and have contributed to a cozier view of the man, one that makes us a little more comfortable with his greatness.

Many myths grow up about the lives and deaths of great men, and conspiracy theories are attractive to many people. The most persistent myth about Mozart is that he was poisoned by a jealous rival composer, Antonio Salieri, or that he was murdered by his fellow Masons for revealing Masonic secrets in *The Magic Flute*. A newer myth, set forth in *Mozart and Constanze* (1983) by Francis Carr, alleges that Mozart was having an affair with a neighbor whose jealous husband killed him.

The gross exaggerations of Peter Shaffer's play *Amadeus* and the very successful movie version have affected modern views of Mozart with some new mythology. Shaffer presents Mozart (especially in the film) as a coarse, drunken bumpkin who was God's chosen instrument for the composition of divine music. Tom Hulce (known for his comic role in *Animal House*) played Mozart and embellished his interpretation with a grotesque cackling laugh.

Constanze, Mozart's wife, was portrayed by Elizabeth Berridge as a frivolous shrew, interested only in sex and money. She was depicted as a slovenly housekeeper who whined such deathless lines as, "But, Wolfie, if you'll just show that you need me, I'll try to do better."

DAVID KELLEY



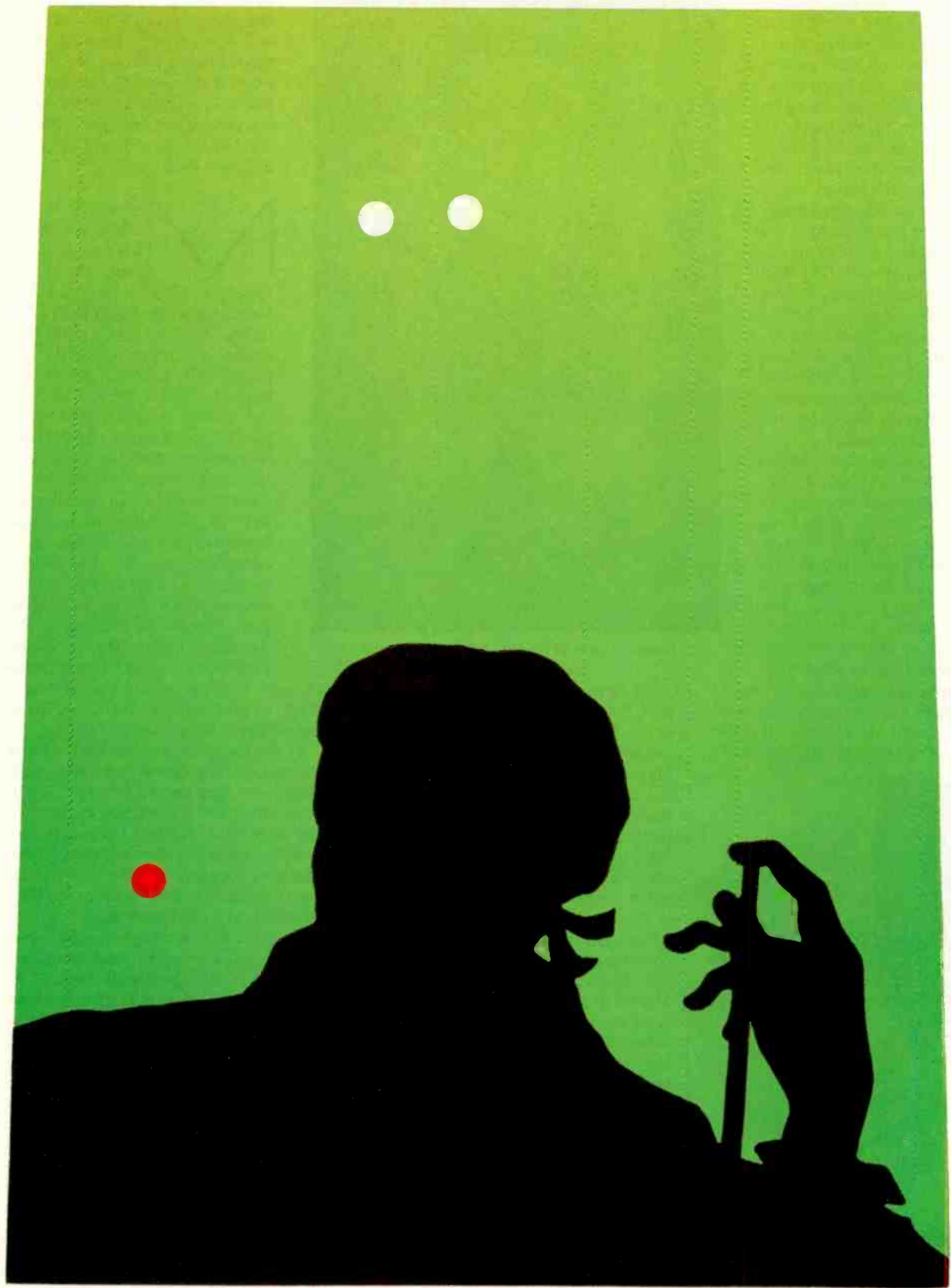
The traditional chocolate-box Mozart (above) contrasts with Bernard Childs's more modern view of him (opposite) silhouetted against a billiards table.

traits of Mozart or some one of the eight or nine likenesses—drawings, paintings, and silhouettes—made during his lifetime. Unfortunately, they don't resemble each other enough to give us a clear idea of what he really looked like.

Michael Kelly, an Irish singing actor who worked in Vienna, visited Mozart often and played billiards with him. In his memoirs Kelly wrote that Mozart "was a remarkably small man, very thin and pale, with a profusion of fine hair, of which he was rather vain." Other contemporaries reported that he had ordinary blue eyes, a largish nose, and a sallow complexion somewhat scarred by smallpox.

This may not be the ideal look for the occupant of the number-one throne in the pantheon of great composers, but Beethoven was also a





"MOZART" BY BERNARD CHILDS, 1972, COURTESY OF HIRSCHL & ADLER GALLERIES, NYC

Irritated by the heavy-handedness of *Amadeus*, I resented its eight Academy Awards, including the one for Best Picture of 1984. Having just seen it again on home video, I realize that it may have opened some ears to Mozart's music, and I now share the moderate view expressed by the American musicologist H. C. Robbins Landon: If you enjoyed *Amadeus*, that's fine. Just remember that it's fiction.

An expert on Haydn and Mozart, Landon has examined the most prevalent myths in his entertaining recent book *1791: Mozart's Last Year* (1988), and he goes to some lengths to "rescue Constanze from Shaffer's view of her" in *Amadeus*. Landon describes her as a cultivated lady with polished manners who could speak three languages and was extremely musical.

Landon exonerates Salieri and the others accused of murdering Mozart and summarizes the medical studies indicating that he died of streptococcal infections and kidney failure. He also clears up the mystery surrounding the Requiem, Mozart's last work. Modern scholarship proves that it was not commissioned by an alien messenger from the Other World but by Count Franz von Walsegg. The book leaves no doubt of Landon's view that Mozart was "music's greatest genius."



Botero's view of Mozart as a child prodigy

As Mozart grows more popular, the prettified images reappear in children's books. Eclipse Books has published a comic-book version of *The Magic Flute* adapted and illustrated by P. Craig Russell. But there is no single modern view of the man. Mozart painted as a fat young violinist by Fernando Botero became the poster child of the 1984 Mostly Mozart Festival at Lincoln Center.

The 1980's have brought us a more scholarly view of Mozart's music. Recordings by such chamber orchestras as I Musici and the Academy of St. Martin in the Fields accustomed modern ears to the sounds of his symphonies and serenades played by ensembles of the size he might have known. In the past decade his works have been taken on by the early-music, authentic-performance-practice, original-instrument movement. That approach was supported by college students used to the sound of period instruments and by professors who ruled on "correctness." Notable recordings of Mozart's symphonies were made for L'Oiseau-Lyre by Christopher Hog-

wood conducting an original-instrument ensemble, the Academy of Ancient Music, with the advice of the American Mozart specialist Neal Zaslaw of Cornell University. How does a record buyer choose when confronted by these "authentic" versions and the more romantic interpretations of mainstream conductors like Karajan, Giulini, or Levine?

**M**Y advice is the same as what I tell people shopping for loudspeakers: Choose the ones that sound best to you. Don't be intimidated by the claim that oldest or "most scholarly" is necessarily "best." Hogwood himself speaks not of "authentic" instruments but of "appropriate" instruments. And Roger Norrington, another early-music leader, says, "None of us have enough lice in our hair today to be authentic." What those fellows are dealing in is educated guesses. And if the early-music recordings sound like so much deedle-deedle to you, Neville Marriner and the Academy of St. Martin in the Fields are a good compromise choice. And you'll find that different styles of playing Mozart's music bring out different aspects of his genius.

If the accepted modern view is that Mozart is the greatest composer of all time, how long can he be expected to retain his title? I'm betting on him for the long haul. Record collectors and concert-goers are impressed by Bach, and they are stirred by Beethoven, but those composers don't inspire the kind of affection that Mozart does.

In between writing bouncy serenades, great operas, moving piano concertos, and profound masses he enjoyed a little slap and tickle, a round on the dance floor, a bawdy joke, a couple of brews, and shooting a little pool. How could you not love a guy like that?

The important thing is the immense pleasure afforded by his music. Deutsche Grammophon's corporate Christmas card last year quoted the English political scientist Isaiah Berlin: "It is said that the angels, when they play for God, play Bach, but when they play for each other, they play Mozart." □

DAVID KELLEY



Mozart's fame is now reflected in a variety of modern popular media.

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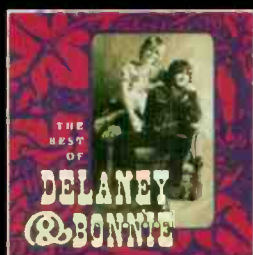
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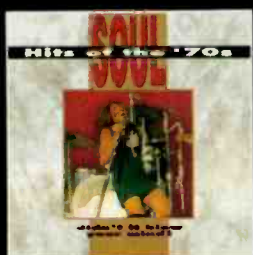
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## Pet Shop Boys: A Lesson in "Behavior"

**A** BOLD, ambitious album, "Behavior" is the Pet Shop Boys' crowning achievement. A veritable pop symphony in miniature, it works its magic through compositional subtlety, lyrical eloquence, and thematic reach. Initially, some listeners may hear only the album's polished surface and dismiss it without expending the effort to dig deeper. But while "Behavior" lacks immediacy, it has cumulative power; it will grow on you, the way all truly worthwhile albums do.

The Pet Shop Boys have heretofore been known for dance-oriented pop records a thoughtful cut above the norm. "Behavior" moves them into sophisticated new territory. It's as thoroughly programmed as ever, though it sounds less so because of the softer edges and the humanistic tenor of the words. But in its melodic warmth, flowing rhythms, and lyrical poignancy, it's a kind of "Pet Sounds" for the Nineties. Beach Boy Brian Wilson and his collaborators captured the troubled transition from adolescence to adulthood in that classic Sixties album, and Pet Shop Boys Neil Tennant and Chris Lowe here mark a similar rite of passage in the life of their own generation. Facing the end of an era of freedom, the duo has crafted words and music that are enveloped in an inescapable sadness. Yet the album is carried forward by an artistic conviction and an analytical intellect that seek to set events, both great and small, in some historical, comprehensible context.

"Behavior" opens with the tour de force of *Being Boring*. After a sweeping instrumental fanfare, foreshadowing the cinematic scope of the album, the song builds around a quote from Zelda Fitzgerald about the Twenties literary crowd, "We were never feeling bored, because we were never being boring." Tennant and Lowe cover a lot of ground in the next few minutes, zeroing in on friendship, solidarity, celebration, and loss while implicitly defending the antic, bohemian lifestyle of happier times.

The freewheeling Seventies are fondly recalled with musical allusions to Eurodisco (appropriately, the ubiquitous German disco engineer and producer Harold Faltermeyer produced "Behavior"). Fast forward to the present, with the world forever altered: "All the people I was kissing/Some are here and some are missing/In the 1990's."

Later, *My October Symphony*, an ambitious homage to the Russian Revolution, sits next to *Only the Wind*, which seems to be about the death of a close acquaintance. Both songs speak obliquely about failed dreams, the glory of dreaming, death, and the haunting silence that follows death, and both are filled with images of autumnal decay. In *Only the Wind*, spare piano

chords are set against synthesized swatches of sound, a subtle swell of strings, and a muted percussion track. The clues dropped suggest that its central character might have died from an all-too-familiar epidemic, but instead of anger there is philosophical resignation: "When life is karma/I have no doubt/No angry drama/A star blows itself out."

The subjects of pain, confusion, and loss are revisited—indeed, there's no escaping them—in *The End of the World*, although its upbeat tempo and jaunty complexion suggest the welcome escapism of the dance floor, and the refrain goes, "It's just a boy or a girl/It's not the end of the world." The song is ultimately less about the personal drama of breaking up with someone than about a generational calamity in progress.

Against this disturbing backdrop, a rock star's preening lifestyle suddenly seems a particularly hollow conceit.



Chris Lowe (left) and Neil Tennant: facing the end of an era



So the Pet Shop Boys deflate a musical celebrity in *How Can You Expect to Be Taken Seriously?* Set to an infectious rhythm that shuffles and swings (and based on somebody real, judging from the detailed lyrics), it is one of the album's most instantly engaging songs. But in truth, all of "Behavior" is readily accessible to anyone who has conquered a reflexive dislike of synthesizers and is willing to meet it halfway. It is not only a moving piece

of work but a pinnacle of modern pop. *Parke Puterbaugh*

**PET SHOP BOYS:** *Behavior*. Nell Tennant, Chris Lowe (vocals and instrumentals); other musicians. *Being Boring; This Must Be the Place I Waited Years to Leave; To Face the Truth; How Can You Expect to Be Taken Seriously?; Only the Wind; My October Symphony; So Hard; Nervously; The End of the World; Jealousy*. EMI © CDP-94310-2 (49 min), © E41H-94310.

time. It came to light in 1961 when the late Hans Moldenhauer was assembling the Webern Archive at Spokane, Washington. Eugene Ormandy and the Philadelphia Orchestra gave the world premiere in Seattle as part of the First International Webern Festival. Their recording on the Columbia label appeared in 1967 and until recently was still available on cassette. It has found a worthy successor in Chailly's lushly recorded new reading. The music is bucolic late-Romantic, redolent of Mahler, Richard Strauss, and even early Delius (whose music received considerable attention in Germany during the 1930's). It receives a beautiful performance, in gorgeous sound. *David Hall*

## Riccardo Chailly's Gorgeous Brahms and Webern

**T**EUTONIC heroics may seem almost essential for a fully realized performance of the Brahms First Symphony, but there is much to be said for a more relaxed manner in the Second. After all, Brahms's Vienna, just like Richard Strauss's Munich, was a cultural crossroads between Austro-Germany and Cisalpine Italy. Awareness of this seems to inform Riccardo Chailly's new London recording of the Second with the Royal Concertgebouw Or-

chestra. Marked by a totally unforced lyricism, it is yet wholly alert in terms of structure.

did spirit and a welcome sense of proportion in not overemphasizing the "big" tune. The acoustic surround of Amsterdam's Concertgebouw suits this kind of music to perfection. One would never recognize the other piece on this disc, Webern's pre-Schoenberg orchestral idyll of 1904, *Im Sommerwind*, as coming from the same hand that a dozen years later would produce such a gnomic work as the rigorously conceived String Trio, Op. 20. The twenty-year-old compos-

**BRAHMS:** *Symphony No. 2, in D Major, Op. 73*. **WEBERN:** *Im Sommerwind, Idyll*. Royal Concertgebouw Orchestra, Riccardo Chailly cond. LONDON © 430 324-2 (57 min), © 430 324-4.

## Shirley Horn: Unforgettable

**S**INGER Shirley Horn has been wowing jazz musicians ever since 1960, when Miles Davis asked her to appear with him after hearing her first album, but she is something of an unknown quantity to record buyers since most of her eighteen albums have been on small labels. Still, she has maintained a devoted cult following, and her recent association with Verve has begun to bring her some long-overdue recognition. Her latest album, "You Won't Forget Me," is such an extraordinary accomplishment that its title will surely prove prophetic.

Horn's mastery of form, sound, and texture is apparent in everything she does. It begins with her choice of material—forgotten jewels like *Beautiful Love* and songs we've heard many times before, like *You Stepped Out of a Dream*, but never interpreted with such expressiveness. She reaches beneath the surface of these romantic compositions to plumb the depths of melody and lyrics, creating arrangements that reshape each song into a highly personal dramatic statement.

While Horn ranks among the finest of vocal interpreters, she is also a



Chailly:  
unforced  
lyricism

er, then at the end of his second year of university studies, was inspired by a poem by the North German social philosopher Bruno Wille, a hymn to nature with strong pantheistic overtones. Scored for late-Romantic orchestra but without trombones and tuba, the music was neither published nor performed during Webern's life-

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superb jazz pianist, providing a complement to her singing that exceeds mere accompaniment. Her chord progressions are rich, lush, and surprising in their beauty. She sustains a mood of grace, moving with ease from delicate balladry to buoyant swinging without ever breaking her spell. A master of phrasing, she can make time seem to stand still.

Horn's own artistry, as well as that of her long-time colleagues, Charles Ables on bass and Steve Williams on drums, should guarantee sufficient delight, but for this recording she invited some of the finest jazz instrumentalists of the day to join her. There are the Marsalis brothers, with Wynton etching a trace of the blues into his trumpet solo in *Don't Let the Sun Catch You Cryin'* and Branford blowing his breathy Ben Websterish best on tenor saxophone in *It Had to Be You*. Fellow Washingtonian Buck Hill provides robust tenor-sax interplay in *Foolin' Myself*, and Toots Thielemans, the miracle worker of the harmonica, seems to fuse his mind with Horn's in the poignant *Beautiful Love* and an imaginative treatment of *Soothe Me*.

But it is Miles Davis, Horn's early champion, who collaborates in the single most exquisite selection, the title track. Here is a Miles we haven't heard for years, except in occasional snatches, with that same haunted lyrical quality, that same entrancing beauty that distinguished his sound from all others. He seems to draw inspiration from Horn, who rises here to the peak of her art. It is a musical experience you won't forget. With this great recording, Shirley Horn has finally come into her own.

Phyl Garland

**Horn: grace and artistry**



VERVE/POLYGRAM

**SHIRLEY HORN:** *You Won't Forget Me*. Shirley Horn (vocals, piano); Miles Davis (trumpet); Buck Hill, Branford Marsalis (tenor saxophone); Toots Thielemans (harmonica, guitar); other musicians. *The Music That Makes Me Dance/Come Dance with Me; Don't Let the Sun Catch*

*You Cryin'; Beautiful Love; Come Back to Me; Too Late Now; I Just Found Out About Love; It Had to Be You; Soothe Me; Foolin' Myself; If You Go; You Stepped Out of a Dream; You Won't Forget Me; All My Tomorrows.* VERVE © 847 482-2 (71 min), © 847 482-4.

## Tough, Rewarding Chamber Music From Vienna

In an age when symphonic music was growing increasingly huge, Schoenberg wrote his Chamber Symphony for fifteen solo musicians to reverse the trend. It was an astounding accomplishment in 1906 (it still is), and it started a move toward chamber-orchestra music that is still in progress. Schoenberg put almost as much music into 20 minutes for fifteen musicians as Mahler did in 80 minutes for seventy-five musicians. The Chamber Symphony is a five-movement work packed down into a single kaleidoscopic movement and a big, virtuosic scramble for the musicians—it makes for tough playing, tough listening.

It is extraordinary, however, how much easier this music has gotten over the years. A splendid new Teldec recording, made in Vienna by a pan-European ensemble, the Chamber Orchestra of Europe, goes a long way toward justifying Schoenberg's vision. It took most of a century, but there are finally musicians—even in Schoenberg's native city of Vienna—to whom this music speaks a comprehensible and expressive language and to whom its formidable technical challenges are a means to an end and not just obstacles to be (grudgingly) overcome. Still not easy listening, but immensely worthwhile.

Something of the same could be said about the coupler, Berg's Chamber Concerto for Violin and Piano with Thirteen Winds, written twenty years later in his version of Schoenberg's twelve-tone method, with a few added butts. This is Berg at his densest and most mystical. The work is dedicated to Schoenberg, his teacher, on his fiftieth birthday. It is made up of three closely interconnected movements that are full of a highly arcane numerology, transcending even the arithmetic of twelve tones. The results are, in



Holliger: justifying Schoenberg

three words, expressionistic, personal, and hermetic. This is the most opaque work of a composer usually considered to be the most accessible of the twelve-toners, but Heinz Holliger, in his role as conductor, and the Chamber Orchestra of Europe have a skillful and valiant go at it.

Eric Salzman

**SCHOENBERG:** *Chamber Symphony, Op. 9.* **BERG:** *Chamber Concerto for Violin and Piano with Thirteen Winds.* Thomas Zehetmair (violin); Oleg Maisenberg (piano); Chamber Orchestra of Europe, Heinz Holliger cond. TELDEC © 2292-46019-2 (63 min).

COLBERT ARTISTS MANAGEMENT INC.

# REVIEWS

## Popular Music

Discs and tapes  
reviewed by

Chris Albertson, Phyl Garland,  
Ron Givens, Roy Hemming, Alanna Nash,  
Parke Puterbaugh, and Steve Simels

**THE BEAUTIFUL SOUTH:** *Choke*. The Beautiful South (vocals and instrumentals); instrumental accompaniment. *Tonight I Fancy Myself*; *My Book*; *Let Love Speak Up Itself*; *Should've Kept My Eyes Shut*; *I've Come for My Award*; *Lips*; and five others. ELEKTRA © 60985-2 (37 min), © 60985-4.

Performance: *Oddball pop*  
Recording: *Good*

Only Britain could produce a band as likably eccentric as the Beautiful South, whose mix of lyrical quirks and music-

four-pack in the fridge/A good book on the shelf/ I think tonight I'd rather love myself." Real agit-prop anger underlies *I've Come for My Award*, in which a shoplifter spits out his contempt for the entrepreneurial class by bragging about his skill as a thief: "I took on your free enterprise and your pretty little shops/Walked in with empty bags and walked out with the lot/So I've come for my award."

By way of background, the two founders of the Beautiful South, singers Paul Heaton and Dave Hemingway, previously belonged to the Housemartins, a decidedly politicized, left-leaning band. Their voices—one a croon of limited range, the other more of a sing-speak—are joined by Briana Corrigan's girlish mouse-squeak and backed by a crack three-piece band of guitar, bass, and drums. In a word, intriguing. *P.P.*

**JOHNNY CASH:** *The Mystery of Life*. Johnny Cash (vocals, guitar); Marty Stuart (guitars, mandolin, vocals); John

with an odd set of songs, several of which are so old they practically sport toupees.

There's *Wanted Man*, for example, a mediocre and disappointing number Cash wrote with Bob Dylan in the late Sixties. Then there's a remake of Cash's hard-chugging Fifties rockabilly classic, *Hey Porter*, and a duet with Tom T. Hall, *I'll Go Somewhere and Sing My Songs Again*, that the two most likely cut years ago for another project. There's also *Beans for Breakfast*, a funny but dated tune (it first appeared as the B side of a single some years ago) that casts the singer as a pathetic lout unable to care for himself once his woman has run out on him. Although it's sexist by contemporary standards ("wish you'd come back and wash the dishes"), it also contains an interesting reference to Cash's true-life firebug-and-drugs days of yore: "The house burned down from the fire that I built/In your closet by mistake after I took all them pills." But by far the strangest tune here is one in which Cash tries to join a cowboy metaphor with a religious theme, entoning, "My cowboy hero hat's off/To the man who rode a donkey/He's the greatest cowboy of them all." Gag me with a prayer book.

The Cash aura is so strong, though, that even when he's bad (or in the case of much of this album, just weirdly off-center), he commands attention, both for his presentation and for the beauty and humor he finds in life's most mundane situations. His stature is such that he can put out an album like this one and make it work, after a fashion. Cash will eventually be reckoned the single most important country-music figure of the postwar era, and "The Mystery of Life," for all of its shortcomings and its quirkiness, provides not a few of the reasons. *A.N.*



The Beautiful South: likable eccentrics

hall and cabaret-influenced pop recalls the Kinks and the sorely undernoticed Deaf School. The Beautiful South stops just shy of being cute and charming, however, which gives the songs here a devilishly droll edge. In *Tonight I Fancy Myself*, the narrator eavesdrops on a lovestruck couple's cooing and wooing and decides he's content to be alone: "A

Prine, Anita Carter (background vocals); other musicians. *The Greatest Cowboy of Them All*; *I'm an Easy Rider*; *The Mystery of Life*; *Hey Porter*; *Beans for Breakfast*; *Goin' by the Book*; and four others. MERCURY/POLYGRAM © 848 051-2 (30 min), © 848 051-4.

Performance: *Time capsule*  
Recording: *Good*

Johnny Cash was a busy man last year—touring with his fellow Highwaymen, putting together a retrospective exhibit at the Country Music Hall of Fame, and recording "The Mystery of Life." When it came to writing the album, however, Cash apparently was too busy, and so he rummaged through his attic and came up

**THE DARLING BUDS:** *Crawdaddy*. The Darling Buds (vocals and instrumentals). *It Makes No Difference*; *Tiny Machine*; *Crystal Clear*; *Do You Have to Break My Heart*; *You Won't Make Me Die*; and five others. COLUMBIA © CK 46816 (40 min), © CT 46816.

Performance: *Refreshing*  
Recording: *Enveloping*

The Darling Buds' retro-pop strikes a neat balance between studied expertise and inspired amateurism. They know what makes this sort of music tick, but they're ingenuous enough to let it flow through them in a natural, unaffected way. Harley Farr's fuzzed-up guitar rubs against Andrea Lewis's billowy voice, providing an entrancing hard/soft contrast. The pair co-wrote every song in "Crawdaddy," and their interaction fuels its brightest moments.

### Explanation of Symbols

- Ⓢ = Tape cassette
- = LP record
- Ⓢ = Compact disc (timings are to the nearest minute)



*It Makes No Difference* is built around a simple, sturdy riff from *Satisfaction* land, over which Andrea whisper-sings like a pouting ingénue. *Tiny Machine* is a hypnotic pop daydream worthy of Syd Barrett-era Pink Floyd, featuring shimmering underwater keyboards, multilayered guitars, gossamer vocals, and a solid beat. *Do You Have to Break My Heart* is the sort of ingratiating nugget that Blondie brilliantly tossed off in its heyday. Then there's *Honeysuckle*, which skirts the subject of eroticism with childlike wonder, Andrea elongating the title word as a snare drum taps along with every melismatic syllable. *The End of the Beginning* inverts form and begins with its winning chorus, proving that the Darling Buds know the rules well enough to break them. These pop savants would seem to have a bright future, and "Crawdaddy" is among the most refreshing releases yet from Britain's thriving paisley overground. P.P.

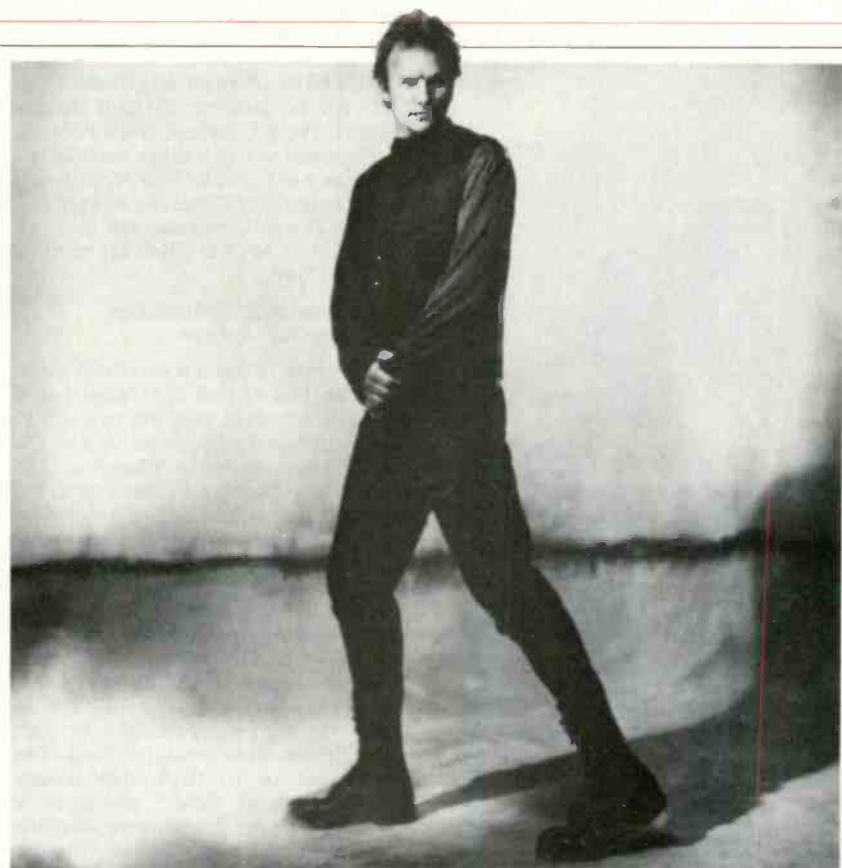
**ED'S REDEEMING QUALITIES:** *More Bad Times*. Ed's Redeeming Qualities (vocals and instrumentals); other musicians. *Camouflage*; *Spoken Word*; *Bob*; *Sad*; *The Boy I Work With*; *Buck Tempo*; *Cheese Grater*; *Too Pretty*; and nine others. FLYING FISH © FF 70549 (50 min), © FF 90549, ● FF 549.

Performance: *Charming*  
Recording: *Good*

You won't find an Ed in Ed's Redeeming Qualities, but the redeeming qualities are easy to pinpoint; this folk trio (Carrie Bradley, Dan Leone, and Neno Perrotta) is irrepressible, clever, funny, and totally unpredictable. I haven't had this much fun listening to a postmodern hootenanny since the first album by the Roches (who weren't—and still aren't—nearly as wacky).

Actually, Ed's Redeeming Qualities doesn't sound like *anybody* else, which may be explained in part by the instruments they play: violin, acoustic guitar, toy xylophone, ukulele, bongos, and "rice in the coffee can." At the heart of their tunes is some straightforward American-style strumming, but the percussion gives everything a Caribbean sparkle, and the violin, when it shows up, makes the music swing with a French accent. And while the voices are ordinary at best, that only adds to the charm and believability of everything they sing.

It's good that the songs *sound* so believable, because there's a melodramatic, almost exploitative quality to the lyrics, which take odd little tendrils of life and focus on them so intently that the quietly ordinary almost becomes surreal. *Lawn Dart*, for example, is about some guys who can't find the game at their local store: "A kid was pegged in



## Sting

**N**O one has ever accused Sting of being a happy-go-lucky guy, but "The Soul Cages" is a particularly dark and moody album. Death is everywhere in these new songs, along with strong feelings of entrapment and futility.

The explanation for Sting's troubled, and troubling, obsessions is simple: Over the past few years, both of his parents have died. On one level, then, the album is an act of mourning. On another, less readily explicable level, much of it has to do with the sea—along with the ships that sail it and the people who build them. A boy living next to a shipyard, where his father works and is killed, dreams of sailing far away; a sailor at sea agonizes over a past love; a son, believing that religion is worthless, wants to bury his dead father at sea. From the eternal quality of the ocean to the double-edged symbolism of the ships—confining but also liberating—Sting's marine metaphors resonate powerfully. If some of the lyrics are overwritten, their exaggeration reinforces the deep emotions at play.

Unsurprisingly, the music in "The

Soul Cages" is also uniformly melancholic. The slow songs unfold at a crawl, repeating their melodies like a ritual prayer. *When the Angels Fall*, for instance, seems to consist of one verse and one chorus stretched to nearly 8 minutes in length. The faster songs are somber, too. Despite serio-comic lyrics and a crackling backbeat, *All This Time* is a brooding tune with ominous bass, jangling guitar, and throbbing keyboards.

The gloomy, almost hypnotic spell of Sting's music is never broken in "The Soul Cages." The album is not an entertainment so much as a meditation, and its narratives don't answer fundamental questions so much as inspire them. Easier to admire than to enjoy, it's nevertheless an important work. Ron Givens

**STING:** *The Soul Cages*. Sting (vocals, bass, synthesizer, mandolin); other musicians. *Island of Souls*; *All This Time*; *Mad About You*; *Jeremiah Blues (Part 1)*; *Why Should I Cry for You*; *Saint Agnes and the Burning Train*; *The Wild Wild Sea*; *The Soul Cages*; *When the Angels Fall*. A&M © 75021-6405-2 (48 min), © 75021-6405-4, ● 70521-6405-1.

the head with a lawn dart/. . . So they're now off the shelves at the K-mart." All the songs are like that; they come at you deadpan, one odd little non sequitur after another. The effect is alternately bizarre and hilarious. Simply put, Ed's Redeeming Qualities is the David Lynch of folk music. **R.G.**



Roger McGuinn: Byrds redux

**DANNY GATTON:** *88 Elmira St.* Danny Gatton (guitar); other musicians. *Funky Mama; Elmira St. Boogie; Blues Newburg; Quiet Village; Red Label;* and six others. ELEKTRA © 61032-2 (51 min), © 61032-4.

Performance: *Show-offish*  
Recording: *Bright*

Guitarist Danny Gatton suffers here from Roy Buchanan syndrome: great chops, no idea what to do with 'em. So he engages in a lot of stunt playing, hoping that displays of speed and dexterity will razzle-dazzle the listener into overlooking the substantive meagerness of these eleven offerings. The titles alone—*Funky Mama, Muthaship, Slidin' Home*—tell a between-the-lines tale of ace instrumentalists in a creative vacuum, and the less "song" there is to extemporize over, the harder Gatton and company work to cover its deficiencies. And so he plays his scale exercises feverishly, his saxman reaches for notes only dogs can hear, and the whole album gives off the derivative air of a groove long since defined and abandoned by the similarly inclined Lonnie Mack, Duane

Eddy, and Link Wray. Despite Gatton's awesome virtuosity, the chief utility of "88 Elmira St." will be to take us up to newstime or to accompany a basketball-dunking video clip. Lesson: chops ain't everything, by a long shot. **P.P.**

**VINCE GILL:** *Pocket Full of Gold.* Vince Gill (vocals, guitars); Richard Bennett (guitar); Patty Loveless, Herb Pedersen (background vocals); other musicians. *I Quit; Look at Us; Take Your Memory with You; Pocketful of Gold; The Strings That Tie You Down; Liza Jane;* and four others. MCA © MCAD-10140 (32 min), © MCAC-10140.

Performance: *Spirited, but . . .*  
Recording: *Very good*

When Vince Gill had a smash hit single last year (*When I Call Your Name*), all of Nashville rejoiced that the music biz's nicest guy had finally gotten his due. Gill served stints with the Bluegrass Alliance, Ricky Skaggs's Boone Creek, and Pure Prairie League before striking out on his own, and while he'd had varying success at several labels, he also labored for years under the spell of his friend Rodney Crowell, coming across much like an adoring Crowell imitator.

*When I Call Your Name*, a wonderful, bluegrass-inspired duet with Patty Loveless, did a lot to move Gill out of Crowell's shadow, probably because Tony Brown, who produces both men, made sure of it. Gill's new album, "Pocket Full of Gold," continues to move him in an independent direction (aside from the lovely ballad *What's a Man to Do*, which is as Crowellesque as anything Rodney himself has ever done), and it should also help him win fans on his own.

An exceptionally tuneful and rhythmic record, "Pocket Full of Gold" tries to keep a positive attitude. In its plethora of "he-she" songs (as jazz singer Jimmy Rushing used to call them), Gill keeps his distance from standard country heartache themes, offering songs that celebrate success instead. In the ballad *Look at Us*, for example, he rejoices that he and his wife (Sweethearts of the Rodeo's Janis Gill) have managed to stay in love through the years. And in *If I Didn't Have You*, he regales his partner in appreciation for a lifetime of commitment. In a slightly different vein, *Liza Jane* and *A Little Left Over* are danceable tunes with a heavy backbeat, jubilant efforts that address Everyman issues—getting the girl and stretching the paycheck through the weekend.

Throughout the album, Gill goes the extra mile to cast himself as the likable boy next door. But no matter how easily it all goes down—and this is as listenable as a record can be—Gill has yet to write the kind of serious, poetic lyrics that would establish him as a complete artist. If it's in him to go the distance, his songwriting will have to take a dramatic turn past the pleasant yet ultimately shallow fare offered here. **A.N.**

**TOMMY JAMES:** *Hi-Fi.* Tommy James (vocals, guitar); other musicians. *Go; Burnin' for You; Annie Come Knockin'; Ordinary Girl; You Take My Breath Away;* and four others. AEGIS © AER-1600, © AEG-1600 (44 min).

Performance: *Spirited comeback*  
Recording: *Excellent*

Tommy James is a blast from the past who sounds right at home in the present. He and his old band, the Shondells, launched a slew of hits in the Sixties that spilled over into the Seventies. He also greeted the Eighties with a couple of chart singles. If James manages to get a hit off "Hi-Fi," he may well become the first artist to experience Top-40 success in four consecutive decades. James is an expert pop tunesmith who knows how all the pieces of a song fit together, arranging them so that they surprise, excite, and make the spine tingle. And he's smart: Before recording "Hi-Fi" he boned up on the latest musical technology. As a result, his first album in nine years is a pop-rock gold mine that balances high-tech with a good old-fashioned reverence for melodic hooks.

*You Take My Breath Away* glides weightlessly on an airy vocal, achieving a sensuous glow reminiscent of Boz Scaggs's *Lowdown*. The youthful grit in James's voice is audible in *Go*, an infectious party tune, and *Annie Comes Knockin'*, a limber, sassy number reminiscent of *Mony Mony*. *Heartbeat in the Night* sneaks up on you with a killer chorus, and *Backtrack* makes creative use of harmony vocals as a counterpoint to James's lead. There are enough hooks here to reel in a school of bluefish. "Hi-Fi" is, in short, a fine pop album from a past—and present—master. **P.P.**

**ROGER MCGUINN:** *Back from Rio.* Roger McGuinn (vocals, guitar); other musicians. *Someone to Love; Car Phone; You Bowed Down; Suddenly Blue; The Trees Are All Gone; King of the Hill;* and four others. ARISTA © APCD-8648 (42 min), © AC9-8648.

Performance: *Reminiscent*  
Recording: *Very good*

Did you like the Byrds? Then you'll probably like the new Roger McGuinn album. "Back from Rio" sounds very much like the legendary group McGuinn co-founded; his electric twelve-string Rickenbacker guitar defined that band's sound, and it dominates his current solo work as well. The contemporary bands featuring guitars that jangle, jingle, jangle all trace their roots to McGuinn, who hasn't released an album since 1987 (although he recorded some new songs with Byrdmates Chris Hillman and David Crosby for the group's recent boxed-set retrospective). Consequently, "Back from Rio" manages to seem both fresh and familiar. You can't mistake his piercing guitar or his plaintive, quavery voice, but the songs have a smoother, sleeker quality.



McGuinn can still rock when he wants to; it just seems that he doesn't want to very much. *King of the Hill*, a duet with Tom Petty, could have been sung from a rocking chair. So could *If We Meet Again*, a gorgeous song written by veteran Jules Shear. McGuinn seems very sincere when he sings, "I got to have a little faith/I want to know a boy and a girl/Can make it even though/They're not spinning with this world." Considering that he's nearly fifty, he might be singing about one of his kids. It isn't easy for a rocker to age well, but McGuinn may have figured out how to do it. *R.G.*

**MALCOLM McLAREN:** *The World Famous Supreme Team Show, Round the Outside! Round the Outside!* Malcolm McLaren (lyrics and music); various rappers and musicians. *Operaa House!; Word Tribe; Diva Loves Operaa House; II Be or Not II Be; Romeo and Juliet*; and six others. VIRGIN © 91599-2 (47 min), © 91599-4.

Performance: *Oper-rap*  
Recording: *Good*

We live in a country marked by such extreme cultural separatism that many contemporary art forms are virtual strangers to each other. But that's never stopped Malcolm McLaren—the Col. Tom Parker-style con man who masterminded the Sex Pistols' career—from attempting weird syntheses. When it

McLaren himself is only heard (rapping badly) in yet another remake of *Buffalo Gals*; his real job is behind the scenes, pulling the strings. Unfortunately, the idea of rap-meets-opera is funnier than the execution, and the album bogs down beneath the weight of its improbable premise. *P.P.*

**PET SHOP BOYS:** *Behavior* (see Best of the Month, page 83)

**THEY EAT THEIR OWN.** They Eat Their Own (vocals and instrumentals); other musicians. *Better Now; Like a Drug; No Right to Kill; Why Don't You Disagree?; Video Martyr; The Enemy*; and four others. RELATIVITY © 1042-2 (34 min), © 1042-4.

Performance: *Schizoid*  
Recording: *Okay*

They Eat Their Own seems like three bands in one. Two of them are pretty good; one of them isn't. In its garage-grunge and power-pop modes, the band plays with enough hard-edged intensity to make the smart, disdainful songs here crackle with a weird energy, and vocalist Laura B., who wrote nearly all of them, sings with an off-center iciness that suits her disquieting, often creepy material. But They Eat Their Own loses all subtlety when she turns into a political zealot, full of adolescent oversimplifications. Despite all the intelligent work that went

instrumental accompaniment. *It All Belongs to You; Between You and Me; Love 'Em and Leave 'Em; I Gaze into Your Eyes; Weren't We Fools; Please Don't Monkey with Broadway; So Near and Yet So Far; Blue Hours; Rap Tap on Wood*; and nineteen others. PAINTED SMILES © PSCD-122 (70 min).

Performance: *Irresistible*  
Recording: *Crisp and clean*

This being Cole Porter's centennial year, we're sure to be inundated with "rediscoveries" from his forgotten scores, but I doubt that anyone will be able to top the job Ben Bagley has done with this newest release in his outstanding Revisited series. It's guaranteed to bring really good cheer to those who thought there was nothing more to draw from the Porter storehouse.

Among the generous allotment of twenty-eight lesser-known Porter songs, there are only two that probably should have been left in the archives. Most of the others are typically Porter in their melodic grace, wit, pungency, and frequent sauciness. Best of all, they are served up by singers who really understand the Porter idiom and blend together well for the duets and ensemble numbers, as well as being winning in their solo numbers.

Because she's so terrific here in her first major recording, it's tempting to say that Ann Hampton Callaway walks away with the album's top honors. The popular New York cabaret singer-pianist-songwriter not only sings the romantic ballad *Blue Hours* and her own setting of Porter's poem *I Gaze into Your Eyes* as meltingly as anyone possibly could, but she also brings a flair for comic impersonation to such delectable items as *Love Me, Love My Pekinese*.

The rest of the cast, however, holds its own every track of the way. Sandy Stewart pours out her sultrily smoky tones in *Who but You, Please Don't Make Me Be Good*, and several others. The ebullient Tommy Tune is perfect in *Rap Tap on Wood* and *Please Don't Monkey with Broadway*, and Julie Wilson proves again that her incomparable style can make up for her increasingly tremulous high notes, offering truly memorable versions of *So Near and Yet So Far* and *You've Got Something*. As for the fantastic Arthur Siegel, he outdoes himself with this set, not only singing with his usual roguish charm but also spearheading the small-combo accompaniments with his buoyant, lilting piano playing (including some exceptionally imaginative overdubbing of a second piano in many of the tracks). *R.H.*

**HARRY CHAPIN TRIBUTE.** Oscar Brand, Pete Seeger, Graham Nash, Judy Collins, Richie Havens, the Smothers Brothers, Dolores Hall, Bruce Springsteen, Terry Klausner, the Hooters, Pat Benatar, John Wallace, Peter, Paul and Mary, others (vocals and instrumentals). *Circle; Sandy; Cat's in the Cradle; W-O-*



They Eat Their Own's Laura B.: pass the Tums

comes to rap and opera, for instance, most people would say, "Never the twain shall meet." Not McLaren, who Krazy Glues them together in "Round the Outside! Round the Outside!" McLaren's World Famous Supreme Team, a posse of rappers from various quarters, goes along with this madness, in which raps dissolve into arias and Shakespeare gets turned into oper-rap.

into this album, it's clear that They Eat Their Own hasn't yet decided what kind of a band it wants to be. *R.G.*

## Collections

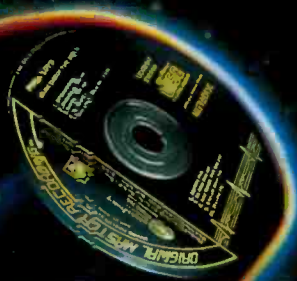
**BEN BAGLEY'S COLE PORTER REVISITED, VOL. V.** Ann Hampton Callaway, Arthur Siegel, Sandy Stewart, Tommy Tune, Julie Wilson (vocals);

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L-D; *Six String Orchestra; When I Look Up; Remember When the Music*; and five others. RELATIVITY © 1047-2 (62 min), © 1047-4.

Performance: *Sincere*  
Recording: *Live, warts and all*

As a humanitarian, the late Harry Chapin was virtually peerless. As a singer-songwriter . . . well, he worked hard (two hundred concerts a year on average), and God bless him for his convictions.

Chapin's forte was turning short stories into songs, blending elements of folk, New Age, and musical theater into full-blown (often overblown) set pieces. Nevertheless, his lasting achievement wasn't his compositions but his commitment to causes—especially world hunger, for which he raised considerable money and consciousness. Pop music might not be the charitable beacon it has become without Chapin's example.

In 1987, an eclectic group of musicians gathered to salute Chapin at Carnegie Hall, and this album is the belated document of that event. Although the program has a musty, sacrosanct air and some of the material is cloying, the performers' sincerity is undeniable, and several moments are transcendent. Judy Collins delivers a riveting version of Chapin's best song, *Cat's in the Cradle*, in her angelic voice. Seminal folk singers from the golden age of protest, including Pete Seeger and Peter, Paul and Mary, join voices in his inspirational *Circle*. Bruce Springsteen nearly steals the show, not so much for his faintly uncomfortable rendering of *Remember When the Music* (which he admits to finding "corny") as for a candid, lengthy reminiscence about how Chapin goaded him into his own subsequent charitable efforts. "I play one night for me and one night for the other guy," Chapin told him. Would that we were all so generous with our time and talent. P.P.

## Jazz

**JANE BUNNETT AND DON PULLEN:** *New York Duets*. Jane Bunnett (saxophones, flute); Don Pullen (piano). *Byaya; Ginastera; Double Arc Jake; Make Someone Happy; Little Rootie Tootie*; and five others. MUSIC AND ARTS © CD-629 (64 min).

Performance: *Excellent collaboration*  
Recording: *Very good*

Every time I hear a new Don Pullen release I become more convinced that he is one of today's most creative and interesting jazz players. In "New York Duets" he is teamed with Toronto-born Jane Bunnett, a saxophone player who is decidedly on the same wavelength. This is an album of great beauty and substance, an intense collaboration that has mutual admiration written all over it.

There is a certain frostiness to Bunnett's playing that some will find distracting—she has a background in classical music, and it shows. She shares with Pullen a penchant for the whimsical, however, and when she jabs her icy tones into his fiery, rhythmical patterns the contrast is absorbing. What a pair, and what a fine album. C.A.

**TOM HARRELL:** *Form*. Tom Harrell (trumpet, flugelhorn); Joe Lovano (tenor saxophone); Danilo Perez (piano); Charlie Haden (bass); Paul Motian (drums). *Vista; Brazilian Song; Scene; January Spring; Rhythm Form; For Heaven's Sake* (CD only). CONTEMPORARY C-14059, © CC-14059, © CCD-14059-2 (49 min).

Performance: *Forthright*  
Recording: *Good*

You may remember trumpeter Tom Harrell from his mid-Seventies stint with Horace Silver's group, or perhaps not; he never left as deep an impression as, say, Blue Mitchell or Woody Shaw. Nevertheless, Harrell is a solid trumpet player with a sprightly style and a gift for writing interesting tunes. Both talents are displayed in "Form," an excellent quintet album of straight-ahead bop. It features robust tenor work by Joe Lovano and a solid rhythm section with Panamanian pianist Danilo Perez, bassist Charlie Haden, and drummer Paul Motian. At twenty-three, Perez plays with remarkable maturity, perfectly complementing the seasoned propulsions of Haden and Motian. Flutist Cheryl Pyle is added for one selection, *January Spring*, a sluggish piece that contains an absorbing interlude by Perez but otherwise failed to sustain my attention. But I was all ears for the rest of the album. C.A.

**SHIRLEY HORN:** *You Won't Forget Me* (see Best of the Month, page 84)

**GEOFF KEEZER:** *Curveball*. Geoff Keezer (piano); Steve Nelson (vibraphone); Charnett Moffett (bass); Victor Lewis (drums). *The Jackleg Patrol*;



Tom Harrell: straight ahead

*Curveball; Never Never Land; Brainstorming; Waltz for Phineas*; and two others. SUNNYSIDE © SSC-1045D (52 min).

Performance: *Extraordinary*  
Recording: *Excellent*

Having raved about pianist Geoff Keezer's previous album, "Waiting in the Wings," I am almost at a loss to describe my enthusiasm for this follow-up release. In my previous review, I referred to Keezer's "agile, surprisingly mature piano," pointing out his tender age of seventeen. In "Curveball" he is a year older, and his playing has progressed past remarkable to the simply extraordinary. Not too long ago, we marveled at the crop of young jazz players, headed by New Orleans-born Wynton Marsalis, who have stubbornly said no to fusion. When Marsalis stood at the threshold of fame, Keezer was a six-year-old child in Eau Claire, Wisconsin. Today Keezer is one of a second generation of purists, musicians who embrace jazz tradition with equal fervor and will have a profound influence on the way tomorrow's public regards the music.

The quartet Keezer assembled for this album is noteworthy. At thirty-five, vibist Steve Nelson is a relative old-timer, but he has yet to gain the status his playing deserves (his new album on Sunnyside, "Full Nelson," marks his overdue debut as a leader). Bassist Charnett Moffett's recent Blue Note debut album, "Beauty Within," was an unmitigated disaster, but Moffett is a superb jazz bassist nevertheless, of which his performance with Keezer offers ample proof. Drummer Victor Lewis is another player deserving wider recognition. Together, they have come up with one of the finest jazz albums of the year. C.A.

**JOE SAMPLE:** *Ashes to Ashes*. Joe Sample (acoustic piano, synthesizers); other musicians. *Ashes to Ashes; The Road Less Traveled; Mother's Eyes; The Last Child; Born in Trouble; Born to Be Bad*; and three others. WARNER BROS. © 26318-2 (50 min), © 26318-4, © 26318-1.

Performance: *Easy listening*  
Recording: *Good*

Although Joe Sample has gained a large following among those who prefer jazz that sounds like pop, he outclasses most others working that genre. Sample is a simplifier, presenting well-crafted but hummable and danceable songs that retain some of the feeling and flavor of jazz without its intellectual demands.

This album was supposedly inspired by Sample's desire to address conditions in the nation's urban black communities, but the connection is not readily apparent. What we do hear is consistently appealing and carefully crafted music with a sometimes poignant edge. Sample is no Jaki Byard or McCoy Tyner, but he is talented enough as a pianist and composer to hold your interest in this set, one of his better efforts. P.G.





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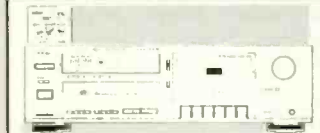
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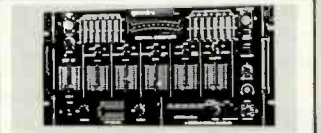
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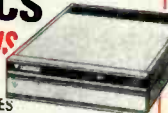
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# BACKBEAT

by Steve Simels



## My Madonna Problem (And Yours)

**B**Y now, apparently everybody in the world has seen Madonna's *Justify My Love* video and formed some passionate opinion about it. That this has happened is, to be sure, no small testament to the business smarts of the former Madonna Louise Ciccone. In fact, given that the clip is *verboten* on MTV, its ubiquity bespeaks a media and marketing savvy demanding serious respect from mere mortals like you and me. And frankly, all the attendant brouhaha (Censorship! The Decline of the West! Bad Haircuts!) really is sort of neat: It means that what passes for art these days can still stir up controversy.

Of course, the irony here is that the

artifact in question is hardly worth all the fuss, especially by the standards of Madonna's earlier work. Face it, kids: The song itself is just a functional piece of disco erotica, and the now-notorious video simply sells it efficiently, nothing more, nothing less. Granted, *Justify's* evocation of polymorphous perversity might be hot stuff if you've never seen a Visconti movie or Duran Duran's *Girls on Film*. But otherwise it's notable solely as an indication of Ms. Ciccone's alternately pretentious and pedestrian sexual preferences (translation: she has a thing, as they used to say, for Euro-sleaze). In short, no big deal.

And yet, and yet . . . I've been thinking a lot about Madonna of late, a chore occasioned by the release of "The Immaculate Collection," her nearly complete (that is, without *Justify*) video retrospective on Warner/Reprise. And the conclusion I keep reaching has kind of brought me up

short, especially since it seems to be a minority view, barring Tipper Gore and a religious nut or two. The conclusion, of course, is that Madonna's most hysterical detractors actually have it right, that this woman and the messages she sends are appalling and mostly indefensible on a (gasp!) moral level.

I am, I realize, verging on Cranky Old Man territory here. Obviously, there's no law saying pop music should be spiritually uplifting. Equally obviously, much of it—including stuff I like a lot—isn't. That's part of pop's appeal. If singles and videos were nothing but humanist pieties with a good beat, nobody in his or her right

mind would ever bother with them.

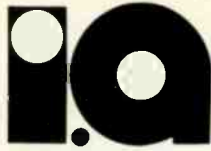
All that allowed, however, "The Immaculate Collection" still makes me want to take a shower when it's over, and I think I know why—it's so nakedly, so honestly scummy. Yes, clip after clip vibrates with subtexts ranging from the distasteful to the nearly evil: porn-palace peepshows as harmless rites of passage (*Open Your Heart*), the Sixties civil-rights struggle as just another pop image to be plundered (*Like a Prayer*), heartfelt odes to unwanted pregnancy (*Papa Don't Preach*), narcissism posing as liberation (*Vogue*), untrammelled greed (*Material Girl*), and on and on. And yes, individually, they can be (and actually have been) justified with the sort of arguments (Postmodern Irony! Subversive Ambiguity! She's Only Kidding!) you expect to hear in *This Is Spinal Tap*. Unfortunately, when you watch the clips back to back their cumulative impact is anything but ambiguous or ironic. You realize that this stuff is an accurate representation of one woman's sensibility (her soul, if you will), like some ghastly disco version of *Advertisements for Myself*.

None of this is to knock the *music*. It's true that if Madonna had been run over by a truck in 1985 the subsequent direction of pop would not have been altered one whit, and it's hard to imagine a young musician somewhere listening to her albums and thinking, "Wow, what a cool riff. I oughtta steal it." Still, the best of her singles are, unquestionably, well crafted and damnably catchy, which is why a lot of folks—particularly feminists and gays understandably desperate for something politically correct to dance to—seem so ready to overlook or reinterpret what's actually being peddled.

Well, I can sympathize with that. Lord knows there are enough records in my collection that are (at best) guilty pleasures, and I'm hardly advocating some sort of ethical litmus test for pop music. But we shouldn't pretend that this stuff is value-neutral, either. What I guess I'm really saying is, okay, sure, go home and dance all you want to "The Immaculate Collection"; some nights I might even do the same thing. But when we do, let's at least have the grace to hate ourselves for it in the morning. □

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# REVIEWS

## Classical Music

Discs and tapes

reviewed by

Robert Ackart, Richard Freed,

David Hall, Eric Salzman, and

David Patrick Stearns

**BERG:** *Chamber Concerto for Violin and Piano with Thirteen Winds* (see Best of the Month, page 85)

**BRAHMS:** *Symphony No. 2* (see Best of the Month, page 84)

**DEBUSSY:** *La Mer; Jeux; Le Martyre de Saint Sébastien, Symphonic Fragments; Prélude à l'Après-Midi d'un Faune*. Montreal Symphony Orchestra, Charles Dutoit cond. LONDON © 430 240-4, © 430 240-2 (76 min).

Performance: *High style*

Recording: *Bright and clear*

Charles Dutoit gives us here a canny mix of familiar and esoteric Debussy. The high point in the former category is a beautifully poised realization of the *Prélude à l'Après-Midi d'un Faune* with elegant solo work from the flutist Timothy Hutchins. *La Mer* emerges with great felicity of detail, but I wish the final pages of the opening movement were more overpoweringly elemental, and in the finale I missed the savagery found in the readings by Toscanini and Karajan.

The 1913 "tennis ballet," *Jeux*, composed for Sergei Diaghilev, is elusively cinematic but none the less intriguing for that; some have found anticipations of Webern in the score's harmonic structure and motivic metamorphoses. Dutoit's taut reading reflects an intellectual approach to the work similar to that of Pierre Boulez, as opposed to a more overtly poetic style like that of Simon Rattle's recent EMI/Angel recording.

The concert suite from *Le Martyre de Saint Sébastien* is genuinely moving, though the lack of connecting narration may make the work (derived from Debussy's 1911 music for d'Annunzio's quasi-medieval "mystery play") less intelligible as drama than it is in more complete recordings. Among the more striking moments are the clear refer-



Conductor  
James Sinclair

### Basic Ives

**A**MONG the host of recordings from the 1974 Charles Ives centennial, the most novel and entertaining was a Columbia release titled "Old Songs Deranged—Music for Theatre Orchestra," recorded by what was then the Yale Theatre Orchestra in the university's Sprague Hall under the baton of James Sinclair. The editions used were the work of Sinclair and a colleague, Kenneth Singleton. Now, with the financial support of the Ives scholar and pianist John Kirkpatrick, his wife, Hope Kirkpatrick, and the Charles Ives Society, Koch International Classics has released an equally fascinating collection performed by the Yale Theatre Orchestra's successor ensemble, the Orchestra New England, with Sinclair again at the helm. And again the performing editions carry the imprimatur of the Ives Society Critical Edition.

The *Country Band March* (1903) was the opener on the 1974 Columbia LP, and it's just as zestful and funny as ever with its off-key bits, devil-take-the-hind-most rhythms, and "false" entries fabulously executed. The *Four Ragtime Dances*, orchestrated from Ives's 1904 sketches and shot through with hymn-tune references, served as grist for later and larger works such as the *Orchestral Set No. 2* and the *First Piano Sonata*. The *Postlude in F* (1890), which derives from an organ piece written by Ives in his teens and orchestrated in 1895, has a pronounced Brahmsian flavor.

*Calcium Light Night* and *Yale-Princeton Football Game*, both from the late 1890's, are redolent of the composer's student days at Yale. These works represent Ives's Mickey Mousing at its ingenious best and funniest, the football

piece especially (this is its first-ever recording). *Calcium Light Night* fares much better in Sinclair's performance here than in the 1970 effort by Gunther Schuller for Columbia.

The remainder of the recording finds us on more familiar Ivesian ground. Sinclair's realization of the 1906 *Set for Theatre Orchestra* (*In the Cage, In the Inn, In the Night*) is singularly telling in terms of the atmosphere it evokes, notably the haunting poignance of the last piece. The *Largo Cantabile "Hymn"* of 1904 has been recorded several times before in various versions. It's one of the loveliest of Ives's hymn-based slow movements, and Sinclair's performance is the best yet. His version of *Three Places in New England* (1908-1914) seeks to re-create the sound of the chamber-orchestra version Ives prepared in 1930, and for me the music gains both in transparency of texture and clarity of its complex rhythmic elements.

What comes through from the beginning to the end of this program is the zest, the passion, and the consummate musicianship that animate each and every performance. The Sprague Hall acoustics provide just the kind of bright yet intimate sound needed for this music. No matter how much recorded Ives has come your way before, do not on any account pass up this album. *David Hall*

**IVES:** *Country Band March; Four Ragtime Dances; Postlude in F; Calcium Light Night; Yale-Princeton Football Game; Set for Theatre Orchestra; Largo Cantabile "Hymn"; Three Places in New England*. Orchestra New England, James Sinclair cond. KOCH INTERNATIONAL CLASSICS © 3-7025-4, © 3-7025-2 (55 min).

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ences in the third section to Act II of Wagner's *Parsifal*. The performance is altogether superb, as is the rich and powerful recording. The only drawback is the skimpy annotation. *D.H.*

**GERSHWIN:** *Cuban Overture; Concerto in F; Rhapsody in Blue; Lullaby*. Alicia Zizzo (piano); George Gershwin Festival Orchestra, Michael Charry cond. PRO ARTE © CDD 514 (70 min).

Performance: *Idiomatic*  
Recording: *On the dry side*

This disc is labeled "First recordings of the original George Gershwin scores," and it has the imprimatur of the Gershwin authority Edward Jablonski, who produced the recording and provided the



Sinopoli: MOR Mahler

annotation. He points out that Gershwin's scores were tampered with by "well-meaning but wrong-headed editors [whose] 'improvements' suppressed the unique Gershwin touch."

Alicia Zizzo, the pianist in the Concerto in F, *Rhapsody in Blue*, and *Lullaby*, did a good deal of digging in order to recreate just what Gershwin himself originally wrote and performed. But that premise itself is open to question. The *Lullaby*, which we know as a piece for strings, is presented here as a piano solo because that is how Gershwin first put it on paper—but his own notation on that piece of paper indicated that the music was intended for string quartet, and what he wrote certainly seems more suited to the string idiom than to the piano. In *Rhapsody in Blue*, Zizzo has gone to great pains to restore the solo part exactly as Gershwin played it in the famous 1924 première; but it is not at all unusual for a composer to withhold publication of a new work until after the first performance so that changes indicated by that experience may be incorporated into the printed score. The orchestration of the concerto, we are told, "required re-editing to restore its true Gershwin-esque

'modern romantic' voice." The listener may or may not detect these differences—and may or may not be convinced that Gershwin would have preferred these versions to the scores as published.

A stronger case may be made for the restoration of nine "lost" measures at the end of the *Cuban Overture*, though again the results seem negligible. In any event, there are arguments for regarding these presentations as uniquely authoritative—even if not uniquely persuasive. Zizzo plays with enlivening commitment, and Michael Charry, secure in the idiom, keeps the George Gershwin Festival Orchestra—of unspecified provenance—on its toes. The recorded sound, however, is very much on the dry side, and this vitiates the vitality of the performances; the *Cuban Overture* is sonically quite dead. *R.F.*

**LISZT:** *Sonata in B Minor; Mephisto Waltz No. 1; Liebestraum No. 3, in A-flat Major; La Chapelle de Guillaume Tell*. Claudio Arrau (piano). PHILIPS © 422 060-2 (57 min).

Performance: *Seasoned*  
Recording: *Vivid*

Claudio Arrau was eighty-two when he made this recording of the Liszt sonata nearly six years ago, and he was eighty-six when he recorded the rest of the program. But age, if apparent at all, shows itself here mostly in terms of accumulated wisdom and depth, not in any abatement of power. Arrau is very much the old tiger in the sonata, which is set forth in the "grand manner" and is possibly even more assertive than his last recording of the work. If his approach tends to be a little episodic, it is inspiring for its directness, charged with drama yet never overloaded.

Arrau had not made a commercial recording of the *Mephisto Waltz* before this one, but a live performance, from a recital in Lugano in May 1963, may be heard on Ermitage. The difference made by twenty-six years may be measured by the additional minute and a half or so in the new performance, which suggests something more like a fascinated observation of the scene than a participation in it but reveals numerous details usually obscured.

In both the sonata and the *Mephisto Waltz*, Minoru Nojima's performances on Reference Recordings remain in a class by themselves, operating on a unique level of subtlety, sweep, and all-round inspiration. Arrau's disc, however, also includes his first recordings of the *Liebestraum* and the first piece from the *Années de Pèlerinage*, both touched with the sort of uncontrived poetry and noble simplicity that have always distinguished this pianist's Beethoven. More than a few listeners may find the disc indispensable for these items alone. *R.F.*

**MAHLER:** *Symphony No. 1, in D Major*. Philharmonia Orchestra, Giuseppe Sino-

poli cond. DEUTSCHE GRAMMOPHON © 429 228-2 (57 min).

Performance: *Excellent*  
Recording: *Very good*

This fourth installment in Giuseppe Sinopoli's Mahler symphony cycle finds him in excellent interpretive form. Recording with the Philharmonia Orchestra in All Saints Church, Tooting, Sinopoli follows somewhat the same classic line as Christoph von Dohnányi in his recent London CD, but with less studied restraint and a fine feel for the work's lyrical element, particularly in the finale.

The recording is bright and very wide in dynamic range, as evidenced by the impressive build-up to the last pages of the opening movement. There is a fine rhythmic lift in the scherzo, and in the parodistic funeral-march movement, more slowly paced than usual, the vulgar element in the village-band episode is soft-pedaled. Like Dohnányi, Sinopoli effectively communicates the dreamlike atmosphere of the opening "nature" pages and of the passage quoting from the *Songs of a Wayfarer* midway in the slow movement. Neither a blockbuster reading à la Zubin Mehta nor a soft-contoured Mittel-Europa performance à la Bruno Walter, Sinopoli's is among the best of the "middle-of-the-road" interpretations of the Mahler First. *D.H.*

**MOZART:** *Piano Quartet No. 1, in G Minor (K. 478); Piano Quartet No. 2, in E-flat Major (K. 493)*. David Miller (viola); Mozartean Players. HARMONIA MUNDI © HMU 907018 (64 min).

Performance: *Excellent*  
Recording: *Beautifully balanced*

The Mozartean Players are actually only three in number: the fortepianist Steven Lubin, the violinist Stanley Ritchie, and the cellist Myron Lutzke. They have been touring together under that name for more than a dozen years, but they quite understandably chose to launch their group discography with the richest of Mozart's chamber works involving a keyboard instrument, and for these they are joined by the violist David Miller. All four are well-known specialists in period-instrument performance, and the trio's years of playing together are happily apparent.

What greets the listener is the impression of committed and skilled musicians who know the music inside out and know one another's ways just as thoroughly, yet seem to make fresh discoveries in both respects as they play. If I could have only one or two recordings of these marvelous works, I would not give up the somewhat brighter, more animated performances by the Beaux Arts Trio with the violist Bruno Giuranna on Philips or the stylish, warmhearted ones recorded in 1964 by Mieczysław Horoszowski with members of the Budapest Quartet, a great buy on the CBS Masterworks Portrait label. But the Mozartean Players are in a class by themselves in



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the period-instrument category, and Harmonia Mundi's beautifully balanced recording is a model of how such things ought to be done. *R.F.*

**MOZART:** *Symphony No. 29, in A Major (K. 201); Symphony No. 25, in G Minor (K. 183); Clarinet Concerto in A Major (K. 622)*. Peter Schmid (clarinet); Vienna Philharmonic Orchestra, Leonard Bernstein cond. DEUTSCHE GRAMMOPHON © 429 221-2 (76 min).

Performance: *Energy in restraint*  
Recording: *Good live take*

**SCHUBERT:** *Symphony No. 8, in B Minor (D. 759, "Unfinished"); Symphony No. 5, in B-flat Major (D. 485)*. Amsterdam Concertgebouw Orchestra, Leonard Bernstein cond. DEUTSCHE GRAMMOPHON © 427 645-2 (56 min).

Performance: *Firm, highly charged*  
Recording: *Vivid*

These two concert recordings are among the first of approximately a dozen recordings left by Leonard Bernstein, most of them taped live, that are being released posthumously. They show that "Lenny," famous for his intense and emotional performances of Romantic and modern repertory, was also—somewhat surprisingly—not a bad classicist. He was one of the first big-time conductors to perform eighteenth-century and early nineteenth-century music with reduced string sections, correct ornamentation, and other historically appropriate



Salerno-Sonnenberg: Vivaldi on the verge

practices. His basic approach to such music, which became stronger with growing maturity, can be heard in these performances of Mozart and Schubert: energy within restraint, a tight surface with a highly charged and even disturbing subtext at play just beneath.

The performances are not note-perfect. There is some graininess to the ensemble and an occasional jarring shift of gears—things that would have been more carefully controlled or fixed up in a studio recording. But they are notable for their qualities of tension and suppressed energy. A curious thing about these recordings is that, only a year old, they already have a "historical" sound. Is it the lack of slickness? The knowledge that the conductor is no longer with us? Possibly. To me, they suggest an era in musical style that is already passing and whose disappearance I find, somewhat unexpectedly, I already regret. *E.S.*

**SCHOENBERG:** *Chamber Symphony* (see Best of the Month, page 85)

**TCHAIKOVSKY:** *Violin Concerto in D Major* (see Collections—Izhak Perlman)

**TCHAIKOVSKY:** *Symphony No. 5, in E Minor, Op. 64; Romeo and Juliet, Fantasy Overture*. New York Philharmonic, Leonard Bernstein cond. DEUTSCHE GRAMMOPHON © 429 234-2 (76 min).

Performance: *Idiosyncratic*  
Recording: *Variable*

These live recordings of the Tchaikovsky Fifth Symphony (1988) and *Romeo and Juliet* (1989) represent the late Leonard Bernstein in his more willful aspect. Exaggerated tempo contrasts and heavy underlining of emotional high points are found throughout. The symphony's introduction is played very slowly, and so is the second movement, which is marked by a remarkably sustained line in the celebrated horn solo. The waltz movement is also slowish, and the fourth movement varies between the solemnly pompous and the ferociously dramatic, with the timpani decidedly overprominent at times. *Romeo and Juliet* gets pretty much the same treatment, in a reading almost 3 minutes longer than Bernstein's 1979 Israel Philharmonic performance. The sound here is better than that in the symphony, with more decay time and better depth imaging. *D.H.*

**VIVALDI:** *The Four Seasons, Op. 8, Nos. 1-4*. Nadja Salerno-Sonnenberg (violin); Orchestra of St. Luke's, Nadja Salerno-Sonnenberg cond. EMI/ANGEL © CDC 49767-2 (42 min).

Performance: *Emotional*  
Recording: *Good*

This recording might be called "Vivaldi on the Verge of a Nervous Breakdown." Nadja Salerno-Sonnenberg's feverishly emotional style is such that even the merriment of "Spring" takes on a manic quality, and the slow movements of the concertos become soliloquies that border on the nightmarish. What happened to the sort of nature painting we usually hear in performances of these works? Her search for an emotional subtext tends to exaggerate Vivaldi's musical ideas to the point of cliché. The dance-

inspired first movement of "Autumn" seems cloyingly quaint, while stormier passages—the presto movement of "Summer," for example—rise to a hysterical pitch.

Considering that so many performances of "The Four Seasons" are exceedingly bland, you have to respect Salerno-Sonnenberg for taking an interpretive stand and following it through; but the singlemindedness of her approach tends to rob the music of its fine shadings. The result is not so much a fresh view of the score as an obsessive one. Strictly for fans. *D.P.S.*

**WEBERN:** *Im Sommerwind* (see Best of the Month, page 84)

## Collection

**ITZHAK PERLMAN:** *Live in Russia*. Tchaikovsky: *Violin Concerto in D Major, Op. 35*. Izhak Perlman (violin); Israel Philharmonic Orchestra, Zubin Mehta cond. Tartini: *Violin Sonata in G Minor ("The Devil's Trill")*. Kreisler: *Liebesleid*. Prokofiev (arr. Heifetz): *The Love for Three Oranges, March*. Bloch: *Baal Shem No. 2, Nigun*. Wieniawski (arr. Kreisler): *Caprice in A Minor*. Tchaikovsky (arr. Kreisler): *String Quartet, Op. 11: Andante Cantabile*. Bazzini: *La Ronde des Lutins, Op. 25*. Izhak Perlman (violin); Janet Goodman Guggenheim (piano). EMI/ANGEL © 54108-4, © 54108-2 (72 min).

Performance: *Fabulous fiddling*  
Recording: *Vivid*

A sense of occasion marks this fourth recording of the Tchaikovsky Violin Concerto by Izhak Perlman, made live during his first visit to the U.S.S.R. at a May 1990 Leningrad concert that also marked the Soviet debut of the Israel Philharmonic. Under the direction of Zubin Mehta, both soloist and orchestra gave of their very best. If the performance adds little to what we already know of the concerto, Perlman's vibrant musicianship and virtuosity, and the orchestra's evident "We'll show 'em" spirit, make for a gripping listening experience despite the distractions of applause between movements and a fair amount of ambient noise.

For me, the real excitement here is the accompanying pieces, recorded at Perlman's April 30 recital in Moscow's Tchaikovsky Hall. Forget about the niceties of Baroque style in the Tartini sonata and just enjoy the fabulous fiddling, capped by a stunning account of the elaborate Kreisler cadenza. Kreisler's own *Liebesleid* receives a performance that must be the ultimate in elegance and charming sentiment, the Wieniawski caprice is a dazzler, and the famous Bazzini display piece is mind-boggling. Extraneous noises and a variable acoustic surround can in no way detract from the joy this recording will provide connoisseurs of virtuoso violin playing. *D.H.*



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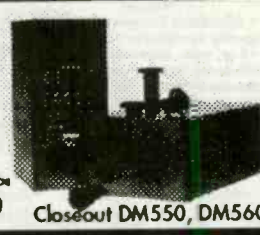
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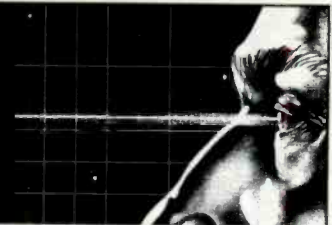
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# R . E . C . O . R . D

by Maryann  
Saltser &  
Robert Rippas



Järvi in Motown

DETROIT SYMPHONY ORCHESTRA

**D**ETROIT may be best known musically for the Motown Sound, but it has another proud tradition that began some thirty years earlier. The first commercially available recordings of the **Detroit Symphony Orchestra** were released on the Victor label in 1928. The Golden Age of DSO recording occurred during the Fifties and Sixties under conductor **Paul Paray**. Examples of their collaboration can be heard on recently released CD transfers of Ravel, Ibert, and orchestral highlights from French operas. These exceptional performances, considered sonically spectacular when first released on LP in the Mercury Living Presence Series, were painstakingly remastered for compact disc by members of the original production team and released by Philips on the revived Mercury label.

After another active recording period with music director **Antal Dorati** and London Records that began in the late Seventies, the DSO fell on hard times in the mid-Eighties, mirroring the downturn in the Motor City's economy. Now there's good news for Detroit and for record buyers: The tape will roll again at the recently restored and acoustically superb Orchestra Hall. The DSO and its new music director, **Neeme Järvi**, have signed a five-CD recording contract with Chandos Records. Scheduled for re-

lease this spring is an all-American program of works by Barber and Beach.

**F**OR the last few years **Nils Lofgren** has been a very busy guy, working primarily with **Bruce Springsteen's** legendary E-Street Band. Lofgren did, however, manage to find enough time to put the finishing touches on his new Rykodisc release, "Silver Lining," his first solo album in nearly a decade.

Lofgren first achieved public notice in the early Seventies, playing guitar and recording with **Neil Young**. He has also worked with such artists as **Lou Gramm** and **Steve Forbert**, and most recently he toured as part of **Ringo Starr's** All-Starr Band. Not surprisingly, the guest list on "Silver Lining" reads like a Who's Who of rock-and-roll. The first single from the album is a duet with Springsteen entitled *Valentine*. Ringo Starr is aboard for a couple of tracks, as are **Levon Helm**, **Billy Preston**, and fellow E-Streeter **Clarence Clemons**.

**A**FTER nine successful years as lead singer of the **Bangles**, the pre-eminent female rock band of the Eighties, **Susanna Hoffs** has decided to go it alone with "When You're a Boy," her solo debut

**Hoffs: going solo**



Lofgren: back from E Street

RYKODISC

on Columbia. The decision to leave the security of the group wasn't necessarily an easy one. "Making this record was like overcoming a fear of flying," Hoffs has said, "but sometimes it's important to take risks and challenge yourself artistically."

Some old friends were on hand to help ease her transition to solo artist. **David Kahne**, who produced the first two Bangles albums, returned to do the same for "When You're a Boy." And the first single from the album, *My Side of the Bed*, was co-written by Hoffs, **Billy Steinberg**, and **Tom Kelly**, the same team that wrote such chart-topping Bangles hits as *In Your Room* and *Eternal Flame*. A diverse group of musicians also contributed to the record, including the Who's **John Entwistle**, who provided the bass for a version of **David Bowie's** 1979 hit *Boys Keep Swinging*.

**S**ONY CLASSICAL has begun releasing a series of multi-CD sets highlighting **Aaron Copland's** sixty-year recording career with CBS. The "dean of American composers," who died last September, conducts his own music in the first release, "The Copland Collection, *Orchestral & Ballet Works, 1936-1948*." Among the works in the three-CD set are *Appalachian Spring*, *El Salón México*, *Billy the Kid*, *Lincoln Portrait* (narrated by **Henry Fonda**), and the *Clarinet Concerto*, in the historic recording with **Benny Goodman**. Some of the performances are making their debut appearance on CD, including a 1965 recording of *Quiet City* with the London Symphony Orchestra and the *Music for Movies*.

"The Copland Collection" has been divided into three separate periods of the composer's prolific life. Later this year Sony will release two ad-

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ditional sets featuring early works (1924-1935) and late orchestral works (1962-1972), some of them conducted by Leonard Bernstein.



Copland conducts Copland

language of the native Guarani Indians) is based on local myths about the creation of the world and the arrival of man. Written for a large, well-disciplined chorus, it also calls for the greatest orchestral forces Glass has used to date. A recording by the Atlanta Symphony Chorus and Orchestra is being released this month on Sony Classical.

**T**EXAS legend Joe Ely recently returned to the MCA label, after a five-year absence, with "Live at Liberty Lunch," a thirteen-song set drawing from a decade of Ely's roots-rock. To help celebrate his triumphant comeback, MCA is reissuing his critically acclaimed first four recordings on cassette and, for the first time, on CD.

The remastered albums—including "Joe Ely," "Honky Tonk Masquerade," "Down on the Drag," and "Musta Notta Gotta Lotta"—have been out of circulation for several years, and for Ely, who consulted on the remastering, these releases are like brand-new recordings, especially the CD's. "I heard things that I didn't even know were on there," he has said. Apart from digging his early efforts, Ely has been busy of late working on the soundtrack for John Mellencamp's forthcoming feature film, *Souvenirs*.



Ely: roots-rock reissued

**E**RATO has released the first complete recorded set of the harpsichord sonatas of Domenico Scarlatti, performed by the late Scott Ross. The 555 sonatas are contained on 34 CD's housed in a special slip case. Also included is a 200-page booklet with information on Scarlatti's life and music, plus a short analysis of each piece. The set will sell for the price of twenty CD's.

The American-born Ross settled in France at the age of fourteen to pursue his musical training. After winning first prize in an international competition he pursued a brilliant career as a soloist on the harpsichord as well as the piano and organ. He made a large number of recordings, including the complete keyboard works of Rameau and Couperin, for both of which he received the Grand Prix du Disque, France's leading award for recorded music. The Scarlatti sonatas were recorded during sessions in 1985 and 1986. Ross died, at the age of thirty-eight, in 1989.

**F**IVE of the most legendary names in opera—Licia Albanese, Robert Merrill, Anna Moffo, Roberta Peters, and Risé Stevens—are currently enjoying new popularity as video stars. All five were regulars at the Metropolitan Opera, at home and on tour,

and appeared in numerous recordings spanning four decades. Fortunately for video buffs, they were also captured in live telecasts of *The Voice of Firestone*, now available on videocassettes from Video Artists International. The *Firestone* program began on radio and continued to attract fans on TV from 1949 to 1963; VAI has also issued *Firestone* performances by Jussi Björling, Franco Corelli, José Gre-



Opera legends on video

co, Jeanette MacDonald, Joan Sutherland, Renata Tebaldi, Richard Tucker, and Leonard Warren, among others. The critically acclaimed series continues this month with ten new releases, including performances by Fred Waring and the Pennsylvanians and Helen Traubel, second volumes devoted to Stevens and Lauritz Melchior, and a third volume devoted to the amazingly versatile soprano Eleanor Steber. □

Glass: souvenir of Brazil



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# THE HIGH END

by Ralph Hodges



## Free-Lance Audio

**J**OHN CURL, who has designed some of the most interesting audio electronics of the last twenty years, learned engineering at Ampex during a high point in that company's history, and he learned it the way the book taught it. A resistor was a resistor, a capacitor a capacitor, and a wire was certainly a wire. Then came a significant setback. The Grateful Dead commissioned him to build transistorized electronics to replace their vacuum-tube gear, which was too fragile for reliable touring. He had no reason to believe any great challenge was posed, but the band threw his initial efforts out and returned to their glowing bottles. The Dead didn't like the way the transistor designs sounded. Clearly, something here was failing to add up.

Fortunately, although the arithmetic remained imperfect, in short order some of the mysteries began yielding to empirical approaches. A line amplifier painstakingly worked up for the Dead, with what Curl considered at the time monstrous engineering overkill, was accepted, and it also found a consumer outlet in the form of the famed Mark Levinson JC-2 preamplifier of the Seventies. Along with others, Curl was taking a suspicious look at the trendy integrated-circuit operational amplifiers of the day and finding what he considered woeful inadequacies, which led him to fully discrete, push-pull, complementary-symmetry

designs. Then something of a watershed event occurred.

On a visit to a prominent test-equipment manufacturer, Curl was invited to witness how a modified curve tracer could measure the distortion in a capacitor. To Curl, distortion in a capacitor was not a reasonable thing for scientific people to be talking about, but something was definitely there, and often quite a lot of it. "It was something like a dead zone," he told me, "or what computer specialists call a non-return-to-zero condition. When the device was subjected to something like actual working applications, it could not retrace its original curve. With ceramic capacitors especially, the deviation, always negative, could be as much as 10 percent!"

He would later find the same effect in potentiometers using ceramic elements and references to it in the technical literature of the Fifties. "We don't make analog computers any more, so these phenomena are never directly encountered. People have forgotten about them. But they're all there in the old papers."

Widely published, Curl's reports did much to precipitate the high-end audio industry into using expensive parts for expense's sake, and he freely admits abuses. "Someone tells me he's replaced all his capacitors with Wonder Caps. Well, fine. It can't hurt, and if he's hit a few trouble spots it will help. But as for the other spots, he could have saved his money."

Although Curl has occasionally been a principal in companies with some manufacturing objectives, his greatest influence by far has been as a free-lance design consultant. His latest project is a beefy power amplifier for Parasound, which he calls the second generation of an existing device. "The amp was already there, but with some problems that I fixed up. Then again, it's based on circuit designs I devised and published as early as 1976, so perhaps it is in a sense my amplifier."

Curl's career began during the period when matters like transient intermodulation distortion (TIM), current capability, and power-supply regulation were topics of passionate audiophile controversy and when many chose their amplifiers not for ostensible merits but for their faith in the

designer's mastery of the higher mysteries of dynamic distortions. Where did Curl stand on these concerns then, and where does he stand now?

"TIM is the result of slew-rate limiting, and it's real enough. The reason you hear little about it today is that everything has become so fast. Back when the issue arose, some very big amplifiers were trying to get by with rates on the order of 5 volts per microsecond, taking forever to swing their full output. Today I'm a little hard pressed to find amplifiers that can't do 40 volts per microsecond.

"TIM has often been tied to excessive feedback, but this has to be put into perspective. When the op-amp concept came in, we had an intrinsically slow device that could handle a lot of feedback. The feedback tries to push the device to a slew rate higher than it's capable of, and we're soon into an overdrive situation. With faster devices the problem is completely fixed, or at least eased. But that doesn't mean there aren't other reasons for keeping feedback moderate.

"As for power supplies, some people simply throw money at things, believing that more is always more. I can't say for sure one way or the other, but I do find that a wimpy supply that just meets engineering requirements and no more can usually be improved upon. For example, bigger and better capacitors seem to mean less trouble with the ground return—the way the energy sent out by the supply is routed back into it. A related matter is the power-transformer center tap, which appears to be a major point of entry for outside electrical interference. All in all, aside from simple things like passing current and eliminating hum, the power supply is still not as well understood as it could be."

Curl likes to contrast the doubters, sometimes prominent academics, who resist ideas that violate their orthodoxies, with pragmatic manufacturers, who can't afford to overlook *any* factor, no matter how implausible, that might influence performance of an amplifier. He's been on both sides. "I feel that much of my engineering training has held me back at times," he remarked, "by closing my mind to phenomena that have turned out to be very real, or at least very audible." □



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