

# Stereo Review

APRIL 1996 • US \$2.95 • CANADA \$3.95 • UK £1.95

## Surround Sound

### A LISTENER'S GUIDE TO SPEAKER PLACEMENT

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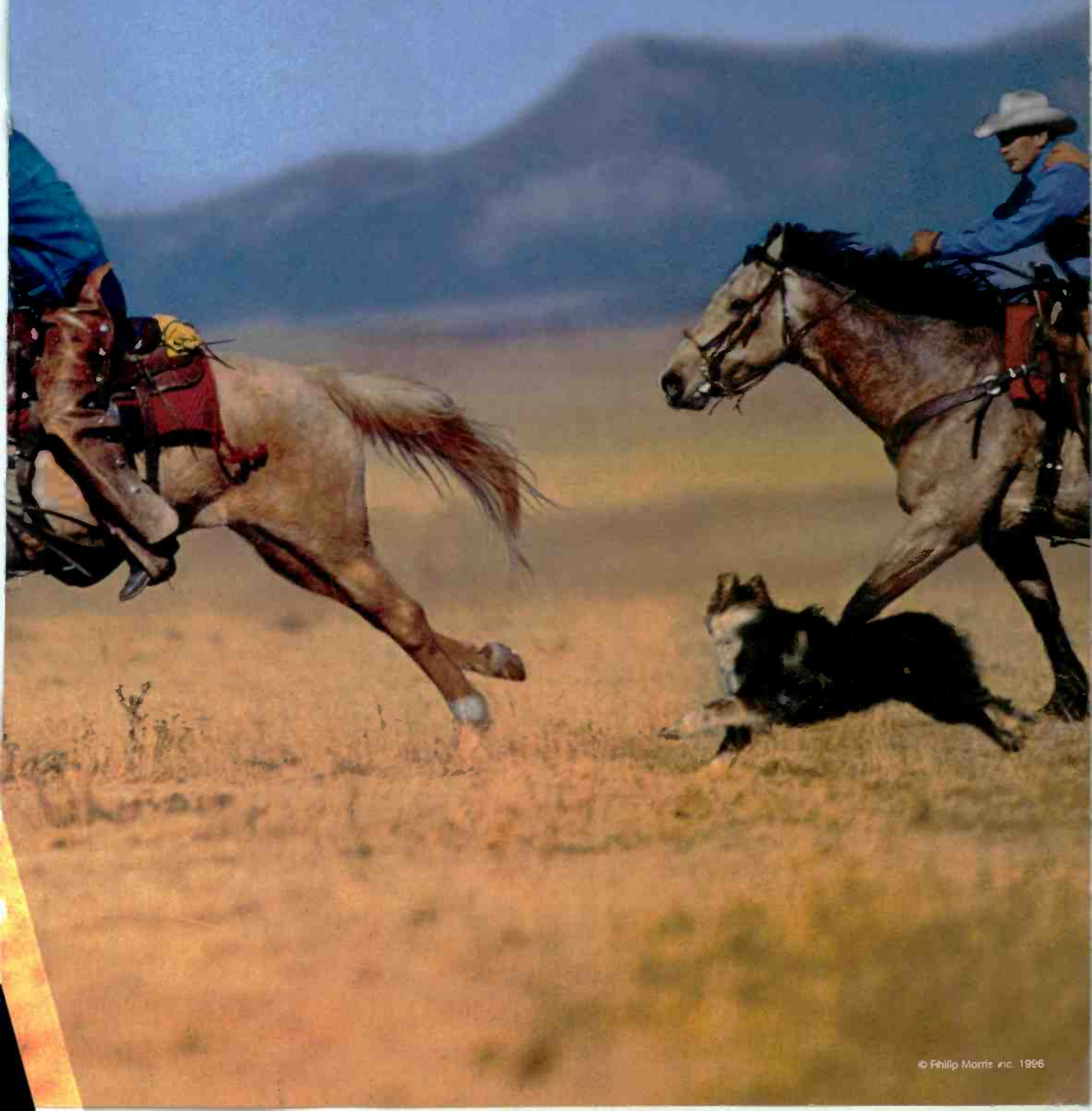
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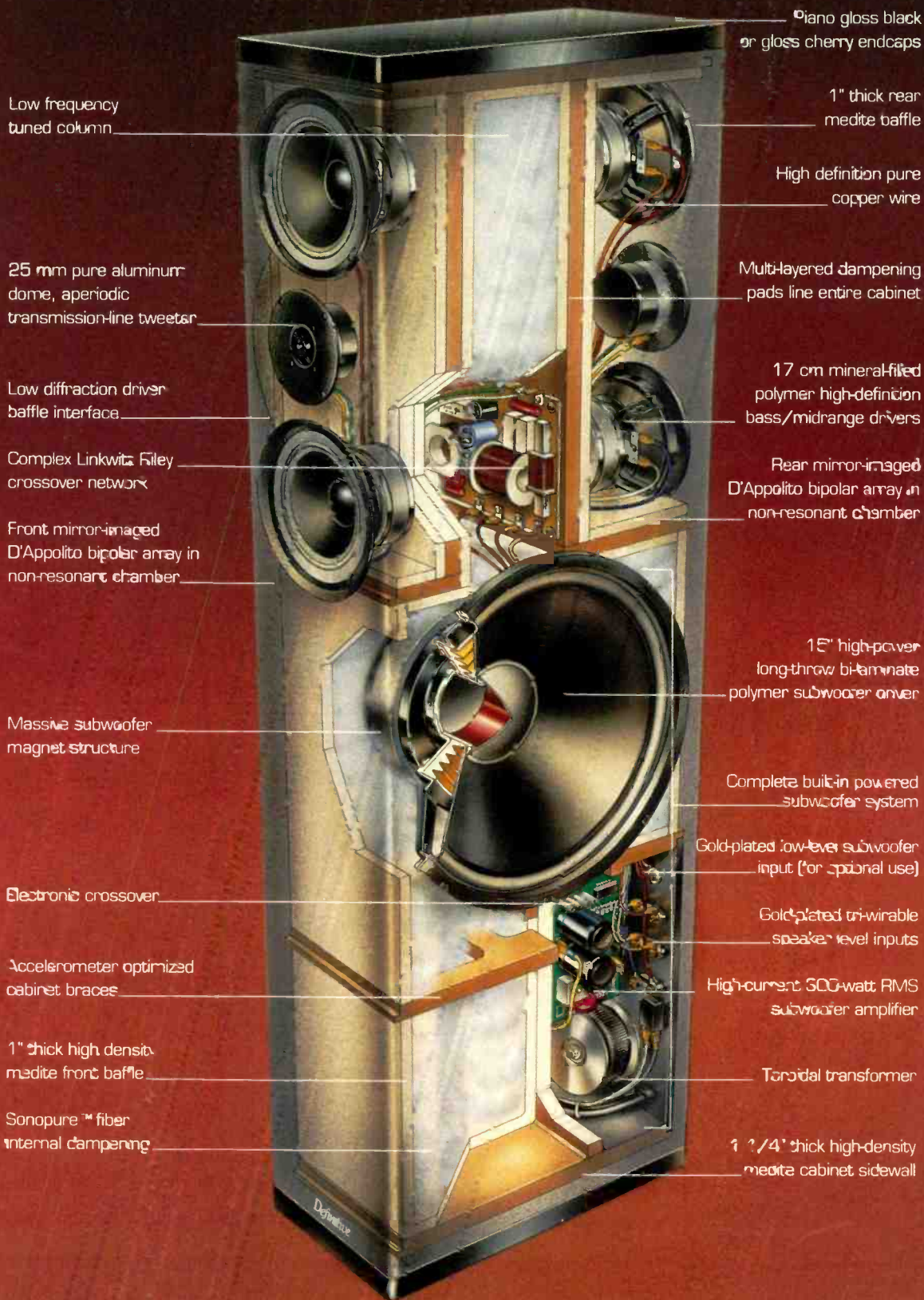
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# Inside Definitive's Revolutionary BP2000



**"Definitive's new BP2000 absolutely kills most more-expensive speakers!"**

*~Brent Butterworth, Home Theater Technology*



# Definitive's New BP2000 Brings You the Ultimate Listening Experience!

*"The first speaker I have been able to audition in my own familiar surroundings that has given me that special thrill that usually costs ten or more times its price to obtain."*

—Julian Hirsch, *Stereo Review*

*"Frankly, if circumstances allowed, I would choose these speakers for myself."*

—Julian Hirsch, *Stereo Review*

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*Definitive's complete AC-3 ready BP2000 Home Theater System is the perfect choice for ultimate music and movie performance.*

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In addition to being an audiophile's dream, the BP2000s are also the main speakers in Definitive's AC-3 ready Ultimate Home Theater System. This astonishing system is absolutely the finest sounding available. It recreates a "you are there" spatial reality that actually puts you into the soundspace of the original cinematic action.

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The home theater on our cover features an RCA 52-inch rear-projection TV and Boston Acoustics' VRS surround speaker, VR40 main speaker, and VR 12 center speaker. For listening tests of several frequently recommended surround-sound setups, see page 46. (TV image from *Apollo 13*. MCA Home Video; chair from *Sofa So Good*; carpet from ABC Carpet & Home.)

Photograph by Dan Wagner

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# Stereo Review

INCORPORATING HIGH FIDELITY

## April 1996

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# BULLETIN

BY BOB ANKOSKO & WILLIAM LIVINGSTONE

## CULT METAL

Black Sabbath, Blue Öyster Cult, Grand Funk Railroad, Cheap Trick, Devo (?), and Donald Fagen (!) are among artists whose music is featured in the 1981 animated sci-fi cult film *Heavy Metal*, which was rereleased in March in thirty-nine U.S. and Canadian cities. The soundtrack is available on an Elektra CD, and the long-awaited home-video release is due out later this year.

## EOSONE ARRIVES

A new line of speakers designed by Arnie Nudell, a co-founder of Infinity and current president/co-founder of the high-end company Genesis Technologies, will be introduced in 250 Best Buy stores this month. The rollout is part of a distribution deal between Best Buy and Eosone, a new speaker company formed in conjunction with Polk Audio. Intended for audio and home theater, the line includes three tower speakers — starting at \$700 a pair and ranging up to \$2,200 a pair for a model with built-in powered subwoofers — and a center speaker (\$250), a surround (\$430 a pair), two powered subs (\$550 and \$750), and an \$850 powered sub/satellite system that can be expanded to a home-theater setup with five satellites for \$1,300. All of the speakers, except the surround, have a rear-firing tweeter "to create a wider sound field."

## GARTH: PAL TO HOOTIE

Hootie and the Blowfish were named Favorite New Pop/Rock Artist at the American Music Awards, voted by 20,000 survey participants. But that wasn't enough, according to Garth Brooks, who received honors for Favorite Country Male Artist and Favorite Country Album ("The Hits"). He was also voted Favorite Overall Artist but refused the award, saying it should have gone to

the Hootie crew because Brooks felt their CD "Cracked Rear View" saved many retailers last year. As of early 1996, sales of "Cracked" were certified at 12 million and still going strong.

## AUDIO CLEANSER

Sonic Foundry has introduced the Noise Reduction "plug-in" software for its \$495 Windows-based Sound Forge 3.0 audio editing package. The \$249 program is said to remove noise from recordings and has a Click Removal tool for vinyl records. Call 1-800-577-6642 for information.

## MUSIC NOTES

On April 3 the hot young diva Cecilia Bartoli will perform the title role in Rossini's *La Cenerentola* with the Houston Grand Opera, to be shown on PBS's Great Performances. The April 6 broadcast of *Austin City Limits* will present Clarence "Gatemouth" Brown and Keb' Mo' (a.k.a. Kevin Moore). On April 13 the show will feature the Sagebrush Symphony with Michael Martin Murphey and "Bronze Buckaroo" Herb Jeffries. . . . Amadeus Press has published *Priest of Music* (\$29.95), a bio of conductor Dimitri Mitropoulos, who was music director of the Minneapolis Symphony (1938-49) and the New York Philharmonic (1950-57). Sony Classical still has some of his recordings in the catalog, including *Don Giovanni* from the Salzburg Festival. . . . Children's recording artist Joe Scruggs has received the Parents' Choice Gold Award for his recording "Ants."

## SUPER-CD PLAN ON WEB

A proposal by Acoustic Renaissance for Audio (ARA) that outlines parameters for a next-generation "High-Quality Audio Disc" is on the Web at <http://www.meridian.co.uk/ara/>. The document calls for a super CD that (1) steers clear of compression that involves



## HOME THEATER IN A BOX

Help is here for folks who love the idea of home theater but loathe shopping for (and hooking up) the extra gear: It's called "home theater in a box." Mission's \$3,995 M-Time system combines a Dolby Pro Logic decoder/preamp/tuner, two powered subwoofers, a powered center speaker, and amps for front and surround speakers, all in a stylish TV stand/cabinet. Celestion's \$1,199 HTiB includes a powered sub with built-in Pro Logic decoder and five 30-watt amps to drive the supplied center speaker and four satellites. Sherwood's six packages, from \$599 to \$1,199, combine an A/V receiver with a sub and five speakers. Nikko offers four TV-stand systems, from \$450 to \$700, with a built-in powered sub, front speakers, surround processor/amp, and stand-alone surround speakers. 3M's \$600 STV Digital 6 includes a surround decoder/amp, five speakers, and a sub. Several Magnavox packages, from \$349 to \$600, combine an A/V receiver (one with a built-in seven-disc CD changer) and five speakers. Kenwood's \$400 CenterStage has two main powered speakers (each houses a sub), a center speaker, and a dipole surround; a Pro Logic decoder and amps for the center and surround are built into the right speaker.

data reduction in favor of the proven linear PCM method, and (2) contains an 18- to 24-bit six-channel surround recording as well as a two-channel version. ARA was formed by audio professionals in England to

insure the sonic integrity of future audio formats. Its proposal was submitted to the committee of the Japan Audio Society that is expected to recommend music applications for the DVD format this spring. □





Patented Acoustimass® bass module. Helps make a 60-ton runaway train sound like, well, a 60-ton runaway train. Hides out of view.

# Home Theater Made Easy

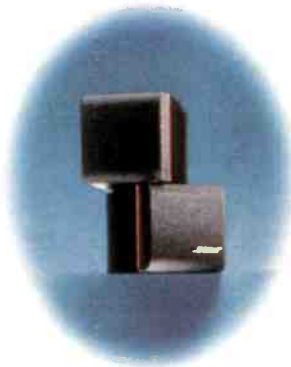
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# LETTERS

## Interface Issues

I have a few questions about some of the latest technology. Will the new DVD (digital videodisc) players be able to play current laserdiscs? Do CD-R (recordable CD) machines need anything else to interface with current CD and laserdisc players? Does it take a special VCR to record from a DSS (Digital Satellite System) receiver?

JIM REED  
Albuquerque, NM

Standard DVD players won't be able to play laserdiscs, but Pioneer plans to market a DVD combi-player later this year that will be able to play laserdiscs and CD's as well as DVD's. The Pioneer PDR-99 CD recorder we reviewed in January has analog inputs (RCA-type) as well as coaxial and optical digital inputs. If your CD or laserdisc player has only an analog audio output, you can use it, but a digital output is far better for recording if one is available. Be sure the CD-R deck you buy has connections that match the sources you want to use with it, as converting between coaxial and optical digital signals can be tough.

DSS receivers have standard composite-video outputs, so any standard VCR will do the trick, though you'll need a hi-fi model to take advantage of the excellent sound quality of DSS broadcasts. Finally, a DSS receiver with digital outputs will be able to feed the broadcasts to a D-VHS digital VCR (announced but not yet available).

## Separates vs. Receivers

I appreciated Daniel Kumin's "Separates vs. Receivers" last November but do have one disagreement: While current receivers are no doubt bargains compared with receivers of just a few years ago in terms of the features provided, they are not bargains on the basis of specifications. Most of the current receivers have such poor specs for distortion and noise they would not have been considered "hi-fi" ten years ago. That is the reason for greater interest in separate components.

BERNARD R. KINGSLEY  
Worcester, MA

Daniel Kumin replies: I assume Mr. Kingsley is referring to the distortion-plus-noise vs. power performance of current A/V receivers in their multichannel surround modes. The two-channel stereo performance of every receiver I've measured recently has been very fine in this respect, surely as good as or better than that of receivers ten years ago. It's true that the power specifications of A/V receivers usually decline dramatically in surround mode, by 25 percent or so, and their distortion specs are usually an order of magnitude higher than in stereo — 0.1 rather than 0.01 percent, say — and are measured at a single frequency (typically 1 kHz) rather than over the full audio band. But there are reasons for this.

The wattage decline is because the receiver's power supply must now service five channels instead of two; in fact, most A/V receivers I've measured produce substantially more power in Dolby Pro Logic mode with one or two channels driven simultaneously than their multichannel specs would predict. The reason for the increase in distortion and noise is the unavoidable drop in dynamic range imposed by surround decoding. Even the best analog Pro Logic chips impose a noise penalty of 5 to 10 dB, so getting a good surround-mode figure for full-band distortion plus noise is much harder than in stereo. This can be a slight problem. I agree, but it's one that digital surround systems will eventually solve.

## Low-Fi Computer Speakers

I purchased my first computer last month. As an audiophile, I checked out the sound system first thing. I inserted a CD and cranked it up. Total disaster! My first high-school boom box had better fidelity! Not what I expected from a \$4,000 investment.

Armed with "How to Buy Computer Speakers" by Cary Lu (January), I ventured out into the world of computer audio. Another disaster! I went to four high-end computer stores, and not one had any high-quality PC speaker systems hooked up. I was told that most people buy off the shelf and are quite satisfied with the "awesome" 20-watt add-on speakers! Auditioning a number of these in my home, I found them totally unacceptable by minimal audio standards. These "plug and play" (plug and pray) speakers should be outlawed!

Frustrated, but still determined to improve my PC audio, I returned to the more familiar surroundings of a local audio store. I bought a good midprice Pro Logic receiver, a pair of good A/V speakers, and a small subwoofer. Instant gratification! And it cost me only about \$500.

WILLIAM HAUPT  
Pasadena, CA

## Stereo Bass

I disagree with Ian Masters when he tells reader Charles Wells not to worry about stereo bass in January "Audio Q&A." I use my system not only for video but also to play records and CD's, and I found a long time ago that I need separate bass speakers.

My preamplifier has an L+R switch, and I have often noticed that combining the left and right channels can cause anywhere from minor to complete phase cancellation and consequent loss of deep bass. It is true that low frequencies are "nondirectional," but not all low frequencies are the same. There's low-frequency phase information in many recordings. Once L+R phase cancellation has been accomplished, however, full bass information cannot be restored.

In my experience, deep bass occurs less than 5 percent of the time in music record-



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—Sound & Image

V-125

S-100B

### S-90

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ings and soundtracks. When it happens, though, I want its full emotional impact without needless compromises. I insist on separate subwoofers for those few but very important moments.

ROGER RUSSELL  
Longwood, FL

*Technical Editor David Ranada replies: I conducted some informal experiments in our listening room to determine both the localizability of low bass and the need for stereo subwoofers, using specially devised*

*signals. Starting at 100 Hz, and definitely by 80 Hz, the bass became unlocalizable, which implies that a subwoofer should ideally operate only up to around 80 to 100 Hz if it is not to give away its location.*

*With regard to phase, when I switched the stereo test signals into mono they sounded virtually the same. At these low frequencies the effects of the resonances and reverberation time of the listening room began to overpower the direct sound at the listening position, and there is insufficient "separa-*

*tion" of human ears at these frequencies for there to be large differences in the signals reaching them. Changing to mono can be plainly audible when very low-frequency signals are heard through headphones but not in normal room listening.*

*Deep bass is uncommon except in classical music and soundtracks, and it's even rare in the classics, where bass drums and pipe organs are its only dependable sources. Stereo deep bass, containing phase differences between the channels, is even rarer in pop music and is virtually nonexistent in Dolby Surround soundtracks. Only Dolby AC-3 soundtracks have any to speak of. But if you're dogmatic on this point, when you get around to installing AC-3 you're going to have to have six (!) subwoofers, not two.*

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### A Firm Grounding

As an electrical engineer with a major electrical utility, I commonly receive trouble calls after a storm because a customer's cordless phone, cable TV and VCR hookup, or satellite-TV dish antenna has suffered lightning damage. All of these involve the interconnection of separate utility systems, each with its own ground system, and I have always found that the cause of the damage was failure to properly bond the separate systems together and to the building's grounding electrode system.

The DSS installation described in the December issue's very entertaining article "On Location: Home Theater in a Day" also got it wrong. The satellite-dish electronics were connected to the phone system and to a ground rod at the dish's down lead. Eventually a lightning surge will pass from the phone or power system to that rod and damage the DSS equipment. Then the customer will try to prevent a recurrence by installing surge suppressors. Ultimately, his power company will get a call when the surge suppressor fails to protect the electronics, and perhaps itself. Proper grounding is not simply driving in a ground rod.

THOMAS A. SEIDL  
Appleton, WI

### Endangered Species?

Is the two-channel receiver going to become extinct? Please tell me no! There are many of us who are not interested in home theater. I love my two-channel receiver and wish to enjoy audio only!

BRIAN LANNEN  
Tulsa, OK

*Years from now when multichannel audio rules, two-channel receivers will fade away. But today all of the major companies still offer at least one or two plain stereo models—and all A/V receivers have a two-channel mode. We'll have more on all this in June.*

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.





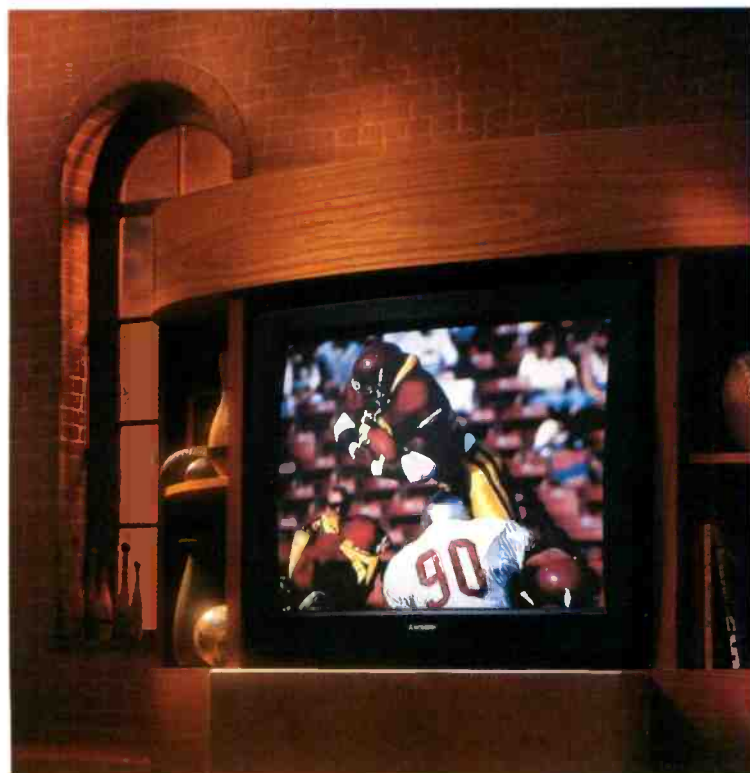
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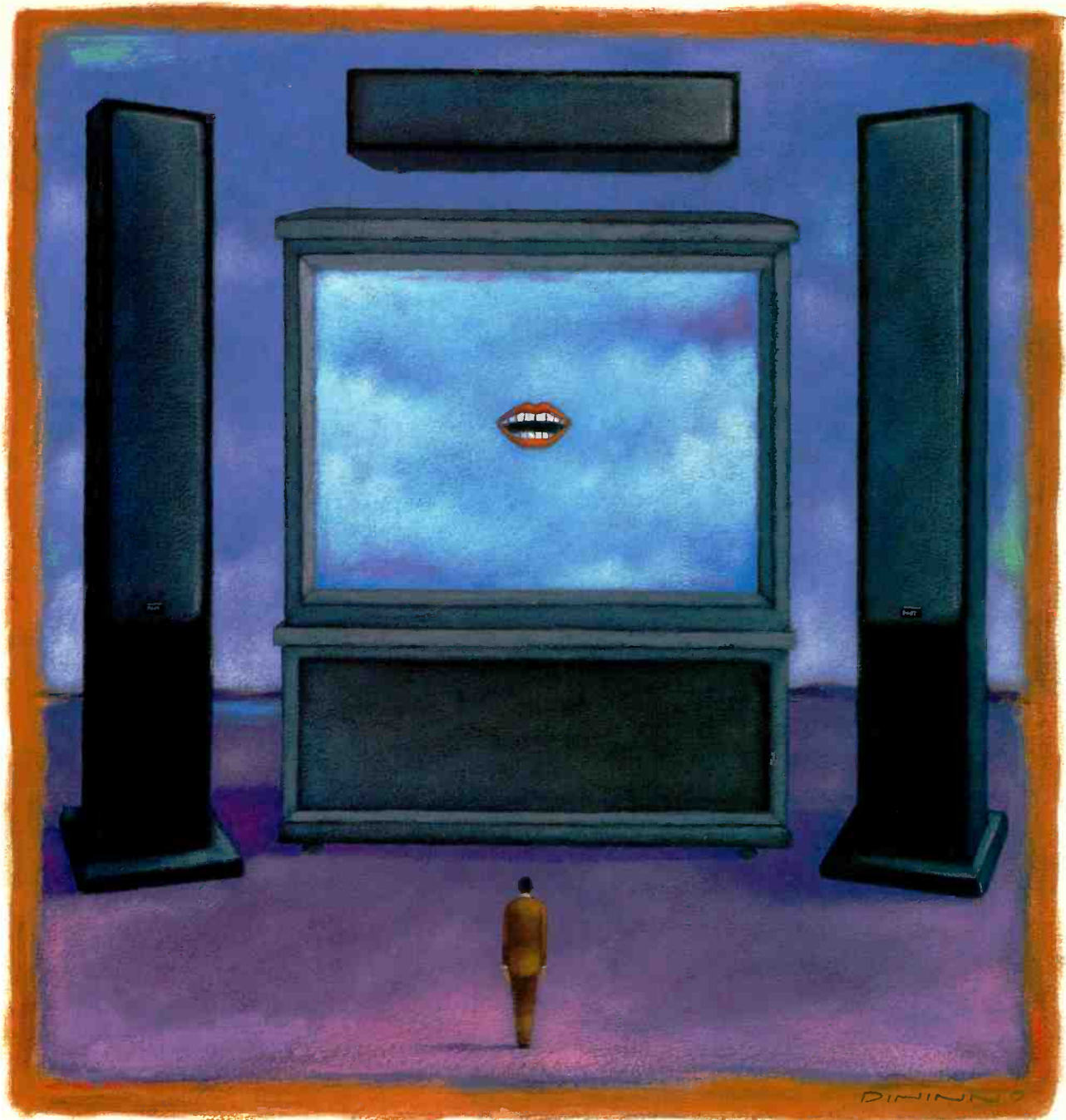
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CIRCLE NO. 36 ON READER SERVICE CARD



# NEW PRODUCTS



## ▲ JENSEN

Compact-car owners could find Jensen's JTS80 tube subwoofer just the ticket for getting big bass in a tight space. It features an 8-inch paper-cone driver with dual voice coils mounted in a 9½ x 8¼ x 16-inch ported tube that fits easily into trunks and hatchbacks. Bandwidth is given

as 35 to 150 Hz and power-handling capability as 125 watts rms. Each 4-ohm voice coil has its own terminals. The enclosure is covered in gray carpeting. Price: \$160. Jensen, Dept. SR, 25 Tri-State Intl. Office Ctr. #400, Lincolnshire, IL 60069.

• Circle 120 on reader service card



## ▲ PANAMAX

Gold coaxial connectors and a gold-plated jumper cable included with the Panamax MAX 500 surge protector are said to help preserve video signals while protecting components from power-surge spikes on AC or coaxial lines, even spikes caused

by lightning. Two of its eight outlets are unswitched, and there are Ground OK and Line Fault indicators. Current capability is 15 amperes. Price: \$199. Panamax, Dept. SR, 150 Mitchell Blvd., San Rafael, CA 94903.

• Circle 122 on reader service card

## ▼ BOSE

Bose has combined its classic Model 901 direct/reflecting speaker with its latest Music Center in the Lif style 901 system. The 15½ x 2½ x 8-inch Music Center has a six-CD magazine changer, an AM/FM tuner with thirty presets, four A/V inputs, and an RF remote.

The speakers, finished in high-

gloss black acrylic, are 31 inches tall on their black anodized-aluminum pedestals. A 100-watt-per-channel amplifier hidden in the left speaker pedestal performs signal processing as well as equalization. Price: \$4,200. Bose, Dept. SR, The Mountain, Framingham, MA 01701-9168.

• Circle 121 on reader service card



## ▼ BOSTON ACOUSTICS

Boston Acoustics' Lynnfield VR10 center speaker follows the design of the bigger VR12 and features a vertically aligned 1-inch tweeter and sub-enclosed 3½-inch midrange for wide, uniform horizontal dispersion. The three-way design also

incorporates two 5¼-inch woofers. The magnetically shielded cabinet, in black ash vinyl, measures 17 x 6½ x 6⅞ inches. Price: \$300. Boston Acoustics, Dept. SR, 300 Jubilee Dr., Peabody, MA 01960.

• Circle 123 on reader service card



# NEW PRODUCTS

## ▼ BLAUPUNKT

The woofer in Blaupunkt's Velocity VPD693 6 x 9-inch coaxial car speaker boasts two voice coils, one wired in conjunction with a 1½-inch dome midrange and a 1-inch dome tweeter, the other dedicated to the woofer. Hooking the first coil to the full-range output of a head unit or main amplifier and the second

to a bass-only amplifier is said to dramatically improve effective bass output in most cars. It also allows use of a fader to adjust front/rear balance without affecting the bass level. Price: \$170 a pair. Blaupunkt, Dept. SR, 2800 S. 25th Ave., Broadview, IL 60153.

• Circle 124 on reader service card



## ▼ AUDIOSOURCE

A downward-firing 10-inch driver driven by a 100-watt amplifier delivers the goods in the AudioSource SW 10 powered subwoofer. It offers a rated frequency range of 20 to 250 Hz, a 40- to 180-Hz adjustable crossover, auto on/off, a phase

inverter, and both line-level and speaker-level inputs and outputs. The 13-inch-high cabinet is finished in black woodgrain. Price: \$399. AudioSource, Dept. SR, 1327 N. Carolan Ave., Burlingame, CA 94010.

• Circle 126 on reader service card



## ◀ KEF

A Force Cancelling Rod couples two internal 10-inch woofers to reduce resonances in KEF's Reference Model Four. The 47¾-inch tower also contains two 6½-inch drivers and a Uni-Q coincident driver with a 1-inch tweeter in a 6½-inch cone. Low-end response is 35 Hz, impedance 4 ohms. Price: \$5,200 to \$6,400 a pair depending on finish. KEF, Dept. SR, 89 Doug Brown Way, Holliston, MA 01746.

• Circle 125 on reader service card

## ▼ SPEAKERCRAFT

The WavePlane baffle in the SpeakerCraft 6.5CRS² coaxial in-wall/in-ceiling speaker is said to boost performance by providing a 95-percent-solid radiating surface for the 1-inch tweeter while blocking only 25 percent of

the surface area of the 6½-inch, dual-voice-coil woofer. The tweeter also swivels to optimize imaging. Price: \$405 a pair. SpeakerCraft, Dept. SR, 1650 7th St., Riverside, CA 92507.

• Circle 127 on reader service card



## ▼ WRIGHT AUDIO

Wright Audio's Model 120M is an 80-watt mono amplifier with triode or ultralinear operation and variable feedback. It uses hard-wired military-grade resistors and metalized polypropylene

capacitors as well as separate power supplies for the input tubes and the EL34 output tubes. Price: \$1,280. Wright Audio, Dept. SR, 3088 W. 15th Ave., Unit 17, Eugene, OR 97402.





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Backdraft	*0559005
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Star Trek II: The Wrath Of Khan	*0201301
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Demolition Man	*1199306
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\* Letterbox

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# NEW PRODUCTS



## ▲ CANTON

Canton boosted the size of the passive subwoofer in its Fonissimo subwoofer/satellite system for the Fonissimo 2+. Two 5-inch satellite "cubes" have a 1-inch dome tweeter mounted above a 4-inch "woofer" for point-source imaging. The 12<sup>7</sup>/<sub>8</sub>-inch-tall sub has two 8-inch drivers in a bandpass enclosure; up to two

pairs of satellites can be connected. Bandwidth is given as 22 Hz to 30 kHz, power handling as 100 watts (sub) and 180 watts (satellite). Finish: black or white satin lacquer. Price: \$795. Canton Electronics, Dept. SR, 915 Washington Ave. S., Minneapolis, MN 55415-1245.

• Circle 128 on reader service card



## ▲ IMAGE DYNAMICS

The CS-1.6 component kit from Image Dynamics is said to bring superior imaging to the car environment. The pair of 15-inch-wide urethane horn drivers, rated at 500 Hz to 22 kHz, mount under the dash and can be trimmed for different vehicles. The two 6<sup>1</sup>/<sub>2</sub>-inch midbass drivers have

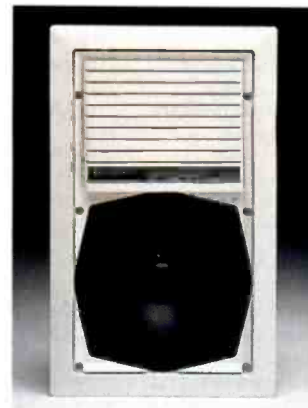
copolymer cones and butyl rubber surrounds and are rated down to 70 Hz. The passive crossovers (included) provide adjustable equalization and level matching for the horns. Price: \$589. Image Dynamics, Dept. SR, 22125 S. Vermont Ave, Torrance, CA 90502.

• Circle 132 on reader service card

## ▼ SONANCE ▶

The PSWD8, an 8-inch passive subwoofer from Sonance, mounts in walls based on standard 2 x 4 construction. High- and low-pass crossovers let a single amp drive both the sub and two satellites. Impedance is given as 6 ohms, power handling as 60 watts per channel. Price: \$329. Sonance, Dept. SR, 961 Calle Negocio, San Clemente, CA 92673.

• Circle 129 on reader service card



## ◀ EMERSON

Just clamp a CD in Emerson's AV2639 CD cleaner and hit the button for a powered trip over nonabrasive pads. The cleaner, which stops automatically, uses two AA batteries or an AC adaptor. Price: \$22.99. Jasco Products, Dept. SR, 311 N.W. 122nd, Oklahoma City, OK 73114.

• Circle 130 on reader service card



## ▼ SAUDER

Sauder Woodworking's Profiles Collection entertainment center presents a high-tech look that's intended to complement modern electronics. The unit features a sculpted profile and a pedestal base with a shiny black-laminate finish. The shelves can hold a TV with up to a 35-inch screen,

audio and video components, CD's (up to 154), videotapes (up to 39), and audio cassettes. More storage space is provided behind doors in the base. Price: \$270. Sauder Woodworking, 502 Middle St., Archbold, OH 43502; phone, 1-800-523-3987.

• Circle 131 on reader service card





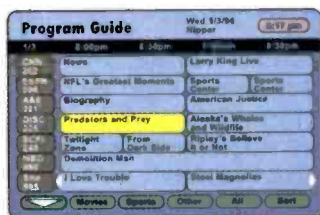
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CIRCLE NO. 37 ON READER SERVICE CARD

# "Selling Direct Allows Camb Speakers Hundreds Of Doll

Cambridge SoundWorks manufactures critically acclaimed speakers and music systems designed by Audio Hall of Fame member Henry Kloss (founder of AR, KLH and Advent). We sell them – along with components from Harman Kardon, Pioneer, Sony and others – factory-direct, so you can save hundreds of dollars. *Audio* magazine says we may have "the best value in the world." *Home Theater Technology* says our speakers "sound much better than other systems – at half the price."

## Ensemble®

*Ensemble* is our best speaker system. We think it competes with audiophile tower speakers selling for over \$1,000 a pair. Yet its unique four-piece design literally disappears in your room.

*Ensemble* consists of two compact, two-way satellite speakers

Our dual-subwoofer *Ensemble* outperforms expensive tower speakers because of its great room placement flexibility. **\$599.99**

and two slim-line (4 1/2" thick) subwoofer cabinets enclosing 8" woofers.

Because the bass produced by the subwoofers is non-directional, you can put them in out-of-the-way places...even behind or under furniture. Then place the satellite speakers to create a realistic stereo image. *High Performance Review* describes *Ensemble* by saying "...stereo imaging is phenomenally sharp...the dynamics are stunning...some of the speakers I'm comparing it to cost \$1900 to \$2800." White or charcoal grey. **\$599.99**

## Ensemble II

*Ensemble II* is our best value high-performance speaker system. It uses the same satellites as *Ensemble*, but with a single subwoofer cabinet that holds two 6 1/2" woofers in an acoustic suspension enclosure.



*Ensemble II is our best value in a high-performance speaker system. Its satellite speakers are identical to Ensemble's. \$499.99*

Because 90% of the music is reproduced by

the satellites, *Ensemble II* sounds much like *Ensemble*. *Stereo Review* says "Ensemble II can be compared only with much larger speakers at substantially higher prices." White or charcoal grey. **\$499.99**

## Ensemble III

*Ensemble III* was designed to bring big sound into smaller rooms. It has two small, two-way satellites and a subwoofer cabinet that encloses a single 6 1/2" woofer with two voice coils.

*Ensemble III* maintains the smooth, natural tonal balance of our more expensive systems, but without the same deep bass extension. *Stereo Review* says it "sounds first rate in every respect." **\$349.99**

*Ensemble III brings high-performance sound into even very small rooms. \$349.99*



## Ensemble IV

Our most compact and affordable subwoofer/satellite speaker system is *Ensemble IV*. It consists of two "cube" satellites containing wide-range 3" speaker drivers and a shoebox-sized subwoofer with a 5 3/4" woofer. It doesn't have the same deep bass extension as our more expensive speakers – but it sounds terrific.



*Ensemble IV is our most affordable subwoofer/satellite speaker system. \$249.99*

*Home Theater Technology* says "Ensemble IV produces a level of sound quality that is so much bigger and better than you'd expect from an inexpensive system that it's almost ridiculous." **\$249.99**

## The Outdoor

Our all-weather speaker is called *The Outdoor*. It has the natural, accurate, wide-range sound that Henry Kloss designs are known for. We don't know of any all-weather speaker that sounds better. Free-standing (shown), **\$299.99pr.** In-wall version, **\$349.99pr.**



## Center Channel Speakers

Cambridge SoundWorks manufactures two speakers specifically for use as center channel speakers in Dolby® Pro Logic® home theater systems. Both are magnetically shielded so they can be placed near a TV or computer



# Cambridge SoundWorks To Price Yours Below The Competition."

Inc. Magazine



Center Channel Plus



Center Channel

monitor. *Center Channel* is identical to an *Ensemble* satellite (but with magnetic shielding). **\$159.99.** *Center Channel Plus* uses an ultra-low, ultra-wide design that is ideal for placement above (or, with optional support stand, below) a TV monitor. It is, we believe, the finest center channel speaker available. **\$229.99**

## Surround Speakers

Cambridge SoundWorks makes two "dipole radiator" surround sound speakers. Dolby Laboratories recommends dipole radiator speakers for use as surround speakers. *The Surround* has high power handling capacity and is often selected for "high end" surround sound systems. **\$399.99 pr.** The smaller *The Surround II* is arguably the country's best value in a dipole radiator speaker. **\$249.99 pr.**



Powered Subwoofer

Slave Subwoofer

Powered Subwoofer II

in conjunction with the *Powered Subwoofer*. **\$299.99** The new *Powered Subwoofer II* uses a 120-watt amplifier with a custom designed 8" woofer. **\$399.99**



The Surround II



The Surround

## Powered Subwoofers

The *Powered Subwoofer* by Cambridge SoundWorks uses a heavy-duty 12" woofer housed in an acoustic suspension cabinet

## SoundWorks Amplified Speakers

*SoundWorks* is a compact, amplified, subwoofer/satellite speaker system. Never before has so much "big" sound come from



SoundWorks

something so small. Connect it to a portable CD/tape player, boombox, TV or computer – anything with an earphone jack – for beautiful, room-filling sound. *Audio* called it "really amazing...exceptionally good." *PC Computing* named *SoundWorks* "the best multimedia sound system costing

over \$100." Available in black or computer-beige. **\$219.99**

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CIRCLE NO. 6 ON READER SERVICE CARD

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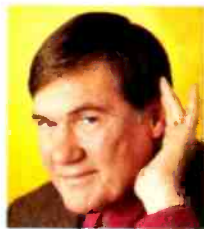
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## AUDIO Q & A

IAN G. MASTERS

### AC-3 Sound

**Q** I'm curious about the new AC-3 format, so I recently rented a laserdisc of the movie *Rob Roy* at my local video shop because the jacket listed it as being recorded in AC-3. I didn't experience any problem with the disc, even though I don't have an AC-3 decoder, and when I checked carefully, all my speakers sounded at least as good as usual. Is that typical? PAUL M. DUPONT  
Harboro, PA

**A** Yes. The only negative effect AC-3 encoding might have on the audio performance of a non-AC-3 system happens on playback of the laserdisc's analog soundtrack, not the digital one we normally listen to. The developers of the new digital surround system had to put the AC-3 track somewhere on the crowded disc, so they sacrificed one channel of the analog stereo track and put it there. If you have an old analog-only player, you'll have to disable one channel and listen in mono (thus forgetting about surround sound). Most players, however, will default to the conventional Dolby Surround-encoded digital soundtrack and totally ignore both the AC-3 track and the remaining analog track. That's why *Rob Roy* sounded just fine on your non-AC-3 system.

### Recording on a Hi-Fi VCR

**Q** I am confused about audio-only recording on a VCR. Is there a difference, for instance, between a “hi-fi” VCR and a “hi-fi stereo” VCR? Is there an optimum type of tape to use for this purpose? And what do you do with the video input? If it's not attached to something, will that affect the audio or do harm to the video circuitry? L. BULLIS  
Kensington, MD

**A** With a VHS Hi-Fi VCR, the frequency-modulated audio track is recorded on the tape by a spinning head, and it is always stereo. Sometimes the VCR manufacturers point this out, sometimes not, but the two phrases you quote mean the same thing. One of the advantages of the system is that it is very forgiving of the tape formulation and the speed at which the tape moves. As long as you use a cassette of better than minimal quality, it should work extremely well at any tape speed. Some early hi-fi machines were unhappy without some sort of video input because the video signal's synchronizing pulses controlled the spinning head. In newer models, if there's no video input the VCR simply creates a dummy signal — often appearing as bright blue on a

TV screen. For audio-only use, you can simply ignore the video jacks.

### Run-Down Receiver

**Q** I have a 60-watt-per-channel receiver powering my audio system, and it has two sets of speakers connected to it. I usually play all four speakers at once. Recently, I noticed that one channel was clipping even at quite low levels when all the speakers were turned on but stopped when I switched off either pair. Have I damaged the receiver in some way by “running it down”? If so, would that be difficult or expensive to fix? PAUL SODERMAN  
Verona, NJ

**A** It's impossible to say from the information in your letter whether you've permanently damaged your receiver or even whether the noise you're hearing is clipping or another form of distortion. But it sounds to me as though you're running the speakers in parallel and presenting the output stages with a lower impedance than your receiver can safely handle. It also sounds like you're asking a modest amplifier section to do too much. If you continue to run your unit with four speakers it may fail altogether — an expensive proposition to fix and probably not worth the effort.

If you really need four speakers, amplify them separately. An inexpensive used integrated amplifier should do the trick nicely. If your receiver has a set of preamp-out jacks, another alternative is to tap them for an extra power amplifier (choose one with input-level controls so that you can balance it properly). Either way, your receiver will be left driving only one set of speakers, which is what it was designed to do.

### DVD Compatibility

**Q** I have been reading about the introduction of DVD, but none of the reports I've seen have stated whether there will be any sort of compatibility between the new format and the laserdisc. Will they be compatible, and will there be combination players that will play both sorts of disc? PHIL CALASCIONE  
Aurora, CO

**A** The new DVD format is totally digital and uses a highly compressed form of encoding to squeeze a whole movie onto a 5-inch disc. In contrast, the video signal on a laserdisc is completely analog, though some of the audio information is digitally encoded. All DVD players will be able to



play conventional audio CD's, as do most laserdisc players today, and at least one manufacturer, Pioneer, has announced plans to market a combi-player that will play all three formats. I suspect, however, that the DVD will take over from the laserdisc in fairly short order.

### Bargain Cables

**Q** I'm employed by a manufacturer of electrical wire, so I can easily get a good price on cables to use in my system. The company makes many types of wire for construction but not for speakers. Could a 600-volt 12-gauge cable with nineteen strands of wire do as good a job as a premium speaker cable with twenty times as many strands?

MARK STEPHENS  
New Bedford, MA

**A** There's a lot of conflicting opinion associated with audio cables — speaker cables in particular — but one virtue most people would agree on is that fatter is better, especially for long runs. The specialty cables, whatever their other attributes, are usually heavy, some of them ridiculously so. I very much doubt that the number of strands that go to make up a certain thickness has much to do with the quality of the cable, however, and I have listened to quite a few superbly performing systems that used 12-gauge, nonaudio cable even for pretty long runs. I figure wire is wire, as long as it isn't too skinny, so I'd go for the 12-gauge.

### Popping Speakers

**Q** My new speakers are nominally rated at 10 to 125 watts, and I am driving them with a 100-watt-per-channel receiver. When I crank up the volume, I suddenly hear a loud popping sound. I've been able to turn things down quickly enough to avoid blowing the speakers, fortunately. Could you identify the noise?

JOSHUA HARRIS  
Fulton, MS

**A** It's possible that your speakers are "bottoming out." As the output level of your receiver's amplifier varies, the speakers' voice coils move in and out in step. There is a physical limit to how far they can move, however; if you drive them hard enough, the coils will hit the back walls of the magnet structures and make the popping sound you hear. That may or may not mean the power is close to the level at which it can fry the voice coils, and no damage may be caused by the bottoming, which is usually restricted to the woofer. The noise can be startling and annoying, however, and there is no guarantee that it's *not* causing damage. A speaker's power ratings are of very little use in predicting this sort of behavior, unfortunately, as they represent only approximations.

If you have a question about audio, send it to Q&A, Stereo Review, 1633 Broadway, New York, NY 10019. Sorry, only questions chosen for publication can be answered.

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## Stereo Review

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## SIGNALS

KEN C. POHLMANN

# Downloading the Future

If you believe all the hype, we're already a nation of computer scientists — plugged in, logged on, and living most of our daily lives in cyberspace. The truth is that although 30 percent of American households today have a PC, only about 6 percent of all households are going online. Within five years, however, the number of PC's is expected to double, and at least 25 percent of those machines will be logged on. The computer revolution is shifting into high gear, and it is changing our lives.

My life has changed, that's for sure. I built my first home computer in 1982. I had just started writing for magazines and realized that a typewriter wasn't the answer. Five years later, the second revolution arrived. I bought a 300-baud modem and started e-mailing my work to the magazines, an innovation that would become more important than my computer itself. Now, my computers are powered 24 hours a day and jacked into the Internet via fiber optics. The glass pipe has become my most trafficked connection to the world; I trade more e-mail than phone calls. If I had to choose between phone and fiber, I'd choose the fiber.

That link is changing everything. For example, I visit my local library less often, instead preferring to go online for my research. I've also turned to the fiber for entertainment. In the past year, although I bought more hours of music on plastic disc, I obtained more titles via the fiber. Whether from Internet FTP sites or Web pages, I found many good audio files that I wanted to download and many more that I bookmarked for future listening, knowing that I could access them later. Increasingly, I'll connect to the music industry via my computer.

That makes perfect sense, you know. When I need a can of green peas, that's a physical problem that can only be solved by going to the market or asking someone from the market to come to me. But things like books, discs, and videos are quite different. I have absolutely no interest in the physical item itself: It is the intellectual property I am after. Although it was clumsy to convey that property when it existed only in analog form, it becomes supremely efficient to convey it electronically when it's in digital form. We have

CD's today because their distribution nicely follows the existing analog distribution model, and because of bandwidth constraints in electronic distribution.

With the analog distribution model, the intellectual property is placed on a plastic medium and physically moved through the wholesale and retail chain. The system works, but it is costly. As the CD moves from record company to cash register, its price doubles. Since it's only the data that we really care about (specifically, the digital representation of music, liner notes, and artwork), it would probably be cheaper and more convenient to convey the data directly from the record company's computer to yours. The problem is bandwidth.

Bandwidth determines how quickly data can flow, and although it isn't terribly expensive, sufficient bandwidth simply

isn't available to most people. With a 28.8k modem, which is today's fastest consumer standard, it takes hours to download a CD. Even if the distribution process was cheaper than plastic, the lack of convenience would kill such a system. If it takes longer to download something than it takes to drive to a store and buy it, then you'll drive. Such a system, as entrepreneurs like to say, is a nonstarter.

Why, then, are millions of people downloading audio files? Because the process is made practical by limiting the bandwidth. Primarily, we are downloading files of short duration and with Edisonian bandwidth (perhaps 11-kHz sampling frequency). And as long as bandwidth limits us, the analog-era distribution of plastic will continue. Compounding the problem is the rapidly growing amount of bandwidth occupied by intellectual property. The once-vast CD now seems small to many CD-ROM developers. In addition, the demand for digital video and multi-channel digital audio ups the ante. That's why the newest plastic medium, DVD,

will still be a success, even in the dawning era of electronic distribution.

There is a technology race between the growing amount of intellectual property demanding bandwidth and the growing bandwidth that can be made available cheaply to consumers. Futurists predict that delivery bandwidth will someday surpass property size, and then the serious data downloading will begin. Understandably, not all intellectual-property owners are comfortable with that notion because they will have to abandon a profitable distribution system in favor of something new. I predict that many companies will lobby against the downloadable future — and they will be mistaken in their opposition. That scenario happens often when technological revolutions occur. For example, Disney (along with Universal Studios) took Sony all the way to the Supreme Court to block the sale of consumer videocassette recorders. Disney felt that low-cost video recording and playback would gut its highly profitable motion-picture business. Disney lost the case, and it was a good thing it did. Last year the company made \$2 billion from domestic sales of videocassettes.

The point is this: Technology that is ultimately profitable is absolutely unstoppable. Downloadable entertainment will be profitable. We only await brilliant entrepreneurs to make it happen. Technically, downloading is easy because it only

**Technology that is profitable is unstoppable.**

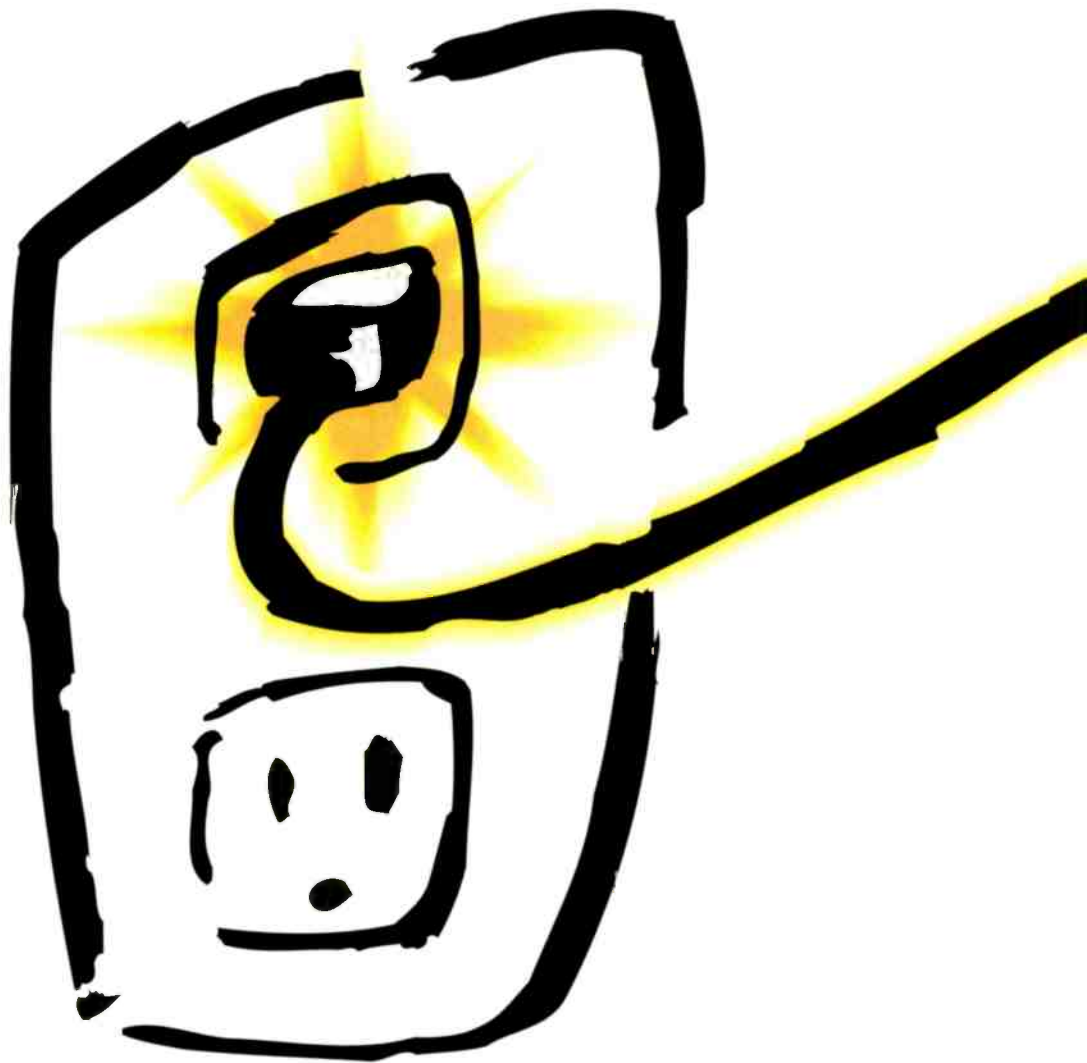
**Downloadable entertainment will be profitable. We only await brilliant entrepreneurs to make it happen.**

requires large bandwidth in one direction. For example, if you've got a DSS dish and receiver, you've got plenty of incoming bandwidth; your outgoing requests could be handled by modem.

Likewise, your cable TV system could be rigged to deliver digital entertainment. Clearly, the home television will be the focus for audio and video entertainment, as well as the Internet and other online sources. Access costs might be handled as outright purchase, as pay-per-view (through a service provider fee), or possibly as an advertiser-supported distribution system. The last option is intriguing. Advertisers subsidize television production — why not music and movies?

Today, most Americans are not yet online. They will continue to buy their audio and video entertainment via conventional means. On the other hand, millions of Americans are plugged in. They appreciate technology, they have money, and they clearly like to download things. Speaking for myself, my computer is already warmed up, ready and waiting. □





We've spent 10 years connecting people to  
the greatest advancement in Home Theater technology.





1996 marks the 10th anniversary of Yamaha's introduction of our unique digital sound field processing technology. Many years in development, this technology was the first of its kind and remains unique to this day.

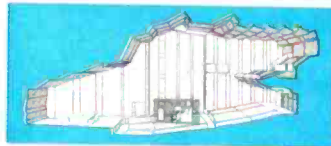
**1986** Yamaha introduces the DSP-1 digital sound field processor. For the first time, a component recreates digitally sampled music halls in the home. It includes a setting for



Dolby Surround. Critics call DSP "the most significant advance in the control of auditory space since stereo." The show begins.



located in each venue to precisely measure the level, direction and exact timing of individual sound reflections. The result is perhaps the most realistically accurate reproduction of live performances ever devised. But right there in your living room.



**1987** Yamaha engineers embark on a new United States sound field sampling tour. Meticulously setting up a battery of carefully placed microphones and digitally sampling the sound fields of Anaheim Stadium and the Roxy Theater in California. The Village Vanguard, Village Gate and Riverside Church in New York. Orchestra Hall in Chicago, among others.

**There's DSP. And then there's DSP.**

From the very beginning, Yamaha digital sound field processing has been different than digital *signal* processing. Rather than simply creating a computer model for what a performance venue might sound like, Yamaha engineers literally travelled the world digitally analyzing very specific venues. A stadium. An intimate jazz club. A gothic cathedral. A concert hall. And many others. We used four microphones, carefully



**1988** The DSP-3000 is introduced. Many of the venues sampled in 1987 are incorporated as new programs, computer-modeled sound fields specifically designed for home theater applications are added. On-screen display and master volume control are also incorporated for the first time.



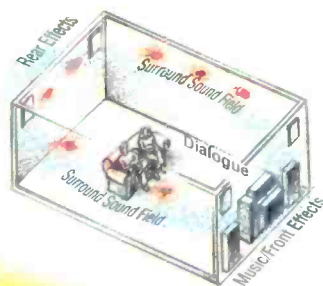
**1995** Headlined by the RX-V2090, Yamaha introduces a new series of A/V receivers, with five models featuring DSP and Cinema DSP and ranging in price from \$1,499 to \$399. The flagship, RX-V2090, is the company's first 7-channel A/V receiver and is ready for the next step—Dolby Surround AC-3. All five units receive critical acclaim, with the RX-V2090 lauded as "A blockbuster product!"

**And now, the next generation of Cinema DSP.** AC-3, very simply, is the spectacular home version of Dolby Digital Surround found in the best movie theaters. Technically, it includes five discrete, full-bandwidth channels plus a sixth subwoofer channel. Yamaha combined Dolby Surround AC-3 with our own unique DSP to create "Tri-field processing," including presence and left and right surround fields, reproducing movie sound tracks with unequalled positioning, depth and realism. Essentially, Yamaha's DSP acoustically enlarges the listening room to that of a large movie theater. What you hear is exactly what a film's director intended you to hear. The new generation Cinema DSP represents the absolute state-of-the-art in taking the movie theater experience home.



### Then came Cinema DSP.

Yet another milestone in audio history. Only Yamaha Cinema DSP (a combination of Digital Sound Field Processing and Dolby Pro Logic) can use 7.1 speakers to fully replicate the rich, full, exciting multi-speaker movie theater. Which means you'll hear sound coming from virtually every place in your room. Even in places that don't have no speakers.



Phantom Speaker Effect

**1990** The 7-channel DSP-A700 is introduced. For the first time DSP is included with on-board amplifiers. Dolby Pro Logic is added for more realistic movie surround.

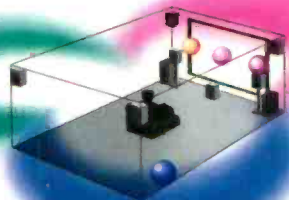
**1993** The DSP-A2070 is introduced, with newly developed IC chips for greater sound resolution, and more 70mm Cinema DSP movie modes. Critics hail "simply the best!" "Does everything." "The best integrated A/V component ever created." Four new A/V receivers are also added, all featuring 35mm Cinema DSP and two with 70mm Cinema DSP modes.



**1991** The DSP-A1000 breaks new ground. Hailed as "the only electronics you'll ever need for surround or home theater," the A1000 provides the most versatile control and switching yet on a Yamaha product. It's also the first Yamaha component to provide digitally processed Dolby Pro Logic and Cinema DSP with "Pro Logic Enhanced" and "70mm Theater" settings. Additionally, our RX-V1050 and RX-V850 become our first 5-channel A/V receivers with DSP.

**1994** Yamaha's DSP-A780 provides the versatility and processing of 7-channel processor/amp in a 5-channel format.

**1996** Yamaha celebrates its 10th Anniversary of DSP with a spectacular new product. The DSP-A3090. A 7-channel DSP processor/amplifier which, for the first time, includes built-in Dolby Digital Surround AC-3 and Yamaha's own DSP enhancement to truly make the home theater as spacious as a movie palace. Using the power of DSP, five additional AC-3 programs are engineered, including AC-3 Enhanced and AC-3 Spectacle. The next decade in DSP is under way.





**RX-V2090** 7-Channel A/V Home Theater Receiver. 100 watts output L/C/R channels. 35 watts x 4 Front and Rear Effects. Multi-room, multi-source capability. Discrete 5 channel input for Dolby Surround Digital AC-3. 10 DSP programs.



**DDP-1** Dolby Surround Digital AC-3 Processor. Built-in AC-3 RF demodulator for AC-3 laser disc players. For use with the Yamaha RX-V2090 Receiver.



**RX-V890** 5-Channel A/V Home Theater Receiver. 100 watts output L/C/R channels. 25 watts x 2 Rear Effects. 10 DSP programs.



**RX-V690** 5-Channel A/V Home Theater Receiver. 80 watts output L/R/C channels. 25 watts x 2 Rear Effects. 10 DSP programs.



**RX-V590** 5-Channel A/V Home Theater Receiver. 75 watts output L/C/R channels. 20 watts x 2 Rear Effects. 8 DSP programs.



**RX-V490** 5-Channel Receiver. 70 watts output L/C/R channels. 15 watts x 2 Rear Effects. 6 DSP programs.



**RX-V390** 5-Channel Receiver. 60 watts output L/C/R channels. 15 watts x 2 Rear Effects. 4 sound fields.



**DSP-E580** 3-Channel Digital Sound Field Processor. Use as complete add-on to existing stereo system or as processor only. 25 watts for center channel and 2 Rear Effects. 16 DSP programs.



**DSP-E390** 3-Channel Digital Sound Field Processor. Use as complete add-on to existing stereo system or as processor only. 60 watts per channel for center channel and 15 watts x 2 Rear Effects. 5 DSP Programs.



**CDV-W901** CD/LD Player. Dolby AC-3 Laser Disc Player. 2 sided play. Plays LD, CD and CDV discs.



The new DSP-A3090 Digital Sound Field Processor. Incorporates Dolby Digital Surround AC-3. Provides the 5.1 channels of AC-3 surround as well as the 7 channels of Yamaha's Cinema DSP surround settings for Dolby Pro Logic

sources. Five new modes that combine AC-3 with Yamaha DSP to deliver the most spectacular



home theater experience possible today. 30 different surround modes in all. 80 watts output L/C/R channels, 80 watts x 2 Rear Effects, 25 watts x 2 Front Effects. 11 analog audio, 1 AC-3 RF, 5 optical, 1 coaxial, and 6 video inputs with S capability.

Yamaha Digital Sound Field Processing has most assuredly changed the way the world listens to its music. Watches its movies. And we fully expect the newest generations of this revolutionary technology to make the next ten years every bit as exciting as the last. For the dealer nearest you, please call 1-800-4YAMAHA.

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## TECHNICAL TALK

JULIAN HIRSCH

# Audio 101: Physical Laws and Subjective Responses

**A**lthough the world of high-fidelity audio is firmly based on well-known, verifiable physical laws, its ultimate appeal to a listener is largely subjective. After all, the end product of a music system is sound as interpreted by the mind of the listener rather than through electrical or acoustic measurements.

Although that "end product" is, by definition, totally subjective and therefore not easily definable or measurable in the same way the electrical or even the electro-acoustical components of the music system might be, there is a tendency to apply the same judgmental process to both. Most people with some degree of aural acuity have no difficulty in hearing the sonic characteristics of a music system, and sometimes even identifying the probable causes of some of those characteristics, regardless of the system's degree of refinement.

This process is in itself harmless and educational, and even fun. But some audiophiles attempt to carry it to unwarranted extremes. When you are listening to a music system, you are usually unaware of the acoustic conditions that existed when the program material was recorded. Even if you were present at the recording session, your ears were not in the same positions as the microphones. In fact, there is no way a listener can know how the recorded program differs from what would have been heard in the concert hall, or how the performance would have sounded in a slightly different location in the hall, to say nothing of the way it would have sounded in another hall or a studio.

Without a reference standard, comparative measurements of any physical phenomenon are of dubious value. In the case of audio, the situation is further complicated by the fact that both measurable and unmeasurable effects are involved. That is not necessarily all bad — I like to think we listen to music for enjoyment, rather than merely to nit-pick and engage in controversy.

From a critical standpoint, the unmeasurable qualities of reproduced sound are probably more important than the mea-

surable ones. Leaving aside the concert hall or recording studio, the listening room, and such highly subjective audio components as the loudspeakers, the various electronic components of a music system — such as amplifiers, tuners, CD players, and, to a lesser degree, tape decks — are far more refined than many audiophiles seem to realize. Although I would not claim perfection for *any* human achievement, let alone for the sound of a high-fidelity component or system, the sonic deficiencies of most of today's electronic audio components are infinitesimal. In my view, which is not shared by all audiophiles, virtually all of the ultimate sound of a home music system is determined by the *recording* (including the environment in which it was made),

the *loudspeakers*, and the speakers' environment, the *listening room*.

Virtually any well-designed electronic components, operated within their ratings, should have an insignificant effect on the ultimate sound of a system. Amplifier circuit topology has considerably less significance to the listener than some manufacturers would have you believe. Such accessories as exotic speaker cables and low-level interconnect cables should have no effect, either good or bad, on the sound (unless something was *very* wrong with your former cables).

I am well aware that many people equate high price with high quality. If the manufacturing process is labor-intensive, or if production quantities are small (as is the case with many high-end audio products), a high price is inevitable, and it is often easily justified from the viewpoint of the purchaser as well as the manufacturer.

But sometimes these factors are carried to the point of absurdity. Speaker cables

as thick as a fire hose, made with silver or other precious metals and priced accordingly, are an example of overkill. On the other hand, at least expensive cables *do* something, even if they cost hundreds of dollars and provide no significant audible benefits over a piece of 12-gauge wire. The same cannot be said about items such as base-mounting spikes for amplifiers and other electronic components or the discs or weights that are placed on top of a piece of equipment to achieve some ill-defined benefit.

I could go on at length describing such "solutions" to "problems" that probably don't exist in the first place. They would be funny except that some people are taken in by the promise of magical benefits. Actually, there *are* ways to prove (or disprove) claims that appear too good to be true, although they may not always be available or practical.

First, if something does not appear to be in agreement with basic common sense, and you do not personally experience the claimed effect, be suspicious. You cannot judge the sound quality of an electronic component, such as an amplifier, in isolation. It must be compared with some reference (such as another amplifier). Very few demonstrations allow for a true A/B comparison, where products are compared under identical conditions with rapid switching between them.

Considering the difficulty of setting up a valid A/B demonstration, it is not sur-

**Considering the difficulty of setting up a valid A/B demonstration, it is not surprising that this technique is not in common use, even at audio shows.**

prising that this technique is not in common use, even at audio shows. If you do make such a comparison, however, the most you are likely to detect are some rather minute audible differences, although it may not be possible to determine their cause. And you can also learn that some relatively large differences in electrical performance may actually be *inaudible* in real-world listening.

Since unsupported claims are often made for the audible qualities of products that do not in themselves create any sound (that is, anything other than a speaker or headphone), you should keep in mind that the "magic" of hi-fi reproduction derives from very basic physical principles. There is no magic in hi-fi, although sometimes a reasonable facsimile can be created. Unless you enjoy being fooled (possibly expensively), listen and compare for yourself, and trust your own ears. And keep in mind that if the claims made for a product sound too good to be true, they probably are. □

# "Polk's SRT System will give you a thrill a minute"

David Ranada, Stereo Review, January, 1996

The most influential audio journals of Europe and America agree, the Polk Audio Signature Reference Theater system is a stunning achievement.

"The sound was extremely clean and extremely powerful, I was scared... an amazing combination of flatness and low frequency extension we have never before measured in our listening room... the effects produced by SDA had to be heard to be believed... spectacular directional and spatial effects..."

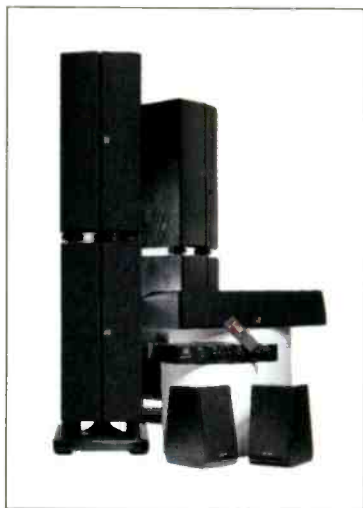
David Ranada, Stereo Review, January, 1996

**"...better than real cinema."**

"... this is cinema shakeup, cinema shake-down, cinema turn-it-upside-down. You're not on the edge of your seat, you're forced back into it. The realism is intense... this is a system which can excel with music sources... breathy and clear... admirable speed and grace... totally absorbing"

What Hi-Fi?, Great Britain. February, 1996

For more information and the location of a Polk SRT dealer near you, call (800) 377 - 7655.



*Matthew Polk*  
Co-founder, Polk Audio

*The SRT system consists of 35 active drive units housed in seven enclosures (including two 300 watt powered subwoofers) and a Control Center with wireless remote.*

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LOOK P. LEUNG

## Kenwood KR-X1000 Home THX A/V Receiver

DAVID RANADA • TECHNICAL EDITOR

**A**fter a spate of A/V receivers suffering from significant faults — such as non-flat frequency response, noisy surround outputs, and poorly planned subwoofer circuits — it comes as an immense pleasure to find one that can be recommended essentially without reservation. Such a seemingly rare animal is Kenwood's KR-X1000, which incorporates digital signal processing (DSP) circuitry that provides both Dolby Pro Logic surround-sound decoding and Home THX enhancements for more theaterlike performance when playing soundtracks.

To carry Lucasfilm's THX logo, the KR-X1000 must meet strict requirements in several areas, many of which benefit normal stereo music reproduction in addition to soundtracks. Very important to me are the THX criteria for maximum noise levels. Appearing more sexy on data sheets are the requirements for an amplifier section's output power, which the KR-X1000 easily meets as it is rated to deliver, in

surround-sound mode, 135 watts per front channel and 80 watts per surround channel into 6-ohm loads (both at 1 kHz). Lucasfilm also requires a well thought-out system of bass management that properly shunts low frequencies into the amplifier's subwoofer output, removing them from the three front channels. Additional THX circuitry provides high-frequency equalization for soundtracks (THX re-equalization), equalization to reduce the difference in perceived frequency response between the front speakers and side-placed dipole surrounds (timbre matching), and equalization to remove the mono quality of the decoded Dol-

**DIMENSIONS:** 17 $\frac{3}{4}$  inches wide, 5 $\frac{5}{8}$  inches high, 16 $\frac{7}{8}$  inches deep

**WEIGHT:** 36 $\frac{1}{2}$  pounds

**PRICE:** \$1,200

**MANUFACTURER:**

Kenwood USA Corp., Dept. SR, P.O. Box 22745, Long Beach, CA 90801-5745

by Pro Logic surround signal so as to increase the perceived diffuseness of the surround output (decorrelation).

Aside from those THX circuits, the KR-X1000 is a rather simple A/V receiver, without a profusion of features, which makes it easy to use. For example, there are only four surround-sound modes: Home THX Cinema, Dolby Pro Logic, 3 Stereo (for soundtrack playback over three front speakers only), and DSP Logic, an enhancement mode for surround-encoded music programs. There's a forty-preset AM/FM tuner as well as audio-only connections and switching for a CD player, two audio recorders (or one recorder and one equalizer), one auxiliary input, and a phonograph cartridge (moving-magnet). The A/V connections include both composite-video and S-video jacks for two VCR's and three play-only A/V sources, one of which has connections on the front panel for temporary hookup of a camcorder or video game.

Most of these connections are made on the receiver's rear panel, which also has connections for the speakers (multiway binding posts that take single but not dual banana plugs), a complete set of preamp-out/main-in jacks (three front channels, two surround, all normally connected by jumpers), a subwoofer-output on/off switch, two switched AC convenience outlets, and

# TEST REPORTS

connectors for an AM antenna and an FM antenna (an F-connector). The rear panel also has a vent for the receiver's cooling fan, which turns on whenever high outputs are continuously delivered for periods of several minutes or more.

**F**ront-panel facilities are unusually complete: No operation of even moderate importance is relegated to the remote control only. The most prominent front controls are two large knobs. The one at the far right is the volume control, and next to it is the input selector; both rotate continuously. It would be nice if the input selector served double duty as a tuning knob, but that function is controlled by conventional up and down tuning buttons. You can also tune in stations by entering their frequencies directly, a nice feature and a rather uncommon one.

Other front-panel controls select the surround mode, adjust the DSP Logic surround mode, enable surround-sound speaker balancing, and activate the tone controls. The large fluorescent display has useful indicators showing the status of surround operation, the



tone controls, and radio tuning. A fifteen-character alphanumeric section shows the tuned frequency, the radio band, the preset selection, the surround mode, and the volume setting in decibels referred to THX 0 dB (that setting will produce close to theatrical levels when the receiver is used with a typical laserdisc player and a THX loudspeaker system).

Activating the KR-X1000's basic functions — input selection, volume control, surround-mode selection — with the supplied infrared remote is unusually easy thanks to the superb differentiation in size, shape, and feel of its buttons. Beyond the basics the remote's operation becomes a little more difficult since it comes preloaded with the command codes for many different brands of VCR's, laserdisc players, and TV/cable boxes. Several of the buttons take on multiple functions when these external-component commands are activated. You have to remember which button does what depending on which input is selected. Confusion is somewhat reduced by the back-lit LCD readout, which shows the selected source.

In the lab the KR-X1000 did very well. Overall the performance of the tuner section was average. Nowadays that means very good — except for the AM frequency response, which was abysmal, although typical of contemporary AM-section performance. Do not be misled by the too-good stereo sensitivity measurement; the receiver was no better than average at pulling in distant stations.

## MEASUREMENTS

### DOLBY PRO LOGIC PERFORMANCE

**FREQUENCY RESPONSE** (tone controls centered)  
left, right . . . . . 20 Hz to 20 kHz +0.12, -0.39 dB  
center . . . . . 20 Hz to 20 kHz +0.03, -0.6 dB  
surround . . . . . 20 Hz to 8 kHz +0.29, -3 dB

**OUTPUT AT CLIPPING** (8-ohm/4-ohm loads)  
front left, center, and right . . . . . 113/206 watts  
surround . . . . . 88/144 watts

**NOISE** (re 1-watt output, A-wtd)  
left, right . . . . . -76.1 dB  
center . . . . . -73.9 dB  
surround . . . . . -75.5 dB

**DISTORTION** (THD+N, 1 kHz, 1-watt output)  
left, right . . . . . 0.22%  
center . . . . . 0.03%  
surround . . . . . 0.03%

**SURROUND-DECODER INPUT-OVERLOAD MARGINS** (at 1 kHz)  
left, right (re 2-volt input) . . . . . 0 dB  
center (re 1.4-volt input) . . . . . +3 dB  
surround (re 1.4-volt input) . . . . . +3 dB

**SURROUND-CHANNEL NOISE-REDUCTION CALIBRATION ERROR**  
re Dolby level (Dolby Pro Logic mode) . . +0.5 dB  
re THX level (THX mode) . . . . . 0 dB

**CHANNEL SEPARATION** (100 Hz to 7 kHz)  
left output, right driven . . . . . >47 dB  
left output, center driven . . . . . >55 dB  
left output, surround driven . . . . . >52 dB  
center output, left driven . . . . . >55 dB  
center output, surround driven . . . . . >54 dB  
surround output, left driven . . . . . >52 dB  
surround output, center driven . . . . . >58 dB

### THX RE-EQUALIZATION ERROR

-0.95 dB maximum at 20 kHz

### THX TIMBRE-MATCH ERROR

-1 dB maximum at 6.3 kHz

### TUNER SECTION

All data for FM only except frequency response.

**SENSITIVITY** (50-dB quieting)  
mono . . . . . 23 dBf  
stereo (see text) . . . . . 25 dBf

**NOISE** (at 65 dBf)  
mono . . . . . -74.5 dB  
stereo . . . . . -68 dB

**DISTORTION** (THD+N at 65 dBf)  
mono . . . . . 0.3%  
stereo (mostly pilot-carrier leakage) . . . . . 1.3%

**CAPTURE RATIO** (at 65 dBf) . . . . . 1.7 dB

**AM REJECTION** . . . . . 47 dB

**SELECTIVITY**  
alternate-channel . . . . . 57 dB  
adjacent-channel . . . . . 4.5 dB

**PILOT-CARRIER LEAKAGE**  
19-kHz . . . . . -37 dB  
38-kHz . . . . . -24 dB

**HUM** (120 Hz) . . . . . <-85 dB

**CHANNEL SEPARATION**  
100 Hz . . . . . 41 dB  
1 kHz . . . . . 43 dB  
10 kHz . . . . . 41 dB

### FREQUENCY RESPONSE

FM . . . . . 30 Hz to 15 kHz +1.05, -2.2 dB  
AM . . . . . 70 Hz to 2.8 kHz +1, -6 dB

### AMPLIFIER SECTION

All data for two-channel stereo operation.

**OUTPUT AT CLIPPING** (at 1 kHz)  
8 ohms . . . . . 116 watts  
4 ohms . . . . . 203 watts

**CLIPPING HEADROOM** (re rated output)  
8 ohms . . . . . -0.3 dB, 8 ohms

**DYNAMIC POWER**  
8 ohms . . . . . 156 watts

**DYNAMIC HEADROOM** (re rated output)  
8 ohms . . . . . 1 dB

**DISTORTION AT RATED POWER** . . . . . 0.08%

**SENSITIVITY** (for 1-watt output into 8 ohms)  
CD . . . . . 24 mV  
phono . . . . . 0.26 mV

**NOISE** (re 1 watt, A-wtd)  
CD . . . . . -87.5 dB  
phono . . . . . -73.5 dB

**RIAA PHONO-EQUALIZATION ERROR** (30 Hz to 20 kHz) . . . . . ±0.1 dB (-1 dB at 20 Hz)

**FREQUENCY RESPONSE** (tone controls centered)  
20 Hz to 20 kHz +0, -0.2 dB

**TONE-CONTROL RANGE**  
100 Hz . . . . . ±8 dB  
10 kHz . . . . . ±8 dB



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## TEST REPORTS

In stereo mode, the amplifier delivered large amounts of power into 8-ohm loads and almost twice as much into 4-ohm loads, indicating that it operates very much like a true "voltage source" and is relatively immune to the load placed on it. Note that Kenwood's higher power ratings are for 6-ohm loads. Calculations from our measurements show that the KR-

X1000 should deliver its rated power or slightly more into such loads.

Even the center and surround channels in Dolby Pro Logic operation behaved like voltage sources, which is very unusual for surround outputs. Other unusually good performance results are due to the high-quality DSP used to perform Dolby Pro Logic decoding: Specifically, noise was out-

standingly low and channel separations unusually high. Measurements of THX-circuit performance showed negligible deviations from THX specifications. The only anomalous surround measurement was of left/right distortion. This is a distortion plus noise measurement, and in this case the higher distortion in the left and right front channels, compared with the center and surround channels, was caused by some additional — but inaudible — low-frequency noise when the subwoofer output was activated. Filtering out frequencies above 400 Hz in this measurement produced an excellent reading of 0.028 percent.

The receiver can be set to attenuate the selected input signal before it hits the DSP circuitry, so as not to overload it. The front-panel overload light comes on at about 0.8 dB below a standard CD-player or laserdisc output of 2 volts, which is a conservative indication since DSP clipping doesn't actually occur until just *above* a 2-volt input. You can ignore the clipping indicator unless your player has a maximum output greater than 2 volts (as in some "high-end" CD/laserdisc players and onboard digital-to-analog converters). These considerations don't apply to conventional stereo operation, which doesn't involve the DSP circuitry.

**H**ookup and adjustment of the KR-X1000 was thoroughly straightforward, aided by such details as consistent orientation of the speaker terminals and an unusually well-conceived, well-executed, and well-written setup manual. Once I got everything connected, including a full THX speaker system, I was immediately impressed by how clean the KR-X1000's Dolby Pro Logic and THX modes were. Lately we've been finding receivers whose surround-channel noise was not only some 10 very audible decibels worse than the KR-X1000's but was also unaffected by the setting of the volume control and remained high even in two-channel stereo operation. What a pleasant change to find surround-channel noise levels that were low enough not to be audible at our prime listening position unless the volume control was set very high (above -10 dB), as well as no audible noise at all when plain stereo playback was selected. The receiver's Pro Logic decoding was as accurate in image placement as its noise level was low.

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# “...this SRS processor is one of life’s experiences that must be heard to be believed.”

Richard Maddox, *Home Theater* April 95



## Music to Your Ears

“...Talking about it seems to exaggerate its capabilities. Yet there is no denying that no matter how simple the SRS process is, it works remarkably well on any audio source, mono or stereo, and on any system from the cheapest boombox to a stereo TV set to high-end Dolby Pro Logic surround systems. And it does it without having to be pre-encoded on the audio material.” Richard Maddox, *Home Theater*, April 1995.

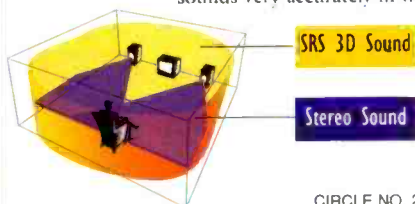
We’re flattered by Richard Maddox’s comments and every day we hear testimonials from users about how they are amazed by this technology. SRS (S) technology has won numerous accolades and has been granted several patents from various countries. Now through NuReality, the power of SRS 3D sound technology can be conveniently and inexpensively brought into your home with the Vivid 3D Theater.

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You only have two ears, yet you hear in three dimensions. Patented SRS technology is based on a natural psychoacoustic phenomenon, known as Head Related Transfer Functions or HRTFs, that have been largely ignored by modern sound reproduction technologies. HRTFs allow your brain to localize sound because the spectral characteristics, or frequency response, of the sound varies. These “spatial cues” supplied primarily by the outer ear, or pinna, are

transferred to the brain—enabling you to position sounds very accurately in three-

Stereo processing creates flat, two-dimensional sound, whereas SRS processing fills an entire room with lifelike, three-dimensional sound.



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dimensional space. SRS technology essentially mimics these diffractive effects of the pinna by extracting information from a recording that originally came from the sides and rear. This ambient information gives you a sense of acoustic space. SRS then uses HRTF-based corrections to cause the ear to perceive these sounds in their original spatial relationships. The result is that the sense of realism you perceive from reproduced sound is dramatically enhanced.

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## TEST REPORTS

Pro Logic playback did their usual wonders for many soundtracks, reducing harshness via the re-equalization and creating more seamless side and rear sound fields via the timbre matching and decorrelation. Although the decorrelation process used in the KR-X1000 was not totally free of the "tunneling" sound character that can disturb the tuning of such instruments as pianos, it had far less of this trait than most other THX devices we've tested.

When used with an adequate speaker system — a full THX speaker system qualifies automatically, but others must at least have a subwoofer that crosses over to the main speakers correctly — the KR-X1000 had an effortless sound quality stemming from its

processing and if it didn't have an excessive, nonsensical, and very audible high-frequency rolloff (-3 dB at 6.6 kHz, -5 dB at 10 kHz) in the front channels. Thank goodness the receiver's Dolby Pro Logic and THX performance were superb.

I had some ergonomic difficulties with the KR-X1000, although far fewer and less serious than I normally find in A/V receivers. Surround-mode selection on the remote is a round-robin affair: You have to cycle through as many as four modes to get to the one you want, making A/B comparisons between Dolby Pro Logic and THX operation impossible. Similarly annoying is that switching to stereo-only operation via the remote's handy ste-

**The Kenwood KR-X1000 receiver had an effortless sound quality stemming from its low noise and distortion and quite substantial power capabilities.**

low noise and distortion and quite substantial power capabilities. Even at very high levels (THX 0 dB), I never sensed that the receiver was running out of power (and oscilloscope traces showed it didn't) with the most violent of soundtracks, the loudest of symphonic or pipe-organ music, or the most raucous rock.

The only sonically disappointing aspect of the KR-X1000 was its DSP Logic surround-enhancement mode. The manual says it can be used for surround-encoded audio CD's when you want to change their perceived ambience. To this end, the outputs of the Pro Logic decoder are fed into a digital ambient-reflection generator. The generator has controls for Room Size (controlling the temporal spacing of the reflections) as well as Effect and Wall (which control the reflections' levels in different ways). DSP Logic does what it is supposed to do with surround-encoded CD's, though it seems to me that the one reason to surround-encode a CD is to convey the particular ambience selected by the producer. With normal music CD's, the presence of the Dolby Pro Logic decoder in the signal pathway disturbed the front imaging and was at times revealed by signal-pumping effects. DSP Logic would have been far more useful as a general-purpose ambience-enhancement mode if the surround decoder were removed from its

reo button also resets the surround mode to Home THX. Despite the neatness of the easy-to-turn front-panel input-selector knob, it has such light detents that it is very easy to turn past the input you want, as happened often to me. Finally, although THX components are almost unique in handling subwoofers correctly, the Kenwood has the same drawback I have found with most THX subwoofer outputs: The low-pass crossover is fixed in frequency (80 Hz) and cannot be defeated. That is ideal for THX-certified subwoofers, for which the outputs are designed, but if your subwoofer and main speakers require operation at a substantially different crossover frequency (above 100 Hz or below 60 Hz), you're going to have to turn the receiver's subwoofer output off, feed your subwoofer's crossover from the rear-panel left/right-front main-out jacks instead, and set the center-channel mode to "normal." It makes more sense to have a subwoofer crossover that can be switched out.

**T**hat is an amazingly short list of criticisms, all of them truly minor, of something as complex as a THX receiver. Used in stereo mode with music or in Dolby Pro Logic or, better, THX mode with movies, the KR-X1000 left little to be desired. It's a rare receiver that does so much so right and so well. □

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## TEST REPORTS



LOOK P. LEUNG

# Platinum Studio-1 Speaker

**JULIAN HIRSCH • HIRSCH-HOUCK LABORATORIES**

**A**lthough Platinum Audio Ltd. is a relatively new name on the American audio scene, its co-founder, Phil Jones, has had extensive experience in speaker design in his native England, where he founded Acoustic Energy and designed a line of high-quality speakers bearing that name. In 1990 Jones came to the United States, where he designed the Lynnfield series of speakers for Boston Acoustics.

More recently, as a partner in Platinum Audio, Jones has developed a line of high-end speakers. The smallest and least expensive of them is the Studio-1. Like its siblings, the Studio-1 uses proprietary components and drivers, and it has design features Jones developed for the larger speakers.

The Studio-1 is a small two-way system featuring a 5-inch polypropylene cone woofer in a very sturdy, double-vented enclosure. The woofer has a one-piece cone and dust cap and a 1.4-inch aluminum voice coil (unusually large for a driver this size) wound with two layers of copper wire. Its chassis is ventilated die-cast aluminum. The voice coil of the 1-inch dome tweeter is also wound with two layers of copper wire. Sensitivity is specified as 86 dB sound-pressure level (SPL) at 1 meter, and the speaker is rated to handle up to 150 watts.

The cabinet of the Studio-1 is made of 1-inch-thick medium-density fiberboard (MDF) finished in textured satin-black vinyl. The drivers can be seen through the perforated metal grille. Two pairs of gold-plated multi-way binding posts on the rear of the enclosure are normally paralleled by metal jumpers but can be separated for biamplified or biwired operation.

The nominal impedance of the Studio-1 is 8 ohms, and its frequency response is specified as 50 Hz to 20 kHz  $\pm 3$  dB (the port is tuned to 48 Hz). The two-way crossover frequency is 2.5 kHz, with acoustic-filter slopes of 18 dB per octave.

The measured impedance curve of the Platinum Studio-1 reached its minimum of 4.5 ohms at 4 kHz and its 22.5-ohm maximum at 100 Hz. Over most of the audio range the impedance was between 7 and 15 ohms. Sensitivity

**DIMENSIONS:** 8¼ inches wide, 13 inches deep, 13¾ inches high

**WEIGHT:** 26 pounds

**FINISH:** Textured black vinyl

**PRICE:** \$1,295 a pair

**MANUFACTURER:** Platinum Audio Ltd., Dept. SR, 10 Commerce Park N., Unit 12, Bedford, NH 03110-6907

ty, measured with a 2.8-volt input at a distance of 1 meter, was right on spec at 86 dB SPL.

The smoothed and averaged room response of the left and right speakers (placed on 26-inch-high stands some 7 feet apart) was a very good  $\pm 5$  dB from 60 Hz to 20 kHz. A close-miked response measurement of the woofer indicated a variation of  $\pm 3$  dB from 1 kHz (the upper limit of our measurement) down to 80 Hz. The bass rolled off at a moderate rate below 80 Hz, to  $-10$  dB between 30 and 50 Hz, but it was clearly audible and undistorted in that range at reasonable listening levels. The woofer distortion (at a 90-dB SPL) was in the range of 1 to 2 percent above 200 Hz, rising to 10 percent at 80 Hz.

The tweeter dispersion was typical of 1-inch dome drivers, with frequencies above 10 kHz dropping about 8 dB at 45 degrees off the speaker's axis. A quasi-anechoic MLS response measurement above 300 Hz produced a very good  $\pm 3$ -dB variation between 300 Hz and 16 kHz, with an additional 4 to 5 dB increase at the tweeter's resonance frequency (about 18 kHz).

Platinum recommends stand-mounting for all its "bookshelf" models, including the Studio-1, although other placements can be used if necessary. The Studio-1 has three rubber feet that insure steady mounting and eliminate the risk of damaging any surface on which it is placed. Incidentally, this speaker is surprisingly heavy for its size, indicative of its solid construction. Platinum also recommends heavy-gauge speaker wire, biwiring (or biamplification), and a break-in period of about 12 hours of use for the best sound. We used stands for convenience, but (as in all our speaker tests) the wires were ordinary 14-gauge copper and there was no special break-in period. Even so, the Studio-1 proved to be a first-rate speaker, delivering a quality and quantity of sound that belied its compact dimensions (but was certainly consistent with its price).

The instruction booklet furnished with the Platinum speakers was informative and straightforward. Its final paragraph closes with the statement, "We don't know anybody who can hear a speaker from specifications, not even us. The true test is how they sound to you." I completely agree, and must add that the Platinum Studio-1 sounded very good to me. As a bonus, if you will, its measurements were also consistent with what I heard. □





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Deep Blue Something Home (Interscope)	13-7273
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Goo Goo Dolls A Boy Named Goo (Warner Bros.)	12-1178
Green Day Dookie (Reprise)	47-6549
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The Dave Matthews Band Under The Table And Dreaming (RCA)	12-5229
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The Rembrandts LP (eastwest)	12-2408
Rusted Root When I Wake (Mercury)	10-3606
Seal (Sire/Warner Bros.)	48-4741
Stone Temple Pilots Purple (Atlantic)	46-5963
10,000 Maniacs MTV Unplugged (Elektra)	46-9775
Toadies Rubberneck (Interscope)	10-2491

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Ace Of Base The Sign (Arista)	46-8108
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Taylor Dayne Greatest Hits (Arista)	13-9105
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Madonna Badtime Stories (Maverick/Sire/Warner)	11-0429
Madonna The Immaculate Collection (Sire/Warner Bros.)	41-4537
MTV Party To Go, Vol. 4. Various (Tommy Boy)	47-8628
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Pantera Far Beyond Driven (eastwest) ▲	46-8926
Tom Petty Wildflowers (Warner Bros.)	11-0155
The Police Live (A&M)	12-9494/39-9493
R.E.M. Automatic For The People (Warner Bros.)	44-8522
R.E.M. Monster (Warner Bros.)	10-3929
U2 Achtung Baby (Island)	43-1213
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The Cranberries No Need To Argue (Island)	11-0478
Cream Strange Brew (Polydor)	42-3473
D'Angelo Brown Sugar (EMI)	13-1714
k. d. lang All You Can Eat (Warner Bros.)	13-9519
Lemonheads It's A Shame About Ray (Atlantic)	43-3100
John Mellencamp Dance Naked (Mercury)	48-3755
Phish Live (Elektra)	13-1607/39-1607
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Faith Hill	It Matters To Me [Warner Bros.]	13-4908
Alan Jackson	Who I Am (Arista)	48-6233
Alisan Krauss	Now That I've Found You... A Collection (Rounder)	12-0345
Little Texas	Greatest Hits (Warner Bros.)	13-6838
John Michael Montgomery	John Michael (Atlantic)	12-1467
Lorrie Morgan	Greatest Hits (BNA)	13-2480
Pam Tillis	All Of This Love (Arista Nashville)	14-2687
The Tractors	(Arista)	48-8551
Travis Tritt	Greatest Hits—From The Beginning (Warner Bros.)	13-6812
Shania Twain	The Woman In Me (Mercury/Nashville)	41-9768
Clay Walker	Hypnotize The Moon (Giant)	13-9626

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Blessid Union Of Souls	Home (EMI)	12-2549
The Corrs	Forgiven, Not Forgotten (143 Records/Lava/Atlantic)	14-0863
Fourplay	Elixir (Warner Bros.)	13-4890
Kenny G	Breathless (Arista)	44-8142
Amy Grant	House Of Love (A&M)	10-1667
Heart	The Road Home (Capitol)	13-7372
Elton John	Made In England (Rocket/Island)	12-2184
Bette Midler	Bette Of Roses (Atlantic)	13-2191
Aaron Neville	The Tattooed Heart (A&M)	12-5948
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Terry Ellis	Southern Gal (eastwest)	14-2992
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Warren G	Regulate... G Funk Era (Violator/RAL) ▲	48-2208
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Janet Jackson	Rhythm Nation 1814 (A&M)	38-8918
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The Doobles	Best Of... (Warner Bros.)	29-1278
The Doors	The Best Of... (Elektra)	35-7616/39-7612
Duran Duran	Decade (Capitol)	40-1869
Eagles	Greatest Hits, Volume 2 (Asylum)	31-7768
Fleetwood Mac	Greatest Hits (Warner Bros.)	37-5782
Grateful Dead	Skeletons From The Closet (Warner Bros.)	37-8406
Jimi Hendrix	Band Of Gypsies (Capitol)	12-2598
Elton John	Greatest Hits (Polydor)	47-1011
John Lennon	Collection (Capitol)	40-5308
The Steve Miller Band	Greatest Hits 1974-78 (Capitol)	29-0171
Van Morrison	Moondance (Warner Bros.)	34-9803
Elvis Presley	The Number One Hits (RCA)	12-5591
The Righteous Brothers	Very Best Of... (Verve)	42-3772
Rod Stewart	Greatest Hits (Warner Bros.)	29-8760
Styx	Greatest Hits: Time Stands Still (A&M)	13-6721
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DOCK P. LEUNG

## NAD Model 310 Integrated Amplifier

**JULIAN HIRSCH • HIRSCH-HOUCK LABORATORIES**

**N**ot too many years ago, amplifiers capable of delivering more than 25 or 30 watts per channel were relatively rare. Today that situation has changed radically, with even low-price receivers delivering 50 or 60 watts per channel, and many having twice that capability. A parallel trend exists in the case of separate power amplifiers and integrated amplifiers.

Actually, it is always desirable to have an amplifier with a power capability exceeding any demand that you might reasonably make on it — along with the low distortion and low noise typical of today's high-quality components, of course — even if you rarely, if ever, use it to its full potential in actual listening. But power costs money, and most good integrated amplifiers or separate power amps cost at least several hundred dollars.

Since NAD was founded in the early Seventies, the company has been noted for the high quality and value of its audio and video components. Typically devoid of frills and unnecessary features, NAD products are designed

and engineered in England and manufactured in the Far East.

The NAD 310 amplifier is an excellent example of the company's product design philosophy in action. A compact integrated stereo amplifier, it is conservatively rated to deliver a modest 20 watts per channel into loads of 4 to 8 ohms (from 20 Hz to 20 kHz) with less than 0.05 percent distortion. The NAD 310 has pushbutton input selectors for four line-level audio sources identified as video, aux, tuner, and CD.

Recognizing the diminished role of LP's in today's music systems, NAD did not give the amplifier a phono input. Replacing that feature, however, are front-panel input and output mini-jacks (1/8 inch) for portable CD/

tape players and recorders. There are also tape play and record inputs on the rear apron for use with conventional tape decks and two front-panel tape-monitor buttons, one for each input/output set. It is even possible to dub tapes, in either direction, between decks connected to the front and rear jacks.

The NAD 310 has the basic front-panel controls: bass and treble tone adjustment (with a tone-defeat button) and large concentric volume knobs for the left and right speaker channels, which normally operate as a single control but can be set independently. The front panel also has a pushbutton power switch and two small LED indicators (green for power on, and red to show that the amplifier's protection circuit has been tripped by overheating or a short-circuit).

The amplifier has the same dark gray and black finish that has been a hallmark of NAD products since their inception. On the rear apron, in addition to the phono-jack inputs and outputs, are two pairs of multiway speaker-output binding posts that accept dual banana plugs as well as wire ends or spade lugs.

NAD's goal in designing the Model 310 was to achieve a high-current output at lower cost than traditional amplifier designs. The 310's "Super Simple" circuit departs from the typical circuit topology in several respects, resulting in roughly a 50-percent reduc-

**DIMENSIONS:** 17 inches wide, 3 inches high, 9 7/8 inches deep

**WEIGHT:** 9 1/2 pounds

**PRICE:** \$199

**MANUFACTURER:** NAD, Dept. SR, 89 Doug Brown Way, Holliston, MA 01746

## TEST REPORTS

tion in the number of components and almost 20 percent greater efficiency. These savings allowed NAD to use higher-quality components in the Model 310, including a toroidal power transformer — possibly unique among amplifiers in this price (and power) range — that is not only more efficient (cooler) than an equivalent conventional transformer but also creates a much weaker external magnetic field (a potential source of hum in audio systems).

Our tests confirmed the performance specifications of the NAD 310, including its extraordinarily low noise level of  $-96$  dB relative to a 1-watt output. Although 20 watts in this day of super-powerful amplifiers might seem skimpy, that is not the case here. Higher power is most likely to be required only for brief intervals, and the Model 310 can deliver *twice* its rating for the standard 20-millisecond duration used for dynamic-headroom measurements.

By eliminating unnecessary frills and features (“bells and whistles”), NAD has designed a power amplifier that can do everything most people need done in their music systems at least as well as many amplifiers costing several times its bargain-basement price. While it might not be an optimum choice for a lease-breaking high-end system or for driving a pair of power-hungry high-end speakers, I cannot imagine a better choice for a modest stereo system. □

### MEASUREMENTS

All data are for two-channel stereo operation.

#### OUTPUT AT CLIPPING (at 1 kHz)

8 ohms ..... 33 watts  
4 ohms ..... 47 watts

#### CLIPPING HEADROOM (re rated output)

8 ohms ..... 2.2 dB

#### DYNAMIC POWER

8 ohms ..... 39 watts  
4 ohms ..... 66 watts

#### DYNAMIC HEADROOM (re rated output)

8 ohms ..... 2.9 dB

#### DISTORTION AT RATED POWER

(20 watts, 1 kHz) ..... 0.03%

#### SENSITIVITY

(1-watt output, 8 ohms) ..... 45 mV

NOISE (re 1 watt, A-wtd) .....  $-96$  dB

#### FREQUENCY RESPONSE (tone controls centered)

..... 20 Hz to 20 kHz  $\pm 0.1$  dB

#### TONE-CONTROL RANGE

100 Hz .....  $\pm 7$  dB  
10 kHz .....  $\pm 6.5$  dB



DOUG BROWN

## Celestion Impact 10 Speaker

JULIAN HIRSCH • HIRSCH-HOUCK LABORATORIES

Celestion's Impact series of loudspeakers consists of seven models ranging in price from \$199 to \$850 a pair and in size from 12 to 39 inches tall. The smallest and least expensive of the group is the Impact 10, a compact two-way system whose 5-inch woofer operates in a vented enclosure and crosses over at 3.5 kHz to a 1-inch dome tweeter. The woofer is located near the top of the front panel, with the tweeter directly below it and the 1/4-inch port adjacent to both drivers.

Each driver (and the port) is surrounded by a molded plastic ring that extends about half an inch in front of the speaker panel. This feature is apparently designed to minimize diffraction as well as to provide the greatest possible degree of homogeneity for the outputs of the drivers and port.

The small wooden cabinet is finished in a black ash woodgrain vinyl on its top, bottom, and sides. The removable grille extends about an inch beyond the front panel to clear the molded structure surrounding the drivers and port. The insulated binding posts, which accept dual banana plugs or stripped wires, are recessed into the rear panel.

The Impact 10's rated sensitivity is

88 dB sound-pressure level (SPL) at 1 meter with an input of 2.83 volts. Impedance is given as 6 ohms and maximum power-handling capability as 75 watts. The only other specific information provided on the acoustic performance of the Impact 10 is its rated bandwidth of 50 to 20 kHz. The instruction manual stresses that the speakers should not be used to reproduce live amplified music or computer-generated signals, or in PA (public-address) systems. That is good advice for any small speaker, which could easily be driven to destruction by many of today's powerful amplifiers and receivers.

Because of the above warning, we proceeded with extra caution since most of our test procedures rely on computer-generated signals. For example, during our woofer distortion

**DIMENSIONS:** 7½ inches wide, 12 inches high, 8¼ inches deep (9 inches with grille)

**WEIGHT:** 8 pounds, 10 ounces

**FINISH:** black ash vinyl

**PRICE:** \$199 a pair

**MANUFACTURER:** Celestion, Dept. SR, 89 Doug Brown Way, Holliston, MA 01746



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## TEST REPORTS

measurement, which normally spans the range from 20 Hz to 20 kHz, we avoided catastrophe by aborting the test as the signal dipped below the speaker's specified low-frequency limit of 50 Hz.

For listening, and for some measurements, we placed the Celestion Impact 10 speakers on stands about 8 feet apart and 3 feet from the wall behind them. As usual, we placed our lab microphone about 12 feet in front of the left speaker and measured the frequency response of each speaker separately with a frequency-stepping signal from the Audio Precision test system. The two sets of data were then averaged to form a composite frequency response (after correction for room absorption effects).

Woofer response was gauged by combining separate close-miked measurements made for the cone and the port to form an equivalent anechoic bass response (fictional, but indicative of the speaker's bass potential under ideal conditions). Combining the woofer and room-response data produced a composite response curve that was flat within  $\pm 2.5$  dB from 18 kHz down to well below 100 Hz (the effective lower limit in our room was somewhere in the vicinity of 50 Hz).

The minimum impedance of the system was 4 ohms, at 55 and 200 Hz, with a maximum of 35 ohms at 3.8 kHz. Impedance at the two bass-resonance peaks, 20 and 90 Hz, was 12.5

and 15 ohms, respectively. The sensitivity was 88 dB, exactly as rated.

We measured quasi-anechoic (MLS) frequency response at distances from 1 to 3 meters. The results of this test, though valid only above 300 Hz, underscored the inherent smoothness of the system. The response was flat within  $\pm 2$  dB from 700 Hz to about 19 kHz except for two tweeter peaks of 3 and 5 dB at approximately 12.5 and 17 kHz, respectively.

No matter how you slice the data, the Celestion Impact 10 is clearly a very good little speaker. It came as no great surprise to find that it sounded as good as it measured. Obviously, a system with an enclosure of this size and with this driver complement is not going to deliver much deep bass (the laws of physics still apply), but its overall sound quality was so well balanced and smooth that most of the time we didn't miss it.

I have been aware for some time of the overall improvement in sound quality that characterizes so many of today's speakers. This largely unheralded development arises out of a variety of technological advances, but the result is that there is simply no reason to settle for mediocre sound quality in this day and age, regardless of your budget. Celestion's little Impact 10's are one of the best examples of this trend, offering good sound — actually, they sound better than merely *good* — at a bargain-basement price. □





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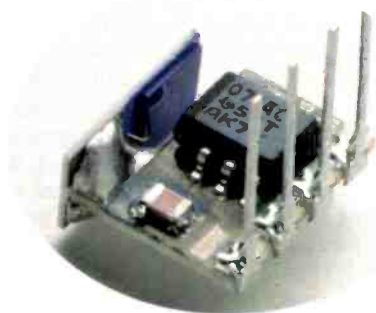
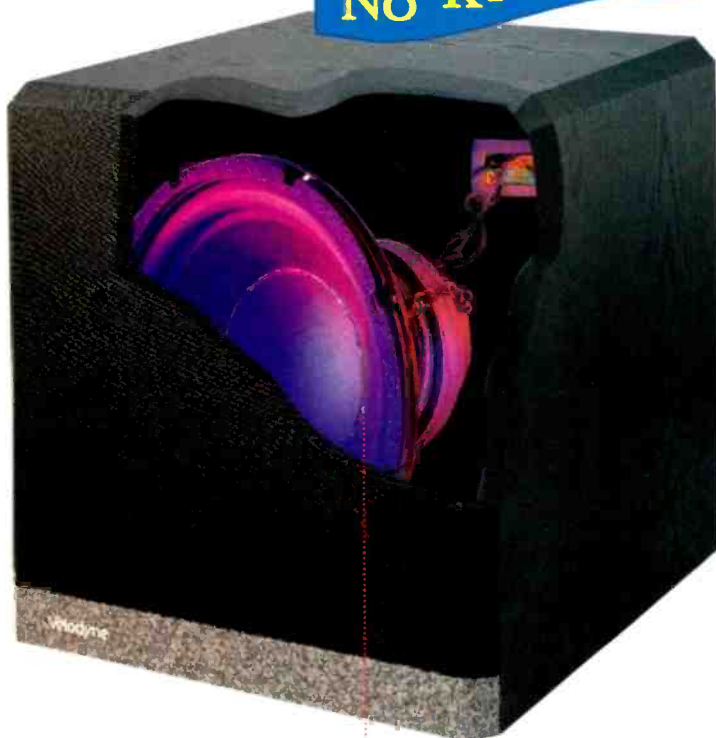
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## Atlantic Technology System 220 Home Theater Speakers

DAVID RANADA • TECHNICAL EDITOR

**L**ow-cost home theater speaker systems with aspirations to high-fidelity status are few and far between. Atlantic Technology makes three of them: the \$1,556 System 250 (reviewed here in December 1994), the \$746 System 150, and the \$1,176 System 220.

The System 220 includes six components, which are available separately for anyone taking the step-by-step approach. Two of those six are the magnetically shielded 221 LR left and right front speakers (\$219 a pair in black, \$229 in white), each containing a 4-inch polypropylene woofer and a fluid-cooled 1/2-inch Mylar-dome tweeter. The design of the sealed, acoustic-suspension enclosures is said to control the woofer movement and increase power handling. The enclosures are made of medium-density fiberboard with front panels of a high-density molded resin. They measure 5 7/8 x 9 1/2 x 7 1/4 inches (W, H, D) and weigh 5 7/8 pounds. Each enclosure has a hole on the back for wall mounting using a supplied bracket. There are also screw holes on the back for attaching the speakers to optional stands or swiveling wall brackets. Connectors are gold-plated binding posts, as they are for the system's 223 C center speaker and 224 SR surround speakers. Nominal impedance of the 221 LR is 8 ohms, and sensitivity is given as 90

dB, specifications that apply to the system's surround and center speakers as well.

The 223 C center speaker (\$199 in black only) is the least conventional speaker in the System 220. It, too, is a magnetically shielded, sealed-box system, but with two 3 1/2-inch woofers mounted on either side of a fluid-cooled 1/2-inch Mylar-dome tweeter. That much is not unusual, nor are the enclosure dimensions (13 x 4 1/4 x 6 1/2 inches), which are typical of small center-channel speakers. What *is* unusual is the wooden base supplied with the 223 C that allows it to tilt up or down. Atlantic Technology says this "enables flexible placement either above or below the TV screen while still maintaining vertical directivity." In reality, however, the side-by-side arrangement of the 223 C's drivers itself keeps the speaker's vertical directivity rather wide, especially in the vocal frequency range, thereby reducing the need for precise vertical aiming.

Another unusual feature of the 223 C is its rear-panel Cinema EQ control, a small knob that adjusts the high-frequency response to compensate for soundtrack harshness, speaker placement, or room acoustics, or to improve the tonal match with the system's left and right front speakers.

Despite some fancy wording in the data sheet, each 224 SR surround

speaker (\$229 a pair in black, \$239 in white) is a simple dipole radiator. Its two 3 1/2-inch polypropylene cones, each mounted on an angled, molded baffle, fire in different directions and out of phase with each other to provide the diffuse sound quality desirable in surround speakers. The shallow enclosures, measuring 9 1/2 x 6 5/8 x 6 inches and weighing 5 1/2 pounds each, are designed to allow the greatest mounting flexibility. Like the 221 LR, the 224 SR has holes for wall or stand mounting. An optional in-wall mounting kit is also available.

Most of the cost of the System 220 is concentrated in the \$529 222 PBM, a powered subwoofer or, as Atlantic Technology more accurately calls it, bass module. The 222 PBM contains a high-excursion, 10-inch polypropylene-cone woofer that operates in an acoustic-suspension enclosure measuring 19 3/4 x 14 3/4 x 13 3/4 inches and weighing 44 pounds. Driving the woofer is a 125-watt amplifier fed from a low-pass crossover with a cutoff frequency that is continuously variable from 60 to 125 Hz. There is also a polarity (absolute-phase) switch. The 222 PBM accepts either line-level input signals (through phono connectors) or speaker-level inputs (through binding posts). There is no high-pass loop-back filtering, however: The line-level outputs are simply hard-wired to the line-level inputs.

The various woofer placement and hookup options receive well-illustrated coverage in the separate 222 PBM manual. But how to properly set its level receives little mention, and the function and use of the polarity switch and crossover-frequency control are not covered at all. (The woofer manu-



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## USER'S REPORT

al, in fact, covers three Atlantic Technology bass modules, including its top-of-the-line THX model, with almost no differentiation between them.) As usual, I used a lab mike, a spectrum analyzer, and a pink-noise test signal to help adjust the 222 PBM for flattest overall frequency response with the 221 LR's. The 222 PBM was placed in our standard "woofer-module" location, the front left corner of our listening room, and its line-level input was connected to the mono subwoofer output of an A/V receiver.

At first hearing, with the 221 LR's on Atlantic Technology 156 ST stands, which hold them 29 inches above the floor and point them slightly upward (putting the listener a little below-axis), the 221 LR's lacked brilliance, especially with classical strings and pop/jazz cymbals. I was not surprised by this given the results of our frequency-response measurement: There was a response dip of about 6 dB in the two octaves between 2 and 8 kHz.

Fortunately, there are ways to minimize this coloration. A typical treble-control knob set around 3 o'clock might help. Alternatively, you can listen on-axis (with the speakers level, not tilted, and at ear height) or possibly even above-axis (with the speakers level and slightly below ear height). You can also remove the 221 LR's grille, which we found to have substantial absorptive properties in the region in question (3 to 4 dB between 4 and 8 kHz). When heard from above-axis and with the grilles off, the dip shrinks to about an octave in width (around 2 to 4 kHz). Outside of that frequency region, the response stayed within a very good  $\pm 2$  dB from below 200 Hz to above 16 kHz. Note that the more acoustically absorptive the listening room, the more effective these corrective measures will be.

With sine-wave test tones at a loud 90-dB sound level, the 221 LR's produced some audible distortion below 160 Hz and had what seemed to be a nasty cabinet resonance around 300 Hz. Sensitivity was as specified, producing a 90-dB sound-pressure level at a distance of 1 meter when measured with a 2.8-volt input (1 watt into 8 ohms).

The 223 C center speaker sounded colored too, but in a different way. While its overall response with the grille off could be cited as a very good 200 to 20 kHz  $\pm 2.5$  dB, there was a 6-dB peak in the octave between 100 and 200 Hz. (Peaks in response are far

more audible than dips of equal magnitude and width.) I found it impossible to obtain even a close match with the sound of the 221 LR's using the speaker's Cinema EQ control. The knob acted more like a tweeter-level control that produced a 12-dB change in level at 10 kHz between its extreme settings. The best audible match occurred with the Cinema EQ control set at its midpoint.

As we noticed during our evaluation of the Atlantic Technology System 220, the angle of the drivers in the surround speakers creates a rather narrow dipole null, which makes the distance between the surrounds and the listening position somewhat critical. Leaning forward or back by a few inches considerably changed the 224 SR's sound quality on pink noise (I measured nearly an 8-dB rise in response at 5 kHz) when they were placed fairly close in (say, within 6 feet on either side). While this change was not nearly as noticeable on typical Dolby Surround soundtracks with their built-in rolloff of high frequencies, it could be significant with AC-3 programs that can feed the full frequency range to the surround speakers.

**T**he star performer of the System 220 was the 222 PBM bass module. With its crossover-frequency control dialed all the way up to the 125-Hz setting, it produced substantial output up to 200 Hz. That's fortunate because it makes the 222 PBM a better match for the 221 LR's and 223 C at the expense of some upper bass that can be localized at the woofer position (remember to set your receiver's center-channel mode control to "normal" or "small"). In our listening room with the speaker positions cited above, I obtained the best match with the crossover-frequency control at its 3 o'clock position and with the polarity control set to "inverting." Your optimum settings will probably be different.

With those settings — and listening from above-axis with the grilles off — the combined overall frequency response of the main speakers and the bass module was a most respectable  $\pm 3.5$  dB from 40 Hz to 16 kHz, and the sound was very well balanced. The 222 PBM's output with test tones was relatively distortion-free down to below 40 Hz. The woofer still delivered useful output down to around 30 Hz, but below that point distortion rose quickly while output fell.

In stereo operation (221 LR's and bass module only) the System 220's imaging, while good, was not as tight and precise as we have heard from other, albeit considerably more expensive, speakers. In surround sound, the lingering frequency-response mismatches between the 223 C center and the 221 LR front speakers made left-center-right panning less smooth than it should be with a standard pink-noise test signal. This is an extremely challenging test, however, far more revealing of such timbre-change behavior than any soundtrack. The timbre mismatch was less noticeable with surround-encoded music since the sound sources in the image don't move around, but the lower-midrange colorations of the center speaker were more noticeable.

Thanks to the generous amplifier power in the bass module, the System 220 played plenty loud for both the music and soundtracks I tried. The distortions noted above were inaudible as such with music and soundtracks. It was gratifying to hear action-movie sound effects with nearly full impact and weight from so small and inexpensive a speaker system. If your amplifier or receiver has provisions for high-pass filtering of the front-speaker outputs, however, I recommend that you use it (but only if the 222 PBM is driven from a line-level subwoofer output). High levels of very low-frequency signals can cause audible distortion from the 221 LR's that may not be masked by the rest of the program material (I'm thinking here of the loud rumbles common in action movies).

Some of my comments may seem unduly harsh — they're not meant to be. As always, I compared the System 220 with the performance of some of the best home-theater speaker systems we have examined. That the System 220 could survive comparisons with systems more than twice its price with so few obvious problems is a tribute to its basic listenability, especially with soundtracks and when its components are placed to best advantage. Combined with a moderate-power A/V receiver — 50 watts per front channel is all you'd need to drive the system to quite loud levels — the Atlantic Technology System 220 provides a path into home theater without straining your budget. In more ways than one, it has little competition. □

*Atlantic Technology, Dept. SR, 343 Vanderbilt Ave., Norwood, MA 02062.*



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## LISTENING TESTS

BY TOM NOUSAINE

PHOTO BY DAN WAGNER. SCREEN SHOT FROM APOLLO 13 (MCA HOME VIDEO)

**W**hat are the questions home-theater enthusiasts ask most frequently? After "How much does it cost?" and "When can I get one?" it's the old "Where the heck am I going to put all these speakers?" Given so many possibilities for speaker placement in a five- or six-channel surround-sound system, it isn't easy to determine which locations will yield the best results.

Of course, for the main left/right and center-channel speakers, the answer is clear: The mains usually go on either side of the TV screen, and you can just slap the center speaker on top of (or right below) the TV. We know that a subwoofer usually works best in a corner. But what about the surrounds? Should you place them behind or beside the main viewing position? Mounted high or low? Are you better off with regular surround

speakers or dipoles? And what the heck is a dipole, anyway?

To help answer these questions, I conducted extensive surround-sound listening tests using both dipole surrounds, which radiate sound from two sides, and conventional front-radiating surrounds. I placed them in a variety of frequently recommended positions and listened to both Dolby Pro Logic and Dolby AC-3 Digital soundtracks to determine which setups presented the most realistic sound fields and the fewest distortions. The results suggest that even modest changes in surround-speaker setup can have a dramatic effect on system performance.

Much of the conventional wisdom about setting up surround speakers comes from the pros themselves. Dolby Labs, for instance, recommends using two conventional front-radiating speakers placed on opposite side



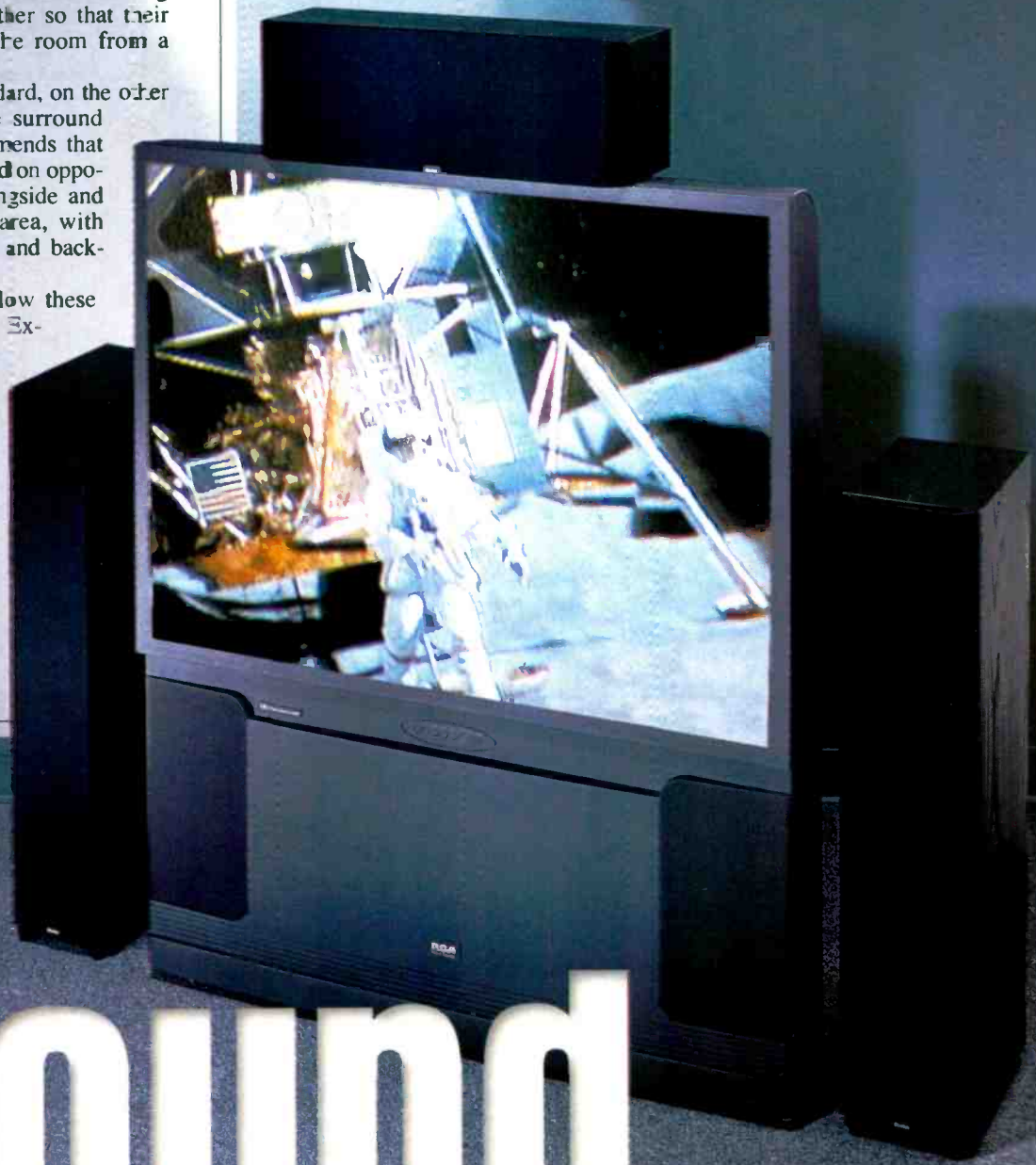
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walls, 2 to 3 feet behind the main listening position and facing each other so that their output fires directly into the room from a height well above ear level.

The Lucasfilm/THX standard, on the other hand, calls for two dipole surround speakers. Lucasfilm recommends that the two dipoles be positioned on opposite side walls directly alongside and above the main listening area, with their drivers firing forward and backward along the walls.

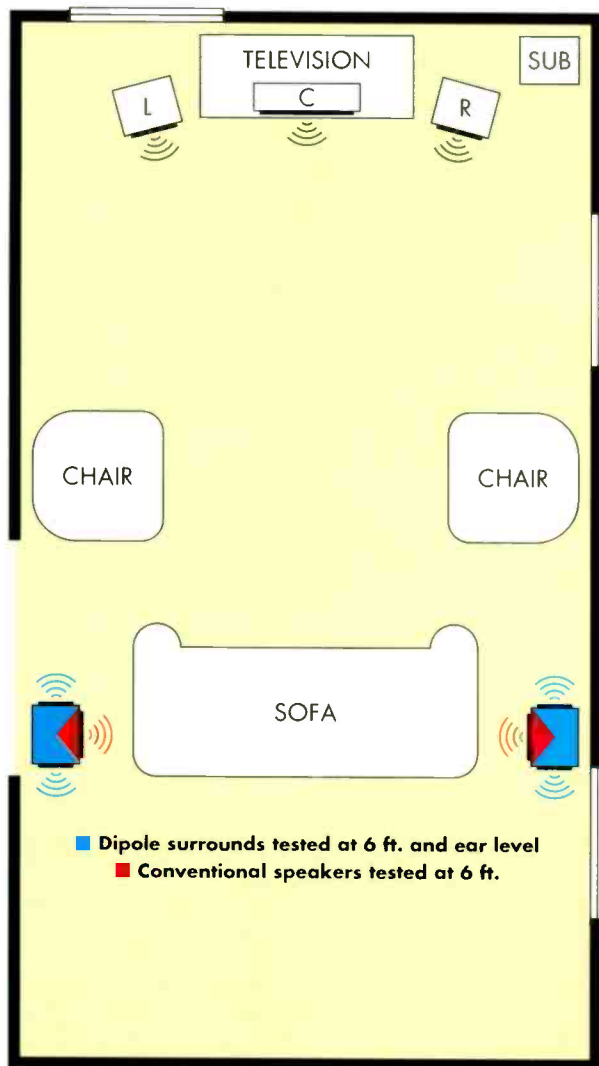
Few people seem to follow these recommendations, however. Except for some expensive professional installations, almost every system I've seen puts the surround speakers at ear level on end tables or on speaker stands. These things seem to have a way of winding up where it's easiest to put them, even when that means on the floor. Unfortunately, my experiments show that such a



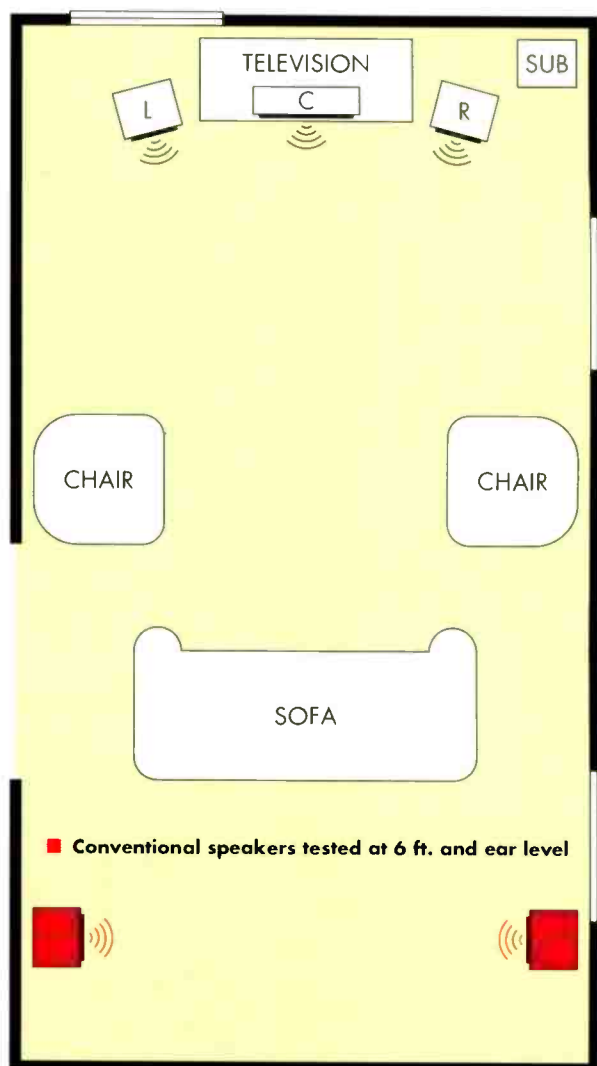
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**Placing surround speakers in a home theater can drive you mad — unless you know the secrets**

## LISTENING TESTS



**FIGURE 1**



**FIGURE 2**

placement could mean a big sacrifice in your ability to enjoy the special effects and ambience found in many soundtracks.

The advent of discrete-channel surround formats such as Dolby AC-3 Digital has also raised several new questions about what type of surrounds to use and where to put them. The key difference is that software encoded for Dolby Pro Logic playback contains a matrixed, bandwidth-limited monaural surround channel, while AC-3 soundtracks provide two discrete, full-range surround channels. Does AC-3 require a different approach to surround-speaker setup? Lucasfilm claims that its well-researched THX dipole standard works optimally for all surround formats, even AC-3. But others have pos-

tulated that a more directional surround speaker is needed to reproduce discrete rear effects properly.

With all of that in mind, I evaluated alternative surround-speaker setup options in a real home-theater environment. I sought to answer several basic questions: What should surround speakers do? Where is the best place to put them? What happens when we compromise on placement or speaker type? And, finally, do discrete surround channels lend themselves to a particular speaker type or placement?

### The Experiment

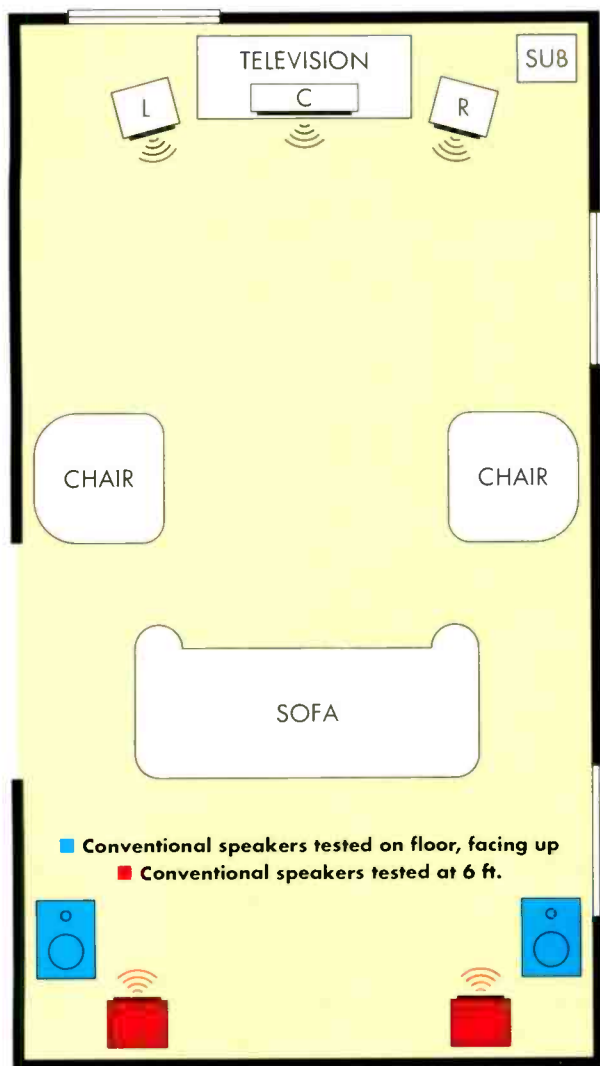
My home theater/living room is fairly typical. It's a rectangular room (22 x 12 feet) with 8-foot ceilings and a

large doorway near the end of one of the long walls. The floor is carpeted, there are only a few pictures on the walls, and the furniture includes a sofa, three chairs, an end table, a couple of cabinets, and some bookcases. One short wall is almost completely consumed by a 51-inch rear projection TV, an equipment rack, and three THX-certified M&K S5000THX series speakers for the left, center, and right front channels.

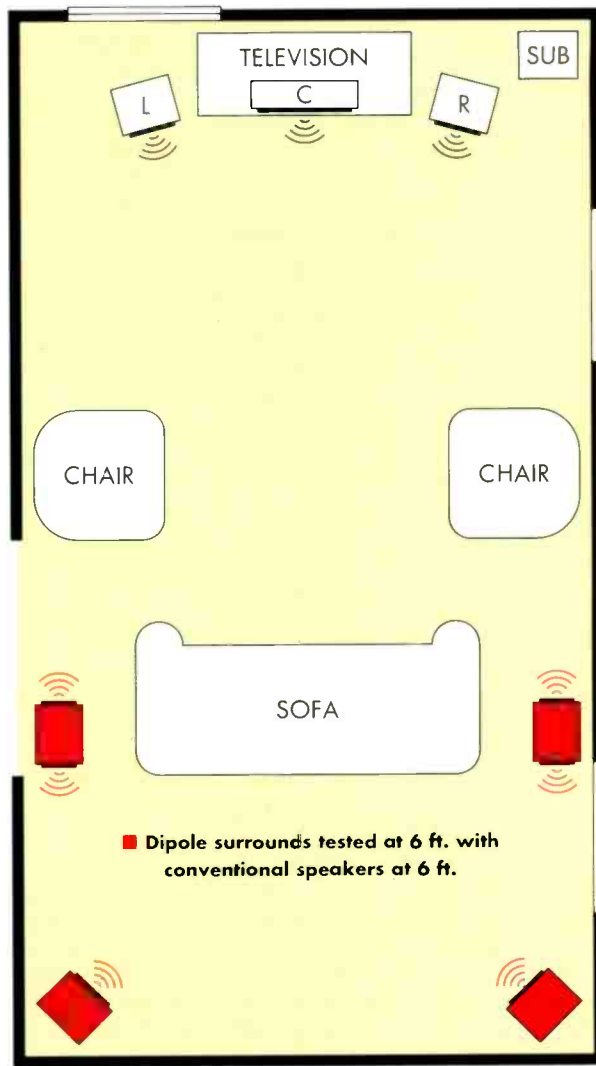
The sofa sits 12 feet from the TV and 6 feet from the rear wall and serves as the primary viewing/listening position. There's also a pair of flanking chairs, along the long walls, which I'll call the "wing" or "cheap" seats. It is possible to seat additional viewers along the back wall, but I re-



## LISTENING TESTS



**FIGURE 3**



**FIGURE 4**

serve that strategy for emergencies (Super Bowl and bachelor parties).

Evaluating speaker placement is much easier if you have multiple sets of the same speaker for different locations so that you can make real-time A/B comparisons. I employed two pairs of conventional front-radiating M&K S90 speakers and two pairs of M&K SS500THX dipole surrounds to allow up to four comparisons at a time. Both models use essentially the same drive elements as my main speakers, which helped insure that any timbral differences I observed would be due primarily to room placement and radiating patterns, not differences in the loudspeakers themselves.

Related equipment included a Yamaha RX-V2090 Dolby Pro Logic re-

ceiver and matching DDP-1 AC-3 decoder. The source was a Marantz LV520 laserdisc player with an AC-3 RF output. I also used an outboard electronic crossover, a custom 18-inch subwoofer (situated in the corner to the right of the TV), and a separate power amplifier for each channel, including all surrounds. A multiposition rotary switchbox from DB Systems enabled me to select among the four different surround setups available for comparison at any one time.

In all but one setup the surround speakers were placed on stands. For the optimum dipole location left of the sofa the speaker had to be situated alongside the room's entryway, but the opening had no apparent negative effect on its performance. All of the

speakers were individually level-matched using the amplifier level controls and an Audio Control AC3050a sound-level meter. The surround channels were configured as "small" for AC-3 playback, meaning they were cut off below 90 Hz.

### Surround-Speaker Setup Options

I tested eight setup options in all. The first followed the Lucasfilm/THX recommendations: Dipole surrounds were placed directly to the sides of the main listening area at an elevation of 6 feet (Figure 1). The speakers were aimed along the side walls, radiating toward the front and back of the room. I also tested the dipoles in the same loca-

## LISTENING TESTS

tions but at ear level (40 inches from the floor).

The third option was to place conventional front-radiating speakers (aimed at one another from across the room) in similar positions, alongside the couch at a 6-foot elevation, in order to gauge any difference between dipole and conventional speakers in this kind of setup.

The fourth setup option was based on Dolby's recommendation. I placed front-radiating speakers along the side walls, facing each other, some 3 feet behind the main listening area and at an elevation of 6 feet (Figure 2). I also tested the same speakers at ear level (40 inches) to gauge any change in the sound field.

I tested three additional setups as well. One had the front-radiating speakers placed high on the back wall of the room (Figure 3), facing the listening area, 2½ feet in from each corner and 6 feet above the floor. Another setup that is sometimes recommended calls for putting conventional front-radiating speakers on the floor behind the listener and firing them up at the ceiling — the idea being to "hide" them sonically and make it harder to pinpoint their locations. To test this scenario, I laid front-radiating speakers on their backs along the side walls 3 feet behind the sofa (also Figure 3).

Finally, both Dolby and Lucasfilm recommend using only a single pair of surround speakers in a room so that no listener will be too close to any speaker. The recording engineer who helped me select program material for this test, however, suggested a four-speaker surround setup for long rooms: a pair of conventional speakers placed high in the rear corners along with a pair of dipoles placed high on the side walls adjacent to the listening area. So I tried this setup option, too (Figure 4).

### Surround Performance Criteria

Just what is the job of a surround speaker? Basically, a surround system should "envelop" listeners at all seating positions without any gaps in the sound field. "Envelopment" is that sense of being inside a concert hall or in the crowd at a stadium, as opposed to looking *into* the performance space as we often seem to do with two-channel stereo.

A surround system should also provide seamless movement of cinematic sounds from the main (front) action back into the room. Finally, when needed, a surround system should convincingly place specific off-screen sounds, including sounds that originate behind the listener.

As with any good main speaker, the sound from a surround speaker should just be "there," without calling attention to the speaker as a source of sound. You will often hear the term "localization" to describe the effect of poor surround-speaker performance. But in practice, you are much more likely to experience a gap or imbalance in the ambient field than to be able to pinpoint a speaker. If you're listening to a concert video, for instance, such an imbalance might give you the sense that the audience was clustered toward one side of the room instead of surrounding you.

Surround speakers should also match the front speakers in timbral or spectral quality to create the most seamless sound field. Any moving sound should have a natural balance and any changes in timbre should match those experienced in real life. It seems like a simple job, but it ain't easy.

Based on these criteria, I evaluated the different surround setup alternatives in four key areas: (1) how completely and evenly the ambient sound field was projected; (2) how accurately sounds tracked the action on the screen; (3) how well the surrounds matched the timbre of the front speakers (mostly a function of speaker location in this experiment); and (4) how accurately individual off-screen sounds were placed when necessary.

The test routine involved listening repeatedly to specific laserdisc passages that highlighted these various performance aspects while making direct comparisons of up to four alternative speaker/placement options at a time. The discs included a variety of movies — *Clear and Present Danger*, *True Lies*, *Crimson Tide*, and *Top Gun* (originally mixed for the Dolby Pro Logic format but recently rereleased in AC-3) — as well as the U2 music video *Rattle and Hum*. I listened to the soundtracks of the selected passages in both AC-3 and Pro Logic modes. I also used pink noise to help evaluate timbral changes (see "Program Material" on page 54).

A word on seating: One of the main advantages of multichannel surround sound is freedom from "sweet spot" limitations. The ability to provide high-quality sound at all practical seating locations is one thing that separates a great system from a merely good one. That is why I evaluated sound quality in two different sofa seats as well as a difficult-to-serve wing seat.

### Test Results

#### SETUP 1. Dipole surrounds alongside sofa, 6-foot elevation (Lucasfilm/THX recommendation).

Locating a dipole speaker to the sides of the main listening seats and well above ear level produced excellent results. From both seats on the sofa the dipoles produced an even horizontal sound field that had good integration with the front stage and no dead areas. The ambient field, however, tended to start just behind the listener. The crowd noise in *Rattle and Hum*, for example, was mostly above and beside me but not behind me — as though I were sitting in the last row instead of the middle of the audience. That didn't interfere with production of rear effects, though. Horns playing on the *Crimson Tide* soundtrack gave the sense of reflecting off the back wall of the original recording stage, and the long stadium echo, or "slap echo," in *Rattle and Hum* was present as well. In the bathroom scene of *True Lies*, in which the wall tiles are destroyed by a barrage of bullets, the tiles shattered all around me, even behind my back.

Movement tracking was also the most effective with this speaker setup. In the *Clear and Present Danger* jet-fly-by scene the plane flew right through me and out the back wall! Timbral match with movie soundtracks and pink noise was excellent.

Performance was even respectable in the cheap (wing) seats, though less than optimal. Note that when a surround system is balanced to the main speakers at the main listening seat (the center of the sofa in my room), the level of the surrounds will change at alternate listening positions. Depending on where you move, the surrounds will either get louder or softer compared with the front speakers. In this particular setup the dipoles fire directly at the wing seats, and in my room the surround level for listeners in those



## LISTENING TESTS

seats rose more than 1 dB compared to the center sofa seat.

As a result, when I listened in a wing seat the ambient field tilted toward me and a small dead zone developed around me. Timbre remained well matched, but now the jets (*Clear and Present Danger*, *Top Gun*) had a small gap to jump between the front stage and the rear field, and their sound flew down the near side of the room no matter where they were headed on the screen. Behind-the-listener effects also tended to cluster along the near side wall.

### **SETUP 2. Dipoles alongside sofa at ear level.**

When I listened from the center position on the sofa, the ear-level dipoles performed the same as their high-mounted brothers. But when I moved closer to one surround speaker by sitting at the end of the sofa or in a wing seat, its level rose more than 2 dB, allowing surround-performance errors to develop. In the righthand sofa seat the ambient field swung strongly to the near side, so instead of flying down the center of the room the plane in *Clear and Present Danger* jumped to the nearest surround speaker after passing through my body.

Likewise, the cheap seats put me directly in front of and close to one surround speaker, causing the plane to jump from the front of the room to that speaker and the rear ambient field to shrink into a blob hovering around it. Effects intended for the opposite side of the room were occasionally apparent, but most of the surround action stuck pretty close to the near speaker.

### **SETUP 3. Conventional Speakers alongside sofa, 6-foot elevation.**

Mounting conventional front-radiating speakers along the sides of the sofa, facing each other and elevated above my head, proved to be another excellent overall choice. The timbral match with the front channels was nearly as good as with the dipoles, and from the center seat the coverage was similar to that in the dipole setups, with smooth coverage from front to back at the expense of some rear depth.

Sitting at the end of the couch, I found that the rear ambient coverage thinned a little at the far side of the room, and effects tended to cluster toward the near side. The jet fly-bys

were more realistic than when I used high-mounted speakers either on the side walls behind the sofa or on the back wall, which tended to cause the plane to fly toward me at first and then jump to the center of the room. In the wing seats, the timbre remained extremely well matched and the front-to-back gap in the sound field was relatively well contained — the jet made only a small jump between the front and rear ambient fields.

### **SETUP 4. Conventional speakers 3 feet behind sofa, 6-foot elevation (Dolby recommendation).**

Mounting conventional speakers high on the side walls, 3 feet or so behind the main listening area and facing each other, produced results nearly as good as with dipoles on either side of the sofa. When I sat at dead center for *Rattle and Hum*, the ambient field extended much further behind me, giving an extremely convincing feeling of being there in the stadium with crowd noise all around. The sound-field width was quite good all along the sofa. Surround timbre matched the front speakers fairly closely, but the speakers' proximity to the rear wall gave it a bassier quality.

Unfortunately, the increased rear depth I experienced with this speaker setup came at the expense of a small dead zone between the front and rear ambient fields. They didn't quite touch, meaning that the jets flying toward me in *Clear and Present Danger* and *Top Gun* seemed to disappear for a split second, then reappear behind me. In the cheap seats, the dead area widened, and the jet in *C&PD* flew along the rear wall as it did with the dipoles in Setups 1 and 2. I could still hear specific rear effects (not as well as with the dipoles, however) because the relative level was only 1 dB lower than at the sofa. During the bathroom scene in *True Lies*, for example, I could hear tiles shattering at the back of the room from the wing seats, but from the sofa they were convincingly blown off the walls in all directions.

### **SETUP 5. Conventional speakers 3 feet behind sofa at ear level.**

Positioning conventional speakers along the side walls some 3 feet behind the listener and firing them at each other from ear level pulled the rear ambient field outward toward the side walls.

That reduced coverage directly behind a centered couch potato and shifted it to the far side for an end-of-sofa listener. Timbral matching was similar to that of the high-on-the-side-walls placement (Setup 4). The major difference was a narrowing of the rear sound-field coverage toward the back wall, which made the dead area between the front and surround speakers larger and exaggerated the "jet lag" gap from front to rear.

When I listened from the wing seats, that jump to the rear actually changed the direction of the plane! In the *Clear and Present Danger* fly-by, the jet flew toward me (at the side of the room) but then jumped to a path near the middle of the room. I found this distracting.

### **SETUP 6. Conventional speakers on back wall, 6-foot elevation.**

When I mounted the conventional speakers on the back wall at a 6-foot elevation, they sounded and performed essentially the same as in the higher, side-wall location 3 feet back from the sofa (Setup 5), but with a slightly bigger dead zone between the front stage and rear ambient field. There was a good timbral match between front and back but a wider gap to jump on the jet fly-bys.

### **SETUP 7. Conventional surrounds on floor along the side walls 3 feet behind sofa, firing up.**

Placing the conventional front-radiating speakers on the floor produced a timbre that was radically different from the front speakers. This occurred because the back of the sofa and chairs partly blocked the higher frequencies, narrowing the speakers' radiation pattern and altering their apparent spectral balance. Despite the intent of this placement to make the surround speakers harder to pinpoint, the result was that they were far more localizable.

Ambient coverage deteriorated as well. A big hole developed directly behind me when I sat centered on the sofa, and at the end of the sofa the ambient field shifted to a little ball of fuzz in the closest rear corner. In the cheap seats rear coverage disappeared altogether, as did all rear-based effects.

Sounds moving from front to rear sometimes performed strange feats as well, thanks to the huge dead space between the front and surround speak-

## LISTENING TESTS

ers. When I sat in the center of the sofa, the plane in *Clear and Present Danger* flew to a point well in front of me, then suddenly split in two and jumped to both corners! In the cheap seats, it was impossible to hear any dedicated rear effects at all — there were no tiles falling at the back of the room in *True Lies* — and there was only a tiny bit of rear ambient coverage. Passing jets made huge jumps between front and rear.

### **SETUP 8. Four-speaker surround system with two dipoles alongside sofa and two conventional speakers in rear corners, all at 6-foot elevation.**

With dipoles mounted high to the sides of the sofa and a pair of conventional speakers mounted high in the rear corners, firing diagonally into the room, I found relief from most of the small disadvantages of high-mounted dipole surrounds. The deep rear coverage of the rear corner speakers combined with the seamless field created by the dipoles, which extended all the way to the front. The excellent timbral match I found in the dipole-only setups was retained, and off-screen effects and panned movements were excellent. The only remaining flaw was a small dead area between the front and rear stages when I listened from the cheap seats.

This setup strategy requires a bit of care, though, since balancing four surround speakers individually can make the combined surround system too loud. The trick is to balance the entire four-speaker surround system against the three front speakers. I did this by placing the sound-level meter's microphone at the main listening position and balancing first the dipoles only, then the corner speakers only. Then, with all seven speakers playing, I reduced the level of the rear corner speakers until the total output of the four surrounds was balanced with the front. Using this method, I was able to adjust the system so that even while listening from the back wall I got full coverage all the way to the front stage without being able to localize sounds from the rear surround speakers.

### **The Bottom Line**

The first critical principle I learned from these tests is that no matter what

type of surround speakers you use, they should always be located above a seated listener's ears to provide the best coverage and tracking of sound for all seats and multiple listeners. If you can do only one thing to optimize surround performance, mount your surround speakers high on the walls.

Humans do not localize sound effectively in the vertical plane, so a high-mounted speaker can be fairly close to the listener and still not be perceived as a specific source of sound. High mounting generally does not inhibit our localization of sounds behind us, however, because much of our horizontal and vertical localization derives from visual cues and other knowledge of the environment. When we hear tiles falling behind us, they always seem to fall to the floor because we know tiles never fall up.

Also, in real life we usually cannot precisely locate sounds behind us until we move our heads, and by the time you turn around many special effects are over (ricochets, anyone?). In watching a movie or concert video, hearing a trumpet from behind us on the left side is enough information to determine its position and importance relative to the story or performance. It is enough to know that the sound comes from behind, and all the setup options I tested can deliver that information to the central seats.

In the final analysis, however, the high-mounted dipole surrounds work best overall for two-speaker surround setups. Movement is tracked most accurately, coverage is most complete, and timbre is more closely matched in all the usual listening positions. High-mounted front-radiating speakers located at the sides of the listening area work nearly as well over a broad set of listening positions, with only a slight clustering for listeners at end-of-couch positions. Wing-seat listeners actually fare better than with dipoles. This setup is a good choice for anyone who has main listening seats located on a back wall.

Using conventional front-radiating speakers behind the listener with a high elevation works well, too, providing deeper rear ambience at the expense of a small dead zone and some effect-jumping between the front and rear of the room.

The high-mounted, four-speaker, dipole/forward-radiating strategy is a

higher-cost but very effective enhancement if you have difficult-to-serve wing seating in your room. This setup basically deepens the rear sound field for those in the main listening/viewing positions and eliminates jumping on sounds panned from front to back. But it shouldn't be necessary unless the room is long or has seating only along the back or side walls.

Avoid placing your surround speakers on the floor. Furniture and other objects in the room serve to restrict the radiation pattern at higher frequencies, actually making the speaker more localizable than if it were on an end table. Floor placement also dishes out fairly severe timbral shifts and coverage penalties, and from the wing seats it often eliminates the rear ambient sound field entirely.

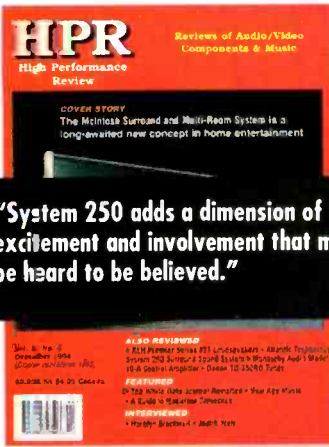
Finally, if you have a satisfactory conventional surround setup now, our tests suggest that upgrading to a discrete multichannel source should not require changing your surround speakers, at least not on account of their radiating pattern. The issue of full-range versus limited-bandwidth surrounds is another matter, but I found that monopoles and dipoles worked equally well with both discrete and matrixed program sources.

### **Full-Range Surrounds?**

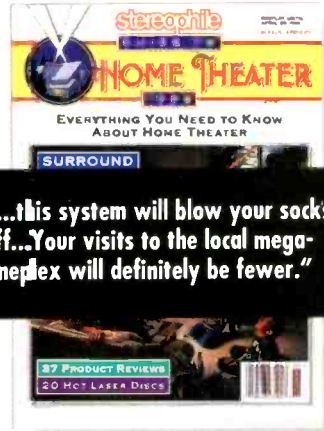
What about full-range surround speakers? Part of the allure of AC-3 is the possibility of full low-frequency bandwidth in the surround channels. Full-range bass usually means a speaker with a decent-sized woofer. But this placement experiment suggests that the midranges and tweeters in surround speakers should be 6 feet off the floor. Oops.

Then how about using separate subwoofers for each of the rear channels? So far, the evidence suggests that multiple low-frequency sources cannot provide better localization because the primary locational cues are delivered at higher frequencies (see "Subwoofer Secrets," January 1995). Nor will multiple subs automatically deliver better low-frequency sound distribution. Indeed, in this experiment, for which I calibrated the system to Dolby/THX standard listening levels and achieved up to 108 dB sound-pressure level on the loudest passages, the bass coverage in the room was exceptional with





**"System 250 adds a dimension of excitement and involvement that must be heard to be believed."**



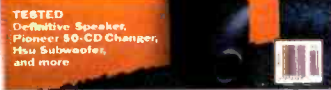
**"...this system will blow your socks off...Your visits to the local megacineplex will definitely be fewer."**



**"In view of its price and versatility, Atlantic Technology's System 250 must be considered among the best buys in Home Theater speakers."**



**"I spent weeks almost dizzy with astonishment at what this system could do...a fabulous buy."**



**"The Atlantic Technology System 250 is one of the safest recommendations I can make in the crowded class of \$1000 to \$1500 Home Theater speaker systems. It combines a musical sound on stereo recordings with a real "you are there" presence on movie soundtracks."**



**"As I listened to the System 250, I felt as if I were a part of the action, and that's exactly how it should sound with a good Home Theater speaker system. The System 250 was especially warm, producing deep, resonant bass, glass shattering surround effects, and crisp, clear dialogue. My only problem was having to give them back."**

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## LISTENING TESTS

one 18-inch subwoofer. Jet engines moved across the room, taking all their bass with them wherever they were headed. Thunder emanated from the rear ceiling and all around the room even though only a single subwoofer was operating.

There are three basic problems with bass in home theater. For starters, it has to get loud enough and go low enough to have a visceral impact. Modern powered subwoofers have largely met those challenges, at least

for film sound, where bandwidth is limited to 25 Hz or so. But the main difficulty is actually room modes (or standing waves), which can cause the bass to be unevenly distributed in the room. Corner placement minimizes the problem. Would it be possible, however, to balance bass levels more consistently for all listeners if multiple subwoofers were used to put everyone, especially those in problematic seats, in the near field of a subwoofer?

There is a common belief that excit-

ing a room from multiple points at low frequencies leads to better bass coverage. We know this is sometimes true in special cases with two subwoofers. But some recent tests I conducted with up to five subwoofers used simultaneously in one room suggest that the extra hassles and costs associated with this approach vastly outweigh any potential benefit. For now, my advice is to use a single sub in a corner location. And in the meantime, don't let your surrounds drive you up the wall. □

# Program Material

**P**rior to conducting these surround-speaker tests, I consulted with a recording engineer from Dolby Labs for suggestions on program material. He suggested several AC-3 releases that highlight the performance aspects of great surround sound:

**TRUE LIES.** The bathroom scene (Side 1, Chapter 12, 33:54-34:10) has plenty of sound effects surrounding and behind the listener, especially the many wall tiles that get shattered by gunfire. I used this scene to evaluate the system's ability to provide distinct sound effects off-screen. Because the sound is so complex and transient, judging timbre changes is difficult.

**CRIMSON TIDE.** The end credits have a male chorus blended into the surround channels, and there is a horn that echoes behind the listener at the very end. A good test for ambience coverage.

**U2: RATTLE AND HUM.** At the time of my test, this was the only music video available in AC-3. The beginning of Side 2 (Chapter 13, 00:00-1:30) presents a concert in a large stadium. The listener should get a sense of being *in* the crowd at the stadium. When the band starts playing there is also a "slap echo" — one with a relatively long delay time —

from the rear wall of the stadium. This selection proved to be excellent for judging ambient sound-field coverage.

### CLEAR AND PRESENT DANGER.

Several scenes (Side 2, Chapter 14) have a flute mixed into both the front and surround channels that adds urgency to the action. When this is reproduced properly, it should provide a clean overlay to the action and appear to be out toward the middle of the room, as opposed to being confined to the front stage. There is also a terrific aircraft fly-by (Side 2, Chapter 12, 23:40-23:48) that I found very useful for judging motional accuracy and timbral shifts. In this scene, a jet plane should fly straight out of the screen, through the viewer and out the back of the room.

The sound should rise in pitch as the plane approaches and drop off as it flies through, just as it does when an approaching train roars past.

**TOP GUN.** This stands out from the other films because it is the only one whose soundtrack was mixed originally with Dolby Pro Logic in mind as the primary playback technique. I found little difference between the Pro Logic and AC-3 mixes. There is a good scene with multiple jets flying by (Side 2, Chapter 17, 1:02-1:07) that helps

in judging motional accuracy and timbral shifts. Such scenes are useful because they expose coverage holes and, like the fly-by in *Clear and Present Danger*, highlight a peculiar problem with images panned to the side of a listener: If you listen head-on to a sound panned left to right across a stereo pair of speakers, it will move smoothly and continuously between them. But if you turn sideways and listen to the same pan, the sound will not move continuously all the way from one side to the other; instead, at some point it will drop out and jump to the far speaker. This effect causes a discontinuity in fly-by tracking, where a jet that is traveling outward from the screen will disappear for an instant and jump to the surround speaker. In extreme cases the plane may jump to the wrong speaker!

**PINK NOISE.** I used uncorrelated pink noise from two separate test CD's in the surround and front channels to determine when ambient coverage was thin. It is easier to determine timbral differences with continuous noise than with soundtracks or music because surround effects are often so fleeting. I had to use two pink-noise sources because no test disc I am aware of will play five discrete channels of noise simultaneously. I used a separate CD player for the second source. —T.N.



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who rely upon shiny badges  
to make an impression  
might seek a career in  
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# Showstoppers



**N**ot since the launch of the compact disc nearly fifteen years ago has the consumer-electronics industry been so high on a new technology. By the time the doors to the 1996 Winter CES had closed, the race to bring DVD (a.k.a. digital videodisc or digital versatile disc) to market was in full swing. At one press conference after another, big-name companies — including

RCA, Sony, Toshiba, Philips, and Pioneer — touted the many virtues of the new audio/video/computer format. DVD players that handle movies on CD-like discs with six-channel audio and better-than-laserdisc picture quality will hit store shelves later this year. They will be followed by DVD-ROM drives that will spin a new breed of ultra-high-capacity computer discs. And eventually we'll see DVD movie players that also play high-resolution "super CD's." DVD recorders are in the cards, but probably not for a couple of years.

Given sales projections for DVD hardware that range from 3.5 to 7.5 million players in three years, it's no wonder each of the major DVD proponents seized the moment to position itself as "the leader" in DVD technology.

As for software support, which is vital for a successful format launch, Warner Home Video president Warren Lieberfarb said at the Las Vegas trade gathering that he expects the major movie studios to have about 250 DVD titles in stores when the first players arrive, although he pointed out that copyright protection and other issues have yet to be ironed out.

In keeping with the DVD theme, home-theater demo rooms were prime attractions for many of the show's

97,000 attendees. And it was no coincidence that more than a dozen new AC-3 components made their debut at CES. Audio/video receivers featuring onboard AC-3 decoding were shown by Kenwood and Denon, and THX receivers with AC-3 inputs were introduced by Technics, Marantz, Onkyo, and Harman Kardon at prices ranging from \$1,000 to \$1,700. Rotel pulled the wraps off a \$1,300 AC-3-ready THX tuner/preamplifier, the RSP-980. Yamaha demonstrated the AC-3-equipped DSP-A3090 sound-field-processor/amplifier that it announced late last year (\$2,499, see March "New Products").

Outboard AC-3 decoders in the \$700 to \$800 price range were announced by Onkyo, Marantz, and Harman Kardon. And high-end preamp/processors were previewed by Lexicon and Harman Kardon (under its Citation brand). Parasound showed its first THX processor/preamp, the \$1,500 P/SP-1500, which is upgradable to AC-3. Meridian showcased a THX/AC-3 processor (Model 565, \$4,490), which features proprietary AC-3 and THX Cinema 5.1 decoding, and the first outboard AC-3 demodulator for AC-3-ready laserdisc players, the Model 519 (\$695). New moderately priced AC-3-ready players were introduced by Pioneer and Panasonic.



Headline news in home audio was the bombshell announcement that accessory giant Recoton had completed a \$36 million deal to acquire International Jensen, home of the Acoustic Research (AR), NHT, Advent, Jensen, and Phase Linear brands. In its first public act, the new management team unveiled the High Output (HO) line of moderate-price speakers designed by Infinity co-founder Cary Christie, which will be sold under the venerable AR label.

**HIGHLIGHTS  
FROM THE WINTER  
CONSUMER  
ELECTRONICS  
SHOW**





**DVD MANIA** Multiple versions of a full-length motion picture on a "CD" that delivers outstanding picture quality and six-channel Dolby AC-3 Digital sound: That and more is the promise of the new DVD format showcased by at least eleven companies at the Winter CES. Shown here (top to bottom) are prototype DVD players from Toshiba, Philips, RCA, Sony, and Pioneer. DVD prototypes were also shown by Fisher, Samsung, Panasonic, Onkyo, Goldstar, and Denon (which previewed a unit it developed with Hitachi). While all DVD players will be able to play regular CD's, so far only Pioneer has announced plans for a machine (bottom) that will also play laserdiscs. RCA and Toshiba have said they plan to have their DVD players in stores by September, priced at \$499 and \$599, respectively. Pioneer is targeting a "fall" release, while the other companies are looking to late 1996 or early 1997.



Harman International presented one of the show's most intriguing demonstrations — a "virtual" home-theater system designed by its vice president of engineering, Dr. Floyd Toole, that conveyed a convincing 3-D sound field from Dolby Surround-encoded recordings using two speakers fed by a prototype processor. Toole said the first implementation of the technology is likely to be a multimedia computer product. In a similar vein, Virtual Listening Systems showed its \$350 Auri 3D headphone system (see March "New Products"), which uses Dolby Pro Logic decoding and proprietary processing to create the illusion of five-channel surround sound through conventional stereo headphones.

Other products that caught our eyes and ears were Altec Lansing's 900-MHz wireless, powered ITW268 in-wall speaker (\$500 a pair), Pioneer's twenty-five-disc PD-F505 CD changer (a mere \$260!), and two A/V receivers from Technics — the \$500 SA-EX900 and \$400 SA-EX700 — that sport a dedicated 100-watt subwoofer amp. Terk made a splash with the Troubador Model 5.1 (\$399 a pair), another wireless powered speaker that uses multichannel 900-MHz technology. Terk also previewed its Home Network distribution system designed to transmit full-bandwidth A/V signals over existing telephone lines.

In the world of interactive multimedia, Altec Lansing previewed its forthcoming WaveCube software for PC's, which — besides providing surround sound for gamers — lets you use the computer's mouse to place MIDI sounds and instruments anywhere in a circle around the listener. Sony introduced an outboard version of its VisionTouch interface that uses a wireless mouse to control A/V gear through a home computer.

Over in the car stereo pavilion, Rockford Fosgate stirred the crowd with its entry into the highly competitive CD head-unit business with two Delco-built heads, one of which features a subwoofer output. A full report on new car stereo gear will appear in the next issue.

—Bob Ankosko





**PC SURROUND** SSI's Model 525D is the first Dolby Pro Logic surround-sound decoder for IBM-compatible PC's. The \$299 device fits in standard 3½- and 5¼-inch floppy-disk-drive bays and is said to work with Intel 386 (or higher) PC's running Windows 3.1, 95, or NT. It features a defeatable BBE High Definition Sound circuit, five line-level outputs, and inputs for an external source component. SSI says that installation takes under half an hour.



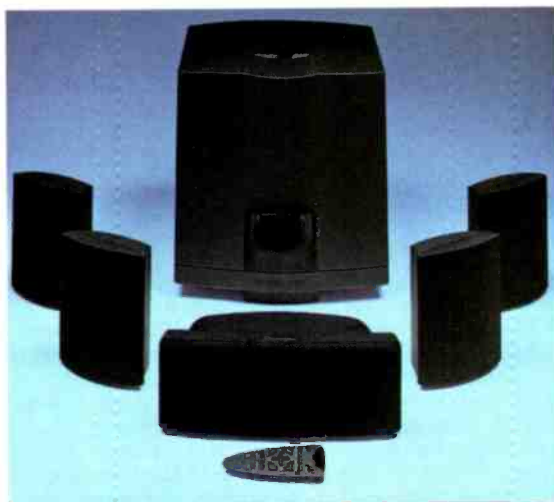
**BELT-DRIVEN CD** And you thought belt-drive was a thing of the past? Harking back to the golden age of turntables, Parasound's C/BD-2000 top-loading CD transport (\$1,550) features a belt-drive mechanism that is said to provide greater rotational accuracy than conventional direct-drive transports. Once a disc is placed on the platter, it's held in place by a ¾-pound "clamp" intended to increase the rotational inertia of the system. The transport offers programmable playback and is equipped with a remote control and a 75-ohm coaxial output for connection to an outboard digital-to-analog (D/A) converter.



**CINEMA BASS** To keep you on the edge of your seat while Hollywood's latest villain is busy annihilating someone, a THX-certified subwoofer must be able to pump out 105 dB of clean bass in a 3,000-cubic-foot room. Most companies accomplish this feat by using two bass modules, while others pack a huge driver in a huge box. Boston Acoustics' VR2000 (\$1,200) is the first subwoofer to meet THX requirements using a single 12-inch driver in a fairly compact cabinet (18 x 18 x 20 inches). Rated down to 20 Hz, the ported sub packs a 350-watt amp and an adjustable crossover.



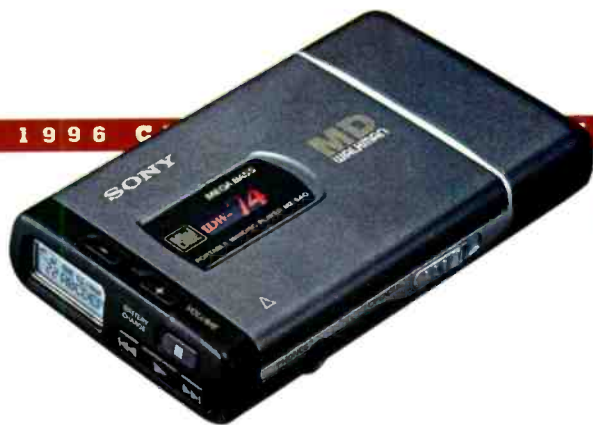
**AC-3 ACE** At \$1,200, the Kenwood KR-V990D is the lowest-price Dolby AC-3 Digital-equipped receiver to date. Rated to deliver 100 watts to each of three front speakers and 70 watts to each of two surrounds, it boasts four audio inputs, five video inputs (RCA and S-video), six preamp outputs, a front-panel camcorder input, and an on-screen graphical interface. To keep operation simple, two sets of system preferences can be stored in memory and recalled using a pair of Macro buttons. The KR-V990D is one of two new AC-3 components from Kenwood, the other being the flagship KC-Z1 A/V tuner/preamp announced last November (see March "New Products").



**INSTANT THEATER** Celestion's \$1,199 HTiB (short for Home Theater in a Box) system offers an elegant solution for anyone who has a TV and a VCR or laserdisc player and wants an all-at-once upgrade to home theater. The heart of the HTiB is a subwoofer module, roughly 15 inches square, that houses a Dolby Pro Logic surround decoder, a 60-watt bass amplifier, and five 30-watt amps to power the system's center speaker and front and rear satellites.





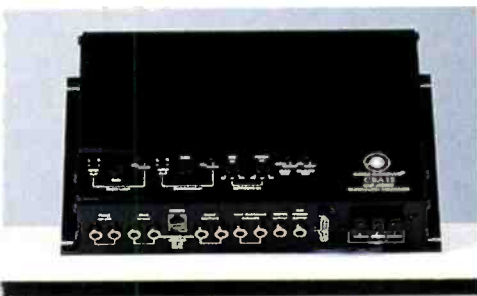


**MD PRICE BUSTER** When the Sony MZ-E40 MD Walkman hits stores this summer with a \$200 price tag, it will be the lowest-price MD player available. Listing for \$150 less than its predecessor, the handheld unit sports a new "vertical" design, a large LCD readout, and a 10-second buffer memory to minimize skipping when the player is jolted. The MZ-E40 incorporates new technology that is said to permit it to run for 7 hours on two AA batteries. Headphones are included.

**ROAD THRILL** Feed an ordinary stereo signal into Rocktron's CSA12 Circle Surround decoder (\$499), and it will produce a 360-degree sound field in your car. It has outputs for left, center (defeatable), and right front speakers, left and right surround speakers, and a subwoofer (with a defeatable 80-Hz low-pass filter). Steering logic (without delay) is used to create the perception of two discrete surround channels, which can be filtered below 80 Hz or run full-range. The processor, which comes with a wired controller, also works with surround-encoded material, including the new Circle Surround-encoded CD's from DMP Records.



**RETRO RECEIVER** The analog power meters that dominate the front panel of the Technics SA-TX50 belie the technical savvy of what turns out to be a rather high-tech A/V receiver. Slated to hit store shelves in June with a \$1,000 price tag, it features a THX-certified Dolby Pro Logic surround decoder with seven music modes and a six-channel AC-3 input, making it as ready for the future as it is for the past. Rated power output is 120 watts to each of three front speakers and 60 watts apiece to the surrounds, or 125 watts per channel in stereo mode. The power section employs a proprietary amplifier circuit that has two voltage rails, one for low power and one for high power that kicks in only during loud action scenes. The SA-TX50 accommodates four A/V inputs (two S-video) and two audio-only sources. One of the A/V inputs is on the front panel for convenience.



**HEAD SECURITY** Pioneer has taken car stereo security to the next level with the DFS (detachable-face security) alarm featured in its Premier DEX-P88 CD tuner (\$630) and a number of other new head units. Here's how it works: You turn off the ignition and remove the head's faceplate. Then, 30 seconds after the last car door is closed, the security system is automatically armed (and an LED on the head starts flashing). If a crook manages to pry open one of the doors (which are protected by hard-wired relays), a deafening warble tone is pumped through the car's sound system.



**POWER BOOK** The Infinity Overture 1 (\$999 a pair) is no ordinary "book-shelf" speaker: It features a side-mounted 8-inch woofer that is powered by a built-in 150-watt amplifier. As a result, this rather compact (12-inch-tall) speaker claims a low-frequency limit of 35 Hz (-3 dB) and is said to be able to hit levels as high as 108 dB on program peaks. The three-way magnetically shielded speaker is completed by two forward-firing midrange drivers positioned above and below a tweeter.



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# Don't Wreck Your Stuff

BY IAN G. MASTERS

A LITANY OF THINGS TO AVOID TO PROTECT YOUR

PRECIOUS AUDIO GEAR FROM HARM



**A**n audio system represents a fairly major investment for most of us. Fortunately, it's also a reasonably low-maintenance business: sound equipment can chug along for years without problems. Obviously, if you crank your amplifier all the way up and pound out Metallica for hours on end, you can expect trouble. And if you drop your CD player on the floor it may not recover. But most things that can harm your equipment (and re-

cordings) are far more subtle and can usually be easily averted.

## DON'T STARVE YOUR SPEAKERS

Many people don't realize this, but you are just as likely to damage your speakers by providing *too little* amplifier power as too much. If your power amp is unable to drive your speakers to satisfying volumes *without* audible distortion, you could probably use an amplifier that delivers more clean power — provided your speakers are

in good working order. (Just remember that you have to *double* power output to get a noticeable increase in volume.) One theory on why underpowered amps are dangerous says that when you push an amplifier beyond its limits to get more volume, it "clips" off the rounded peaks of the audio waveform. These clipped waveforms contain unwanted harmonic information that tweeters were never designed to handle. The upshot: A clipped signal can fry a tweeter's delicate voice-coil windings.

# Don't Wreck Your Stuff

## DON'T BAKE YOUR GEAR

The stack of components may look great in that smoked-glass-and-chrome rack, but having everything together can cause problems if you don't take some care to let them breathe. All audio/video components generate some heat, which is greatly magnified in a closed space. The greatest space heater of all, of course, is the power amplifier, which needs lots of ventilation. While it can be tempting to place your power amp at the bottom of the stack because it doesn't have controls you need easy access to, it's a bad idea. The heat it generates will flow upward through your other components. Even if that doesn't cook them, the air flow may be laden with dust that can foul the innards of your other gear. If you must put the power amplifier in the rack, put it on top. Better still, tuck it away somewhere else entirely, and make sure it has lots of breathing space.

## DON'T SHORT IT

Many of today's power amplifiers — freestanding or built into other components — are able to handle some fairly difficult impedance loads, but some of them cannot tolerate a short circuit in the output stage, even for a moment.

And it doesn't take much to create a short: A *single strand* of speaker wire snaking across from one terminal to another can do it. Presumably you were very careful in setting up your system in the first place, but moving equipment, even slightly, can disrupt your connections and create a potentially damaging condition. That's less likely to happen if you have tinned the wire ends with solder before connecting them, or if you use banana plugs. Even so, whenever there has been disruption of the speaker cables at either the amplifier output or speaker terminals, inspect the connections carefully before you turn on the amp.

## DON'T ADD A GAZILLION SPEAKERS

The notion of being able to throw on a CD in the living room and listen to it as you wander from room to room is a pleasant one, and there are various techniques and special equipment for doing that. But simply to connect a bunch of speakers to an ordinary two-channel power amplifier is a very bad idea. One reason is that each speaker takes power to operate, and unless your amplifier is truly huge (or designed for use in multiroom systems), it's not likely to fare well under the strain. The problem: Wiring more than, say, two pairs of speakers to an amplifier can present a very difficult — and possibly ruinous — load to its output stages.

Today's solid-state amplifiers are es-

entially constant-voltage devices, so for a given power output the current rises as the load impedance drops. That's why many amplifier manufacturers warn against using speakers that have a rated impedance of less than 4 ohms (most home speakers are rated at 6 to 8 ohms and behave just fine with most amplifiers). But as soon as you start adding extra speakers, things change: Every time you add a speaker, the total impedance drops. You may get away with adding a second pair, but any more than that and you're asking for problems. It's far better to distribute the audio signal at line level and amplify it separately in each room. That approach also gives you control over the volume in each area.

## DON'T EXPOSE YOUR SPEAKERS

Environmental factors that you would not usually worry about can affect the longevity of your speakers. One is sunlight: Those ultraviolet rays that can do so much damage to you on the beach can be murder on your speakers as well. Specifically, they do a great job of disintegrating foam surrounds (the edging that holds the speaker cone to the frame), which can be tough to replace if your speakers are more than a few years old. So if the sun shines directly on your speakers and you can see the drivers through the grille, the driver surrounds are probably at risk. Pulling the curtains at the appropriate time of day is one solution, although not a very practical one. A more realistic option is simply to move them to a location that isn't exposed to direct sunlight.

Dust can be a problem as well, so it's not a good idea to place your speakers (or any other audio gear, for that matter) too close to a heating duct. If you have no other choice, look for ways to deflect the contaminant-bearing air. And, while it's unlikely to affect sound quality, placing a house plant on or near a speaker is asking for trouble whenever it's time for watering. Vinyl surfaces may survive splashes, but wood veneer won't.

## DON'T GET JUMPY

Abrupt changes in volume are not only irritating, but if a sudden blast when you switch outputs can't be turned down in time, you can fry your speakers. Most electronic audio devices operate at line level, which makes them reasonably compatible with one another. But since there is no true





technical standard behind the term "line level," there can be substantial level differences from one source component to the next. In such cases, the mere act of switching between components can cause fairly extreme jumps in volume.

Unless your preamplifier (or preamp section) has individual input-level controls — a rare breed indeed — you have only a few options. The best one is just to buy source components that match up, which may mean a few retail exchanges before you get it right. If some of your components have outputs with level controls, try using those to match things up. Another option is to insert your own trim "pots" prior to the preamp inputs, but that can degrade sound quality. In some cases, the only sure way to overcome level-matching problems is to get into the habit of turning down the volume control before switching inputs.

### DON'T JACK AROUND

We all have occasion to disconnect and reconnect components every now and then, and if we're in a hurry, it is tempting to move the cables around *while the system is on*. Sometimes that's not a problem, but often you risk the possibility of sending a damaging blast of noise through your speakers as you make the reconnection. When you insert standard phono connectors, the "hot" lead of the first channel you connect usually makes contact with its internal counterpart before the grounded sleeve on the cable engages the sleeve of the panel-mounted jack. For that moment, you have an ungrounded connection that can create a very loud 60-Hz hum. It's much worse if the connection is to a power amplifier, because it may well develop the amp's full output, if only for a split second. The only way to avoid any of this is to make sure the system is shut down *before* you make or break any connections.

### DON'T ZAP YOUR TAPES

Audio and video tapes are recorded by applying a varying magnetic flux to their oxide coatings, and they are erased the same way. Sometimes it's possible to erase them inadvertently, not only by accidentally hitting the record button but by storing the tapes too close to magnetic objects. Permanent-magnet door closers are a common culprit, as are the fields generated by TV sets, unshielded speakers, and the large power transformers inside



## Don't zap your tapes

most electronic components. Rarely are the tapes completely erased — the effect tends to be gradual, building up over months or years. By the time you notice something is missing (usually the high frequencies), it's too late. Keep your tapes at least a couple of feet away from such magnetic ambushers.

### DON'T SQUISH THE PLASTIC

In many ways, it's a wonder that the analog audio cassette works at all, given its tiny size and extremely slow tape speed. The miniaturization that it represents means, however, that only very small problems are needed to cause major audible headaches. Many of these can be averted by careful storage of your tapes when they're not being used, especially if they will be on the shelf for a long time — years, perhaps — before you listen to them again.

Keeping them away from temperature and humidity extremes as well as stray magnetic fields is a good precaution, and they should always be kept in their plastic boxes to keep dust and other airborne contaminants away from the tape and guides. It's also a good idea to make sure the tape is wound smoothly before you store a cassette; an uneven wind can cause permanent deformation, which might disturb the tape-to-head contact when you play the recordings in the future. The best

way to insure a smooth wind is to flip the cassette to its B side, rewind to the beginning, and then play the tape through at normal speed. This will prevent some layers of tape from developing protruding edges that can be bent.

### DON'T PLAY FRISBEE WITH YOUR CD'S

Compact discs are pretty hardy, but they're not totally invulnerable. Still, with some elementary care they should last almost indefinitely. First, always keep them in their jewel boxes (or magazines, if you have a magazine-style changer) to protect them from dust and grime. If you see a buildup of dirt, you can clean them with a "CD cleaner" or a soft cloth. Always wipe directly across, never circularly. If by chance you wipe a bit of grit into the disc surface, the player will ignore the scratch if it goes across the spiral of the data stream. But if the scratch is parallel to the data, there's a greater chance that it will disrupt playback.

Remember, too, that it's the *label side* that is most fragile, so handle it with care. Never write on it with a marker (green or otherwise!) or place a sticker on that side — both can dissolve the lacquer coating that protects the aluminum data surface, causing it to oxidize. If you find that many of your discs have a consistent pattern of tiny scratches, it's worth checking

## Don't Wreck Your Stuff



### Don't scratch your discs

your player to make sure something isn't awry in its transport. More than likely, though, a review of how you handle discs will be in order. It is extremely easy to scratch a CD by brushing it over the spring-loaded grabber in a jewel box, for instance. And try not to flex the disc when you remove it from the box — depress the grabber as you lift the disc out by the edges.

### DON'T SPIN THE DIAL

It's possible to produce some truly hideous — and possibly damaging — noises with your FM tuner. If you only listen to one station you won't have a problem, but few of us are that exclusive. With older tuners or receivers — the sort with a big tuning knob on the front panel — the easiest way to change stations is to spin the knob, and, depending on the individual component, that may be okay. But if the tuner doesn't have an FM muting circuit (or if it's switched out), the high-level gobbledygook that the tuner picks up between the station you are leaving and the one you are tuning in could damage your speakers. The safest bet is to keep the FM muting on and turn the overall volume down until the station you're seeking is tuned in. □

## VINYL REFRESHER

### DON'T DROP THE STYLUS

For all the attention paid to the CD, there are still millions of LP's out there and lots of turntables to play them on. So for all those digital-era kids out there who are just now discovering mom and dad's old record collection, a few words to the wise: Gentle handling is in order, especially as any damage to your records or playing equipment will inevitably become more and more difficult to remedy as both become increasingly scarce. Placing the stylus in the groove a little too forcefully is almost sure to leave a permanently audible flaw in its wake, and it may damage the playing stylus as well. And if the volume level of your system is set just a smidgen too high, the pop the stylus makes as it hits the vinyl may be enough to blow your speakers. Always use the turntable's cueing lever, and keep the volume low until the stylus is in the groove.

### DON'T LET IT HOWL

Anyone who has messed around with microphones to any degree is familiar with acoustic feedback. When a speaker is fed from a microphone placed close enough that it picks up some of the speaker's output, a resonance is set up, and the signal goes round and round until an unbearable howl is established. The same thing can happen in a stereo system.

In some circumstances, equipment used to play vinyl records can function as a kind of microphone that picks up some of your speakers' output and feeds it back into the system. The LP itself acts as a diaphragm, picking up vibrations from the surrounding area that are sensed by the phono cartridge, which can't distinguish them from the undulations in the groove. Because the LP is large, it's sensitive mostly to very low frequencies, so the resonance is likely to be in the bass. But that can be dangerous as bass tends to be the most power-hungry part of the audio spectrum. The resulting feedback can sop up your amplifier's reserve of power in no time and drive it into prolonged clipping.

If you have a feedback problem, it's generally necessary to decouple the acoustic link between your speakers and your turntable. Simply moving them slightly may work; better still is to mount the turntable on something really solid and to play records with the dust cover down.

### DON'T BOUNCE IT AROUND

One of the most critical balancing acts in audio has to do with setting the tracking force of a phono cartridge. The margin for error is quite small, and if you get it wrong in either direction you risk permanent damage to your precious recordings. Vinyl is very soft, and the piece of diamond you use to play it is very hard, so the potential for damage is quite real. If you set the tracking force too high, the stylus can chew up the vinyl in no time. But if you back off on the pressure too far, the stylus won't maintain contact with the groove walls, especially with warped discs or highly modulated recordings — it will bounce partway out of the groove and then crash back in, shearing off bits of vinyl and causing an awful noise. A bouncing stylus does permanent damage to the disc's surface, too, damage that may be audible from then on. Most cartridge manufacturers specify an optimum range of stylus pressure, and it's almost always wise to set your tracking force at the top end of that range.

### DON'T PILE UP THE GRUNGE

Dust is stone. It may seem fluffy enough, but when it sits on your precious records, it amounts to microscopic boulders that can be ground into the surface with each pass of the stylus. Once dust has done its damage, there's no undoing it, so the only option is preventive medicine. Mostly that means keeping the discs in their sleeves, packing them tightly (but not too tightly) vertically on their shelf, and giving them a dry brushing before *every* play. Cleaning solutions can help with really filthy discs. Properly maintained, an LP should sound fine for years. —I.M.

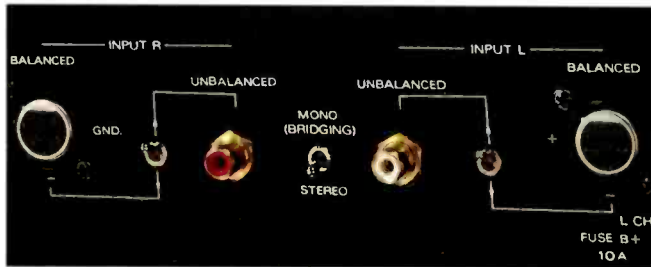


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# “...A BENCHMARK PRODUCT AGAINST WHICH OTHER AMPLIFIERS CAN BE MEASURED.”

— STEVEN STONE, *STEREOPHILE*, VOL. 17 NO. 3, MARCH 1994

But what did surprise us, as well as flatter us, was being thrown into the ring with \$12,000 monoblock behemoths. The result of this apparently absurd comparison? Not carnage, but rather: *"...the Parasound HCA-2200" gives them all a run for the money, and even beats 'em in flexibility and price.*" He continues, *"...a pair of HCA-2200"s performed with Apogee full-ranges on a par with a pair of Boulder 250 AEs and four VTL Deluxe 300 amps. Dynamic impact and attack were excellent...Compared to the VTL300, the HCA-2200" had a greater sense of extension..."*

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**I**t's not very often that someone guarantees a CD won't work. But when Todd Fearn, CEO of New York-based software developer REV Entertainment, heard that my just-out-of-the-box 133-MHz Pentium-based PC couldn't locate the multimedia track of the Rolling Stones' "Stripped," he knew I'd have the same problem with the sampler "Spew+," a disc his firm had helped develop. He was right. Oh, the frustration.

The proliferation of home computers with CD-ROM drives has given the recording industry an opportunity to fill up the unused space on music CD's with the kind of text and pictures that fans love and promotion departments were created to disseminate. Unlike a traditional CD-ROM disc, which only works in a computer, an "enhanced" CD (or ECD) is primarily a music CD that works in a conventional CD player, but it contains additional graphics/video-oriented material that is accessible on a computer. "See What You Can Hear," the record industry calls its introductory ECD campaign, backing it up with more than 100 titles currently in the stores.

A standard format for ECD's is still emerging, however. There are at least three different ways to make the discs,



JEFFREY KREIN

# Enhanced CD

## SEEING AND HEARING IS BELIEVING?

BY MICHAEL ANTONOFF

though two methods now seem to be gaining momentum. And whereas listening to an audio CD is a simple matter of press and play, accessing an ECD's multimedia material on a computer often leads . . . nowhere. Nearly 50 percent of the CD-ROM drives currently installed in computers are unable to fully read ECD's. The compatibility conundrum is likely to become less of an issue in the future, as manu-

facturers of CD-ROM drives include instructions for locating the CD-ROM portion of the discs, and as more companies follow the "Voluntary Specification" for enhanced CD's that was issued last fall by the Recording Industry Association of America (RIAA).

When you are able to access their multimedia content, ECD's can add to your appreciation of the music and the performers. Some discs, for example,

let you scroll through lyrics on your computer screen, click on a line or stanza, and start play from that point. This is especially useful for figuring out what Bob Dylan is mumbling about in his "Greatest Hits Volume 3" from Columbia (see reviews of this and other titles in Ken Richardson's "Here's What You Can See," starting on page 74). But the medium delivers a lot more than Dylan karaoke. On my

17-inch color monitor, for example, the late, lamented album cover — shrunk to the size of a half-folded Kleenex in the jewel-box age — has come back larger than ever.

Call the “enhancements” multimedia liner notes: ECD’s can provide backstage snapshots and videos, fans’ most frequently asked questions answered in sound bites, animated maps that follow the band’s last tour, and much more. Sure, some of the content would have been better left in the attic, but fans will likely appreciate the convenience of clicking on a catalog of band-specific paraphernalia. If you have access to the World Wide Web, the most sophisticated ECD’s can automatically connect you to the artist’s Web site. Music executives wax elegiac over fans “empowered” to purchase CD’s or band-logo clothing with a simple mouse click, check upcoming concert dates, and make themselves known to future solicitations by telling marketers who they are. Have that credit-card number ready to type in.

ECD’s can be a creative outlet for performers, though judging from what appears on many discs, whimsy seems to be the rule. Sandy Smallens, senior director of multimedia for Atlantic Records in New York and executive producer of the label’s “Spew+,” describes the multimedia sensibility of that disc as “ragged,” which helps promote the idea that this is a sampler of “alternative artists.” For instance, the video for James Carter, a sax player who sounds like Kenny G on speed, was shot with a camcorder during his appearance at a J&R Music store. “It’s meant to have that sort of recorded-from-the-audience, bootleg vibe,” says Smallens.

The most maddening part of using ECD’s is that the onscreen interface for each title is often different. If you expect to navigate with a standard set of commands, forget it. Skills you learned getting around a spreadsheet are not applicable to Alice in Chains. Screen icons take on strange shapes. Buttons are hidden. Finding the exit is often a brain teaser by design. But that’s also the charm of using ECD’s. Each has a personality meant to reflect the uniqueness of its performer in ways that go beyond the music. As an

adjunct to the audio tracks, the multimedia portion of an ECD is there to be explored.

The rules of ECD are still being written. Meanwhile, the amount and quality of multimedia content can vary greatly. Current CD’s and CD-ROM’s store about 650 megabytes of data. Typically, no more than two-thirds of a CD’s space is taken up by the audio tracks. That means a good 200 megabytes are up for grabs. From the enhanced CD’s I’ve seen, the multimedia space can be densely or sparsely occupied. “Spew+,” for example, is filled to the brim with videoclips, animation, lyrics, bios, and even a first-generation video game. The Stones’ “Stripped,”

buy for \$12.99), CD-level pricing prevails. Even if you do pay a little more for an ECD, the price is still considerably less than what you can expect to pay for a CD-ROM, which often sells for \$59 to \$99.

Some music labels that have issued ECD’s have established technical-support phone lines as well as e-mail addresses. Atlantic’s Smallens admits, “The inquiries we’re getting to tech support now are purely about CD-ROM drive incompatibilities.” In fact, the only way I was able to view “Spew+” was by taking advantage of an invitation to see the disc run on a Macintosh computer in Atlantic’s Manhattan headquarters.

Most ECD’s are released as hybrid discs, meaning they can run on a Macintosh or on a PC equipped with Windows 3.1 or later. QuickTime software for Windows is usually included on the disc for installation on your PC to view videos. An advantage to running an ECD under Windows 95 rather than 3.1, besides improved playback, is that Win95’s AutoPlay feature launches the ECD as soon as you insert the disc.

The problem of enhanced CD’s being incompatible with many CD-ROM drives is as much a result of music industry priorities as it is a result of spurious standards in the PC industry. The first ECD’s, including Sarah McLachlan’s “The Freedom Sessions” (which Arista calls a CD+MM) and the Cranberries’ “Doors and Windows” (which Phillips calls a Rainbow CD), were Mixed Mode titles, meaning that the multimedia material was placed on Track 1. The McLachlan and Cranberries discs worked flawlessly on my PC, but when such Mixed Mode ECD’s are used in an audio CD player, you must manually skip Track 1 and begin play at Track 2. If you fail to follow these instructions — and the player doesn’t automatically mute — you’ll be assaulted by hiss. Even worse, according to the Surgeon General-like warning on some discs, “You must turn down the volume and advance to Track 2 to avoid possible damage to your sound system.” Since the vast majority of CD’s are played on dedicated CD players and not on computers, forcing the listener to skip Track 1 was ultimately deemed

# Skills you learned getting around a spreadsheet are not applicable to Alice in Chains. Screen icons take on strange shapes.

Buttons are hidden.

Finding the exit is often

## a brain teaser

by design. But that’s

## also the charm

of using ECD’s.

on the other hand, has only a couple of minutes of music videos and limited graphics. This is in marked contrast to what’s being offered on the band’s full-fledged CD-ROM of “Voodoo Lounge.” But as explained by Mark Waldrep, president of AIX Entertainment, the West Hollywood software developer hired by Virgin Records to work on the “Stripped” disc, the difference between the multimedia content on the Stones’ ECD and their CD-ROM is the difference between the publisher spending \$20,000 and \$1 million.

Enhanced CD’s are sometimes sold for about \$5 or \$6 more than audio-only CD’s, but with “Spew+” (\$10) and “Stripped” (which I was able to



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to be unacceptable. Random-play and repeat modes only compounded the difficulty of using these Mixed Mode enhanced CD's.

To get around the problem, some in the music industry have responded with a different ECD format, variously called Pre-Gap, Track Zero, or Hidden Track (and spearheaded by AIX Entertainment's i-trax version and millennium's mTrax). For these titles, which include "Spew+" and "Stripped," developers place the multimedia portion on the inner part of the disc before Track 1. CD players, unaware that the material is there, typically skip over it and automatically start playing at audio Track 1.

Unfortunately, many CD-ROM drives don't know the material is there either. To its credit, "Spew+" declares on its back cover, "Warning: Incompatible with some NEC CD-ROM drives." But on the "Stripped" package, a sticker simply reads, "This audio CD can also play bonus video and interactive material on most multimedia computers." Curiously, that sticker on every copy of "Stripped" I found in the Barnes & Noble superstore at Union Square in New York City was pasted over by a larger "Special \$12.99 Sale" sticker. You had to peel that back to learn about the bonus material. And you have to crack the shrink wrap to find a tiny disclaimer inside the booklet — "The i-trax program is provided to the purchaser without guarantees or warranties of any kind" — and a mention that the disc is "incompatible with some NEC drives and the MAC PCI Bus." Tech support is available via a toll call to Los Angeles or e-mail to VirginRec@aol.com. The latter method yielded four pages of technical notes that listed twenty-three CD-ROM drives with "known incompatibility," led by ten from NEC but including drives from other major brands. (NEC failed to return phone and e-mail requests for comment.)

To complicate matters, many computer owners don't have sufficient information to know whose drive, exactly, they own. I have a Micron Electronics PC. The manufacturer's list of components cites a Micron EIDE drive — but Micron doesn't make any CD-ROM drives. A Micron tech-sup-

port representative who answered the phone after I was put on hold for half an hour "guessed" it was an NEC drive, though he later said it was probably a Teac.

If you do find yourself in incompatibility hell, get ready for a major case of buck passing. The computer company blames the CD-ROM manufacturer. Both blame the record company. The record company blames the CD-ROM manufacturer. Everyone bemoans the lack of standards. No, nobody can solve my problem. So much for my state-of-the-art, six-speed CD-ROM drive. Incidentally, the audio

ROM drives are multisession-capable. (Apple claims that 95 percent of the drives installed in Macintosh computers are capable. And if your CD-ROM drive can read a multisession Photo CD, there's increased probability it can read CD Plus discs.) But whereas unplayable Pre-Gap discs can be made to work only by changing the firmware in your computer — a process that is too expensive to be practical since it would mean shipping CD-ROM drives back to the manufacturer for retrofitting with new chips — CD Plus discs that are at first unreadable may work after appropriate software drivers are installed on your hard drive, a procedure no different from installing any new program.

Sony Music's CD Plus titles simplify this process for owners of older PC's by including a separate disc — actually a CD-ROM — to run on your computer. It checks to see if your CD-ROM drive is multisession-capable and, if so, installs the software drivers. Once you restart your computer, you should be able to view the multimedia content. Dylan's "Greatest Hits Volume 3" is an example of a CD Plus that comes bundled with the special CD-ROM, called Corel Drivers for Enhanced CD and meant for use on Macintosh System 7 or higher and on PC's equipped with Windows 3.1 or 3.11. (Windows 95 users already have the necessary drivers.) According to a Corel spokesman, the disc may be able to determine if your drive is capable of reading Pre-Gap ECD's. The Corel disc, which is not sold separately, also accompanies such titles as Toad the Wet Sprocket's "Dulcinea," Alice in Chains' "Jar of Flies," and Mariah Carey's "Merry Christmas," all from Columbia, as well as Soundgarden's "Alive in the Superunknown" and Monster Magnet's "I Talk to Planets," both from A&M.

The technical specifications for CD audio are known as Red Book standards and those for CD-ROM as Yellow Book. Last year Sony, Philips, Apple, and Microsoft announced specifications for CD Plus: The new Blue Book standards define the multimedia format for these discs, including specific locations for such data as song titles. (Eventually, titles may even be

# Many CD-ROM drives can't read

the multimedia content of an ECD.

## E-mailing

one record label yielded

## four pages

of technical notes that listed

## twenty-three

CD-ROM drives with

# "known incompatibility."

## Everyone bemoans the lack of standards.

portion of ECD's worked fine on my PC, but then I didn't need a \$4,000 multimedia computer setup (including Altec Lansing desktop tower speakers and a floor-hugging powered subwoofer) if I only wanted to hear the music. The audio system in my living room does perfectly well, thank you.

A third kind of ECD is the Stamped Multisession format, or CD Plus, which enables two separate sessions to be pressed on the same disc. In a CD player, the session for audio-only tracks is read first, and playback stops at the end of the last track because the following session, for the multimedia content, can't be read. Not all CD-



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displayed on the front panels of dedicated CD players, much like today's MiniDisc players.)

Where does the RIAA stand on all this? "We don't have a position on the format," says David Leibowitz, executive vice president and general counsel. Rather than endorsing either the CD Plus or the Pre-Gap method of encoding discs, the RIAA has issued a "Voluntary Specification" for enhanced CD. Among its provisions, the spec recommends that:

- Track 1 be used for the beginning of CD audio rather than the multimedia material.

- Future ECD's be backward compatible with today's CD players.

- New CD players be able to automatically mute any output that is not CD audio.

CD-ROM drives are not involved in the recommendations. Leibowitz concedes that the RIAA's first concern is to make sure ECD's are fully compatible with CD players. The association is also promoting an "enhanced CD" logo for ECD packaging, in order to heighten consumer awareness.

Stores that sell computer software routinely experience high return rates because customers aren't able to run programs on their machines. So should an ECD buyer be able to get his money back if a disc doesn't play in his CD-ROM drive? Leibowitz, pointing out that the discs are being sold mainly in music stores and priced about the same as audio CD's, replied, "It depends on the retailer and the record company."

Enhanced CD's are the wave of the future, but your main reason for buying one should be the music. Don't be disappointed if your CD-ROM drive is incompatible. If accessing the multimedia content is your priority, however, make sure the retailer will exchange the disc or provide a refund if the bonus material isn't accessible. Also, if you are planning to purchase a new multimedia computer, insist that the CD-ROM drive be compatible with both the Pre-Gap/Track Zero/Hidden Track format and the CD Plus/Multisession format. Yes, it's a mouthful, but remember: Nothing is simple in personal computing. It's better to know up front that something won't work than to bang your head against the monitor wondering why you can't see what you can hear. □

# HERE'S WHAT YOU CAN SEE

Reviewing a stack of enhanced CD's reminds me of the time seven years ago when I stared down a similar stack representing an early attempt at a CD-based A/V music format, the CD Video. Basically, the CD-V was D.O.A., offering just 20 minutes of audio and one videoclip that was playable only on special hardware. Today the CD-V rests in the alphabet goop of dead consumer formats. But the ECD has an impressive number of industry backers, and our computer/multimedia age seems poised to grasp what can be a truly useful format.

So it's a shame that the highest-profile ECD to date, the **Rolling Stones'** "Stripped" (Virgin 41040), is one of the least professional. Interviews are tiny, graphics are presented unimaginatively, and the design is slapdash. Further, only one of three "live videos," performance footage of *Like a Rolling Stone*, is accessible via the "Video" hot button. To find two visits backstage on my PC, I had to exit the ECD, find the QuickTime icon in Program Manager, select Movie Player, return to my CD-ROM drive, and click on the files "backdice.mov" and "backrrw.mov." Payoff: a minute of *Tumbling Dice* and a few chords of *Shattered*. Not the way to do an ECD.

On the other hand, **Pere Ubu's** "Folly of Youth" (Tim/Kerr 95), a title with limited commercial potential from an indie label, is one of the wittiest, most valuable ECD's available. That's

because it was designed by David Thomas himself, mastermind of these pioneering avant-garde New Wavers. In addition to ultra-friendly displays of bio/discographical info, there are arresting videos, a "thread" that can find each appearance of a song in the band's catalog, and even a "Bug Report" that warns fans about sonic problems on the band's LP's and CD's. *This* is the way to do an ECD.

Not that the major labels are all inept. In fact, some of Sony Music's CD

Plus reissues are among the most attractive ECD's. Especially fine are **Bob Dylan's** "Greatest Hits Volume 3" (Columbia 67324), for its thorough presentation, and **Toad the Wet Sprocket's** "Dulcinea" (68091), for its Pythonesque graphics and comedy. Not as inventive but still worthwhile is "Jar of Flies" by **Alice in Chains** (66893), and as for Mariah Carey's "Merry Christmas" (66891)... well, it's very snowy and very merry indeed.

Sony Music, like some other record companies, also has sought specialists to custom-make ECD's. **Terence Trent D'Arby's** upcoming "Vibrator: All Access" was developed by nu.millennia, a new company dedicated to producing ECD's. Based on the "work in progress" I saw, nu.millennia prefers a visually rich product, and the D'Arby disc's generous interviews, four videoclips, and four live performances certainly are appealing. Other nu.millennia-produced titles due by the time you read this are country artist **Clay Walker's**

"Self Portrait" (Giant), a handsome scrapbook that tells as much about his farm life as it does about his music, and **P.M. Dawn's** "According to the World" (Island), which includes puzzles to be assembled (accompanied by annoying loops of music) and which generally overdoes the hippie-trippy pictorials.

The apotheosis of nu.millennia's outlook is the already released "Alive in the Superunknown" by **Soundgarden** (A&M 4100). On a winding staircase, you find everything from "your experience" to a video game. It's all quite tantalizing, but there's little meat





from the band itself. A full-blown CD-ROM-style ECD seems to be what A&M wants, though: its other title (developed by Luminare), **Monster Magnet's** "I Talk to Planets" (4096), has just two audio-only tracks but provides "hours of astrotripping ecstasy," including the ability to devolve a human back into the primordial ooze.

Compared with such titles, the earliest ECD's seem somewhat primordial themselves. "Doors and Windows" (Philips 1030) from the **Cranberries** is pretty but often overly cute, its click-happy format giving you, natch, doors and windows for finding the usual features. **Sarah McLachlan's** "The Freedom Sessions" (Arista 18784) is hampered by some ho-hum screens but does have plenty of Sarah narration and seven videoclip segments. A newer title from Arista, the **Bogmen's** "Life Begins at 40 Million" (18795), is a lot more hip, complete with a comic book and a prank phone call to a record-company weasel, though a technical glitch on my disc had performance-footage audio coming from only one of my computer speakers.

Compton's NewMedia teams up with reissue label Rhino to load bios, notes, trivia, interviews, comprehensive discographies, and videoclips of ten artists into each of two Sixties roundups. "Rock Expedition" (**Monkees, Turtles, Rascals**) and "Soul Expedition" (**Otis Redding, Wilson Pickett, Booker T and the MG's**). The only negative is that those videos are teasers rather than complete clips. Better in this department is another compilation, "Spew+" (Atlantic 82844), which despite access problems is an amusing sampler of artists from **Collective Soul** to **Jill Sobule**.

Humor is also center stage in another ECD from the Warner group, **Barenaked Ladies'** "Shoe Box" (Reprise 46183), featuring not only a full complement of videos, photos, and notes but also a quiz, a science experiment, and "Bad Jobs We've Had." Other Warner-related ECD's include **Bush's** "Little Things" (Trauma 95745), which conveniently allows access to a song's audio track, video footage, lyrics, and explanatory interview from a single screen, and **Moby's** "Disk" (Elektra 61838),

all techno-style over substance. I did get an advance of the **Mike Oldfield** title "The Songs of Distant Earth" (Reprise 45933) — rumored to leave most other ECD's in the dust — but it's MAC-only, and the drive at my disposal wasn't up to the task.

The balancing act between form and content will determine the relative success or failure of many enhanced CD's as the medium begins to proliferate faster than you can say "newfangled." Herewith, a quick sampling of more titles in various genres:



#### TITLES FROM ARDENT

This company, like nu.millennia, develops ECD's for its own label and others. Ardent's **Alex Chilton** disc, "A Man Called Destruction" (1507), is merely a CD with a "hidden video," while many of the company's full-fledged AudioVision titles are decent video/lyrics/interview projects, including the guitar rock of **2 Minutes Hate** on "Let It Eat" (1510) as well as Christian music from country artist **Dana Key** on "Part of the Mystery" (Forefront 25133) and rock-and-rappers **DC Talk** on "Jesus Freak" (25135).

#### CLASSICAL

Splashy graphics characterize "The Man and His Music," a series of ECD's from Intersound, but the content is strictly elementary and so elbowed by lessons ("Meet the Orchestra" and "Notation" appear on every title) that each disc is lacking in info on, well, the man and his music. Intersound's **Chopin** (1254), for example, has superficial biography segments and a single printed score. By contrast, the Laserlight series "Masters of Classical Music" has a lengthy bio and *thirteen* printed scores packed into its **Chopin** (031). Laserlight's screens are dry, but at least we're not insulted by Intersound's main-menu music — in Chopin's case, believe it or not, a synth-dance version of the Funeral March.



interviews with director Oliver Stone and composer John Williams. Due soon is nu.millennia's **Cutthroat Island**.

#### AND OTHER STUFF

The world is AIX Entertainment's musical oyster, judging from ECD's by the band **Civilization** (80001), rated PG for Peter Gabrielesque pan-global rock, and by Malaysian/Indian/Arab dance-pop diva **Zuriani** (80003). Travel onward with **Steve Roach**, **Geoffrey Oryema**, and other world-music artists via "Spiritual High" (Om 002), a gorgeous ECD with a "Holistic Health" chart, some "Zen insights," and similar whatnot "sure to elevate your consciousness into virtual ecstasy." If you prefer your feet on the ground, or at least dancing on it, the same label's "GrooveActive Collection" (001) is an equally stylish product including "a hip-hop/jazz slide show," articles, and music from artists like **A Tribe Called Quest** and **Brand New Heavies**. Meanwhile, Intersound, maker of those dubious classical ECD's, acquires itself with a rock title, "Pre-historic . . . Dig!," by the bright-sounding **Skeleton Crew** (9165), where the label's state-of-the-art graphics are much better suited. Far more basic as an ECD, though welcome as a musical reunion,

is "4 Day Tornado" (Oglio 89100), the return of late-Seventies power-poppers **20/20**. For a tornado of images, try "Telecommunication Breakdown" by **Emergency Broadcast Network**, alias **EBN** (TVT 4710), a fascinating techno/hip-hop extravaganza with flashing video-wall assault, guaranteed to overload your brain if not your computer.

#### PLUS THOSE LEGGY SUPERMODELS

After all the foregoing, a respite is in order: eight **SuperModels in the Rainforest** (The Right Stuff/EMI 36447). Music by **Enigma**, **Soul II Soul**, and of course **Duran Duran** provides some of the background for this stunning ECD, which includes video segments and "calendar shots." And if you crave true interactivity, you can create a photo album using your own "camera." There are also appeals to save the rainforests (a portion of the ECD's proceeds will benefit that cause) and, for those needing a real respite, scenes of leggy lizards and bugs.

—Ken Richardson

#### SOUNDTRACKS

First out is **Nixon** (Hollywood 62043), and it's a beaut, complete with the film's trailer, notes on thirty cast members, and

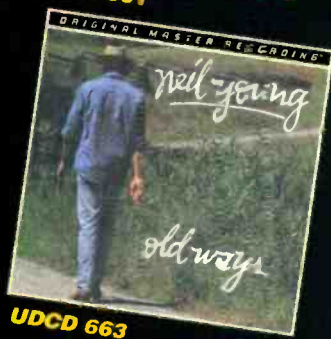
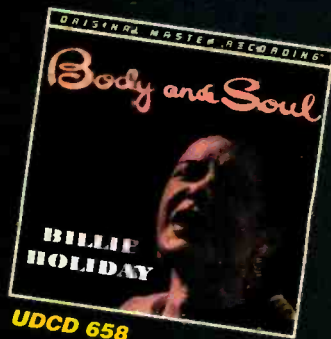


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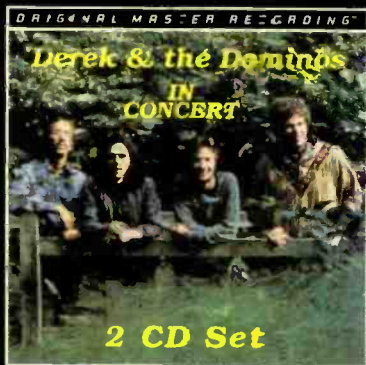


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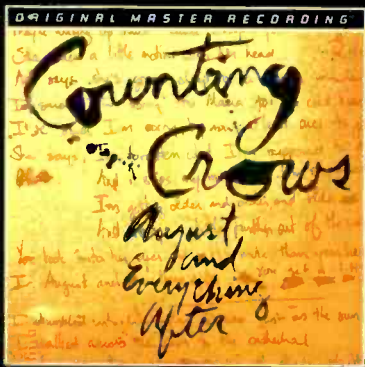
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# BEST OF THE MONTH

**STEREO REVIEW'S  
CRITICS CHOOSE THE OUTSTANDING  
CURRENT RELEASES**



RON KENNETH/DGC

## South on Skids: Bad Taste Is Terrific

Once knew a guy who, while heading for Florida to party, would place a brick on his car's accelerator — the better to prop his feet on the dashboard and streak past traffic like it was standing still. I am almost certain that "Dirt Track Date," the gloriously cheesy major-label debut by Southern Culture on the Skids, would have been the eight-track tape he'd have listened to — at dangerous volume levels — on his road trips, had it come out in the early Seventies rather than the mid-Nineties.

Of course, tastelessness is timeless, and this fourteen-song look at the underbelly of the South could have come out any old year. Yet it's particularly welcome now.

You just don't get that many anthems to eating greasy fried chicken these days — especially one like "8 Piece Box," strewn with blatantly sexual double-entendres and great chicken-pickin' guitar. "Dirt Track Date" is an evocation of the South as white-trash heaven, where people work blue-collar jobs and then blow off steam at, say, pro-wrestling matches. Their cars are souped-up and noisy, and they live to get rowdy on the weekend. This is the kind of record that speaks simultaneously to tobacco-chewing NASCAR fans, who can take it at face value, and to alternative-music types, who can play it for irony and the wicked beat.

Southern Culture on the Skids gives the

pole position to *Voodoo Cadillac*, a reverb-heavy ride through bayou country in a nasty set of wheels: "I didn't get this here baby just a-choppin' on wood / I got eight slappin' pistons right here under my hood." The next number, *Soul City*, is funkier than fried okra, with singer/guitarist Rick Miller scratching out washboard rhythms on some tacky vintage guitar (probably a Danelectro) while getting a nicely distorted vocal from an old crystal mike.

And so it goes throughout "Dirt Track Date," a celebration of the sorts of things decent folk would like to think had long since been swept under the rug. Miller bays like a backwoods bumpkin in *White Trash* ("don't call me that!"), a tune that shimmies like a big-finned Caddy with busted suspension. Three instrumentals in the surf/car/B-movie vein are as colorful as their titles: *Skullbucket*, *Make Mayan a Hawaiian*, and *Galley Slave*. Then there's *Camel Walk*, a spoken ode to snack cakes and crackers (staples of the Southern diet) that includes these words of high praise: "The way you eat that oatmeal pie makes me want to die!" How could a girl's heart not be moved by such a classy come-on?

Miller has a keen eye for the hidden South of trailer parks, honky-tonks, and greasy barbecue joints. The other two band members, drummer David Hartman and bassist Mary Huff, nail down a lean, gutsy groove as if to the roadhouse boom (the latter shines in her sassy vocal turn on Shirley Ellis's tell-it-like-it-is hit from 1964, *Nitty Gritty*). "Dirt Track Date" closes with the title cut — 3 minutes in which Southern Culture on the Skids sings the praises of demolition derbies, followed by 6 minutes of actual vroom-vroom sounds recorded in the wild. How boorishly brilliant can you get?

Parke Puterbaugh

### **SOUTHERN CULTURE ON THE SKIDS: *Dirt Track Date*.**

*Voodoo Cadillac*; *Soul City*: *Greenback Fly*; *Skullbucket*; *Camel Walk*; *White Trash*; *Firefly*; *Make Mayan a Hawaiian*; *Fried Chicken and Gasoline*; *Nitty Gritty*; *8 Piece Box*; *Galley Slave*; *Whole Lotta Things*; *Dirt Track Date*. DGC 24821 (49 min).

## A Different Kind of Wagner

The tradition of performing Wagner's music sometimes seems more like a body of law or theological doctrine than anything having to do with art. According to the conventional wisdom, there is a continuous interpretive tradition, beginning with the composer himself and handed down

# BEST OF THE MONTH



EMI CLASSICS

Roger Norrington: smashing idols

by his disciples (rather like the knights of the grail in *Parsifal*), that is enshrined at the festival opera house the master built at Bayreuth. The listener's job is to receive worshipfully, not to think. That scenario provided an irresistible invitation to the tough-minded conductor Roger Norrington to start smashing idols. The CD that resulted, an hour-long selection of some of the most famous bits from the canon, may not be the best Wagner recording of the year, but it is one of the most provocative in decades.

The first thing that will strike you (and perhaps knock you down) is the briskness of the tempos compared with other modern performances. For example, in Herbert von Karajan's 1972 recording of *Tristan und Isolde*, the prelude runs a majestic 12'40"; Norrington brings it in at just under 7 minutes. The prelude to *Die Meistersinger* trucks along with the exuberance of a polka, and even the *Parsifal* prelude, which in most modern performances offers the sonic equivalent of watching the grass grow, moves along at an ambling gait.

In his accompanying essay Norrington offers persuasive evidence for his revolu-

tionary approach, pointing out that Wagner himself often complained that other conductors played his music too slowly. The key to Norrington's approach is that he looks backward, at influences the composer felt while he was writing, rather than forward, to music that didn't yet exist. Thus, the *Rienzi* overture sizzles and surges with Rossinian snap, and the *Siegfried Idyll* is stripped of the Brahmsian gravity that imbues most modern performances.

The only vocal track is the *Liebestod* from *Tristan*, which is sung with affecting emotional urgency by Jane Eaglen. These vibrantly recorded, brightly colored performances may or may not sound the way Wagner intended his music to sound, but even those who violently disagree with Norrington will be made to think, and that is surely a good thing. *Jamie James*

**WAGNER:** *Rienzi, Overture; Tristan und Isolde, Prelude and Liebestod; Die Meistersinger von Nürnberg, Prelude; Siegfried Idyll; Parsifal, Prelude; Lohengrin, Act III Prelude.*

Jane Eaglen (soprano); London Classical Players, Roger Norrington cond. EMI 55479 (64 min).

## Dar Williams: The Great Folk Hope

**D**ar Williams hit the critical jackpot last year with "The Honesty Room," and now she's back with "Mortal City," a collection that delivers the second jab of a 1-2 punch. Working in a folk framework that borrows somewhat from alternative rock, she goes a step further here than she did in her debut, with additional voices (John Prine and Cliff Eberhardt) and occasionally a full band fleshing out her songs. The effect is sometimes a bit precious and melodramatic (especially in *February*, where a formal cello circumvents an acoustic guitar to underscore the brittleness of two lovers as frozen as the winter earth), but on the whole Williams succeeds in pushing the edge of her stylistic envelope.

Her theme is displacement — about "wanting to come home, or finding a home," she explains, about "the journeys people go through to get somewhere they feel they can belong." Ironically, or perhaps appropriately, she recorded the album in her bedroom, which may in part account for the intimacy of the performance. The repertoire itself was already inherently naked, including *Iowa (Traveling III)*, where the bosomy landscape reminds the singer, "I've never had a way with women, but the hills of Iowa make

me wish that I could"; *The Christians and the Pagans*, a comical song about a lesbian couple visiting an uncle at Christmas; *The Pointless, Yet Poignant, Crisis of a Co-Ed*, which wittily points a magnifying glass at campus radicals; and *Family*, Pierce Pettis's moving account of a funeral and an urgent call for healing, which Williams sings with all the purity of a choirgirl.

As both writer and performer, Williams has never been better than in the title song, alternately imparted in a feathery soprano and an almost monotone whisper. Based on a real occurrence — two people have their first date on the night an unexpected ice storm paralyzes their city — the song explores how strangers can sometimes let down their guard and find their core humanity when circumstances demand. Lying in bed wearing every conceivable manner of warm clothing (the power has been siphoned

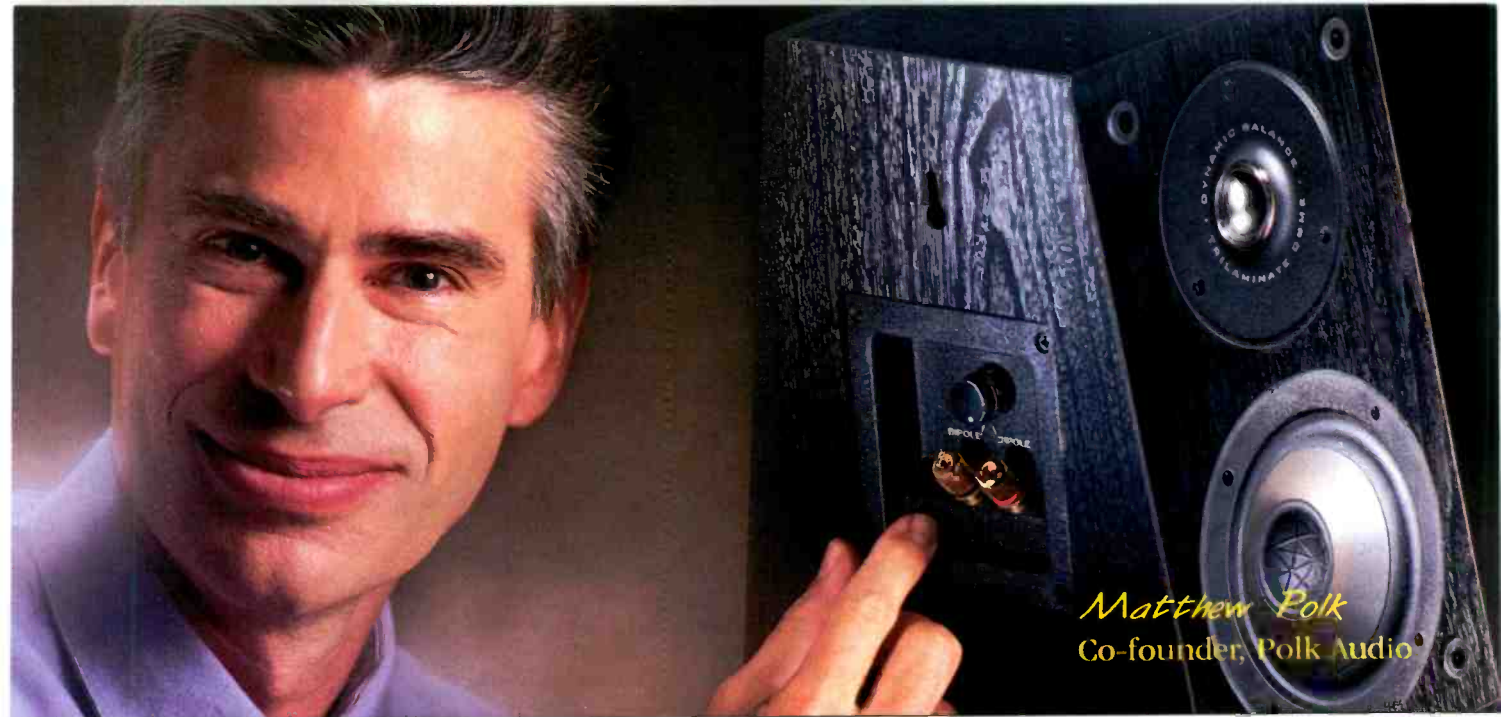
off for the local hospital), they were "wrapped up like ornaments waiting for another season," Williams writes, and then comes up with an even more stunning image to describe the white-gowned patients at the toasty clinic.

Dar Williams: love in the new Ice Age



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*Matthew Polk*  
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# BEST OF THE MONTH

Williams has a tendency to overwrite at times, her lyrics wandering into opaque territory. But "Mortal City" demonstrates that she's clearly the best new hope for the continued survival of folk's literate illumination of the romantic conscience.

Alanna Nash

## DAR WILLIAMS: *Mortal City*.

*As Cool as I Am; February; Iowa (Traveling III); The Christians and the Pagans; This Was Pompeii; The Ocean; Family; The Pointless, Yet Poignant, Crisis of a Co-Ed; The Blessings; Southern California Wants to Be Western New York; Mortal City.* RAZOR & TIE 2821 (47 min).

## Gold-Medal Mahler From Atlanta

There are something like thirty versions of the Mahler Fifth Symphony available on CD, most of them by world-class orchestras and conductors. If anyone had told me that a "provincial" American outfit could match competing performers measure for measure in that work, I would have considered it a delusion. Well, it's happened with the Atlanta Symphony under its music director Yoel Levi — a conductor who has often brought its players to a high pitch of refinement but to my mind

has not always been the most inspired of interpreters.

Somehow the Mahler Fifth galvanized Levi, who conducts at a fever pitch of resolve and noble purpose. In contrast to Mahler's initial "song symphonies" (Nos. 1-4), No. 5 is "absolute music" with no overt programmatic content, combining purely musical drama with intellectual challenge, especially in the second and last movements. One might say that there is less of the "Mahler mystique" to contend with here than in the other eight completed symphonies. In any case, only a conductor with an unerring control of intricate polyphonic textures can bring off these two movements with total conviction. He must also have players, particularly the horn and trumpet principals, who are complete masters, and Levi does seem to have that in Atlanta.

Brice Andrus does wonders with the elaborate solo horn passages toward the end of the third movement, and trumpeter James Thompson has just the right measure and articulation in the famous opening of the Funeral March first movement. The much-loved *Adagietto* slow movement is properly caressed but not sentimentalized, and the Atlanta strings display an almost Philadelphian sheen. Levi is in control from start to finish, bringing terrific dash and snap — snarling brass and all — to the "storm-tossed" episodes that dominate the second movement. Mahler's humor comes through in full in the rondo finale, which is played with the extraordinary virtuosity the music demands.

The musical textures often seem clotted in parts of this work, but Levi keeps everything crystal-clear and, above all, unlabored. A very large measure of credit should go to the Telarc production team of Elaine Marton and Michael Bishop for achieving a most impressive combination of massive orchestral presence in climaxes along with refinement of inner details. Nothing seems out of proportion, whether we're hearing one instrument or the whole orchestra. In short, everything works. Even if you already have several world-class-orchestra recordings of the Mahler Fifth, give this one a try. It ranks among the very best. *David Hall*

## MAHLER: *Symphony No. 5*.

Atlanta Symphony, Yoel Levi cond. TELARC 80394 (73 min).

## NOW ON CD



## POPULAR

### COUNT BASIE: *April in Paris*.

MOBILE FIDELITY 652. A set from 1955, originally on Verve, given MoFi's gold Ultradisc II treatment.

### NICK LOWE: *Party of One*.

UPSTART 029. His 1990 album, back on CD and filled up with two bonus tracks.

### THE MOJO MEN:

#### *Whys Ain't Supposed to Be: The Autumn Sessions*.

SUNDAZED 11028. The complete 1965-66 output of the San Francisco cult band, recorded before the group moved to Warner Bros. and cracked the charts.

### ODETTA: *Sings Ballads and Blues*.

TRADITION/RYKODISC 1004. The 1956 folk classic, including *Muleskinner Blues*, *Jack o' Diamonds*, and *Glory Glory*.

## CLASSICAL

### BACH: *Brandenburg Concertos Nos. 1-6*.

Chamber orchestra. Karl Richter cond. TELDEC 97903 (two CD's). Released in 1958, now part of a Richter Edition reissue of great Baroque works.

### BETHOVEN: *Symphonies Nos. 5 and 7*.

Vienna Philharmonic, Carlos Kleiber cond. DEUTSCHE GRAMMOPHON 447 400. "... among the half-dozen best discs in the entire catalog" (Best of the Month, December 1975). Remastered with "original-image bit-processing."

### HANDEL: *Belshazzar*.

Soloists; Concentus Musicus Wien, Nikolaus Harnoncourt cond. TELDEC 10275 (three CD's). "... should delight the opera buff as well as the oratorio lover" (September 1977).

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Conductor Yoel Levi: galvanized





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# POPULAR MUSIC

NEW RECORDINGS REVIEWED BY CHRIS ALBERTSON, FRANCIS DAVIS,  
PHYL GARLAND, RON GIVENS, BRETT MILANO,  
ALANNA NASH, PARKE PUTERBAUGH, KEN RICHARDSON, & STEVE SIMELS

**BLUE RODEO: Nowhere to Here.**

DISCOVERY 77024 (63 min).

Performance: Ethereal  
Recording: Balanced

**N**owhere to Here" is Blue Rodeo's most subtle, weightless album to date. These six Canadians take their particular brand of wheatfield soul off the well-traveled thoroughfares and down some folk-country byways. Nature imagery turns up (as in "Started to sing a song in my head / Just because the sun was high, shining bright," from *Side of the Road*), and it's reinforced by the evocative tone of the music.



JAY STRAUSS/DISCOVERY

**Blue Rodeo: Mother Nature's sons**

which takes its cues from the cycle of seasons, the rhythms of days, the look of the sky, the feel of a warm afternoon. Which is to say, Blue Rodeo is refreshingly out of step with the trend-drunk mainstream, though the band may well end up leading its own parade.

Vocals hover between a Byrdsian folksy gloss and the Band's funky country approach. Guitars and keyboards feed off one another. Songs mosey along at their own

pace, suspended in the animated dream state that is sustained throughout this lovely record. With their light burning brightest in the anti-rat-race anthem *Better Off as We Are* and the sweet back-porch threnody *Blew It Again*, the members of Blue Rodeo show themselves to be nature-loving transcendentalists in the grand Emersonian tradition. P.P.

**JACKSON BROWNE: Looking East.**

ELEKTRA 61867 (51 min).

Performance: All over the map  
Recording: Very good

**L**ast time out, Jackson Browne responded to a cataclysm in his personal life with "I'm Alive," a thoughtful album that recalled the introspective artistry of his early years. By contrast, "Looking East" emerges as a kind of grab bag. There's a political broadside, a world-gone-wrong lamentation, a playful love song, a not-so-playful revenge song, a couple of metaphysical ruminations, a tune or three about L.A., and an imitation-reggae item that trumpets the cloying sentiment "it is one" ("it" meaning the world, mon).

Browne seems uncertain of which direction he wants to take, so he takes them all. His dreamer/mystic persona turns up in *Barricades of Heaven*, a creation from the "Late for the Sky" school that is unhurried and full of philosophical portent. His less credible, urban-guerrilla guise appears in the next song, *Some Bridges*, testifying, "Every day I walk out in this torn-up world / And I fight to survive." The truth is, he sounds more like a pretender than a street survivor. He goes on to take potshots at easy targets (the various media) in *Information Wars*, then comes on like a swinging, hip dude in *I'm the Cat*, where he sings, "When you want to twist and shout / Baby, I'm the cat." The affected beatnik-speak is akin to Bob Dole interrupting a stump speech to break into *Born to Be Wild*.

The album is studded with other bums, including a patronizing ode to a His-

panic kid (*Nino*) and a been-done-wrong blues that would seem to offer Browne's side of the Darryl Hannah breakup (*Baby How Long*). *Culver Moon*, yet another song about L.A., offers this deluded salute to the City of Angels: "Everybody workin' together / Like Santa's elves." In the midst of inconsistent and inconsequential fare, one number towers above all. *Alive in the World* is brave, open, happy, sad, heartbreaking, invigorating — and it practically explodes into its yearning chorus. "To open my eyes / And wake up alive in the world." Had Browne built an album around this song and *Barricades of Heaven*, he might have crafted another masterpiece instead of this well-meaning muddle. P.P.

**DEAD MAN WALKING**

(original motion-picture soundtrack).

COLUMBIA 67522 (46 min).

Performance: Sobering  
Recording: Closely miked

**T**o claim that the soundtrack of *Dead Man Walking* is a powerful document from some of the most talented singer/songwriters in America is not to say that you'll be slapping it in the CD player five times a day, for this is a collection of lean, sepulchral meditations on prison life. The film's director, Tim Robbins, solicited orig-

**FANGS FOR  
THE MEMORIES**



**N**othing is as tacky as the score to an early Seventies Euro-vampire flick (unless it's the flick itself). Case in point: "Vampyros Lesbos Sexadelic Dance Party" (Motel 001), already a candidate for the Nuttiest CD of the Year. The music here derives from three incoherent soft-core horror films by Spanish cult director Jess Franco, and it's heavy on the fuzz-tone and pseudo psychedelic guitars — vintage *Shaft*-era wacka-wacka-wacka all the way. The titles tell the story: Thrill to such Joe-tappers as *Necronomania*, *Kamasutra*, and — our personal favorite — *The Lions and the Cucumber*. A Bizarro World classic. S.S.



inal songs and performances from the likes of Bruce Springsteen, Johnny Cash, Lyle Lovett, Suzanne Vega, Michelle Shocked, Tom Waits, and Steve Earle. Springsteen performs *Dead Man Walkin'* in the gruff, sparse style of *Streets of Philadelphia* and "The Ghost of Tom Joad." It is moving, jagged, raw — another haunting triumph from a singer who intuitively understands the turmoil of others. Most of the better performances here are cut from the same rough cloth. Lovett and Vega stand out with solid, empathetic performances that reverberate like voices bouncing off the walls of death row.

A few tracks don't quite measure up. The pairing of Eddie Vedder with Pakistani singer Musrat Faten Ali Khan on two songs yields a pretentious goulash, while Patti Smith strains to put across *Walking Blind* in a voice Pregnant with Meaning. And Tom Waits's rusted larynx is beyond repair in *The Fall of Troy*. But with expert commentary from legend Johnny Cash (*In Your Mind*) and legend-in-the-making Steve Earle (*Ellis Unit One*) providing chilling notes of audio verité, "Dead Man Walking" covers its subject with honesty, insight, and compassion. *P.P.*

**MARK EITZEL: 60 Watt Silver Lining.**

WARNER BROS. 46152 (54 min).

**Performance: Half-brilliant**  
**Recording: Atmospheric**

If Mark Eitzel looked like Chris Isaak, he'd be a millionaire by now. As the frontman of American Music Club, he wrote a half-dozen albums' worth of dark-edged, emotionally grabbing songs that were well served by the band's roots-noir approach. AMC's sound got livelier with each record, peaking with last year's smart and accessible "San Francisco," evidently the Club's swansong. The band is missed on "60 Watt Silver Lining," Eitzel's first step alone, but his writing has the more personal quality called for by a solo album.

Romance is Eitzel's chosen topic here, and suffice it to say that there aren't any sweet little love songs. His is a world where love is both redemptive and terrifying, where songs of adoration include lines like "The people I came here with said that you were nothing but a fag hag and a dope fiend." That appears in *Cleopatra Jones*, a song whose mood of whiskey-soaked obsession would fit perfectly on the soundtrack of *Leaving Las Vegas*.

In fact, the album's first half has the flow of a good art film, charting the early stages of a desperate love affair. It begins with the slow-dance *No Easy Way Down* and ends with the lonesome howl *When My Plane Finally Goes Down*, having peaked with *Saved*, a ballad whose torchy fervor is almost exhausting — as is Eitzel's vocal delivery, which jumps at will from intimate whisper to full-throttle emoting. You'd expect the rest of the album to be an anticlimax, and it is, mostly recapping the earlier moods and lyric themes. Languid tempos and heavy use of piano and trumpet make for some nice Chet Baker overtones, but after a half-dozen songs you'll start to wish

## "A GREAT DAY" FOR JAZZ

One of the most famous jazz photographs ever taken first appeared in the January 1959 issue of *Esquire*. At first glance, it doesn't seem particularly impressive — just a group of people pouring out of a Harlem brownstone onto the sidewalk. But look closely and you begin to recognize some of this country's greatest musicians: Count Basie, Art Blakey, Gene Krupa, Charles Mingus, Thelonious Monk, and more than fifty others.

Former journalist and radio producer Jean Bach saw even more in the picture: a movie. Her vision led to *A Great Day in Harlem*, an hour-long documentary now on video that brings this extraordinary moment in time to life. Through interviews with the photographer, Art Kane, his assistant Steve Frankfurt, and Robert Benton, then art director of *Esquire* (later director of such films as *Places in the Heart* and *Kramer vs. Kramer*), who conceived the original shoot, we learn how this remarkable photo session came about.

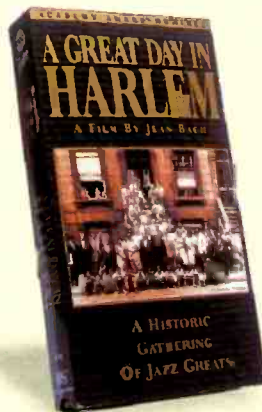
Woven throughout the film are the comments and recollections of such participants as Sonny Rollins, Dizzy

Gillespie, Bud Freeman, Buck Clayton, Gerry Mulligan, Hank Jones, Art Farmer, and Marian McPartland. Still photos taken during the session show Kane bringing order from chaos as the musicians interacted. And with music clips added to the mix, Johnny Griffin and

Dizzy Gillespie reminisce about Thelonious Monk; Sonny Rollins reveals his admiration for Coleman Hawkins, Lester Young, and Rex Stewart; Max Kaminsky remembers how his mother found whiskey for Pee Wee Russell during the Prohibition; and Benny Golson tells how a great tune came to him in a dream — and how he discovered the next morning that he had "composed" the verse to Hoagy Carmichael's *Stardust*.

*A Great Day in Harlem* is like a well-improvised solo, winding in and out of the theme and occasionally throwing us a clever curve. It's a masterly film that should have won the Oscar for which it was nominated.

*Chris Albertson*



**A GREAT DAY IN HARLEM.**  
ABC VIDEO 41110 (60 min).

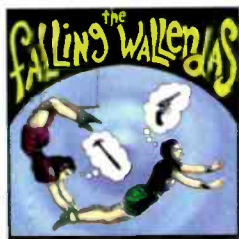
for one of American Music Club's token rockabilly numbers. *B.M.*

**THE FALLING WALLENDAS.**

IMI 8148 (52 min).

**Performance: Diamond in the rough**  
**Recording: Excellent**

Good pop albums are scarcer than honest politicians. From top to bottom, "The Falling Wallendas" is a great thinking-person's pop album. Its fifteen songs clock in at an optimal 3½ minutes per, striking an ideal balance between gorgeous melodies and crackling high-wire energy, between calculated smarts and the instinctive kick of



the most bracing power pop. The result is an album that plays through like a dream — an instant classic out of left field.

Guitarist Allen Keller and bassist Scott Bennett seem to be the Falling Wallendas' brain trust, co-writing all the songs and

sharing lead vocals. They've got great chemistry, singing like a contemporary, citified Everly Brothers in such fetching close-harmony numbers as *Whatever Happened to Jenny Fountain* and writing with the effortless eloquence of Squeeze's Chris Difford and Glenn Tilbrook. Guitarist Arch Alcantara and drummer Todd Sucherman provide the power; just listen to the judicious appliqué of Who-like thunder in the revved-up sections of *Dummy* or the noise that under-scores the air of self-recrimination in *The Adorable Horrible*.

Like most good power pop that's got any staying power, the Falling Wallendas' debut is more about pain and yearning than pleasure and good times. A song as lovely as *Hyde & Seek* happens to be about a tormented childhood, while *Sleeping Beauty* and *Agatha* poignantly mourn the loss of a loved one without flinching from unhappy memories. There's bittersweet humor and deft, inventive changes in *Venus Kicked the Stars*, *Backwards Going*, and *My Big Brain*, a trio of tunes that dazzle with their subtle virtuosity and endless playability.

I'm variously reminded of Aztec Camera, the Left Banke, the Rembrandts, the Smiths, and other artists of a similarly colorful stripe and high caliber. With its reverence for songcraft and penchant for emotional candor, this group arrives like a fresh, melodious breeze from an otherwise jaded

# POPULAR MUSIC

scene. You'd be well-advised to (pardon the unavoidable pun) catch the Falling Wallendas. (IMI Records, 541 N. Fairbanks Ct., Chicago, IL 60611.) *P.P.*

## LOS LOBOS: Colossal Head.

WARNER BROS. 46172 (43 min).

**Performance:** Warm and cool

**Recording:** Bass-heavy

If the group War made a hip-hop album, it would probably sound something like Los Lobos' "Colossal Head." This is one solid record — a savory down-home stew of one part rhythm-and-blues, one part hip-hop, and one part Mexicali soul. Once again, Los Lobos has demonstrated its ability to evolve and synthesize. Though the basic forms are familiar, the combination is unlike anything that has come before. "Colossal Head" is authentically, organically funky, the sort of album that will get inside your head and affect the way you bob down the street, even if you're not wearing a Walkman.

Los Lobos has drafted an informal urban manifesto that has more to do with the mood of the times than with any particular event. *Revolution* is, with ironic intent, more about the malaise of the inner city than the revolutionary fervor that briefly lit its fire long ago. Fat, distorted bass notes and what sounds like a wrench being tapped on a water pipe form the backbone of this percussion-heavy tune — a bluesy hip-hop collage in which the Sixties meet the Nineties, thematically and musically. And *Mas y Mas* ("more and more"), which is sung half in English and half in Spanish, has a frenzied vocal that gives way to an outrageous guitar showpiece whose raucous excitement is the kind of thing we seldom get to hear anymore.

So it goes throughout "Colossal Head," an album of old styles done in new ways. There's *Everybody Loves a Train*, which rumbles along to the clack-clack-clack of an acoustic guitar and a honking sax. *Life Is Good*, a slap-happy singalong complete with ooh-la-la's and a big, lazy beat, sounds like one of War's summery hits. *Manny's Bones* turns the subject of death into a celebration of life, romping along with the spirited gait of a New Orleans funeral procession. Cross-cutting rhythms in *Can't Stop the Rain* and *Colossal Head* create a tangled-footed maze that's deceptively offhand and deadly catchy. Hot stuff! *P.P.*

## DAVID OLNEY:

**High, Wide, and Lonesome.**

PHILO 1177 (48 min).

**Performance:** Captivating

**Recording:** Good

David Olney, one of Nashville's more intellectual singer/songwriters, returns with another arresting collection of folk-country-blues portraits of fringe characters, most of them residing at opposite ends of the class divide. Singing in a baritone that sounds more like the scraping of tree limbs than a human voice, Olney nonetheless makes his mark, creating a number of unforgettable scenes and images.

His strength is in finding new ways to

present old subjects. *Brays*, for example, offers a historical autobiography of the donkey, beginning with the birth of Christ ("Only a poor beast of burden / But once I bore a king upon my back"). And the paired songs *Another Place, Another Time* and *My Family Owns This Town* tell the story of an adulterous romance and tragedy from two points of view. In the first song, which is given a bluegrass treatment, we meet the young lover who flees town when the woman's powerful husband learns of the affair; he later returns to search for her, only to find her dead. In the second song, a lighthearted folk-pop study that turns chilling, we listen to the calm deliberation of the jealous husband. The question of just exactly what happened to Delia Jones — suicide or murder — becomes clear by the song cycle's end.

Olney, whose material has been recorded by Emmylou Harris and Linda Ronstadt, is a songwriter's songwriter, as evidenced by the musicians who drop by here: Rick Danko, Garth Hudson, Rodney Crowell, Mike Henderson, and Glen D. Hardin, to name a few. If you're not currently clued in to this guy, find out what these guests already know. *A.N.*

## P.

CAPITOL 32942 (57 min).

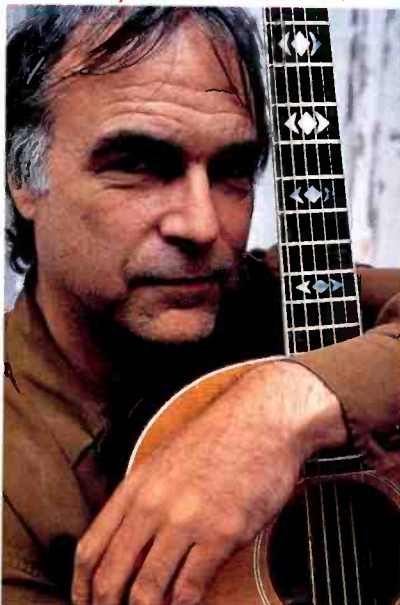
**Performance:** Hoo, boy

**Recording:** Unnecessary

Back in 1979, TV star Shaun Cassidy released a memorable stinker of a New Wave album called "Wasp." Attempting to break from his pretty-boy image, he did his damndest to connect with songs by David Bowie, Ian Hunter, and Talking Heads. The result went well beyond the usual celebrity ego-stroke and achieved an almost (repeat: almost) transcendent level of awfulness.

P's debut album is nothing less than the "Wasp" of the Nineties, though its smug incompetence leaves you pining for Cassidy's clueless sincerity. True, the celebrity in P isn't the featured performer, but you wouldn't be reading about the band right now if the bass player wasn't named Johnny Depp. He's gotten together with singer Gibby Haynes of Austin's notorious Butthole Surf-

## David Olney: Nashville Rashomon



BEN PEARSON/PHILO



P, with Johnny Depp (right): Y?

ers and formed a similar-sounding group. There's a difference, though: While the Butthole Surfers play creative avant-rock disguised as pointless noise, P does just the opposite.

What's most evident is the P-boys' awareness that it hardly matters what they sound like as long as they come off as goofy and alternative enough. There's no other explanation for half-baked jams like *Scrapings from Ring* or for in-jokes like the vaguely condescending *I Save Cigarette Butts* ("... for a poor girl across town"). Haynes is sounding less like a genuine weirdo these days and more like an insurance salesman at a keg party. There is one good joke: *Michael Stipe*, a ditty about meeting the guy at a Hollywood party, allows P to send up R.E.M.'s vocals and guitar sound. Otherwise, the level of originality is summed up by a version of ABBA's *Dancing Queen*, marking roughly the 978th time that a rock band has aimed for outrage by trashing a Seventies disco tune.

Depp's fans can rest assured that he plays bass about as well as Bill Wyman acts, and his lines are mixed way upfront to make sure you get the point. In the end, this album will likely be welcomed by the Viper Room in-crowd, many of whom probably deserve it. *B.M.*

## IGGY POP: Naughty Little Doggie.

VIRGIN 41327 (39 min).

**Performance:** Energizing

**Recording:** Just right

As latter-day Iggy Pop albums go — heck, as latter-day punk-rock albums by anybody go — this one's a keeper. Marking the first time in 20 years that Pop has made a record that's listenable from start to finish (though 1993's "American Caesar" came close), "Naughty Little Doggie" has loud guitars, catchy tunes, wild energy, and more.

Pop has vented plenty of murderous sentiments in his time, but every decade or so he gets into a good mood and attempts a willfully uplifting album. He's back in nice-guy mode for this one, and he has never carried it off quite this well before. *Keep On Believing* and *I Wanna Live* are friendly



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pep talks recalling the high points of the last few Ramones albums; the latter tune includes a credible boast that he's "cooler than MTV." *Innocent World* does nostalgia without overdoing the sentiment. *Knucklehead* is tough and funny, and *Heart Is Saved* marks a convincing romantic turn from a guy who once sang *Your Pretty Face Is Going to Hell*.

Iggy's current band members ain't the Stooges, but they rate a solid B+. Though they don't approach the abandon of his original band or the anarchy of his Seventies studio crews with David Bowie, they rock hard enough to keep the singer on his toes. And they manage to put some melody into a basic punk context, steering Pop away from his usual habit of reciting lyrics instead of singing them. *To Belong* isn't the first love song he's gotten away with, but it is the first time he's gotten sweet enough to borrow a lick from the Beatles (you'll recognize it).



Overall, "Naughty Little Doggie" may be the most airplayable album of Iggy's career. Even *Pussy Walk*, the only song too raunchy for radio, expresses nothing more dangerous than . . . well, than his delight that certain things exist in the world. Sounds wholesome enough to me. **B.M.**

**SON VOLT: Trace.**  
WARNER BROS. 46010 (42 min).

**Performance: Laconic**  
**Recording: Good**

In writing the songs for Son Volt's debut, former Uncle Tupelo honcho Jay Farrar hoped to capture what he calls "the rhythm of the river" — the mighty Mississippi he studied on his driving trips from New Orleans, where he lives, to St. Louis and Minneapolis, where his band members reside. Farrar has a wonderful way with homespun philosophy ("too much livin' is no way to die"), and he beautifully integrates elements of country, folk, rock, and blues, sometimes within the same song. Unfortunately, the Mississippi must have had only one current pattern during his drives, as the resulting record lacks variety.

Plaintive vocals, rough-hewn instrumentals, an accordion accent here, a pedal steel sneaking in there — all provide some attractive atmosphere, but "Trace" doesn't offer many bits of melody to hold onto. Farrar eventually hits his stride in *Ten Second News*, a baleful, mournful, Deep South-feeling song about the coexistence of politics and nature, and in *Mystifies Me*, which reflects his fascination with a one-in-a-million woman. But next time, son, a little more jolt in the volt, please. **A.N.**



**ERIC DOLPHY:**  
**The Complete Prestige Recordings.**  
PRESTIGE 4418 (nine CD's, 680 min).

**Performance: Spear-like**  
**Recording: Good**

This invaluable set collects everything that the meteoric Eric Dolphy (1928-1964) recorded under his own name or as a sideman for Prestige and its New Jazz subsidiary over an 18-month period beginning in April 1960, soon after his arrival in New York from the West Coast. For a complete sense of what the virtuoso multi-instrumentalist (alto saxophone, clarinet, flute) was up to during what is rightly remembered as a crucial time of growth both for himself and for modern jazz, you need to hear Dolphy's recordings on other labels with Charles Mingus, Ornette Coleman, and John Coltrane, all of which are readily available on CD. Still, Dolphy's Prestige dates do give a vivid sense both of his own prodigious talent and of a jazz scene in a state of flux.

Strikingly successful sessions here include one with Ron Carter on cello (from the LP "Out There") and more than 90 minutes from Dolphy's landmark Five Spot engagement with trumpeter Booker Little and a sure-footed rhythm section of Mal Waldron, Richard Davis, and Ed Blackwell. But Dolphy's own solos are spear-like in logic and emotional force, even on so unlikely a date as one with the Latin Jazz Quartet. Unlike most other boxed retrospectives, this one tells a good story, too. **F.D.**

**STAN GETZ: Blue Skies.**  
CONCORD 4676 (43 min).

**Performance: Reed poetry**  
**Recording: Excellent**

Most artists of Stan Getz's popularity make more recordings than are issued in their lifetime. I don't think producers deliberately hold back goodies for posthumous release — although I wouldn't rule out that possibility — but when performers achieve superstardom, few opportunities to capture them on tape are missed. Then, too, as we have seen so often, previously discarded performances — even ones that should not have been preserved — have a way of creeping into the catalog for the sake of making money.

"Blue Skies" gathers six previously unreleased performances from 1982, but it is not a case of surfacing trash. In fact, it's a superb set with pianist Jim McNeely, bassist Marc Johnson, and drummer Billy Hart recorded in San Francisco following a two-week booking at the Hyatt Union Square Hotel. This is the same engagement that produced "Pure Getz" (Concord 4188), so if you are fortunate enough to have that album in your collection, you know what to expect here: pure ecstasy. **C.A.**

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Mexico: Contact Grupo Volumen; Mexico City.



# QUICK FIXES

**MICHAEL BOCIAN: Reverence.**

ENJA 8096 (59 min).

Here is a fine debut by a guitarist whose sprung rhythms suggest the influence of Ornette Coleman — as do the fractured unisons by, and simultaneous improvisations between, Bocian and tenor saxophonist Dewey Redman. Especially recommended to fans of Pat Metheny's "80/81" and "Song X"; it has a similar yearning quality and combustibility. *F.D.*

**CIBO MATTO: Viva! La Woman.**

WARNER BROS. 45989 (48 min).

Hype alert: *The New York Times* and *Rolling Stone* would have you believe this is trendy stuff, but it's actually Froom and Blake Babylon — as in producers Mitchell and Tchad, here nursing (the liner notes' word, not mine) a duo of young Japan-ese women (one sings, one samples). It's nothing more than two Jeffs and a po-mo Pink Lady. Silly to the extreme. *K.R.*


**THE DIVIDE.**

COMBINE 52472 (46 min).

On the evidence here, the Divide sees its calling as making the Nineties safe for anthemic folk-rock, and the band does a good job of it on its debut CD, mixing equal helpings of jangle and punk attitude with an occasional hint of skinny-tie power pop. Think an unpretentious American version of the Alarm and you've got the idea. (For info call 914-277-1846.) *S.S.*

**DAVID GRISMAN/  
DANIEL KOBIALKA: Common Chord.**

CYMEKOB 803 (54 min).

Guitarists Scott Nygaard and Jerry Garcia are among those who join Grisman (mandolin, guitar) and Kobialka (violin) in this multigenre ensemble paying tribute to traditional bluegrass. Grisman's arrangements and everyone's performances make for unusually pretty renditions of such favorites as *Barbara Allen* and *Wayfaring Stranger*, but they still have the twang of authenticity. *William Livingstone*

**ALI AKBAR KHAN: Legacy.**

AMMP/TRILOKA 7216 (75 min).

In a riveting program of Indian music from the sixteenth to eighteenth centuries,

master sarodist Ali Akbar Khan is joined by an equally great vocalist, Asha Bhosle. She seems to draw the music from the depths of her soul, and she is convincing in selections that are either devotional or sensual. Very well recorded. *W.L.*

**BILLY MANN.**

DVB/A&amp;M 40365 (46 min).

Billy Mann grew up with his ear to Stevie Wonder and Marvin Gaye, and chances are he's got a stack of George Michael records in his closet. His impressive debut concerns itself mostly with romance, but he reveals a gift for writing full-bodied melodies and setting them off with a big, soulful tenor that occasionally jumps into falsetto. On *(Tell Me) When God Will Speak*, Mann puts a jazzy guitar behind welcome cynicism: "Will there be time to answer questions / Between the TV crews and interviews?" I wonder. *A.N.*

**BILL MILLER: Raven in the Snow.**

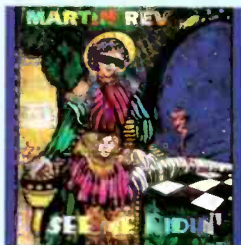
REPRISE 45991 (55 min).

Miller draws on a multitude of life experiences, from being raised on a Mohican reservation in Wisconsin to recording in Nashville, from opening shows for Tori Amos to being inspired by Eddie Vedder. No slogans here, just a Native American sense of purpose that grows from deep inside the material. He's a find, is Bill Miller, so go find him. *K.R.*

**JONNY POLONSKY:**
**Hi My Name Is Jonny.**

AMERICAN 43055 (24 min).

... and this is my debut, which I performed and recorded all by myself. And though its ridiculous brevity has understandably earned the criticism of a certain STEREO REVIEW critic, he says it's so alive with great guitar pop/rock in an era admittedly swollen with great guitar pop/rock that he really doesn't mind. *His name, by the way, is ...* *K.R.*


**MARTIN REV: See Me Ridin'.**

ROIR 8220 (39 min).

Despite a deserved reputation as confrontational avant-gardists, Rev's old band Suicide had a bubblegum streak a mile wide, and he indulges it to the max on this solo album. The result, depending on your tolerance for that sort of thing, is either brilliantly minimalist or infantile as all get-out. It does, however, have the virtue of sounding like nothing else around at the moment. *S.S.*

**ITALIAN INSTABLE ORCHESTRA:**
**Skies of Europe.**

ECM 31543 (62 min).

**Performance: Supercharged swing**
**Recording: Expansive**

"Instable" only in being a studio assemblage rather than a touring band, this eighteen-member outfit featuring many of Italy's trustiest improvisers here interprets one multisectioned piece each by pianist Giorgio Gaslini and bassist Bruno Tommaso. The opening movement of Gaslini's *Skies of Europe*, with Alpine horn duets gradually evolving into a supercharged swing theme, is an exemplary piece of music, and the entire suite is just as colorful and eventful. Tommaso's *Il Maestro Muratore* also packs a punch even if, like too many extended works written by bassists, it sounds as if it was composed backward, chords first and melodies later. ECM's typically wide-open sound is a big plus in capturing the band's sweep. *F.D.*

**VAN MORRISON:**
**How Long Has This Been Going On.**

VERVE 529 136 (51 min).

**Performance: Ersatz ethnicity**
**Recording: Quite good**

Van Morrison's jazz influences have been obvious for years, but this new album with pianist/singer Georgie Fame is his first jazz album per se. A program of originals, popular ballads, and familiar jazz fare, it's a step back that yields neither good jazz nor palatable Morrison. The blend of postwar rhythm-and-blues and King Pleasure/Annie Ross-style vocalizing from the Fifties is so out of character for him that it borders on mockery. He sounds more honest on such ballads as *Who Can I Turn To?*, *That's Life*, and the title track, though I'd rather hear them rendered by any number of other singers.

It is one thing for white performers to be influenced by their black colleagues, but when they resort to vocal imitation the result rarely rings true. Here it is almost an embarrassment. Morrison should have been content to admire jazz from afar. *C.A.*

**WAYNE SHORTER: Etcetera.**

BLUE NOTE 33581 (43 min).

**Performance: Genius at work**
**Recording: Good**

An enduring mystery is why this date from 1965, just now making its first appearance on CD, gathered cobwebs in Blue Note's vaults for 15 years before finally seeing the light of day on LP in 1980. For my money, "Etcetera" is the album under Wayne Shorter's own name that best shows off his genius as composer and improviser. *Penelope* is one of the great jazz ballads, simultaneously lyrical and restless. In Gil Evans's *General Assembly* and his own *Indian Song* (in a tricky 5/4), Shorter — jostled nicely by Herbie Hancock, Cecil McBee, and Joe Chambers — displays the dry wit and rhythmic thrust that all but vanished from his solos once he joined Weather Report. My advice is to grab this one before it disappears again. All indications are that Shorter will never top it. *F.D.*



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the best  
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# Emmylou Harris



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## Outside the Ballpark

**T**he women of country music have usually reacted in predictable fashion when radio banished them in favor of younger faces. Kitty Wells retired into her marriage. Loretta Lynn went to cable television. Tammy Wynette reteamed with George Jones, and Dolly Parton, in a duet frame of mind, lassoed hunky hitmakers Billy Ray Cyrus and Vince Gill in a desperate attempt to propel herself back up the charts.

But Emmylou Harris, a more recent exile from the airwaves, took another tack, making an album so bold and different that it instantly augmented her reputation as one of the genre's most inventive practitioners. In fact, last year's "Wrecking Ball," produced by Daniel Lanois of U2, Peter Gabriel, and Bob Dylan fame (and reviewed here by Steve Simels in January), was a thoroughly gutsy move, replacing Harris's signature country ballads and acoustic kickers with eccentric, atmospheric alterna-pop-rock.

"It's funny, I didn't really think of it as gutsy," Harris told me. "When the opportunity came up to work with Daniel, I just thought it was such an exciting prospect

that I didn't give it a second thought. I've always concentrated on left-field songs, but I thought it was time to go a little outside of the ballpark."

Anyone familiar with producer Lanois's brand of impressionistic music-making knew what to expect from "Wrecking Ball": raw, occasionally distorted, off-kilter backing tracks, live performances with lots of room ambience, and unusual rhythm patterns, all conjuring up a quasi-mystical, even psychedelic experience. Adding to the spookiness is Harris's shimmering soprano, which comes across mostly in a high-head voice instead of her usual full-throated delivery. The end result almost sounds as if Harris channeled a spirit leaving a human body at the exact moment of death, to reflect on a life lived and a journey yet to begin.

"Boy, that sounds good!" Harris responded when I put the description to her. But while she admits "Wrecking Ball" is an album about "trying to fill that emptiness within ourselves" (in recent years she has seen the death of her father and her third divorce), she says it was never a conscious decision to make a spiritual

record, partly because her 1987 gospel album, "Angel Band," was misinterpreted by some as an indication that she had become a born-again Christian. Besides, Harris wants to leave the meaning of certain songs ambiguous.

"I like for people to fill in their own blanks. To me, a theme on an album is a product of lots of different smaller themes running in what often seem to be opposite directions. But when you put them all together, it opens you up to a way of looking at things that you might not have thought of before. The Sufis have a saying, 'What you seek cannot be found, yet only seekers find it.' The process and act of questioning is the important thing."

Recorded in Nashville and New Orleans, "Wrecking Ball" features a band including two drummers, U2's Larry Mullen and jazzman Brian Blade, as well as appearances by Lucinda Williams, Neil Young, Steve Earle, and Kate and Anna McGarrigle, all of whom contributed songs. In Nashville, Harris and Lanois concentrated on live performances with the band, but in New Orleans they built tracks from the ground up, overdubbing as they saw fit. For a cover of the Jimi Hendrix song *May This Be Love*, they roughed out a spare arrangement with drums, one guitar, and Harris and Lanois singing live — and left it that way.

While the album contains three country-folk songs (Williams's *Sweet Old World*, Gillian Welch's *Orphan Girl*, and *Waltz Across Texas Tonight*, a song Harris co-wrote with Rodney Crowell), none of them is likely to turn up in today's paint-by-number country radio rotation, something Harris and her record company, Asylum, knew going in to the project.

"Why would you just go in and do a cookie-cutter record?" she asked. "I don't understand it. But that's what I hear a lot on country radio today. It sounds like [all] the records could have been made by the same artist, on the same day, with the same band and the same EQ. I just want to hear one instrument that's a little too loud, or just something *different*."

Whether "Wrecking Ball," named for the Neil Young song, will have any influence on progressive country is yet to be seen. But Harris plans to enlist Lanois's help for her next project in any case. Such daring only adds to the reverence most members of the Nashville music community have for Harris, whom they see as a kind of spiritual godmother (especially to young singer/songwriters). That label, however, makes Harris wince.

"It sounds nice, and I know it's meant to be flattering, but it just goes right over my head," she said, a little moan trailing behind. "I can't really relate to it. I've been out in the trenches for twenty years. They'll probably just bury me there — put up a marker, you know. Basically, I'm just a working girl." — *Alanna Nash*



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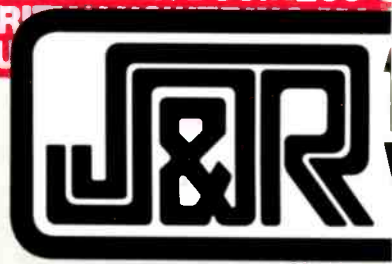
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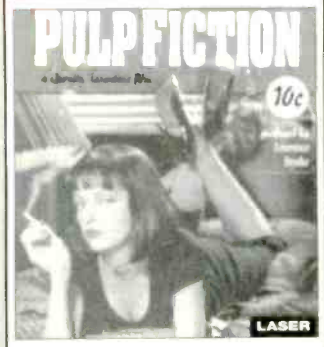


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# CLASSICAL MUSIC

NEW RECORDINGS REVIEWED BY ROBERT ACKART,  
RICHARD FREED, DAVID HALL, JAMIE JAMES, GEORGE JELLINEK,  
ERIC SALZMAN, & DAVID PATRICK STEARNS



## BEETHOVEN: Triple Concerto; Choral Fantasy.

Daniel Barenboim (piano); Itzhak Perlman (violin); Yo-Yo Ma (cello); Deutsche Staatsoper Chorus; Berlin Philharmonic, Daniel Barenboim cond. EMI 55516 (55 min).

**Performance: Incandescent**  
**Recording: Very good**

There have been other all-star recordings of the Triple Concerto — which is, like the Fantasy for Piano, Chorus, and Orchestra, one of Beethoven's least often performed large-scale concert works — but in none, I think, does the work catch fire as it does in this live recording. What we have from Daniel Barenboim (conducting from the keyboard), Itzhak Perlman, and Yo-Yo Ma is a sharply characterized interchange among three individual artists responding to the music and to one another with the risk-taking spontaneity more likely in a public event than a studio session.

Still more sparks are struck in the Choral Fantasy, in which Barenboim plays the piano part with an improvisatory fire quite in keeping with what we read of Beethoven's own performance in the famous concert where he made his last public appearance as soloist with an orchestra. The rhythmic propulsiveness here is just what the music needs, and the various wind solos and the home stretch with the chorus are further enlivened by a flexibility and good humor that again surely reflect the stimulating presence of an audience — and in this case, at least, the recorded applause does not shatter the mood. R.F.

## BRAHMS: Four Serious Songs; Lieder und Gesänge, Op. 32. WOLF: Three Poems by Michelangelo; Harpist I-III.

José Van Dam (baritone); Maciej Pikulski (piano). FORLANE/ALLEGRO UCD 16745 (61 min).

**Performance: Exquisite gloom and doom**  
**Recording: Excellent**

Austerity dominates this recording by José Van Dam, given Brahms's death-haunted Four Serious Songs and the two bitter and despairing sets by Wolf. From the programming point of view, the combination makes eminent sense, but I wouldn't recommend listening to the entire CD in one sitting.

Thoughtfulness, immaculate phrasing, and tonal refinement are familiar Van Dam characteristics. His renditions are deeply felt, but without histrionics, and he achieves a wide interpretive range within a relatively restrained dramatic palette. His tones are firmly centered throughout, and in *Wie Bist Du, Meine Königin*, the best known song in Brahms's Op. 32 — a love song culminating in a death wish — he presents us with a

splendid display of unbroken legato. Some of the top notes, however, show a slight strain. Maciej Pikulski is an excellent partner in the important piano parts. His powerful work in the Michelangelo songs is particularly impressive. G.J.

**COPLAND: Piano Concerto; Appalachian Spring; Symphonic Ode.** Lorin Hollander (piano); Seattle Symphony. Gerard Schwarz cond. DELOS 3154 (62 min).  
**Performance: Excellent**  
**Recording: A-1**

A chestnut and two rarities grace this Copland CD from Gerard Schwarz and the Seattle Symphony. The chestnut is the familiar *Appalachian Spring* suite, but from the very start the performance is clearly of exceptional quality in terms of both precision and warmth. The reading is trim but not in any way distant; the open-air quality of the music is there, but so, too, is its quietly ecstatic lyricism. The sound is flawless, with just the right amalgam of presence and room tone.

The disc leads off with the youthful Piano Concerto (1926), a two-movement work that's by turns ruminatively bluesy and raucously jazzy. Soloist Lorin Hollander knows his way around this kind of music as though by second nature, and he and Schwarz are far more laid back in the opening slow movement than Earl Wild was with Copland conducting in Vanguard's still excellent-sounding 1961 recording. Finally, Schwarz tackles the tough-fibered and at times monumental *Symphonic Ode* completed in 1929 for the Boston Symphony's fiftieth anniversary. The performance makes as convincing a case for the music as Copland's own from 1973, though I would have liked a bit more brute strength in the monumental episodes. Altogether, this release is a fine combination of topnotch musicmaking and state-of-the-art sonics. D.H.

**FAURÉ: Requiem; Pavane.**  
**KOECHLIN: Choral sur le Nom de Fauré. SCHMITT: Scherzo sur le Nom de Gabriel Fauré. RAVEL: Pavane pour une Infante Défunte.**  
Sylvia McNair (soprano); Thomas Allen

## A French Touch

Hélène Grimaud, the 26-year-old pianist from Aix-en-Provence, has signed an exclusive five-year contract with France's Erato label. The first release — a recording of Schumann's Piano Concerto and Richard Strauss's *Burleske* with the Deutsches Symphonie-Orchester Berlin under the American conductor David Zinman — was in February. Grimaud is actually a veteran of the recording studio. She made her first recording at the age of fifteen, of music by Rachmaninoff for Denon Records, for which she was awarded her native country's Grand Prix du Disque.



Pianist Hélène Grimaud

CARON SYGMA/ERATO

**HOLD THE APPLAUSE!**

Some thirty years ago, in a public discussion of recorded music, the critic Irving Kolodin remarked that "a studio performance has the possibility of being 'perfect'; a live performance has the possibility of being *live*." Since then, and in particular since the introduction of digital recording, that dictum has been endorsed with ever increasing frequency. Claudio Abbado's recent magnificent Mahler Eighth on Deutsche Grammophon has a sense of occasion that could not have come from a studio session. Nearly all of Leonard Bernstein's recordings for the same label were made in concert. Günter Wand has been remaking his Brahms, Bruckner, and Beethoven live for RCA Victor for the atmospheric

of loudspeakers. For instance, there is a great deal to enjoy in conductor Philippe Herreweghe's Harmonia Mundi CD of Beethoven's *Missa Solemnis*, recorded at a concert last year in Montreux. He and his excellent soloists and orchestra capture much of the elusive spiritual essence of this great work, but the mood is shattered when the applause breaks out. (The *Missa Solemnis* is on a single disc but comes with a sampler disc of excerpts from the conductor's other recordings, ranging in repertory from Mozart to Kurt Weill.)

On a new EMI disc of Janacek's two string quartets, played sublimely by the Alban Berg Quartet at separate concerts in Vienna, the recording has a near-ideal realism, but here, too, the effect of intense intimacy is dynamited by the applause. Both labels could easily have eliminated this disruption, for on both discs there are several seconds of silence before it breaks out; both EMI and Harmonia Mundi apparently felt it necessary to certify with the applause that these were live recordings.

To be sure, this is something that will distress some listeners less than others, and it may make less of a difference with some music than with such intensely expressive works as the *Missa Solemnis* and the Janacek quartets. But in general it works against the very advantages recordings can offer. A recording is never a substitute for being at an actual performance, and including applause can't make it so. Canned applause is more likely to remind the listener that he or she is *not* there. Listening to a recording can give us a degree of clarity and detail in big, complex works we could not realistically expect to perceive in a concert hall, as well as an entirely different level of intimacy with the music. But all that can be blown away in an instant by the eruption of what in the circumstances is nothing more than an unwanted sound effect.

Richard Freed

**BEETHOVEN: Piano Concerto No. 1.**

**MOZART: Piano Concerto No. 23.**

Helen Huang (piano); New York Philharmonic, Kurt Masur cond. TELDEC 99207 (62 min).

**BEETHOVEN: Missa Solemnis.**

Rosa Mannion (soprano); Birgit Remmert (alto); James Taylor (tenor); Cornelius Hauptmann (bass); La Chapelle Royale and Collegium Vocale choruses; Orchestre des Champs Elysées, Philippe Herreweghe cond. HARMONIA MUNDI 901557 (77 min, plus free sampler CD).

**JANACEK: String Quartets No. 1 ("The Kreutzer Sonata") and No. 2 ("Intimate Letters").**

Alban Berg Quartet. EMI 55457 (44 min).

(baritone); Academy and Chorus of St. Martin in the Fields, Neville Marriner cond. PHILIPS 446 084 (54 min).

**Performance: Polished  
Recording: Excellent**

The glory of Fauré's Requiem lies in its seeming simplicity. Neville Marriner's sure and caring hand illuminates the elegant composition, aided by the silvery limpidity of Sylvia McNair's soprano in "*Pie Jesu*" and by the warm clarity of baritone Thomas



Allen in "*Hostias*" and "*Libera me*." The chorus and orchestra sing and play with moving effect.

The Requiem is barely over 53 minutes, and the disc is filled out with a sensitive reading of Fauré's lovely Pavane, tributes by two of his students, Charles Koechlin and Florent Schmitt, and the famous *Pavane pour une Infante Défunte*, surely one of the most urbane works in musical literature, by another one of his students, Maurice Ravel.

R.A.

**HANDEL: Giustino.**

Michael Chance (*Giustino*), Dorothea Röschmann (*Arianna*), Dawn Kotoski (*Anastasio*), Juliana Gondek (*Fortuna*), Jennifer Lane (*Leocasta*), Drew Minter (*Amanzio*), others; Kammerchor Cantamus Halle; Freiburg Baroque Orchestra, Nicholas McGegan cond. HARMONIA MUNDI 907130 (three CD's, 173 min).

**Performance: Near-perfect  
Recording: Superb**

The first-ever recording of the 1737 opera *Giustino* seems to contradict the assertion by a prominent Handel scholar that its score is evidence the composer was headed for a nervous breakdown. Handel was having his problems — he suffered financial collapse later that year — but the music seems to come from a more detached place, and he wrote some of his most expansive and piquant orchestral ritornellos even in the most routine arias.

Dramatically speaking, the opera is best heard as an emotional kaleidoscope rather than a linear narrative. Some of the arias have long, elaborate constructions (one is a concerto grosso for voice, oboe, and orchestra with intricate interplay and much virtuosity). Act I has an imaginative dream sequence, Act II one of Handel's few love duets (and it's among his most lyrical inspirations), and the final moments of Act III are an uncharacteristic but perfectly assured ensemble number.

Even at its least inspired, *Giustino* is never less than engaging, particularly with a performance as near-perfect as this one. Conductor Nicholas McGegan draws out



FRANK JANSSEN/TELDEC

Helen Huang and Kurt Masur

advantage. And Kurt Masur has been recording in concert with the New York Philharmonic.

Masur's recent Teldec release, with Helen Huang as his soloist in Beethoven's Piano Concerto No. 1 and Mozart's Concerto No. 23, shows how well this can be done. Huang, who appeared with the Philadelphia Orchestra at the age of eight, was all of twelve when she recorded these performances with Masur and the Philharmonic last year, having in the meantime performed with numerous other major orchestras. If she is not quite on the level of the extraordinary Evgeny Kissin at the same age, she nonetheless shows a great deal of maturity as well as dexterity and a fine musical sensibility. She has energy to burn and a reliable instinct for reining it in when appropriate, and she clearly knows how to be a responsive partner in a concerto collaboration. The satisfying, well-recorded disc does have a live quality, and Teldec, as usual with this label, keeps the focus squarely on the music by *not* including applause.

While applause is surely part of the concert-hall atmosphere, it can be disruptive and frustrating when it comes out



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# CLASSICAL MUSIC

startling dramatic undercurrents in passages where you'd least expect them, underscored by his rhythmically buoyant harpsichord playing, which is typically full of wit. The Freiburg orchestra is among the world's best period-instrument opera orchestras, and the cast consists of singers who confidently walk the fine line between aristocratic Baroque style and fiery drama. The standouts are Dawn Kotoski (Anastasio), Dorothea Röschmann (Arianna), and Drew Minter (Amanzio). *D.P.S.*

**KORNGOLD: Sinfonietta; Violin Concerto.**

Ulrike-Anima Mathé (violin); Dallas Symphony. Andrew Litton cond. DORIAN 90216 (70 min).

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

**KORNGOLD: Between Two Worlds: Judgement Day. Symphonic Serenade; Theme and Variations.**

Alexander Frey (piano); German Symphony Orchestra of Berlin, Berlin Radio Symphony, John Mauceri cond. LONDON 444 170 (76 min).

**Performance: Intense**  
**Recording: Very good**

The Korngold revival in progress has focused mainly on his operas, but the symphonic music on these recordings tells the story quite well. The early and astonishingly prodigal *Sinfonietta*, Korngold's masterpiece, in a very contemporary reading by

Andrew Litton and the Dallas Symphony, is paired with an excellent performance of his Violin Concerto by the young German violinist Ulrike-Anima Mathé and the same forces. The *Sinfonietta* today sounds like very high-class film music, although it was written years before soundtracks were even invented. The beguiling concerto, begun in the Thirties and finished after the Second World War for Jascha Heifetz, is a lexicon of Korngold's bag of tricks that is full of film-music themes. It works best of all the pieces on these CD's because it has Mathé's impassioned advocacy. Litton and the Dallas Symphony are decidedly cooler. The *Sinfonietta* emerges as a solid, well-behaved piece when what it needs is some *schmaltz*.

John Mauceri has some of the gusto, but "Between Two Worlds" is a strange album. Mauceri pieced together the title work from Korngold's score for a movie of that name, about a refugee musician who fails to catch the last boat to America. Korngold, who left Vienna after the Nazis arrived and ended up in Los Angeles, was himself, of course, "between two worlds," and he put 80 minutes' worth of passion into his score, but Mauceri's half hour of selected symphonic outbursts does not quite add up.

The charming Symphonic Serenade and the Theme and Variations, commissioned for a student orchestra, were written toward the end of Korngold's life as he tried to get back into the classical mainstream. In a

way, their lack of bombast makes them more appealing than some of the theater and film music. *E.S.*

**PROKOFIEV: Symphony No. 1 ("Classical"); Symphony No. 5.**

Chicago Symphony. James Levine cond. DEUTSCHE GRAMMOPHON 439 912 (57 min).

**Performance: Outstanding**  
**Recording: Excellent**

Recorded nearly four years ago but only recently issued, the Prokofiev Fifth on this CD may be James Levine's finest recording with the Chicago Symphony — and it is also one of the outstanding ac-



counts of this marvelous work, which has had an impressive number of distinguished recordings. The performance shines with a clarifying freshness and directness that may persuade many listeners the work merits owning more than one version. Every factor — tempo, rhythm, phrasing, the balancing of the various orchestral choirs — is so su-



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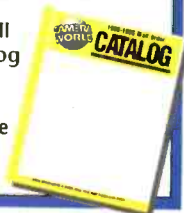


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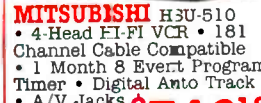
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# CLASSICAL MUSIC

perly judged that the slightest deviation in any respect might have rendered the whole performance much less convincing.

The "Classical" Symphony, Prokofiev's First, is by now the expected discmate for the Fifth, rather than an imaginative or particularly generous one, though it is set forth here with suitable animation and charm (and sensibly placed first on the disc). The great Chicago orchestra is at the top of its form in both works, and so is Deutsche Grammophon's sound. R.F.

**SCHOENBERG: Pelleas and Melisande. WEBER: Passacaglia.**  
Houston Symphony, Christoph Eschenbach cond. KOCH 7316 (62 min).

**Performance: Committed  
Recording: Rough**

Christoph Eschenbach has certainly made the Houston Symphony an orchestra to be reckoned with, and both of these performances, recorded in concert last season, fairly blaze with unreserved commitment on everyone's part. Eschenbach gives *Pel-*

*leas and Melisande*, Schoenberg's most expansive orchestral work and yet one of almost unrelieved intensity, a reading that may be described in the same terms. It runs just under 48 minutes — a little longer than the norm and contrasting sharply with Pierre Boulez's brisk Chicago performance on Erato (barely 40 minutes) — but never gives any impression of distension.

Like Boulez's, this *Pelleas* is laid out in a single CD track; most others are broken down into the eleven sections indicated in the score. The recorded sound tends to be hazy and harsh, and to overload in the fuller passages. The Webern Passacaglia, recorded a few months later by the same team in the same setting, fares better in this respect, and its all-round effectiveness only deepens my regret over the sound in the Schoenberg, for the advocacy Eschenbach has given both of these seldom-heard works is altogether exceptional. R.F.

**SCHUBERT: Symphonies No. 8 ("Unfinished") and No. 9 ("Great C Major").**

Berlin Philharmonic, Günter Wand cond. RCA VICTOR 68314 (two CD's, 95 min).

**Performance: Absorbing  
Recording: Very good**

In the end, I was completely caught up in Günter Wand's conception of these two masterworks, though it took a while to get used to his readings, which seemed to soften the music's dramatic high points.

The "Unfinished" here begins as though Schubert were humming to himself. The famous secondary theme is not underlined but played almost *sotto voce*, lovingly shaped with subtly molded dynamics. The whole first movement emerges as a darkly dramatic soliloquy. The *Andante con moto* second movement often seems anticlimactic, especially if the first has been overdramatized. Under Wand's direction it is almost dreamlike in its unearthly loveliness. The applause at the end, which could easily have been edited out, is a regrettable intrusion.

The "Great C Major" is just as satisfying. Tempos are eminently sane, and the dynamics and inner texture are artfully controlled with not a trace of mannerism. The slow movement is quietly shattering in its cumulative impact. The catastrophic climax is not overdone; the tragedy is played out slowly in the final bars, to chilling effect. The scherzo is light, crisp, flowing — none of the four-square effect we hear all too often. The central trio is a bit slower than usual, as if to let us savor its lyricism. The finale opens with a galvanizing call to action, but the main body has more of a dancelike than demonic quality, unlike some other readings. The Berlin Philharmonic players, especially the first-chair winds, give Wand their very best, but again there is that intrusive applause at the close.

The sonics are just fine, with beautifully balanced inner voices and well-defined bass even in softest passages. If devoting a whole CD to the "Unfinished" Symphony (less than 30 minutes) seems extravagant, RCA has priced these live recordings as a "two for one" set. D.H.

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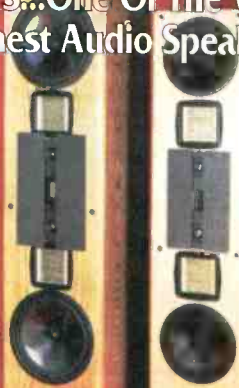
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**BEETHOVEN: String Quartets  
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Cleveland Quartet. TELARC 80414 (51 min). Constituting one of the finest installments in the Cleveland Quartet's remake of the Beethoven cycle, these performances are beautifully integrated and impeccable but not without expressive warmth. And yet neither glows with quite the level of intimacy and conviction found in earlier recordings by the Budapest Quartet in its golden years, the Talich and Vegh Quartets, or the Quartetto Italiano. *R.F.*

**DRESHER: Casa Vecchia; other works.**  
Paul Dresher (keyboard); Robert Black (bass); Ensemble 9, Yuki Morimoto cond. STARKLAND ST-204 (58 min).

Four works, mostly from the early 1980's, by one of the best and most original of post-minimalist composers: *Underground* and *Other Fire* are live-performance pieces with electronics and tape loops of sounds recorded in Asia. *Casa Vecchia*, written for the Kronos Quartet, is played as a double string quartet by the Viennese Ensemble 9. *Mirrors*, a lively and hard-driving piece for electric bass and electronics, is the album's hit tune, with the qualities of simplicity, personality, and dynamism that mark Paul Dresher's best work. *E.S.*

**SCHUMANN: Arabeske;  
Davidsbündlertänze; Blumenstück;  
Symphonic Etudes.**

Andras Schiff (piano). TELDEC 99176 (76 min). The too-seldom-heard *Blumenstück* stands out in this generous program of familiar and less familiar Schumann, all played with affection and commitment. Andras Schiff



opts for the earlier edition of the *Davidsbündlertänze* and the later one of the *Symphonic Etudes*, with its five supplemental variations as a sort of encore package. Fine sound throughout the disc. *R.F.*

**WALTON: Belshazzar's Feast; Crown  
Imperial; Henry V, Suite.**

Bryn Terfel (baritone); Bournemouth Symphony Chorus and Orchestra, Andrew Litton cond. LONDON 448 134 (60 min). A milepost of British choral music at its

première, in 1931, *Belshazzar's Feast* now sounds a bit blustery. This new recording impressively thunders on (and on), but by the end I was worn out rather than exhilarated. The patriotic march *Crown Imperial* and the lovely soundtrack for Laurence Olivier's film *Henry V* are much easier to take. Bryn Terfel sings with his wonted sonority, but don't be deceived: Although he gets top billing, his part is small. *J.J.*

**LAMBARENA: Bach to Africa.**

Ensembles from Gabon, France, Brazil, and Argentina; other musicians. SONY 64542 (51 min). This curious disc combines vocal and instrumental music of Bach with traditional music of Gabon, Africa. (Lambarena is the Gabonese town where Albert Schweitzer es-



tablished his famous hospital and invented multiculturalism by making Bach part of the soundscape of Africa.) Guest musicians from France, Brazil, and Argentina help bridge the gap. The results sound forced most of the time, but once in a while everything meshes and it's incredibly moving. *E.S.*

**THE PUCCINI EXPERIENCE.**

Angela Gheorghiu, Nina Rautio (sopranos); Johan Botha (tenor); Anthony Michaels-Moore (baritone); Orchestra of the Royal Opera House, Covent Garden. Edward Downes cond. ROYAL OPERA HOUSE/ALLEGRO IMPORTS 55013 (79 min). Four rising young opera stars are heard here in eighteen mostly familiar scenes and arias from *Tosca*, *La Bohème*, *Madama Butterfly*, and other Puccini operas. Although all acquit themselves creditably, the clear standout is Angela Gheorghiu, whose beautiful voice and interpretive ability make me predict that we'll be hearing a lot more from her. *William Livingstone*

**NATHALIE STUTZMANN:  
Rare Mozart Arias.**

Moscow Virtuosi, Vladimir Spivakov cond. RCA VICTOR 68187 (72 min). Nathalie Stutzmann's contralto is full-bodied, warm, and velvety, as well as remarkably agile, and her dramatic interpretations are no less gratifying. The two concert arias, *Ombra felice* and *Io ti lascio*, are delivered with the same polish as the arias from *Mithridate*, *Re di Creta*, *Ascanio in Alba*, and *La Betulia Liberata*. Vladimir Spivakov and the Moscow Virtuosi offer handsome accompaniment. *R.A.*



# CLASSICAL MUSIC

**STRAVINSKY: The Flood; Abraham and Isaac; Variations; Requiem Canticles. WUORINEN: A Reliquary for Igor Stravinsky.**

Susan Bickley (contralto), Peter Hall (tenor), David Wilson-Johnson (bass-baritone), Stephen Richardson (bass), others: New London Chamber Choir; London Sinfonietta. Oliver Knussen cond. DEUTSCHE GRAMMOPHON 447 068 (70 min).

**Performance: Thoughtful  
Recording: Clear and dry**

It seems almost inconceivable in this age of infomercials and Jenny Jones that there was ever a time when commercial television could commission the likes of Igor Stravinsky and George Balanchine to create a dance drama based upon the accounts of the Great Flood in the Bible and various medieval miracle plays. Yet that is what CBS did in 1962, and the result is one of the most curious hybrids of high culture and show business ever produced. Stravinsky's late, atonal music remains challenging, and *The Flood* — with its lively storytelling and surging musical inventiveness for orchestra, singers, and choir as well as speakers — makes a good introduction to it. Oliver Knussen seems to have been reluctant, however, to embrace the work's strange, even tacky dramaturgy, and the performance he conducts here may be drier and more cerebral than Stravinsky intended.

*Abraham and Isaac* is a setting (in Hebrew) of the story in *Genesis* about the pa-

triarh's obedience to God's command to sacrifice his only son. The 5-minute *Variations*, written in memory of Aldous Huxley, is a jagged, haunting work that adamantly refuses to yield up its mysteries to even the most persistent listener. With the *Requiem Canticles*, Stravinsky's so-called "pocket Requiem," we are on friendlier ground. The composer's last great work, it recalls the passion of his early Russian period through a dazzling medley of styles and moods.

The disc finishes with a curious work by the American composer Charles Wuorinen, *A Reliquary for Igor Stravinsky*, a rambling, atonal pile that incorporates some of the orchestral sketches Stravinsky was working on when he died. Knussen and the London Sinfonietta perform the piece with elegance and precision, but they don't quite persuade me that it is anything more than a musico-logical oddity. *J.J.*

## VERDI: *Il Trovatore*.

Luciano Pavarotti (Manrico), Antonella Banaudi (Leonora), Shirley Verrett (Azucena), Leo Nucci (Count Luna), others: Chorus and Orchestra of the Maggio Musicale Fiorentino. Zubin Mehta cond. LONDON 430 694 (two CD's, 132 min).

**Performance: Unexceptional  
Recording: Very good**

Zubin Mehta and Luciano Pavarotti bring familiar strengths to this set. Mehta presided over an earlier recording on RCA, and Pavarotti was the Manrico in a 1976 London

set. We do, however, have a winning new Leonora here in soprano Antonella Banaudi. She has a warm and even tone, which does not lose richness above the staff, and a reliable technique. She sings the recitatives as if they mean something and also gives due attention to dynamic markings and embellishments. And, with all that, we get the right kind of dramatic involvement.

Nearly 60 at the time of this recording, Pavarotti still commands admiration. The shining tone is breathier now and manipulated with more artifice, but he is still capable of a melting "Ah, si, ben mio" (albeit expanded by an unwritten mini-cadenza) and a rousing "Di quella pira" in the original key. Except for the usual untidy phrase-endings, he still makes a sterling Manrico.

Although this is Shirley Verrett's first recorded Azucena, her stage experience shows in every one of her scenes, and never more so than in her final "Ai nostri monti." Vocally, alas, she is no longer consistent, but despite wavery sustained notes and chancy intonation, she is still a presence. So is baritone Leo Nucci — up to a point. He captures Count Luna's fierceness, but the lyric elements of his music are not served by a voice that cannot command a true, focused cantilena. (Nucci abandons the printed notes altogether in the trio of Act III, Scene I.)

Mehta's leadership provides energy and theatrical momentum, as well as sensible tempos and consideration for his singers — an infrequent phenomenon nowadays. *G.J.*

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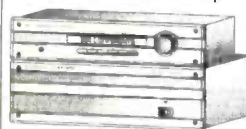
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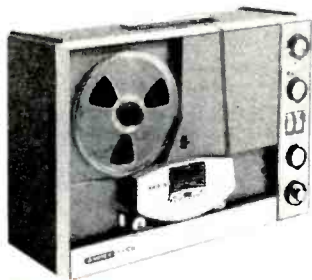
## 30 YEARS AGO

Our Contract with America? In his April 1966 editorial, William Anderson declared, "There is more nonsense written on the subject of music than on any other I know of, and it is our firm intention not to add to it."



Features included an examination of the quality-control procedures used in the manufacture of audio equipment, and a foldout "Calendar of Classical Composers" from John Dunstable (c. 1370-1453) to Karlheinz Stockhausen (b. 1928). Among new products

were the Whitecrest W-2 loudspeaker (\$69.50) and the four-speed Uher Royal Stereo 8000E open-reel tape recorder (\$360). In test reports, Hirsch-



Ampex tape recorder, 1966

Houck Laboratories examined Scott's LT-112 stereo FM tuner kit and Ampex's Model 1150 open-reel tape deck, a three-speed machine deemed a "flawless-sounding adjunct to any high-fidelity system."

## 20 YEARS AGO

Noel Coppage, pondering the music of Joni Mitchell in the April 1976 cover story, tempered his mostly favorable appraisal with the observation that "Sometimes, of course, one does sense a degree of



Patti Smith, 1976

California School of Pointless Insight in her work."

In Best of the Month, David Hall praised Sir Adrian Boult's version of Elgar's *The Kingdom* on Connoisseur Society, and Joel Vance endorsed Roy Wood's one-man-band "Mustard," concluding that he "is obviously some kind of latter-day genius." Elsewhere, Eric Salzman was wowed by Lorin Maazel's first-time recording of the complete *Porgy and Bess*, but Paul Nelson dismissed "Horses," the debut album by punk poet Patti Smith, as "unformed and unformed grandiloquence." Associate technical editor Ralph Hodges reported



## PETER W. MITCHELL, 1942-1995

The press conferences at the Consumer Electronics Show weren't quite the same this year. Peter Mitchell was not there. The last page of STEREO REVIEW isn't the same this month either. Peter's column, "The High End," is not here. He sent us the final installment, for the March issue, shortly before he died of congestive heart failure on December 30.

Peter wrote his first STEREO REVIEW article, on the causes and prevention of loudspeaker failure, in 1974, when he was presi-

dent of the Boston Audio Society and co-host of a weekly radio program about audio, and he went on to become an audio consultant and a regular contributor to this magazine and others. Trained as an astrophysicist, he was a scientist from the beginning. His writing was a model of intelligence and clarity. And he was an excellent teacher and a generous mentor, especially to younger members of the consumer electronics press. We miss him.

— Louise Boundas

on twenty-five "Hot Platters" that "represent the current state of the recording art" for LP's, from Carlos Kleiber's version of Beethoven's Fifth on DG to King Crimson's "Larks' Tongues in Aspic" on Atlantic. Meanwhile, Hirsch-Houck Labs tested Sonab's C500 cassette deck ("its sound quality was exceptional") and Phase Linear's Model 1000 Autocorrelator noise-reduction system.

## 10 YEARS AGO



Hi-Fi VCR's were the big thing in the April 1986 issue. Along with a Buying Guide there was "The Sound of Video," in which David Clark conducted double-blind listening tests of VHS Hi-Fi, Beta Hi-Fi, and 8mm models. The Glass Ceiling was shattered in "Choice CD's," as seventeen women record-company execs picked favorite discs from their respective labels. In Best of the Month, Rod McKuen hailed Barbra Streisand's "The Broadway Album" as "the one she'll always be remembered by." And in a test report on Bang & Olufsen's Beogram CDX CD player, Julian Hirsch wrote, "it is very satisfying to control such a versatile instrument by a (literal) touch of a fingertip." — Steve Simels



B&O CD player, 1986



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CUSTOM INC • DUNWOODY: AUDIO SOLUTIONS • HI: HONOLULU: CLASSIC AV • IA: BETTENDORF: REFERENCE AV • CEDAR FALLS: HAWKEYE AUDIO • DES MOINES: AUDIO ASS • IGA GROVE: GREENER'S • IOWA CITY: HAWKEYE AUDIO • SIOUX CITY: PFLANZ ELECTRONICS • ID: COEUR D'ALENE: EVERYTHING STEREO • IL: CHAMPAIGN: CHAGRINE AUDIO • CHICAGO: PRO MUSICA • CHRYSAL LAKE: SOUND FORUM • CLARENDON HILLS: SOUNDS DELUXE • FAIRVIEW HEIGHTS: HI FI FO FUM • HOFFMAN: STATES: SIMPLY STEREO • MORTON GROVE: PRO MUSICA • PEORIA: SOUND OF PEORIA • ROCKFORD: ABSOLUTE AUDIO • SPRINGFIELD: TEAM ELEC • ST. CHARLES: ST. CHARLES AV • ULLA PALM: SIMPLY STEREO • IN: BLOOMINGTON: CAMPUS AUDIO • CARMEL: SOUND PRO • FT. WAYNE: LEHMANS • HUNTINGTON: LEHMANS • LAFAYETTE: PRO AUDIO • WABASH: WORLD SOUND • KS: WICHITA: CUSTOM SOUND • KY: LONDON: THE SOUND GARDEN • LA: BATON ROUGE: ART COLLEYS • LAFAYETTE: THE SOUND ELEMENT • NEW ORLEANS: WILSON AUDIO • MA: ARLINGTON: STEREO SHOP • CAMBRIDGE: O AUDIO • NORTHAMPTON: TRIPOD AUDIO • S. BOURN: ELECTRIC GRAMOPHONE • WORCESTER: OCOINS • MD: BALTIMORE: COUNTY AV • ME: SCARBOROUGH: NEW ENGLAND HI FI • MR. DEARBORN: ALMAS HI FI • DETROIT: PECAR'S • FARRINGTON HILLS: ALMAS HI FI • FLINT: STEREO CENTER • GRAND HAVEN: BEKINS AV • GRAND RAPIDS: STEREO SHOWCASE • IRON MOUNTAIN: UNDERMOUTH • KANSAS: STEREO SHOWCASE • PETOSKEY: PUFFS • ROYAL OAK: ALMAS HI FI • TRAVERSE CITY: SOUND ROOM • TROY: PECAR'S • MN: ALEXANDRIK: SOUND SHOP • BEHNDI: OVERBERG ELECTRONICS • MINNEAPOLIS: STEREO LAND • ROCHESTER: AMALGAMATED AV • WILMAR: SOUND IMAGE • MO: COLUMBIA: D & M SOUND • SPRINGFIELD: GREYSTOKES • ST. 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BRUNSWICK: ATLANTIC STEREO • FLEMINGTON: PROFESSIONAL VIDEO & SOUND • FREEHOLD: ATLANTIC STEREO • MIDDLETOWN: STEREO DYNAMICS • PARAMUS: PARSONS AV • PORTON: FL KING: SOUND CITY • SOVERVILLE: SOUND EXCHANGE • TOWACO: SOUND CITY • WEST NEW YORK: PARK PLACE • NM: ALBUQUERQUE: ABSOLUTE AUDIO • LAS CRUCES: DESERT SOUND • NV: RENO: WILD WEST • NY: ALBANY: ALTAIR AUDIO • COMACK: SOUND APPROACH • GREAT NECK: SOUND EFFECTS • HAMBURG: SOUTHTOWN AV • ITHACA: GALLAGER • JOHNSON CITY: OLUMS • LAKE GROVE: AUDIO DEN • VT: KISCO: AUDIO OUTLET • NEW YORK: AUDIO SALON • AV CENTER • PARK AVENUE • SOUND CITY • PLEASANTVILLE: AUDIO EXCELLENCE • ROCHESTER: ROWE AV • SYRACUSE: GORDON BROTHERS • WATERLOO: HAPPY CAR • WEST BACON: AUDIO VISIONS • OH: AKRON: OHIO SOUND • CANTON: BELCON AUDIO • CINCINNATI: OHIO VALLEY AUDIO • DAYTON: AUDIO ETC. • DUBLIN: AUDIO ENCOUNTERS • TOLEDO: JAMESON'S STEREO • OK: BARTLESVILLE: SOUND STATION • MIDWEST CITY: AUDIO MIDWEST • STILLWATER: AUDIO SAV • OR: BEND: STEREO PLANT • EUGENE: ADVANCED AUDIO • PORTLAND: FRED'S SOUND OF MUSIC • ROOM SERVICE • SALEM: ADVANCED AUDIO • HEAR NO EVIL • PA: BROOKMALL: HIGH FIDELITY HOUSE • GAMP HILL: HI FI HOUSE • CHAMBERSBURG: LINCOLN ELECTRONICS • EPHRATA: STEREO BARN • GREENSBURG: STEREO SHOP • HARRISBURG: HI FI HOUSE • JENKINTOWN: STEREO OUTLET • JOHNSTOWN: CONNECTING POINT • LANCASTER: GNT STEREO • MCURRAY: GOOSEBUMPS • MONTGOMERYVILLE: WILDER AUDIO • PITTSBURGH: AUDIO GALLERY • WORLD WIDE STEREO • STATE COLLEGE: PAUL & TONY'S • WHITEHALL: PALMER AUDIO • R: PROVIDENCE: STEREO AV CENTER • SC: COLUMBIA: SOUNDWAVE • GREENVILLE: AMERICAN AUDIO • HILTON HEAD: ISLAND • SO: ARCHITECTS • MT. PLEASANT: PEACHTREE • AV: BROADKINGS: ZEPHYR AUDIO • SIOUX FALLS: ENTERTAINMENT DIRECT • TN: JOHNSON CITY: MR. 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