

# Stereo Review

JUNE 1995 • US \$2.95 • CANADA \$3.95 • UK £1.95

SEE PAGE 53  
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## TROUBLESHOOTING

**HOW TO  
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WHAT'S  
AILING  
YOUR A/V  
SYSTEM**

**IN-WALL  
SPEAKERS**

**SPEAKER  
FACE-OFF:  
THX VS.  
NON-THX**

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and More**



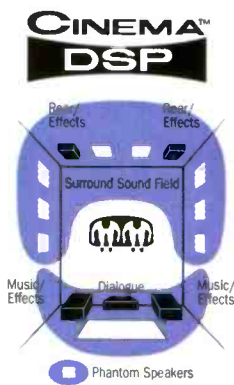
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**May 3**

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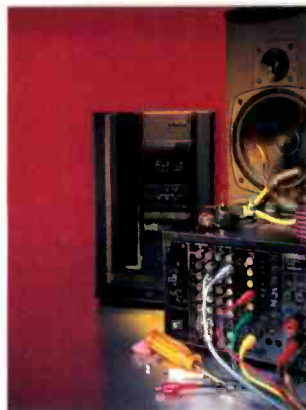
\* *Sound & Vision Critics' Choice Awards*  
\* *AudioVideo International Grand Prix Awards*



# Stereo Review

INCORPORATING HIGH FIDELITY

JUNE 1995



## Cover

When your A/V gear starts skipping a beat, it pays to do a little troubleshooting of your own before calling in the experts. See page 54 for some practical tips.

Photograph by Dan Wagner

LETTERS	10
TIME DELAY	16
NEW PRODUCTS	17
AUDIO Q&A	26
SIGNALS	30
TECHNICAL TALK	32
POPULAR MUSIC	79
CLASSICAL MUSIC	92
THE HIGH END	104

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## Bulletin

New D-VHS format, a killer surround-sound test disc, cracking down on CD piracy, and more • *by Bob Ankosko and William Livingstone*

## Peripherals

Home, Sweet Networked Home • *by Ken C. Pohlmann*

## Equipment Test Reports

Acoustic Research AR 303 loudspeaker system, page 33

Aiwa DX-C100M CD changer, page 36

Niles OS-10 indoor/outdoor loudspeaker system, page 40

Enlightened Audio Designs TheaterMaster surround-sound processor, page 46

## Car Stereo

In the lab and on the road with the Soundstream SA245 power amplifier • *by Ken C. Pohlmann*

## Troubleshooting

A guide to finding and exterminating the bugs in your A/V equipment • *by Daniel J. Kumin*

## Systems

Early Retirement • *by Bob Ankosko*

## THX vs. Non-THX

Designed for soundtracks, how do Home THX speakers perform on music? • *by Tom Noursaine*

## Basic Beethoven

A critical discography • *by Richard Freed*

## Hideaway Speakers

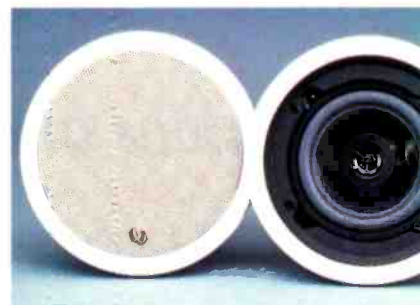
Today's in-wall speakers offer variety in style, features, and performance • *by Rebecca Day*

## Best Recordings of the Month

The Ass Ponys' "Electric Rock Music," Philip Pickett's Bach Brandenburgs, Dar Williams's "The Honesty Room," and Rachmaninoff from St. Petersburg



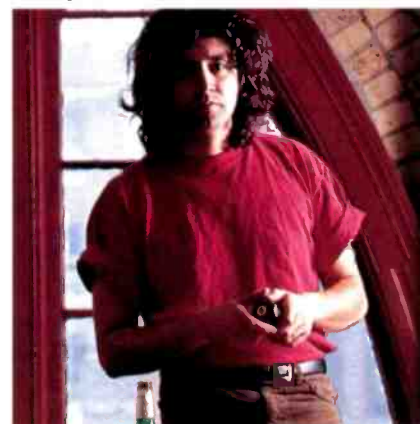
▲ Page 62



▲ Page 69



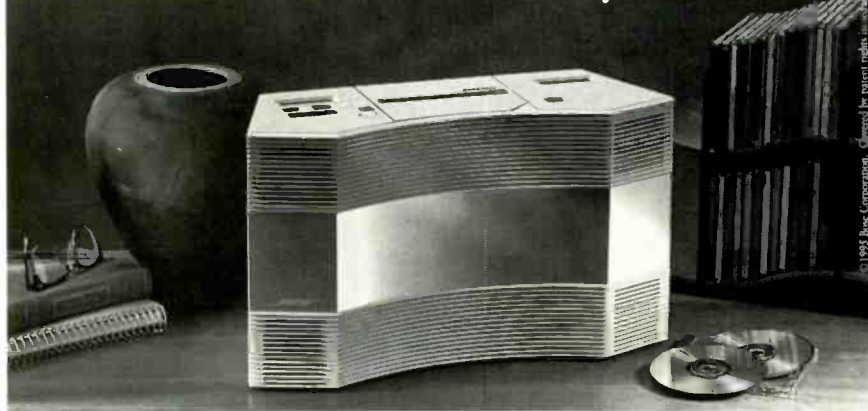
▲ Page 17



▼ Page 79



# Beethoven Was Only 5'4!"



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RLC-1 Review  
Julian Hirsch  
Stereo Review, Jan '95



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LOUISE BOUNDAS

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MINDY OSWALD

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DAVID STEIN

Popular Music Editor Classical Music Editor  
STEVE SIMELS ROBERT RIPPS

Associate Editor Assistant Editor  
MARYANN SALTZER JAE SEGARRA

Editor at Large  
WILLIAM LIVINGSTONE

Contributors: Robert Ackart, Chris Albertson, Rebecca Day, Richard Freed, Phyl Garland, Ron Givens, David Hall, Bryan Harrell (Tokyo), Roy Hemming, Jamie James, George Jellinek, Ian Masters, Alanna Nash, Henry Pleasants (London), Ken Pöhlmann, Parke Puterbaugh, Charles Rodrigues, Eric Salzman, Craig Stark, David Patrick Stearns

Vice President, Group Publisher  
TONY CATALANO

Consumer Electronics Group Advertising

VP/Advertising Director  
Scott Constantine

Regional VP/Ad Director, East Coast:  
Charles L. P. Watson, (212) 767-6038

Regional Account Managers, East Coast:  
Christine B. Forhez, (212) 767-6025  
Penry Price, (212) 767-6077

Midwest Advertising Manager:  
Jerry Stoeckigt, (312) 923-4804

Regional VP/Ad Director, West Coast:  
Robert Meth, (213) 954-4831

Western Advertising Manager:  
Paula Mayeri, (213) 954-4830  
Sales Assistant: Nikki Parker

National Record Label Sales Representatives:  
The Mitchell Advertising Group (MAG Inc.)  
Mitch Herskowitz, (212) 490-1715  
Steve Gross, (212) 490-1895

Assistant to the Publisher: Aline J. Pulley  
Marketing Director: Luanne Rao

Operations Manager: Sylvia Correa  
Advertising Coordinator: Linda Neuweiler

Sales Assistant: Yvonne Telesford  
Classified Advertising: (800) 445-6066

Production Manager: Vicki L. Feinmel  
Production Director: Patti Burns

Business Manager: Christine Z. Maillet  
General Manager: Greg Roperti



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CIRCLE NO. 14 ON READER SERVICE CARD

# BULLETIN

BY BOB ANKOSKO  
AND WILLIAM LIVINGSTONE



## A/V DIGEST

Bitstream recording of compressed digital data from broadcast sources like the DirecTV satellite service will be possible with the new D-VHS format announced by JVC. Fully compatible with the existing VHS format, D-VHS cannot make digital recordings of analog sources. Slated to go on sale late next year, D-VHS machines will have three digital recording modes and are expected to cost about \$350 more than a standard VHS recorder. The format is supported by fifteen companies including Sony, RCA, and TDK. . . . Pioneer plans to market two Macintosh-based audio/video computers in Japan this summer that will be able to control a CD/laserdisc player as well as capture video and audio. . . . Contrary to reports from January's Consumer Electronics Show that Aiwa was putting MiniDisc on hold, the company just introduced a new \$699 portable MD recorder.

## CD PIRACY CRACKDOWN

Responding to calls from the Recording Industry Association of America (RIAA) and Congress for a crackdown on CD piracy, the Chinese government recently agreed to tighten control over the activities of CD duplicating plants that have been providing mass quantities of pirate CD's for export. The association is also pressing for similar action in Bulgaria, where the government is part owner of the largest CD plant in Europe, a plant the RIAA says is responsible for a 98-percent piracy rate among foreign sound recordings.

## MUSIC NOTES

For the vinyl-retentive, the Rounder Records Spring 1995 LP Catalog is now available. To get a free copy, call 617-661-6308. . . . Sweden's Polar Music Prize, founded by Stig Anderson, who used to

manage the pop group ABBA (remember ABBA?), has been presented to Elton John and the noted cellist and conductor Mstislav Rostropovich "for significant achievements in music." . . . Barbra Streisand, who has Oscars, Grammys, Emmys, and Tonys up the wazoo, adds to her awards list the honorary degree of Doctor of Humane Letters from Brandeis University. . . . This year's Soul Train Music Awards included two each for Anita Baker, Boyz II Men, and Barry White. . . . The American conductor James Conlon, general music director of the city of Cologne, Germany, and a regular conductor at New York's Metropolitan Opera, will succeed Myung-Whun Chung as principal conductor of the Opera Bastille in Paris.

## AUTOSOUND ANNEX

Kenwood's first car MiniDisc product, the six-disc KMD-C80 changer, is scheduled to hit store shelves in June with a \$1,000 price tag. It features a 10-second antishock buffer memory and can be operated by any Kenwood head unit that has CD-changer controls. . . . Bose has introduced a new high-power Delco/Bose sound system for the Chevy Camaro and Z28. Rated to deliver 300 watts of total power, the system has five 6½-inch drivers, including two woofers. It is sold as a \$606 option with a CD player, \$350 with cassette.

## SURROUND TUNE-UP

Ready to tweak your surround-sound system into tiptop shape? Delos has released "Surround Spectacular," a two-CD set of surround-sound test and demo tracks that was put together with the help of STEREO REVIEW technical editor David Ranada. Twenty-three Dolby Surround-encoded musical selections

## UNFORGETTABLE

Imagine popping your new Nat King Cole "Greatest Hits" CD into the player for a little easy listening and being greeted by a blast of hard-core rap. Removing the disc in disbelief, you check the label — sure enough, "Nat King Cole" is printed right on the thing — and try again: "Boom boom boom . . . yeah, yeah . . . nineteen-ninety mutha f'?!in' four . . . boom boom boom . . ." That's just what happened to a friend of ours recently, and when he turned to us for an explanation we called Capitol Records. It was just a fluke, Capitol said — the company had received only "a couple" of complaints. Noting that such screw-ups are pretty rare, Pete Howard, editor of *ICE, The Monthly CD Newsletter*, speculated that a spindle of CD's was mislabeled at the pressing plant.

This isn't Capitol's first goof, Howard said. "In 1987, a month before the first Beatles disc was scheduled for release, a number of people who bought Kate Bush's 'The Whole Story' got 'A Hard Day's Night' instead." As for the mystery rapper on the Nat Cole CD, no one — not even Capitol or our own rap experts — can identify him. Unforgettable? You bet.

are featured on Disc 1 and more than thirty-five setup and alignment tones on Disc 2. Available in stores, the set can also be ordered directly by phone; call 1-800-364-0645. Price is \$19.98 plus \$3 shipping in the U.S.

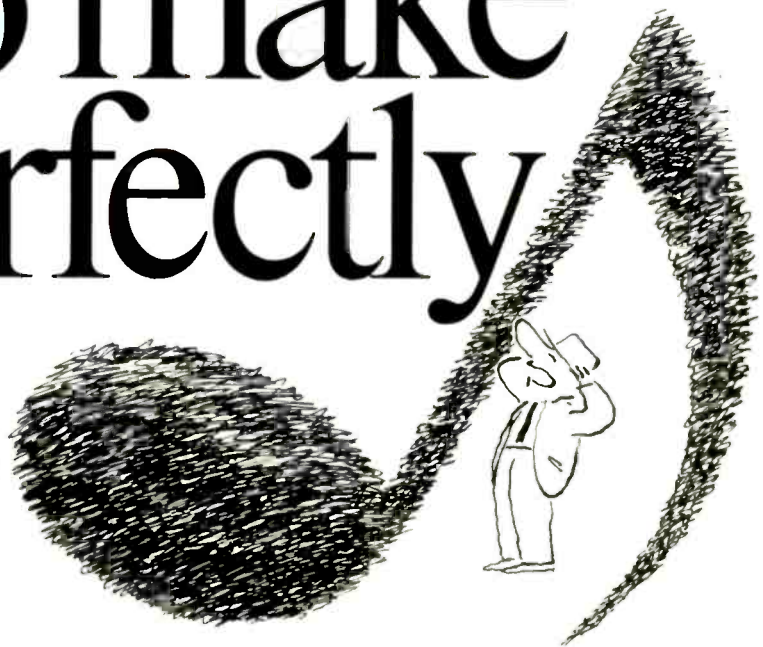
## THE BLUES LIVE

The Music Maker label has been established by Mark Levinson (of Cello Music & Film Systems) and Timothy Duffy to provide food and

medical care to elderly, forgotten Southern blues and folk musicians and to record these artists who represent the end of an era. "A Living Past" (Music Maker 9401) is a sampler CD available to patrons who contribute \$100 to the foundation that supports the label. For more information write to the Music Maker Relief and Recording Foundation, P.O. Box 12522, Winston-Salem, NC 27117-2522. □



# Adcom would like to make this perfectly clear.



## Again, The Critics Agree

*"Electronic equipment (especially digital audio gear) is vulnerable to both annoying and catastrophic power-line problems. Your stereo gear should have line spike and surge protection, with hash filters thrown in too. Line protection—you can pay a little for it now, or you can pay a lot for it later."*

—Ken Pohlman, *AUDIO*, November 1987.

Regardless of how sophisticated your stereo and video system is, it may never achieve its full performance if plugged directly into an AC outlet. Raw and unprocessed AC power can severely diminish the clarity of audio signals and reduce the resolution of your video picture.

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## Listen To The Critics

*"...the effective suppression of AC 'RF hash' by the ACE-515 improved clarity and lowered noise in all three CD players. . . .the significant improvements in instrumental and vocal harmonic retrieval and hall ambience are superb. . . . it simply appears to allow musical information to be passed through to the listener with less veil and electronic 'haze.' "*

—Lewis Lipnick, *Stereophile*, Vol. 11 No. 4, April 1988.

Recommended accessory in *Stereophile*, Vol. 12 No. 4, April 1989.

## Line Protection: It Pays For Itself

The ACE-515 also protects your valuable equipment from harmful high-voltage spikes and surges. And, its sequential turn-on/turn-off control circuit guards your speakers from disturbing, damaging thumps.

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# LETTERS

## Subwoofer Secrets

Thanks for Tom Nousaine's article "Subwoofer Secrets" in January. Before reading it I had done a number of measurements on my own sound system, which uses separate woofers and subwoofers. With a sine-wave oscillator as the source — a worst-case condition for standing waves and cancellations — I found that it was very difficult to achieve a reasonably uniform bass response at six different listener locations. I had two subwoofers available, but I got my best results using only one, in a corner. I was nodding my head "yes" through the article.

RON BREY  
Rockford, IL

I see the need for a powered subwoofer when the efficiencies of the speakers are different. But could you please explain how a powered subwoofer saves my amplifier from having to amplify low frequencies? My receiver has no line-level output for a subwoofer, so hasn't it already amplified the signal before it gets to a powered subwoofer?

BOB BIENICK  
Dunmore, PA

*A powered subwoofer with a built-in high-pass crossover output will prevent your amplifier from amplifying the lows if you hook it up correctly. As for the powered subwoofer itself, its speaker-level inputs reduce the signal from an amplifier or receiver's speaker outputs to line level so that the subwoofer's internal circuits see an input in the range of a volt or so and with very little current. Thus, since power is equal to voltage times current, the subwoofer absorbs essentially no power from the system amplifier or receiver.*

The MB Quart Sub Ten powered subwoofer reviewed by Julian Hirsch in January seems like an excellent way to improve a system with small speakers. Does its having no line-out or speaker-out terminals compromise its potential? If a receiver had no subwoofer output, with a crossover separating the high and low frequencies, using the Sub Ten would appear to require the satellite speakers to handle a full-range signal. But isn't one benefit of a powered subwoofer to relieve the satellites of low-frequency signals (below about 100 Hz)?

GAYLEN HALBERT  
Weimar, CA

*The No. 1 benefit of a subwoofer is usually to handle frequencies too low to be adequately reproduced by the main speakers, thereby extending the system's deep-bass response. If the subwoofer is used in con-*

*junction with a high-pass crossover filter that removes the frequencies it handles from the signals going to the main speakers, then there will be the added benefit of increased dynamic range and lower distortion from the latter. This is usually achieved by means of a line-level electronic crossover (often built into a powered subwoofer) connected between preamp and power amplifier or in pre-out/main-in loops on the front left and right channels of a receiver or integrated amplifier. We do not recommend using the speaker-level high-pass outputs provided on some subwoofers except with satellite speakers specifically designed to mate with them. Some of the subwoofer outputs on receivers are wideband, whereas others incorporate a low-pass crossover set to some frequency. The only ones we know of that incorporate a high-pass section in their subwoofer crossovers are Home THX models, however.*

## Home Recording

In your March issue, E. Brad Meyer pondered what to do when an ordinary cassette deck isn't good enough ("High-Performance Recording"). I believe the answer is very simple: Buy a digital audio tape (DAT) recorder. I purchased my Sony DTC-690 last July, and I do not know how I ever lived without it. The sound quality has caused me to give up on analog cassettes totally. Furthermore, there are two bonuses Mr. Meyer didn't mention.

First is the high quality of recording through the analog inputs, which will be as good as the original — so good that I cannot tell the difference between dubs of a CD made through the analog and digital inputs. The second bonus is recording in long-play mode, which turns a 2-hour tape into a 4-hour tape. Even though the long-play response cuts off at 15 kHz, I have a hard time telling a long-play recording from a standard-play one, and 4 hours of recording time really comes in handy for "best of" tapes.

KENNETH WHITE  
Jackson, MS

I enjoyed reading "High-Performance Recording" in March, but I was disappointed that Brad Meyer didn't include the VCR as one of the options. VHS and Beta are the highest-quality nondigital tape-recording systems on the mass market. They have high signal-to-noise ratios and great specs for frequency response, channel separation, wow and flutter, and so on. Add in the free-falling prices of hi-fi VCR's and blank videotapes and the 6 hours of continuous recording time you can get on one tape (the



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Musical truth.

Close your eyes.

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Energy PRO-series speakers

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capacity



Onkyo introduces the next generation of Home Theater receivers and amplifiers equipped with the new Motorola 56004 Symphony DSP chip.



The new Motorola DSP Chip found in Onkyo Home Theater components offers 50 - 100% increased processing capacity over typical DSP chips used today.

The chip's 24-Bit data path makes it far superior to the 16-Bit formats of other DSP processors. Running at 50 MHz, the 56004 DSP can execute 25 million instructions per second (MIPS) using three separate buses to access commands and data simultaneously. This makes it the ideal digital engine not only for today, but for the future of digital sound as well.

The integrity of the Motorola 56004 Symphony DSP is assured by the high quality design of Onkyo components. Oversized transformers, individual power supplies, discrete output stages, and full digital Dolby Pro Logic decoding all combine to deliver flawless reproduction of the most complex soundtracks.

EP mode is fine for audio only), and this has to be the highest-value recording medium now available.

You can also program your VCR to record a concert from the radio and edit it down to cassette later. Although getting to, say, the ninth album on a videotape takes some time, it's a great way to transfer your entire LP collection, create anthologies of your favorite artists, and so on.

ERIK BRONSTEIN  
Penn Valley, PA

### Bonus Al Kooper

Al Kooper actually has more soul than Steve Simels gave him credit for in his review of "Soul of a Man" (April "Quick Fixes"), which put the running time at 74 minutes. The package I got has two CD's that run almost an hour each. The qualitative part of the review, however, was right on the money: "Aces all the way." It comes with a great booklet, too.

DON BALOGH  
Green Village, NJ

*Steve Simels replies: Mr. Balogh is right. I reviewed the advance cassette and relied on the erroneous timing MusicMasters gave me over the phone.*

### CD Flex and Bow

As I was reading the letter from Eric Cryer (March 1995) about how to handle and care for CD's, I was listening to one from a double-disc set with such tight spindles that I can't help flexing or bowing the CD's when I'm removing them. Simply pushing down on the prongs does little or nothing. How much flexing or bowing is permissible before a CD is damaged?

IRVING WALDORF  
San Francisco, CA

*As long as the flexing or bowing doesn't cause visible cracks in the aluminum reflective layer or the disc itself (hold the CD up to the light to check), it should play fine. The amount of flexing needed to remove a disc from a tight jewel-box tray shouldn't be a problem.*

### Recording Rights

Regarding Ken Pohlmann's great article on "Lawful Audio" in March: The hoary old audio cassette should have already earned its well-deserved retirement, but the record industry has kept DAT, its logical and vastly superior successor, out of the hands of the masses — where it could have helped win new customers. People don't buy just the music: They buy the whole package, including the colorful artwork, printed lyrics, performer credits, and so on. If someone handed me a DAT copy of a new CD that really turned me on, I would (as I have upon hearing cassette copies) run right out and buy the CD (or the commercial DAT), as well as others by the same artist. So rather than cutting into the sales of CD's, popular-priced DAT machines would have exposed more people to the music, which could only have helped sales.



Instead, we've ended up with the Serial Copy Management System (SCMS) and the Audio Home Recording Rights Act (AHRA). SCMS makes it impossible for me to make multiple digital-to-digital transfers of my own music compositions in my home studio. I can't even use a DAT recorder to "bounce" tracks digitally in my multitrack sessions (an application to which DAT is perfectly suited), because it then becomes impossible to digitally master that multitrack recording back to two-track!

To add insult to injury, the AHRA raises prices on blank DAT's in order to pre-punish me for a crime I *might* commit: making multiple digital copies of someone else's music. The law presumes in advance that I'm guilty!

LEE WATKINS  
Orange, CA

### Fifties Collector

The decade of the 1950's has always intrigued me. Might any of your readers have your very first issue (called *HiFi and Music Review*) from February 1958? I am blind, and I wonder if anyone would be willing to read this historic magazine onto cassette tape for me. I don't think the magazine was being recorded for the Library of Congress back then.

Also, I am looking for radio airchecks of rock-and-roll, rhythm-and-blues, or middle-of-the-road shows from the 1950's, especially if they include jingles, commercials, and newscasts. Though old-time radio programs are quite plentiful, recordings of 1950's popular music are very rare (most people who owned tape recorders in those days recorded classical music from FM).

SAM WARD  
3414 Dorcas St.  
Mississauga, Ontario L4T 1M8

### Corrections

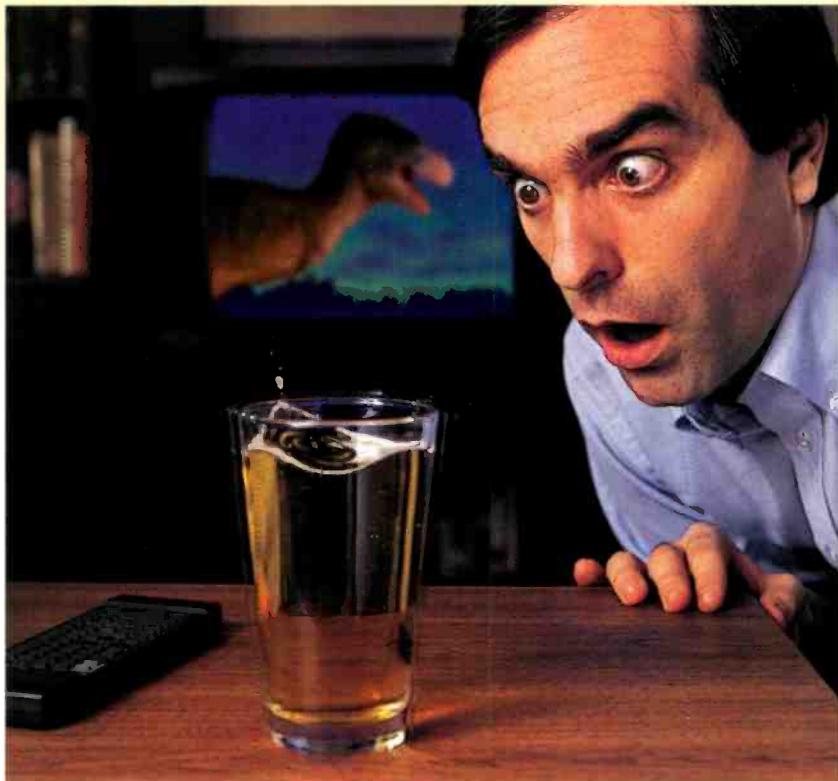
Because of a production error by our film-preparation supplier, Rich Warren's byline was not printed in full in his May article, "Spotlight on Receivers."

"Big Screen Bonanza" in April contained two errors. The 16:10.7 aspect ratio used by Pioneer for some of its rear-projection TV sets is actually narrower than that of 16:9 sets, falling between them and standard 4:3 screens. Also, cooler (higher) color temperatures shift white toward the blue end of the color spectrum, whereas warmer (lower) color temperatures make it redder.

The caption for Pioneer's new TS-WX50 car subwoofer in April "CES Show-stoppers" incorrectly implied that you must give up your spare tire to install it. It is designed to fit inside the well of any spare tire whose rim is 13 inches or larger, and it comes with bolt extensions and a wingnut to hold it. □

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.

Which is  
important  
if you're a  
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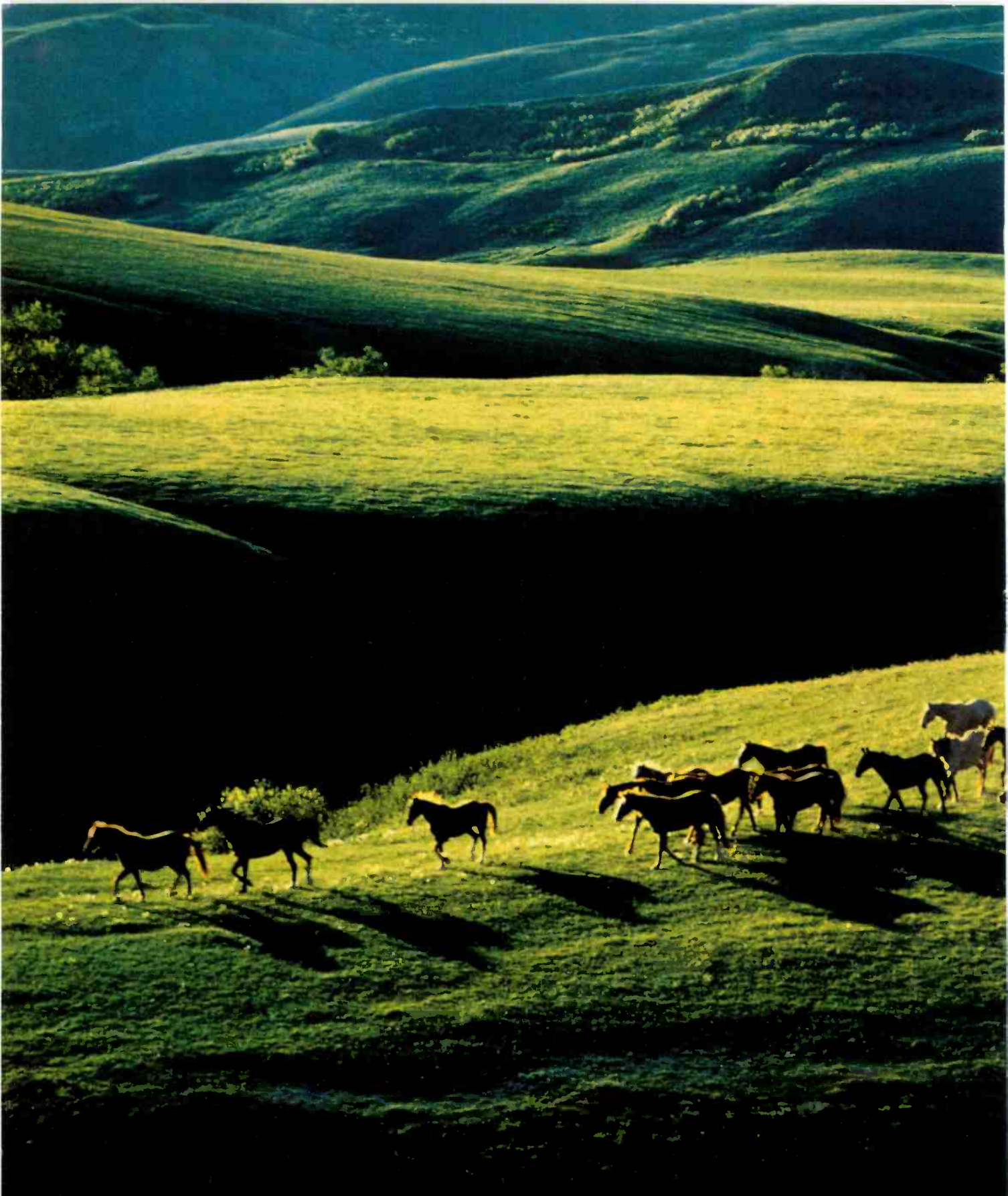


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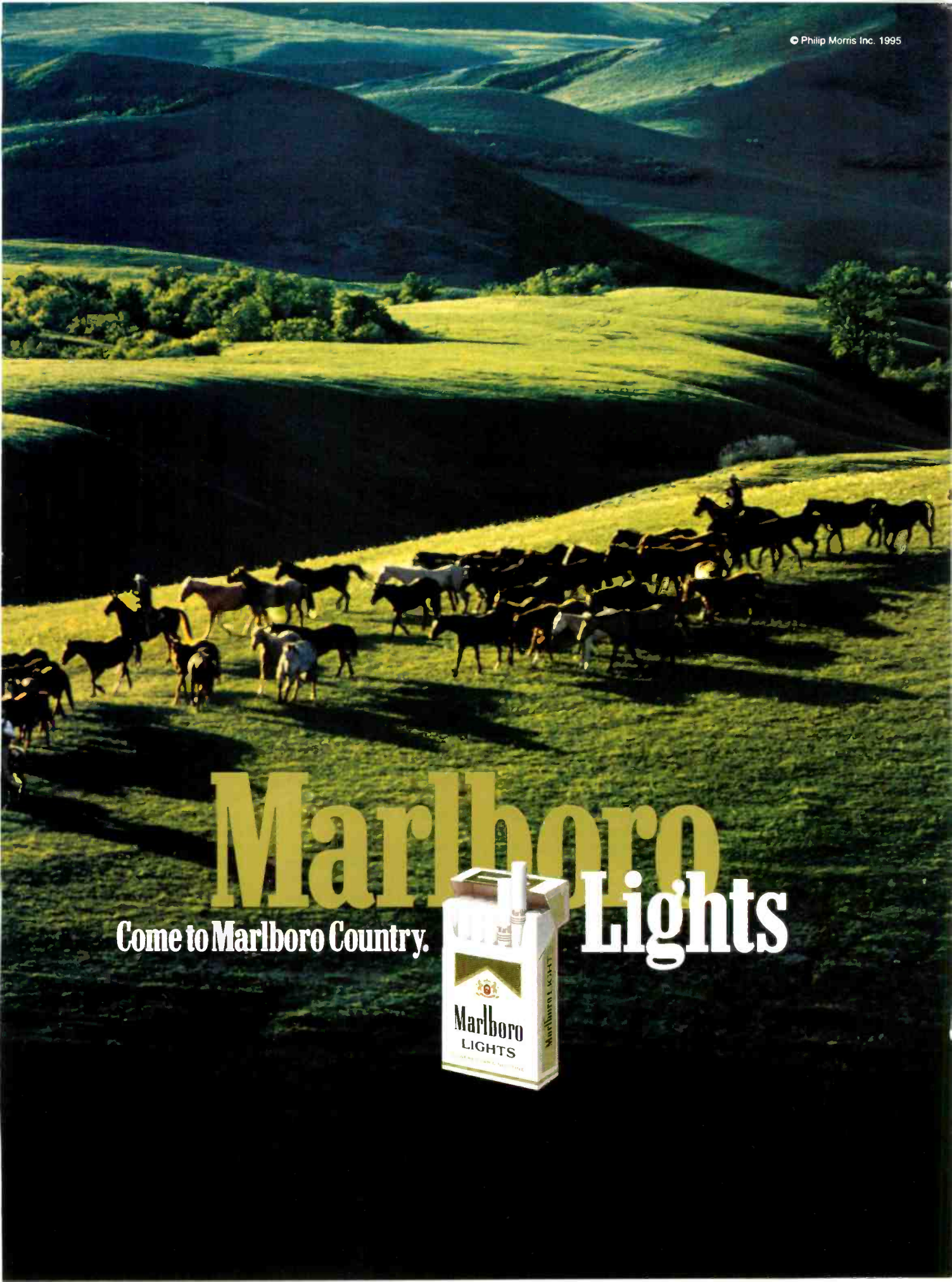
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# TIME DELAY



The Philips/MCA "Disco-Vision" videodisc player, 1975



## 30 Years Ago

In his June 1965 editorial, William Anderson, inspired by the issue's cover story on composer Henry Mancini, lamented the dearth in this century of original orchestral music for "serious" drama, such as Grieg's music for *Peer Gynt*, Mendelssohn's for *A Midsummer Night's Dream*, and Schumann's *Faust* overture. "Opera and musical comedy aside," he noted, "there is no music in our legitimate theaters."

New products this month included Harman Kardon's SA2000 amplifier, a transistor unit with a rated output of 36 watts per channel, and Miracord's Model 40 record changer, which could play single LP's either manually or automatically or handle up to ten stacked on a special spindle. In test reports, Julian Hirsch evaluated the Harman Kardon SR6000 receiver, an all-transistor model (\$389) he said could "serve as the nucleus of a very fine,



Miracord Model 40, 1965

cool-running, and long-lived stereo system." And in the feature "Portable Stereo: You Can Take It with You," Ken Gilmore provided a sampler list of "lightweight" portable phonographs ranging in price from \$200 to \$400 and in weight from 26 to 55 pounds.

## Stereo Review



## 20 Years Ago

In the June 1975 cover story, Richard Freed discussed Scandinavian concert music by composers "beyond the usual Grieg, Sibelius, and Nielsen." Among his recommendations: a London LP, conducted by Antal Dorati, of Allan Pettersson's *Symphony No. 7*.

New products noted by the editors included the C/M Labs Model 912 stereo power amplifier, rated at 150 watts per channel, and the Bose Model 301 Direct/Reflecting speaker system. Hirsch-Houck Labs tested the Burwen DNF 1201 dynamic noise filter and Kenwood's Model 700C preamp and 700M power amp, which Julian Hirsch found to be "two beautiful pieces of equipment, both technically and aesthetically."

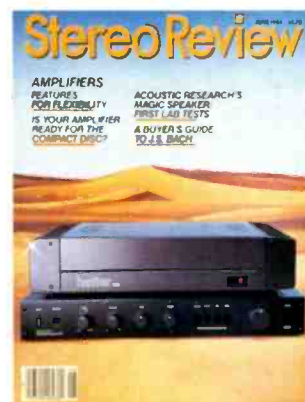
In "Audio News," Larry Klein reported on a prototype Philips/MCA videodisc system called Disco-Vision. "Despite optimistic predictions by

marketing pundits, the home video tape recorder never made it as an entertainment medium," Klein wrote. "And so the big push has been to develop a video disc — simply because a disc and its player are bound to be less expensive than a video tape and its complex machine. . . . The D-V system . . . is a true optical system. . . . What we have, in other words, is the long-awaited beam-of-light pickup and a disc it can play. . . . I envision a single, inexpensive, dual-purpose player connected to your TV and audio system. Depending on the 'record,' it will provide color pictures with stereo or straight, multichannel sound."

In Best of the Month, Richard Freed raved about a DG disc of Dvorak by the Prague String Quartet, and Noel Coppage flipped for Emmylou Harris's debut album. In other reviews, Coppage slammed Alice Cooper's "Welcome to My Nightmare," Bud Scoppa admired "Physical Graffiti" by Led Zeppelin, and David Hall endorsed a Chopin recital by pianist Garrick Ohlsson on Angel ("the beginning of what probably will be a major career").

Bored in the USA: Bruce Springsteen, then at work on his breakthrough "Born to Run" album, told interviewer Josh Mills, "Yeah, there are a couple of tunes there that might make singles; I don't really care."

Alice Cooper's "Nightmare," 1975



## 10 Years Ago

Among the new products previewed in June 1985 were Pioneer's CTZ99W two-speed dubbing deck, Design Acoustics' OS-1 omnidirectional speaker, and RCA's VKP950



NEC's A-10 MKII amplifier, 1985

VHS Hi-Fi VCR. In test reports, Julian Hirsch examined NEC's A-10 MKII integrated amp and Hafler's DH-120 power amp, and he went one-on-one with the MGC-1 Magic Speaker from Acoustic Research (priced from \$3,000 to \$7,000 depending on wood finish). Elsewhere, Ian Masters explained "How to Speak Ampese," part of the issue's focus on amplifiers, and Stoddard Lincoln offered "Basic Bach," a buyer's guide to Bach recordings.

Whistling Dixie: Reviewing Alabama's "40 Hour Week," Alanna Nash proved immune to the group's down-home chauvinism. "It's fairly obvious the only cause these Rebels have is their own," she wrote. "God knows it isn't music."

— Steve Simels



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IN NEW YORK

Nirvana: Unplugged In New York (DGC) 06284

Ace Of Base: The Sign (Arista) 02354

Gorecki, Symphony No. 3 (Nonesuch) 00110

The Doors: L.A. Woman (Elektra) 00215

Steely Dan: Aja (MCA) 00409

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The Bonnie Raitt Collection (Warner Bros.) 00569

R.E.M.: Eponymous (I.R.S./MCA) 00701

Vivaldi Greatest Hits (RCA) 00956

Stone Temple Pilots: Core (Atlantic) 00981

Jethro Tull: Thick As A Brick (Chrysalis) 01023

**CHANT**

Chant: The Benedictine Monks of Santo Domingo de Silos (Angel) 02957

Tina Turner: Simply The Best (Capitol) 01195

James Brown: 20 All-Time Greatest Hits (Polydor) 01342

Pavarotti And Friends (London) 01451

Salt-N-Pepa: Very Necessary (London) 01595

Gershwin Plays Gershwin: The Piano Rolls (Elektra/Nonesuch) 01675

Snoop Doggy Dogg: Doggystyle (Interscope) 01692

Black Sabbath: Master Of Reality (Warner Bros.) 01863

Tom Petty & The Heartbreakers: Greatest Hits (MCA) 02390

John Michael Montgomery: Kickin' It Up (Atlantic Nashville) 02402

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Yanni: Live At The Acropolis (Private Music) 02477

Sarah McLachlan: Fumbling Towards Ecstasy (Arista) 02536

Reality Bites/Sdtrk. (RCA) 02555

Opera's Greatest Moments (RCA Victor Red Seal) 02581

Ray Lynch: Deep Breakfast (Windham Hill) 02634

Nine Inch Nails: The Downward Spiral (Interscope) 02767



Madonna: Bedtime Stories (Warner Bros.) 06356

Van Halen: Balance (Warner Bros.) 06394

Tom Petty: Wildflowers (Warner Bros.) 06260

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- Sheri Crow: Tuesday Night Music Club (A&M) 03061
- Pavarotti: My Heart's Delight (London) 02953
- Kiri Te Kanawa: Sings Porter (Angel) 02958
- Frank Sinatra: Duets (Capitol) 03039
- Outkast: Southernplayalisticadillacmuzik (La Face) 03062
- The Neville Brothers: Live On Planet Earth (A&M) 03065
- Elton John: Goodbye Yellow Brick Road (Polydor) 03076
- Live: Throwing Copper (Radioactive/MCA) 03085
- Beethoven, Symphonies Nos. 5 & 6 "Pastorale" (DG 4D "Karajan Gold") 03127
- Above The Rim/Sdtrk. (Interscope) 03156
- The Crow/Sdtrk. (Atlantic) 03173
- The Joy Of Bernstein (DG) 03212
- The Who: Tommy (MCA) 03223
- All-4-One (Atlantic) 03267
- Collective Soul: Hints, Allegations & Things Left Unsaid (Atlantic) 03309
- Jon Secada: Heart, Soul & A Voice (SBK) 03323
- Jimmy Buffett: Fruitcakes (MCA) 03336
- Vince Gill: When Love Finds You (MCA) 03350
- Carpenters: The Singles 1969-1973 (A&M) 04393
- Dumb & Dumber/Sdtrk. (RCA) 04842
- John Mellencamp: Dance Naked (Mercury) 04906
- The Best Of Woodstock (Atlantic) 04908
- Thug Life: Volume 1 (Interscope) 04920
- BLACKstreet (Interscope) 04922
- Cecilia Bartoli: Mozart Portraits (London) 04923
- Dazed And Confused/Sdtrk. (Giant/Warner Bros.) 04944
- Soundgarden: Badmotorfinger (A&M) 05637
- Emerson, Lake & Palmer: Brain Salad Surgery (Victory) 05676
- Van Cliburn In Moscow (RCA Victor Red Seal) 05748
- David Ball: Thinkin' Problem (Warner Bros.) 05791
- Warren G: Regulate...G Funk Era (Violator/Rush) 05796
- Barry White: All-Time Greatest Hits (Mercury) 05866
- Neil Young & Crazy Horse: Sleeps With Angels (Reprise) 05880

- The Lion King/Sdtrk. (Disney) 03533
- Roberta Flack: Roberta (Atlantic) 06015
- Tracy Lawrence: I See It Now (Atlantic) 06017
- Liz Phair: Whelp-Smart (Matador) 06018
- Aaron Tippin: Lookin' Back At Myself (RCA) 06020
- Kronos Quartet: Night Prayers (Nonesuch) 06084
- The Judds: The Essential Collection Of Number One Hits (RCA) 06137
- Phil Perry: Pure Pleasure (MCA/GRP) 06152
- Clint Black: One Emotion (RCA) 06155
- Craig Mack: Project: Funk Da World (Bad Boy/Arista) 06156
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- Big Head Todd & The Monsters: Strategem (Giant) 06161
- Jade: Mind, Body & Song (Giant) 06162
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- The Tractors (Arista) 05721
- James Galway: Wind Of Change (RCA) 05960
- Suddy Guy: Slippin' In (Silvertone) 06171
- Jeff Foxworthy: You Might Be A Redneck If... (Warner Bros.) 06173
- Tom Jones: The Lead And How To Swing It (Interscope) 06178
- Pavarotti: The Early Years, Vol. I (RCA Victor Gold Seal) 06200
- Randy Roos: Liquid Smoke (Narada) 06228
- Melrose Place - The Music (Giant) 06261
- Brandy (Atlantic) 06266
- Jason's Lyric/Sdtrk. (Mercury) 06268
- Megadeth: Youthanasia (Capitol) 06272
- Black Sheep: Non Fiction (Mercury) 06273
- Red Hot Chili Peppers: Out In L.A. (EMI) 06276
- Skynyrd Frynrd (MCA) 06290
- Barbra Streisand: Hello Dolly (Philips) 06314
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- Too Short: Cocktails (Jive/Dangerous Music) 06395

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- Hiroshima: L.A. (Reprise/Ovest) 06024
- Najee: Share My World (EMI) 06141
- Lou Rawls: For You My Love (Blue Note) 06279
- Jeff Lorber: West Side Stories (Verve) 06330
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- John Coltrane: Giant Steps (Atlantic) 34589
- Fourplay: Between The Sheets (Warner Bros.) 35074
- Kenny G: Breathless (Arista) 54317
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Extreme: Waiting For The Punchline (A&M) 06869



Green Day: Dookie (Reprise) 02753 #

Slash & Snakepit: It's Five O'Clock Somewhere (Geffen) 06950 #

Trisha Yearwood: Thinkin' About You (MCA) 08083

Belly: King (Reprise/Sire) 08122

World Of Morrissey (Sire) 08125

David Bowie: Ziggy Stardust (Rykodisc) 10803

Boyz II Men: Cooleyhighharmony (Motown) 10930

Bon Jovi: Cross Road (Mercury) 06183

Jackson Browne: Running On Empty (Elektra) 11056

Aaliyah: Age Ain't Nothing But A Number (Jive) 14701

George Strait: Lead On (MCA Nashville) 15841

The Best Of Aretha Franklin (Atlantic) 20078

Paul Winter: Wolf Eyes—A Retrospective (Living Music) 20401

Aerosmith: Get A Grip (Geffen) 20814 #

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Elton John: Greatest Hits (Polydot) 03077

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Foreigner: The Very Best...And Beyond (Atlantic) 24722

The Steve Miller Band: Greatest Hits 1974-1978 (Capitol) 33199

Moody Blues: Greatest Hits (Threshold) 34284

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The Rodgers & Hammerstein Collection (MCA) 40015

Mötley Crüe: Decade Of Decadence (Elektra) 40298

Enya: Shepherd Moons (Reprise) 53190

U2: The Joshua Tree (Island) 53501

Bob Marley: Legend (Island) 53521

Marvin Gaye: 15 Greatest Hits (Motown) 53534

The Cars: Greatest Hits (Elektra) 53702

Patsy Cline: 12 Greatest Hits (MCA) 53649

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Eagles: Hotel California (Asylum) 30030

B.B. King: Blues Summit (MCA) 34700

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6. <input type="checkbox"/> JAZZ Pat Metheny Joshua Redman	7. <input type="checkbox"/> METAL Megadeth Testament	8. <input type="checkbox"/> R&B/DANCE Boyz II Men Mary J. Blige	9. <input type="checkbox"/> ALTERNATIVE The Cranberries Green Day	

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☆ 2-CD set (counts as 2 selections).

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# NEW PRODUCTS



## ▲ PARADIGM

Dipole speakers intended to be mounted on or near the side walls in a home theater, Paradigm's 10½-inch-tall ADP-150 (left, \$399 a pair) and 8½-inch-tall ADP-100 (\$319 a pair) use a special crossover that is said to extend bass output

to 65 and 85 Hz, respectively. Both are two-way systems with opposite-facing woofer/tweeter pairs. Finish is black ash woodgrain vinyl. AudioStream, Dept. SR, M.P.O. Box 2410, Niagara Falls, NY 14302.

• Circle 120 on reader service card

## ► GERSHMAN

The top section of Gershman Acoustics' Avant Garde speaker is sloped to align the outputs of its 1-inch fabric-dome tweeter and 3-inch dome midrange. Low frequencies are handled by an 8-inch fiberglass-cone woofer mounted in the bottom of the 3-foot-tall black-lacquer cabinet. The felt surrounding each driver is said to reduce diffraction. Bandwidth is given as 25 Hz to 24 kHz, sensitivity as 87 dB, and power-handling capability as 200 watts. Price: \$3,500 a pair. Gershman Acoustics, Dept. SR, P.O. Box 81593, North York, Ontario M2R 3X1.

• Circle 121 on reader service card



## ▼ SENNHEISER

Sennheiser's IS 850 wireless headphone system combines an AC-powered digital infrared transmitter, with an operating range of about 400 square feet, and an 11.4-ounce headset, powered by two AA batteries, that has volume and balance controls. The columnar transmitter has

one analog input and two digital inputs, optical and coaxial. System bandwidth is given as 10 Hz to 20 kHz, signal-to-noise ratio as 101 dB, and distortion as 0.006 percent. Price: \$1,295. Sennheiser, Dept. SR, P.O. Box 987, Old Lyme, CT 06371.

• Circle 123 on reader service card



## ▲ ONKYO

The heart of Onkyo's TX-SV727 A/V receiver is a 24-bit Motorola DSP chip that's said to enhance the realism of surround modes and improve channel separation. The receiver features four video and six audio inputs, Dolby Pro Logic and four other surround modes, a universal remote

control, and a power-management system that powers it up and selects its video input when a connected TV is turned on. Rated output is 80 watts each to three front speakers and 25 watts each to a pair of surrounds. Price: \$750. Onkyo, Dept. SR, 200 Williams Dr., Ramsey, NJ 07446.



# NEW PRODUCTS



## ◀ BELL'OGGETTI

Bell'Oggetti's AVS-790 metal TV stand holds four A/V components as well as a direct-view TV with a screen of up to 40 inches or a tabletop projection set with a screen as big as 50 inches. The shelving is made of tempered glass. Price: \$1,000. Bell'Oggetti, Dept. SR, 711 Ginesi Dr., Morganville, NJ 07751.

• Circle 124 on reader service card



## ▲ AMC

AMC's AV81HT Dolby Pro Logic A/V preamp can be upgraded to THX status with a plug-in card (\$450). A microphone input and level meter on the front panel help in calibrating the six outputs. The preamp features a simulated-surround mode, four surround-channel delay settings, a

subwoofer crossover, four audio and four video inputs, two video and two audio tape loops, a level control for each output, and an infrared remote control. Price: \$750. AMC/Weltronics Corp., Dept. SR, P.O. Box 80584, San Marino, CA 91108.

• Circle 126 on reader service card



## ◀ MIT

MIT's RES-LinQ video-enhancer cable incorporates a patent-pending passive circuit that is said to improve color and picture detail. The cable connects the output of a VCR or laserdisc player to a TV or A/V receiver's video input. Price: \$89.95 for a 2-meter cable. Music Interface Technologies (MIT), Dept. SR, 3037 Grass Valley Highway, Auburn, CA 95602.

• Circle 127 on reader service card



## ▲ MONITOR AUDIO

Shown without their black grilles, the speakers in Monitor Audio's MAG900 A/V series include the 19 $\frac{5}{8}$ -inch-tall MAG902 (\$1,599 a pair), the 3-foot-tall MAG903 (\$2,299 a pair, \$2,799 in rosewood veneer), and the CC900 center speaker (\$799). All are magnetically shielded and

feature gold-anodized metal drivers. The MAG902 and CC900 are rated down to 45 Hz and the MAG903 to 35 Hz. The standard finish is black lacquered oak. Monitor Audio, Dept. SR, 902 McKay Rd., #4, Pickering, Ontario L1W 3X8.

• Circle 125 on reader service card



## ▲ BROOKLINE TECHNOLOGIES

Brookline's VS401E Digital Volume Stabilizer combines five components in a sleek 17 x 1 $\frac{3}{4}$  x 10-inch box with optional rack ears (shown): a dynamic-range compressor/expander that works with any audio source, a peak limiter (to tame blaring TV commercials, for example), a noise gate, a four-input A/V

switcher, and an automatic volume controller that adapts the volume level to changes in ambient noise. Available by mail order for \$730 (plus \$4.50 shipping) from Brookline Technologies, Dept. SR, 2035 Carriage Hill Rd., Allison Park, PA 15101; phone, 1-800-366-9290.

• Circle 128 on reader service card





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CIRCLE NO. 42 ON READER SERVICE CARD

# NEW PRODUCTS



## ◀ JAZZ

The J-902 three-piece powered computer-speaker system from Jazz Inc. comprises a bass module, with a 4-inch driver and an 18-watt amp, and a pair of satellite speakers, one of which has a 5-watt-per-channel amp and a volume control for both speakers. Price: \$199. Jazz Inc., Dept. SR, 1217 John Reed Court, City of Industry, CA 91745.

• Circle 129 on reader service card

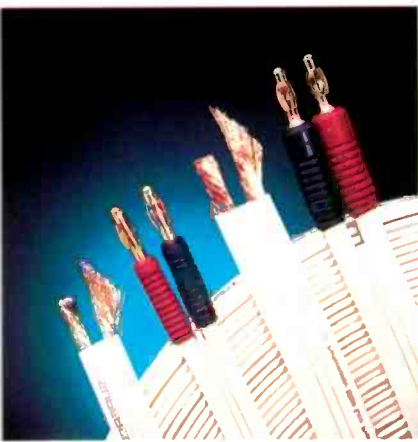


## ▲ QUARZ

Quarz speakers include the Q25 (\$299 a pair), Q35 (\$399 a pair), and Q15 (\$199 a pair). The 22-inch-tall Q25 is rated down to 55 Hz, the 33-inch Q35 to 45 Hz, and the 10-inch Q15 to 100 Hz. All are 2¾-inch-deep two-way systems with 5-inch woofers and 1-inch

tweeters. Wall bracket/stands are included. The grilles are available in black or white, the hardwood end caps in oak, black lacquer, or white lacquer. Quarz, Dept. SR, 145 Brandy Rd., Foster, Quebec JOE 1R0.

• Circle 130 on reader service card



## ◀ MONSTER CABLE

Monster Cable's 16-gauge SuperFlat Mini (far left, 75¢ a foot without connectors) and 12-gauge SuperFlat (\$1.50 a foot without connectors) speaker cables are designed to be run along baseboards, door frames, and walls. The cables can be secured with Monster Clamps (not shown, \$9.95 for forty). Monster Cable, Dept. SR, 274 Wattis Way, S. San Francisco, CA 94080.

• Circle 131 on reader service card

## ▼ CANON

The wedge shape of Canon's S-C10 center speaker permits it to be placed above or below a TV set, with its output aimed up or down as necessary. It teams a magnetically shielded 5¼-inch woofer and ¾-inch tweeter in a 13½-inch-wide aluminum

enclosure finished in matte and satin-gloss black. Frequency response is given as 80 Hz to 20 kHz, ±2 dB, sensitivity as 86 dB. Price: \$199. Canon U.S.A., Dept. SR, One Canon Plaza, Lake Success, NY 11042.

• Circle 132 on reader service card



## ▲ PER MADSEN

Per Madsen's modular Rackit System 19 A/V center includes the 210-disc CD 19 drawer unit (\$260), the 115-LP Disc Cabinet 19 (\$125), the 180-tape Cassette 19 (\$290), and several component racks: the 15-inch-tall Model 19-15 (\$95), the 10-inch Model

19-10 (two are shown, \$90), the 7½-inch Model 19-7½ (\$80), and the 5-inch Model 19-5 (\$75). Finish is oak. Available by mail order (plus shipping) from Per Madsen Design, P.O. Box 882464, San Francisco, CA 94188.

• Circle 133 on reader service card





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# PERIPHERALS

PRODUCTS AND TRENDS

THAT GO BEYOND

MAINSTREAM AUDIO/VIDEO

## Home, Sweet Networked Home

BY KEN C. POHLMANN

There's an elevated train that runs near my home; in fact, there's a station about a mile away. Recently, I was working late, had to go downtown, and wondered how late the train would be operating that night. I called the local transit office and found, not surprisingly, that their line was busy. I directed my computer to the Internet, performed a key-word search, located a mass-transit system database in France, logged on, and learned that my train was running until midnight.

Anyone who has worked with a computer network is familiar with that kind of scenario. A computer with a database is a wonderful thing, but its utility is limited when only local users have access to it. When many computers agree to network with a common protocol, allowing remote users to access the collective information they contain, the utility is multiplied.

Today, the quantity and diversity of the information available on global networks such as the Internet is simply staggering. For better or worse, our modern lives depend on the sophisticated data communication systems that encircle our earth.

Meanwhile, for all its technological complexity, my home is sadly antiquated in one respect. Sure, it's filled with techno-toys. My office has a computer with lots of peripherals as well as two stereo systems and a telephone, my living room has a home theater system, my bedroom a computer and a stereo system, and my kitchen a TV. And, of course, there's a killer security system to protect all of these goodies. But if the stereo is playing, I might not hear the phone, and if I do hear it, I can't answer it until I

turn down the stereo. If I'm playing a CD in my office, I can't listen to it in the kitchen. I can "paint" beautiful (a relative term) pictures on my computer, but I can't view them on the big-screen TV in my living room.

My computer is networked to hun-

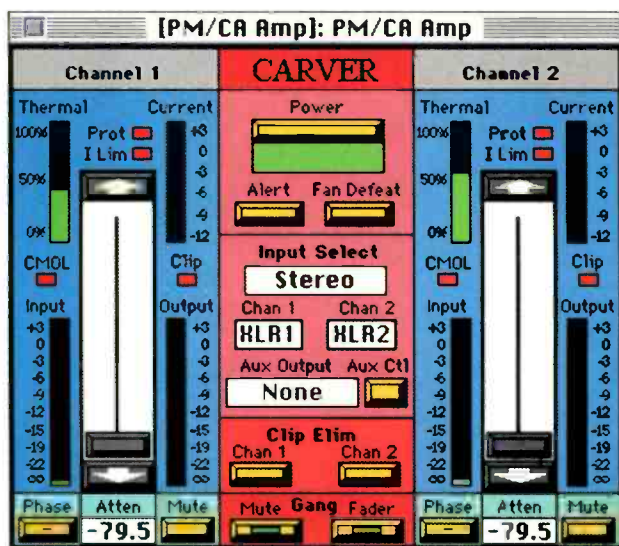
dreds of thousands of computers on the Internet, putting billions of bytes of information at my fingertips. Thanks to the telephone network, I can call virtually anywhere on earth by simply punching in a string of numbers. But I can't hear the phone ring because the stereo system is playing too loudly. Is something wrong with this picture? You bet. My house isn't networked.

Well, it is, kind of. Electrical switches control lights in various rooms. I can plug a telephone into almost any room. The components in each stereo system are interconnected. The computer talks to its peripherals. The house is even wired with an intercom system so that I can interrogate the person ringing my doorbell — another interconnected device. In fact, my house is filled with networked devices. The problem is that each network is relatively dumb, and none of them can

talk to one another. Wouldn't it be great if all the technology in my home was linked together in an intelligent fashion?

Many manufacturers have wondered the same thing and have introduced a number of home network products over the years, ranging from sophisticated computer-based systems to simple control devices (like the X-10 system) that plug into a wall outlet. Only recently, however, has technology progressed to the point where it is possible to interconnect a diverse array of electronic devices in smart, convenient ways. Case in point is the MediaLink network, the brainchild of Seattle's Lone Wolf Corporation, a leader in professional audio communications and control systems.

MediaLink is a communications



With Lone Wolf's MediaLink network, you can control an A/V system via point-and-click computer interfaces.



# In The Mid '70s We Created Home Theater. Now We've Created A New Way To Buy It.



The people who work at Cambridge SoundWorks - including our cofounder Henry Kloss (who also founded AR, KLH and Advent) - have been involved with the concept of home theater from the beginning. In 1969 (years before VCRs and cable TV), Henry Kloss founded Advent, the company that introduced the first home theater audio/video systems - complete with big-screen TVs and digital surround sound. We have had an ongoing relationship with the people at Dolby Laboratories, creators of Dolby Surround Sound, since Henry Kloss introduced the first consumer products with Dolby noise reduction over 20 years ago. And now at Cambridge SoundWorks we believe we have set a new price-to-performance standard for home theater components.



## 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 a very high power handling capacity and is often selected for "high end" surround sound systems. *Audio*, describing a system that included *The*

*Surround* said, "In many ways the surround sensation was every bit as good as far more expensive installations." **\$399 pr.** The smaller *The Surround II* is arguably the country's best value in a dipole radiator speaker. **\$249 pr.**

or with powered subwoofers made by other companies. Its high pass filters keep strong, low bass signals out of the main stereo speakers, and directs them to the powered subwoofer. **\$299.**

## Home Theater Speaker Systems

We have assembled a number of home theater speaker systems that consist of center channel, surround and main stereo speakers. The



Because we sell carefully matched and tested home theater speaker systems factory-direct, with no expensive middlemen, you can save hundreds of dollars. We believe the products on these pages represent the country's best values in high performance home theater components. Audio critics, and thousands of satisfied customers, agree. *Stereo Review* said "Cambridge SoundWorks manufactures loudspeakers that provide exceptional sound quality at affordable prices." *Audio* suggested that we "may have the best value in the world."

## Center Channel Speakers

Cambridge SoundWorks manufactures three speakers for use as center channel speakers in Dolby Pro Logic home theater systems. All three are magnetically shielded so they can be placed near a TV or computer monitor. *Model Ten-A* is a small, affordable two-way speaker. **\$80.** *Center Channel* is identical to a



duty 12" woofer housed in an acoustic suspension cabinet with a 140-watt amplifier and a built-in electronic crossover. *Stereo Review* said it provides "deep powerful bass...31.5 Hz bass output was obtainable at a room-shaking level... they open the way to having a 'killer' system for an affordable price." **\$699.** Our *Slave Subwoofer* uses the same woofer driver and cabinet, but does not include the amplifier or crossover. It can only be used in conjunction with the *Powered Subwoofer*. **\$299.** The new *Powered Subwoofer II* uses a 120-watt amplifier with an 8" woofer. **\$399.**

Our *EXO-1* electronic crossover can be used with either of our powered subwoofer systems,

combination we show here is our best seller. It includes our critically acclaimed *Ensemble* subwoofer satellite speaker system (with dual subwoofers), our *Center Channel Plus* and a pair of our best surround speakers, *The Surround*. You could spend hundreds more than its **\$1,167** price without improving performance.

For information on other home theater speaker systems - or on any of the products we make and sell - call 1-800-FOR-HIFI for your free color catalog. Thanks.



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CIRCLE NO. 6 ON READER SERVICE CARD



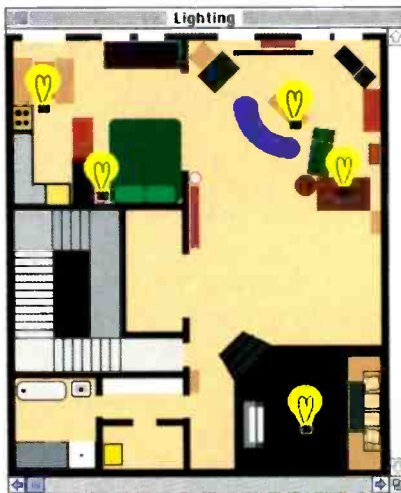
Cambridge SoundWorks *Ensemble* satellite (but with magnetic shielding). **\$149.** *Center Channel Plus* uses an ultra-low, ultra-wide design that is ideal for placement above (or, with optional support stand, below) a TV monitor. **\$219.**

protocol (or language) for data distribution and control. In a live concert setting, it's used to centralize control over the many electronic devices on stage — from amplifiers and equalizers to lighting and special-effects equipment. Using appropriate computer hardware and software, a consumer version of MediaLink could be installed in a home, allowing a variety of electronic equipment to be controlled and managed from one or more locations. For example, audio and video programming could be conveyed from one room to another, along with the control signals directing its use. (MediaLink supports many traditional data-transmission formats, including AES/EBU and S/PDIF.) And with appropriate interfaces, MediaLink could even provide central control over appliances, lights, phones, heating, air conditioning, and a security system.

**B**ecause MediaLink is a protocol, it can employ many kinds of wired or wireless media to carry its message. Perhaps the most intriguing transmission medium, however, is fiber-optic cable, the same stuff that connects my computer to France. Fiber optics is an ideal conduit for transmitting audio, video, and all kinds of other data because of its huge data capacity. The only catch in a domestic setting, of course, is that the house would have to be wired with fiber-optic cable, which means running it along the baseboard or snaking it through the walls.

From a hardware standpoint, MediaLink is similar to a computer network. A hub collects data from a group of devices and conveys information via a single cable to a central MediaLink controller (multiple hubs can tie into the main controller). For example, the home theater in my living room could be connected to one hub and one or both of the stereo systems in my office to another hub, allowing the systems to interact with one another. MediaLink is based on the concept of distributed intelligence; that is, rather than sending a long series of commands to a device every time a change is needed, each networked device is able to recognize a particular operational scenario described by one macro command. For example, a single command might dim the lights, turn on all of the components in a home theater system, and start laserdisc or VCR playback.

Audio/video components, lights,



**The graphical interface Lone Wolf devised for its MediaLink network system lets you create floor plans that show the status of interconnected devices (lights in this case).**

phones, security systems, and a variety of other devices (including MIDI and RS-232 equipment) can be connected to the MediaLink network via "taps" that convert a specific type of signal (audio, video, etc.) into the MediaLink protocol and back. Although control over devices that are tapped into the network is limited, more sophisticated control is possible with devices that have a built-in MediaLink chip. The chip contains a microprocessor, multiple A/D converters, digital input/output, memory, and other intelligent subsystems. Clearly, for MediaLink to be successful in the consumer market, the chip must be built into many third-party devices, including a variety of A/V components. This chicken-and-egg problem is the most formidable one facing Lone Wolf. While quite a few manufacturers — including Carver, Altec Lansing, JBL, and Yamaha — already use MediaLink in their professional audio products, Meridian is the only one that has embraced MediaLink on the consumer side, incorporating the chip into its 500 Series of components.

**T**he other challenge facing MediaLink is the user interface. Even the coolest technology is useless unless it offers comprehensive control that is user-friendly. Simple controllers are useful for some functions, but a central controller is crucial. That's why Lone Wolf developed the VNOS (Visual Network Operating System), a software package available for both IBM

(running Windows) and Macintosh computers. VNOS uses a graphical point-and-click interface that enables the user to construct and manage a multimedia network. For example, you could create a floor plan of your home that shows how the various devices in the network are interconnected. The operating status of each system and each component within a system could then be examined in detail. On another screen, you could set up a custom control panel by arranging simple graphical elements like faders, control buttons, and meters. In addition, you could store control settings for instant recall at any time. Best of all, no computer programming expertise is required. Once a MediaLink network is established and devices are interfaced to the network, VNOS integrates and facilitates control of everything. You can even incorporate touch panels, wireless controllers, and other interfaces into the network.

Reality check: Do we *need* to string together the electronic devices in our homes? In general, a network's utility is inversely proportional to the distances covered. It's useful to be able to access a mass-transit database in a foreign country, or to be able to call a friend out of state. On the other hand, I probably wouldn't use a phone to talk to a friend sitting next to me. Computer networks are great, but sometimes the "sneaker net" is best: I simply carry a floppy disk from one computer to another. Is a home network a problem looking for a solution, or a solution looking for a problem?

**M**any technologists believe that networked homes are the way of the future, providing control over the technology both inside and outside of the home. We certainly don't want to plant ourselves in a chair the morning after the senior prom and spend our adult lives manipulating icons on a screen. But we do want technology that leverages our access and enjoyment of information and entertainment. Networks such as MediaLink will lead us away from today's maze of isolated, incompatible black boxes to a more integrated, universal environment. Once we accept the notion that virtual control is more efficient than physical control, we'll wonder how we ever got along without home networks. And now, if you'll excuse me, I have to turn down my stereo. I think my phone is ringing. □



# The Critics Love Ensemble Speakers. You'll Love Our Factory-Direct Prices.

"Ensemble II performs so far beyond its price and size that it can be compared only with much larger speakers at substantially higher prices." **Stereo Review**

*Audio* magazine once said our *Ensemble*<sup>®</sup> speaker system may be "the best value in the world." And *Stereo Review* said "It's hard to imagine going wrong with Ensemble." Dozens of critics and thousands of customers have applauded our *Ensemble*, *Ensemble II* and *Ensemble III* speaker systems. Designed by Henry Kloss (founder of AR, KLH and Advent), they became best sellers by offering quality construction and accurate, wide-range music reproduction — at factory-direct prices.

## Ensemble

Our current *Ensemble* is an improved version of our original dual-subwoofer/satellite speaker system. It maintains the dual subwoofer design, which allows for maximum room placement flexibility. Placement of bass and high-frequency speakers in a room (and how those speakers interact with the room) has more influence on the sound quality of a music system than just about anything. *Ensemble's* ultra-slim subwoofers give you more placement flexibility than any system we know of, and are



## New Woofer And Tonal Balance Controls.

*Ensemble* maintains the tonal balance, frequency range and quality of construction of the original. There are two basic changes.

1. *Ensemble* now uses a new 8" woofer with a very long "throw" for more linear cone excursion and more accurate bass. An integral heat sink provides improved power handling.

2. *Ensemble's* satellite speakers use the same speaker drivers and crossover as the original, but with new midrange and high frequency controls.

The midrange control lets you choose the same output in the key 800-1600 Hz octave as in the original, or you can emphasize it by 2 dB.

*Ensemble* satellites have relatively less output in this range to avoid the "boxy" sound of many speakers. This results in an "open" sound on large-scale symphonic works. For small-scaled music, the higher output position proves a "warmer" sound.



A three-position high frequency control can subtly increase the system's "airiness," or reduce any tendency towards "edginess."

We believe our *Ensemble* system competes head-on with speakers selling for hundreds more. Available with black-laminate subwoofers for \$629, or with vinyl-clad subwoofers for \$549.

## Ensemble II

*Ensemble II* is an improved version of our best-selling system. It's more affordable than *Ensemble* because it uses one cabinet for both subwoofer speakers. *Ensemble II* maintains the tonal balance, frequency range, power handling and construction quality of the original. But its satellite speakers use the same new tonal balance controls as *Ensemble's*.

*Ensemble II* also has a new flared subwoofer port. The subwoofer cabinet encloses two 6 1/2" long throw woofers mounted in a sealed "acoustic suspension" chamber. They project into a second chamber fitted with the flared port, which provides smoother air flow, eliminating extraneous noise on strong bass notes.

We think *Ensemble II* outperforms other speakers in its category, including well-known models for about twice the price. Factory-direct price, \$439.

## Ensemble III

*Ensemble III* is our most compact, most affordable subwoofer/satellite speaker system. Its satellite speakers are only 4 1/2" x 6 1/2" x 5" and its subwoofer is 8" x 8" x 15".

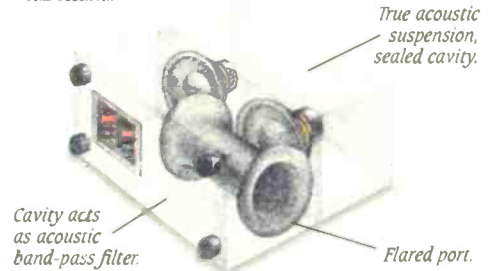
Compared to *Ensemble II*, *Ensemble III* gives up a little in power handling, low bass range, and efficiency. Unlike the "cube" satellite speakers you'll find in most similarly priced systems, *Ensemble III's* satellites are two-way speakers. *Ensemble III's* 6 1/2" woofer uses two voice coils in a cabinet with a flared port for smooth air flow.

With most recordings *Ensemble III* will sound virtually identical to *New Ensemble II*. It simply won't play as loud. Its construction quality is normally found only in much more expensive speakers. Factory-direct price, including connecting wire, cutter/stripper, Hook-Up Guide and Dolby Surround Guide, is only \$329.



## 30 Day Satisfaction Guarantee.

All Cambridge SoundWorks speakers are backed by a 30-Day Total Satisfaction Guarantee. So you can audition your speaker the *right* way — in your home, with no salesman hovering nearby. If within 30 days you're not happy, return your system for a full refund.



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most likely to provide the performance you want in the *real world...in your* room. Having two, compact subwoofers lets you move them around, experiment, and find that placement that gives you exactly the sound you want. This is one of the reasons *Esquire* described *Ensemble* by saying "you get 30 days to return the speakers or keep them, but you'll keep them."

CAMBRIDGE  
SOUNDWORKS  
BY HENRY KLOSS

Includes  
Guide To  
Surround  
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# FREE Audio Catalog

At Cambridge SoundWorks we make speakers and music systems designed by Henry Kloss (founder of AR, KLH & Advent). We sell them—and components from companies like Sony, Pioneer, Philips, Carver and others—factory-direct, with no expensive middlemen. For example, a Dolby Pro Logic Surround Sound system with Model Six speakers, rear speakers, a Sony Pro Logic receiver and remote is only \$747. Call today and find out why *Audio* magazine said we may have “the best value in the world.”

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## AUDIO Q & A BY IAN G. MASTERS

### Extra Amp Mileage

**Q** I recently bought a Dolby Pro Logic A/V receiver and, as a consequence, my old integrated amplifier now sits in the closet. Is there a way to use one of its channels to drive a passive subwoofer and the other to boost the rather low output of the surround channel? How would I wire it all up?

ED OLIVER  
USS Essex, Somalia

**A** The integrated amplifier can certainly be used to power a subwoofer. If your receiver has a line-level subwoofer output, just connect it to any line-level input on the amplifier, and connect one set of the amp's speaker terminals to the subwoofer. Or you can use one of the front-channel signals, either from a line-out jack if there is one, or from the speaker terminals. In the latter case, you'll probably have to pad the level down to avoid overloading the integrated amp's inputs; that can be done by inserting a simple volume control in-line before the input. If you use a front-channel signal as a source, ideally you should also put a low-pass filter in-line with the subwoofer to remove the higher frequencies.

As for using the integrated amp's other channel to beef up surround output, that depends on the amplifier. While the surround channel is mono, it's really meant to feed two speakers — and hooking up two speakers to the amp's free channel causes impedance problems with some amplifiers. Another approach would be to drive one surround speaker with the integrated amplifier and the other with the surround-channel amp in your receiver, but you'd have to be careful to get the phase and levels right.

### Auditioning Center Speakers

**Q** I'm in the process of setting up a home theater system in which I plan to use my existing speakers for the main front channels. I realize that I'm going to have to listen to a lot of different models to choose a center speaker to go with them. Are there any particular specifications I need to pay attention to?

EDWARD N. MENDELSON  
Dallas, TX

**A** As long as the speaker is magnetically shielded, is of appropriate size for your system, and has an impedance rating your amplifier is happy with, the specs don't mean very much. As you note, listening is the key, as it is with any speaker purchase. But in this case you should not merely listen for “good” sound but for the closest match to your existing speakers. If your primary speakers are still on the market, go to a store

that sells them and audition a few center speakers along with the model you own. If that's not possible, the manufacturer of your main speakers may sell a center speaker that has similar tonal characteristics. In any case, choose a dealer with a generous exchange policy in case you find that things just don't sound right when you get the new center speaker home.

### Keeping Noise Out

**Q** My next-door neighbor is an auto mechanic and often works on cars while I'm trying to listen to my home theater system. The windows rattle, the walls shake, and the ground rumbles before I even turn on my system. Is there an inexpensive way to filter out unwanted noise and vibration from outside?

MATT BOGOSIAN  
Calabasas, CA

**A** Unfortunately, no. Adding mass to the room's inner surfaces by affixing extra sheets of drywall (a pretty big job, by the way) may reduce the level of sounds that actually penetrate the walls, but it will do nothing about noise coming in through the doors and windows. These can be treated as well (for a tidy sum), but you'll still have to deal with vibrations borne by the ground and your home's foundation. That could be a major structural challenge.

I think your best bet is to try to reach some sort of accommodation with your neighbor — schmooze him a little. As a first step, I'd invite him over to hear the system. After you dazzle him with its magic (I suggest the helicopter scene from *True Lies*), you can gently break the news to him. With any luck, he'll be more sympathetic to your concerns.

### Lines of Resolution

**Q** For some months I have been trying to understand what exactly is meant by “lines of resolution,” which seems to be gaining currency as a measure of TV-set quality. Some large-screen sets boast of 850 lines, but the picture quality looks worse to me than smaller-screen sets claiming 525 lines. Does resolution refer to the maximum capacity of the set divided by, say, the screen size? Or what?

VAFA YAZDANI  
Lincoln, NE

**A** A video display device's resolution is a measure of the picture's sharpness, and this is an area where there's a lot of hype and a lot of misunderstanding. Test generators use pairs of alternating black and white lines to determine resolution: the more lines





# Introducing *SoundWorks* By Henry Kloss.

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SoundWorks consists of a pair of satellite speakers (app. 3 1/2" x 3 1/2" x 3 1/2") and a compact, powered subwoofer cabinet that encloses a 4" woofer, a 3-channel amplifier, equalization and crossover electronics, as well as a control panel.

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## The Subwoofer.

The subwoofer cabinet (a little bigger than a shoe box: 5" x 8" x 9") reproduces only non-directional bass so it can be placed in out-of-the-way places – on the floor behind your TV set, under your computer desk, or in back of furniture. It contains a 3-channel amplifier that's been precisely tailored to match the speaker drivers. Its control panel includes a stereo mini-jack input for connecting to a computer or a portable CD player, a "set and forget" bass level control, and connecting terminals for the satellite



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that can be discerned in a given area, the better the resolution. In the vertical direction, resolution is determined by the number of scanning lines in the television system (525 in North America, with about 480 used for picture information, which defines the theoretical maximum vertical resolution).

Horizontal luminance resolution — which is what everybody quotes — is related to the TV's luminance bandwidth, or high-frequency response. It's the maximum number of vertical black and white line pairs that can be distinguished across a portion of the screen as wide as the screen is high. There are lots of sets out there that claim (most rather optimistically) resolution on the order of 800 to 900 lines, as you note, but those specs are meaningless except perhaps as indicators of high-quality design, since no signal sources today come anywhere close to that resolution. The best is the laserdisc, with a bit over 400 lines; digital satellite services claim about that much as well.

And, yes, a smaller screen will probably seem crisper than a larger one with identical — or even better — resolution, as long as you view them from the same distance.

## To Foam or Not to Foam

**Q** I have an old pair of speakers in which the foam around the woofers is badly torn and the passive radiator's have all but rotted out. I'm not sure whether to repair or replace the speakers. What are the pros and cons of having them repaired?

RICHARD D. JONES  
 Santa Fe, NM

**A** Assuming you can find someone who will do the repairs, the main advantage is usually cost. In most cases, it's simply cheaper to fix something than to replace it. And if the repair is done properly, you can continue to enjoy the sound you are used to (if you didn't like it, presumably you wouldn't be considering the repair).

Depending on the age and distinctiveness of your speakers, however, the materials and techniques used to repair them may not match the originals exactly. That may affect the sound or it may not, but by the time you find out you will have incurred the cost. Maybe the best bet is to get some quotes and then listen to some new speakers to decide whether it's worth the difference to trade up instead of repairing.

## Using Equipment Overseas

**Q** I am stationed with the Army in Japan, and I have several pieces of audio equipment designed to operate at 120 volts and 60 Hz. The frequency here is 50 Hz. Will running the equipment at the lower frequency damage it in any way?

DANIEL BELK  
 Camp Zama, Japan

**A** The lower line frequency is unlikely to damage the equipment, but it may cause some unpleasant audible effects. Equipment designed for 60-Hz operation may not be able to filter out 50-Hz hum, for instance, and motors may run slow. Also, in much of

Japan, the line voltage is 100 volts, not 120, and that may have adverse effects as well. On the positive side, however, a lot of equipment is designed for the international market and intended to work with a wide range of voltages and both standard line frequencies. If yours is doing okay, you don't need to worry.

## Radioactive CD's?

**Q** My CD player has worked beautifully since I bought it, but I recently moved to an apartment located 200 or 300 yards from two huge radio towers. Ever since the move, I can't get any sound from my player, although it does everything else it always did. I've taken it to other places, and it has worked fine. A couple of audio shops have said that nothing is wrong with it. Could the signal from those towers be interfering with some component in my player?

CASEY COENEN  
 Rudolph, WI

**A** I doubt it very much. Nearby radio transmitters can cause all sorts of interference problems with audio systems — typically ghostly voices mingling with the music or unpleasant buzzes and other noises. I've never encountered a complete shutdown, though. My guess, especially as you've recently moved, is that something has gone awry with the connection between your player and the rest of your system. The fault might be in the cables, although it's unlikely that both channels would fail simultaneously. To isolate where the problem lies, try feeding the CD player to another input, such as a tape loop, or feeding something like a tape deck to the input you are now using for CD playback.

## Clicking CD Player

**Q** When I wake up and can't get back to sleep, I play an LP on my old turntable. Usually I'm asleep before the side ends, and the turntable comes to a silent stop. I'd like to do the same thing with CD's, but my player makes a loud clicking noise when a disc comes to an end, and it wakes me up. Can a CD player be programmed to come to a silent stop? And if not, are there other models that don't have this problem?

JOHN HENRY JORDAN  
 Beaumont, TX

**A** I'm not sure what could be causing such a loud noise, but I doubt that it could be programmed out; take the player to a service shop to see if there is something amiss that could be repaired. Otherwise, there are lots of CD players on the market that don't have this annoying habit — just make sure you listen to the end of a disc in the store. In my experience, portables tend to be pretty quiet.

**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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# SIGNALS

BY KEN C. POHLMANN

## Technologically Driven

**W**henever I go to a cocktail party, two things invariably happen. First, someone asks me what I do for a living. I used to answer that I was an audio engineer, but I always got a puzzled look, and the conversation quickly bogged down. I could never adequately summarize the great diversity of the audio engineering profession. I recently found a solution to my problem, however. Whenever I go to a party, I now carry a picture of a 1995 Lincoln Continental with me. When the question arises, I whip out the picture.

You see, the new Continental is a sleek, mobile example of what modern audio engineering is all about. Almost everything about the car, from its oil pan to its antenna, incorporates the diverse expertise of many audio engineers.

The Continental's engineering story begins with its basic structural design. Ribs are stamped into the main floor panel in such a way as to minimize vibration and resonance. Some of the canted and vertical panels are stamped with a series of closely spaced dimples (called bubble-beads) to dampen the panels without adding thickness. The hood, deck lid, and front fenders are reinforced with fiberglass. A metal damper was added to the windshield header area to reduce interior noise by 4 dB. The doors employ interior sound-damping materials; sources of resonance were located by scanning prototype door skins with laser-holographic interferometry, and damping is applied at critical locations. The doors are also tripled-sealed to help prevent the intrusion of outside wind and road noise. There is a continuous airflow exit built into the rear bumper to reduce air turbulence and the resulting noise. Even the climate-control system was redesigned to reduce air-turbulence noise.

The Continental is powered by the new 32-valve InTech V-8 engine; it, too, was designed with noise and vibration in mind. For example, an acoustic fiberglass blanket is placed in the valley between the fore and aft cylinder banks of the V-8 engine block to reduce noise levels. In addition, the engine's oil pan is made of a

metal-plastic-metal sandwich material selected because it has better sound-absorbing abilities than conventional stamped steel. The fuel-intake system uses a special high-flow conical air cleaner to reduce noise levels in this traditionally noisy component, and a resonator is built into the intake to reduce noise further. The firewall side of the alternator is heavily reinforced for noise reduction. Farther down the drive train, the front-wheel-drive transaxle was designed with an aluminum case and reinforced to reduce noise, and the engine/transaxle interface was modified to reduce resonances.

Given its quiet ride, the Continental naturally offers a premium-grade sound system. The large-bezel head unit is new for 1995, and when it's teamed with the optional JBL audio system, total system power is 145 watts. There are six speakers: two 5½-inch coaxials in the front doors, a pair of 5½ x 7½-inch full-range drivers in the rear doors, and two 6 x 9-inch woofers in the rear package tray. The

**T**he 1995 Lincoln Continental is a sleek, mobile example of what modern audio engineering is all about.

rear-door speakers are positioned for optimal sound quality, but because they are close to the front seats, the signal to them is delayed digitally to improve front imaging. Digital signal processing, which provides five sound-field settings, also performs parametric equalization, tone control, stereo demultiplexing, distortion limiting, and other functions.

For convenience, the head unit's multi-function buttons are lighted differently depending on whether the CD, tape, or tuner is being played, and the six-disc CD changer is mounted in the passenger compartment. The radio antenna is concealed in the rear-window glass to eliminate wind noise, and the tuner circuitry is located in the trunk, near the antenna, for optimal signal reception.

As with most luxury cars, a cellular

phone is available — providing a wireless example of audio engineering. But still more audio technology extends its utility. In particular, the phone is voice-activated and employs a noise-canceling microphone that's mounted in the overhead console; the microphone is directionally optimized for the driver. Calls can be routed through the handset or the sound system. To program the phone, you enter the phone number on a keypad. A synthesized voice asks you to pronounce the name associated with the number you've just entered. When you reply, the system asks you to repeat the name so it can verify its analysis of your voice. When the analysis is complete, it plays back its recording of the voice command. Thereafter, when you say the name, the system will recognize it and dial the appropriate phone number. In other words, speech synthesis, solid-state digital audio recording and playback, and speech recognition are all used in this car.

In some cases, too much technology can be a bad thing. With too many complex features to keep track of, a driver may scarcely have time to glance at the road. To help prevent that, the Continental has its own integrated twisted-pair 41.6-kilobaud databus, a kind of local-area network that runs throughout the car, interconnecting various devices. Some of the audio components converse over this bus. For example, incoming or outgoing phone calls automatically mute the radio or pause CD or tape playback. Playback resumes at the previous volume level when the call ends. In addition, the volume of the hands-free telephone automatically adjusts to the user's normal phone voice.

Leaving no audio aspect unexamined, the Continental's designers analyzed the sound that the doors and trunk make when they're closed, then re-engineered them to produce a more solid, more robust sound. Similarly, the click sounds of interior switches were analyzed and improved. Even the window and seat motors were tuned to impart a quiet but reassuringly durable sound. Clearly, the domain of audio engineering ranges far and wide.

The second thing that happens to me at cocktail parties is that people ask me, if I like Continentals so much, why don't I drive one? To answer that, I put the picture back into my wallet and show them the empty space where the money is supposed to go. □



# Startling research suggests that many jazz aficionados own a TV.

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# TECHNICAL TALK

BY JULIAN HIRSCH

## Reading the Mail

One of my best sources of inspiration for this column is the mail from readers. Unfortunately, many of these letters ask specific questions about various products (usually ones that I have not reviewed). Obviously, I cannot give my opinion of a product I have not used or tested. And even if it *has* been reviewed, there is rarely anything substantive that I could add to the printed report.

Nevertheless, I read all the letters and appreciate the thoughts they offer. Although I cannot answer any mail unless a stamped, self-addressed envelope is included, I would like to comment here on some matters of general interest.

One reader makes the seemingly heretical claim that his midprice system provides *better* than live sound. His favorite music is folk and bluegrass, which is typically performed in a club or festival setting with little of the attention to ultimate sound quality that goes into making a good recording. Unquestionably, a well-made recording, minus the extraneous sounds and distractions of the original performance, can be more satisfying from a listening standpoint.

For that sort of listening experience, the nitpicking that often goes into the selection of components may be unwarranted. All that is required is a good system that sounds "right," and it is even possible that a high-end system could be less pleasing (especially the speakers) than a more modest group of components. This reader also takes exception to my oft-given advice to audition various speakers when making that important decision, pointing out correctly that speakers certainly will not sound the same in an in-store demo as they would in his home. He prefers to depend on published reviews (specifically ours) and his own judgment, and, based on the speakers he has used for the past twenty years, I would say his choices have been wise.

Would I recommend that practice to everyone? Not without qualification. It depends on your degree of involvement with high-fidelity reproduction and your exposure to different systems. Someone who has never heard high-quality reproduced sound and the products that are available to create it is in no position to

make a good judgment of component quality (especially of speakers, which are ultimately responsible for *all* the sound, good or bad, that we hear). I would say that a store demo should be taken with a degree of skepticism, but there are no hard and fast rules. Ultimately, you have to depend on your own taste and the (one hopes) informed opinion of someone more knowledgeable than yourself.

Actually, loudspeakers are relatively easy to evaluate, because — unlike other parts of a modern music system — they have definite sound characteristics, for better or worse. The electronic components are another matter. I do not mean to belittle the contribution of amplifiers or CD players, but for all practical purposes they *should not*, and do not, contribute in any significant degree to the overall sound quality (unless they are defective or misbehaving in some way).

Another reader raises a question that I thought had long ago been laid to rest. He

**M**ost home listening is at a surprisingly low average power level — perhaps a watt or less in many situations.

claims to have discovered that the standard for amplifier power ratings, long ago established by an FTC ruling, is no longer being applied as required. His evidence is that in a dealer showroom two different receivers with the same power rating, played through the same pair of speakers, did not produce an adequate level in an A/B test ("terribly weak" was his description). As he put it, "I've heard 45-watt receivers, and those weren't 45 watts no matter what the salesman said."

I'm not sure how he came to that conclusion. It certainly would be convenient if I could measure power capability by simply listening to an amplifier playing music or speech through a speaker, but it is not quite that easy!

Although my correspondent indicates that he is aware that loudspeaker sensitiv-

ity (or efficiency) is interchangeable with actual wattage in determining acoustic output level, I think he is having difficulty in interpreting the audible effect of that phenomenon.

First of all, most of our listening at home is at a surprisingly low average power level. If conversation in the same room is a requirement, we are probably talking about an average power of a watt or less. Brief peaks may be several times as large, but the main reason we should have more powerful amplifiers is to deal with the occasional peak that can reach 10, 20, or more watts (in extreme cases).

If that is the case, why do we need 50- and 100-watt amplifiers? Frankly, most of us probably do not, but the extra power adds little to the cost of an amplifier or receiver and makes the product adaptable to more severe situations. For example, in a large room with absorbent surfaces and relatively insensitive speakers, playing highly dynamic music at something close to a natural level can easily require peaks of 100 watts or more. Although I doubt that I reach even a 1-watt level during much of my listening (often at background levels), I prefer a system with 100 watts or so for the times when I do need the power.

This reader appears to have the impression that the power ratings of some of today's amplifiers are exaggerated (as was often the case many years ago). Let me say that I cannot recall a single one of the hundreds of amplifiers I have tested in the past ten or fifteen years that has failed to meet its basic power ratings. My correspondent will have to look elsewhere for the cause of the anemic sound he experienced in that dealer's showroom.

The historical problem with exaggerated output claims, which my correspondent suspected of being responsible for the effect he observed, was a product of the power race in hi-fi advertising about twenty-five or thirty years ago. Some manufacturers would seek a competitive advantage by claiming vastly inflated power capabilities for their amplifiers. In 1974, the Federal Trade Commission established guidelines for rating amplifiers, and since then all home audio amplifiers have been measured by the same rules, which were later incorporated in the current EIA amplifier-measurement standard. That development effectively put an end to wildly inflated power ratings, at least in the realm of home component audio. □



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# TEST REPORTS



## Acoustic Research AR 303 Loudspeaker System

JULIAN HIRSCH • HIRSCH-HOUCK LABORATORIES

**H**ave you ever felt nostalgic about a car you bought more than twenty-five years ago, which at the time provided the last word in driving ease, comfort, and performance? Suppose its manufacturer built a 1995 version using an almost identical design with some improvements made possible by technological advances. How would you like to make a side-by-side comparison between the two? I have had the pleasure of doing just that, not with a car but with a loudspeaker, and it was everything I could have hoped for.

In 1954, Acoustic Research (AR) was founded by Edgar Villchur and Henry Kloss. Their initial product, the AR-1 loudspeaker, featured a simple yet revolutionary design consisting of a very compliant, long-throw "acoustic-suspension" woofer, in a relatively small, tightly sealed enclosure, paired

with an 8-inch midrange/tweeter. The woofer cone's restoring force was supplied largely by the compression of the air in the cabinet, instead of an inherently nonlinear physical suspension, eliminating a major source of

bass distortion. The AR-1 set new standards for low-distortion, deep-bass reproduction (down to 30 Hz or below) from a "bookshelf" speaker.

Several years later, AR introduced a more advanced acoustic-suspension speaker, the AR-3. Based on an improved bass driver teamed with the world's first dome drivers (a 1½-inch midrange unit and a ¾-inch tweeter), the AR-3 solved the problem of achieving midrange and treble performance that could match its bass standards. In 1967 the AR-3 was upgraded to the AR-3a, which for many years was a recognized standard for quality sound in the home.

Over the years, AR has changed ownership a couple of times. Today it is a division of IJI (International Jensen, Incorporated), which is seeking to restore the AR name to its early glory with a series of speakers designed in the company's grand tradition of providing true musicality with the deep, low-distortion bass characteristic of a good acoustic-suspension woofer.

The AR 303 is the flagship of that line. It is almost exactly the same size as the AR-3a and has essentially the same driver complement, although the drivers are all newly designed for much better performance than was possible with the technology of the 1960's. It has a 12-inch woofer, a 1½-inch dome midrange driver with the distinctive "fried-egg" appearance of the original (it's protected by a metal grille), and a ¾-inch dome tweeter. The crossover frequencies have been changed slightly, from 550 Hz and 6.5 kHz to 650 Hz and 5.5 kHz. In the AR-3a the midrange and high-frequency drivers were mounted diagonally across the upper part of the speaker panel, but in the AR 303 they are vertically aligned on one side of the panel (unlike the AR-3a, the AR 303 is made in mirror-image pairs).

The AR-3a had adjustable level controls for its midrange and high-frequency drivers, with a range from fully off to maximum. In contrast, the AR 303 has no level adjustments. Although the two speakers are very nearly the same size and weight, the AR 303 has about 15 percent greater internal volume.

There are other differences as well.

<b>DIMENSIONS</b> 15 INCHES WIDE, 25 INCHES HIGH, 11 INCHES DEEP
<b>WEIGHT</b> 54 POUNDS
<b>FINISH</b> BLACK OR WALNUT VENEER
<b>PRICE</b> \$1,200 A PAIR
<b>MANUFACTURER</b> ACOUSTIC RESEARCH, DEPT. SR, 535 GETTY CT., SUITE A, BENICIA, CA 94510

PHOTO: JONK & LEUNG

# TEST REPORTS

The AR 303's sensitivity is rated at 85 dB, about 4 dB less than the AR-3a, and its specified bass response extends a bit lower than the older speaker's. But the real goal of today's AR designers was to provide the essential sound quality of the AR-3a in a modern high-performance speaker system.

We were very interested in determining how close they came to that goal. To that end, we are indebted to collector Thomas Tyson for the loan of a pair of virtually mint-condition AR-3a speakers for comparison with the new models, both in listening and measurement. In addition, I could not resist bringing my own vintage AR-1 (circa 1955) out of retirement, at least for measurement purposes, even though all it shares with the others is the basic woofer design.

Not surprisingly, there were more similarities than differences between the AR-3a and the AR 303. In fact, their composite response curves (a close-miked bass measurement spliced to a room-response measurement made with a sweeping warble tone and averaged from the two speakers at a single microphone position) were amazingly alike. The AR 303 had significantly flatter response at the high frequencies, however, about 3 to 5 dB stronger than the AR-3a above 6 kHz.

Quasi-anechoic MLS frequency-response measurements brought the differences between the two speakers into stronger relief. The AR 303 was smoother overall and had stronger output at the highest frequencies (from 10 to 20 kHz). On-axis at 1 meter its output variation was  $\pm 1.5$  dB from 300 Hz to 18 kHz, certainly among the best responses we have yet measured from a speaker.

The AR 303's woofer was true to its heritage, producing only 5.5 percent harmonic distortion at 20 Hz with a 90-dB sound-pressure level (the AR-3a and my old AR-1 were in the same range, generating around 6 percent distortion). The measured sensitivities of the two speakers were 88 dB for the AR 303 and 90 dB for the AR-3a, reasonably close to their specified values. The AR 303's impedance reached a minimum of about 3.5 ohms at 85 Hz and averaged 5 ohms or higher over most of the audio range. The AR-3a's

impedance was a maximum of 13.7 ohms at 37 Hz, with a smaller peak to 8 ohms at 400 Hz, and was about 4 ohms or slightly less over the rest of the audio range.

Interesting as the measurements were, the real test was in the listening. With the speakers side by side and the AR-3a's midrange and treble level controls at maximum (the settings we had used during measurements), we listened to a variety of music while switching between the two speakers. There was no doubt that the two were close relatives in the bottom octaves. In fact, there was little or no audible difference between them in the deep bass. At first, however, the AR-3a was distinctly brighter than the AR 303. Turning the AR-3a's tweeter and midrange controls to their midpoints (probably the recommended "flat" settings) corrected the imbalance and produced a basically similar tonal balance from the two sets of speakers.

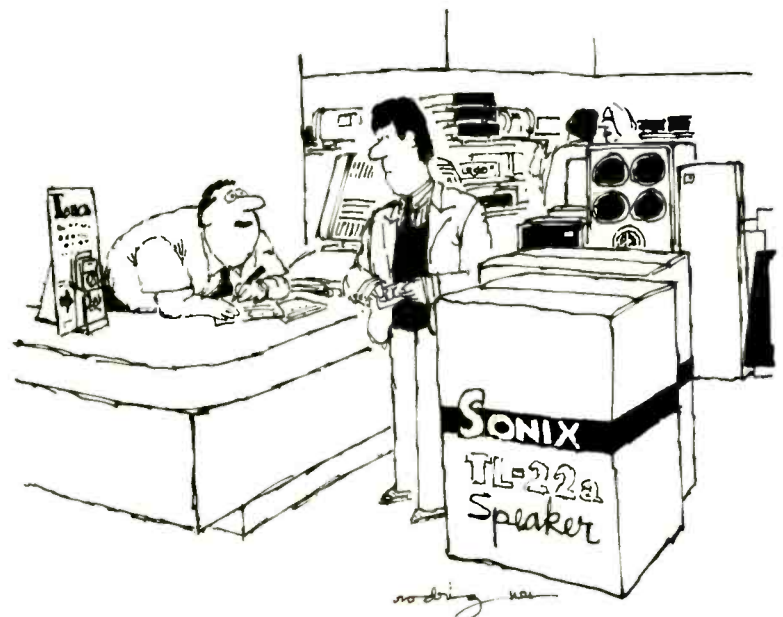
Further listening confirmed that the two speakers sounded very much alike. We did not attempt to stress the AR-3a speaker unnecessarily, but it was clearly performing as it did when it left the old AR plant in Cambridge, Massachusetts.

We played some CD's of organ mu-

sic that included the lowest frequencies (down to the 20- to 30-Hz region) — ideal demo material for evaluating subwoofers. It was not much of a surprise to find that, like its predecessors, the AR-303 does not need a subwoofer at all, unless you are more concerned with shaking the room walls than with what the music sounds like. The AR 303 can deliver a clean, ear-popping output all the way down to 20 Hz; when we added a subwoofer the result was merely a stronger skin massage from the bottom octave.

We used the AR 303 placed on a low stand (as recommended) and several feet from any walls. I suspect that this speaker may require more careful placement than most to avoid undue bass heaviness. Certainly no other current full-range speaker that I know of in the AR 303's size range can match its low-frequency capabilities.

The AR 303, with a pedigreed descent from the earliest acoustic-suspension loudspeakers, is not only a fine reproducer, but a bargain as well. The AR-3a sold for \$500 a pair in 1969; the AR 303, in 1995, is priced at \$1,200 a pair. How many other things (houses, cars, etc.) have only a little more than doubled in price over the past twenty-five years? □



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# TEST REPORTS



## Aiwa DX-C100M Compact Disc Changer

JULIAN HIRSCH • HIRSCH-HOUCK LABORATORIES

Compact disc changers have established themselves strongly in the market by virtue of their excellent value, since they usually do not sacrifice any significant element of performance to achieve their automatic changing functions. Most multidisc CD players are designed to provide several hours of essentially uninterrupted playback. A few go well beyond that function, serving also as music libraries and providing swift access to as many as a hundred discs stored within the player.

PHOTO: JOCK P. LEUNG

### DIMENSIONS

8 $\frac{3}{4}$  INCHES WIDE, 13 $\frac{1}{4}$  INCHES HIGH,  
14 $\frac{1}{2}$  INCHES DEEP

### WEIGHT

14 POUNDS

### PRICE

\$650

### MANUFACTURER

AIWA, DEPT. SR, 800 CORPORATE DR.,  
MAHWAH, NJ 07430

At the same time, they typically offer the full range of programming modes and operating flexibility found in any good single-play model.

The new Aiwa DX-C100M is the latest hundred-disc changer to reach us for testing. Though relatively inexpensive, light, and compact, it provides all the operating features one could wish for. Its shape is suggestive of a rather compact tower-format per-

**The DX-C100M's loading drawer can also accept and play a single CD, independent of the discs that are stored internally.**

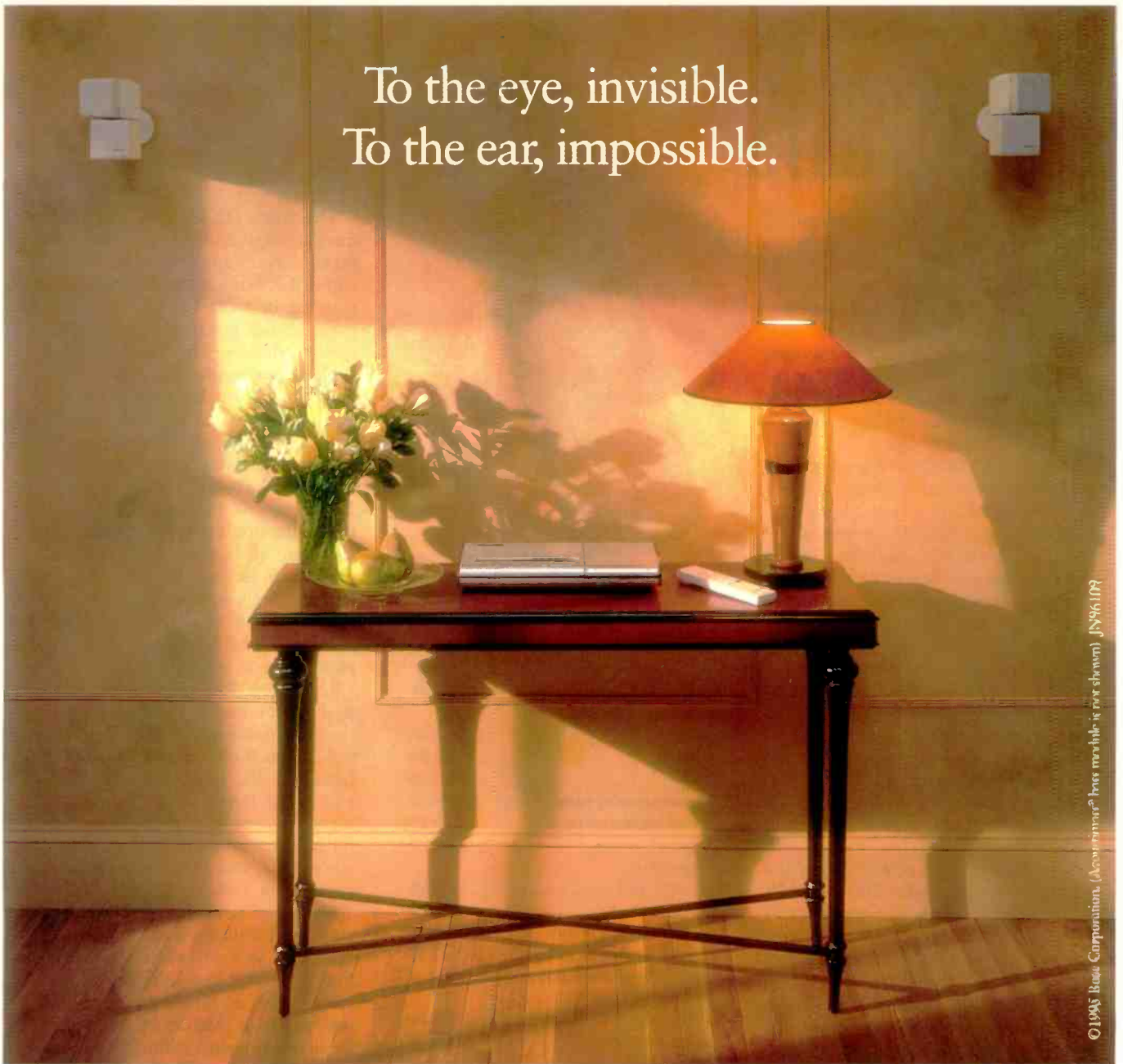
sonal computer, relatively high and deep, with a narrow front panel. A see-through vertical window on the panel provides a view of the colorfully illuminated disc stack and the mechanical action inside as discs are moved between the playing position and their storage slots.

The DX-C100M stores discs, stacked horizontally, in a vertical magazine about 10 inches high. To play a disc, a shuttling mechanism inside the player travels to the selected slot, removes the disc, and carries it to the playback mechanism near the bottom of the chassis. At the end of play, the process is reversed.

During actual playback, the DX-C100M behaves much like any conventional single-play CD player. It is programmable to play any sequence of tracks, to a maximum of ninety-nine selections, or to repeat any one disc or all the discs indefinitely. It can also play the tracks on a disc in random order or even discs *and* tracks in random order, selecting a disc at random and playing the tracks on it in random order, then selecting another disc at random, and so on. The DX-C100M's slide-out disc drawer, used for loading and unloading CD's, can also accept



To the eye, invisible.  
To the ear, impossible.



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# TEST REPORTS

and play a single disc, independent of those loaded into the magazine.

On the back of the player are the standard audio output jacks as well as an optical digital output and two pairs of input jacks marked AUX 1 and AUX 2. The inputs can be used to augment those of an associated amplifier or receiver in need of more line-level input jacks (typically identified as auxiliary inputs). Additional signal sources attached to the DX-C100M's inputs can be switched through it to the amplifier's CD inputs, in effect adding two more auxiliary inputs to the system.

Another way the auxiliary inputs can be used is to daisy-chain multiple changers, connecting the outputs of one DX-C100M to the AUX 1 or AUX 2 input jacks on a second, and so on. Each changer in the chain can be assigned its own unit number, enabling you to operate all of the functions of each one from a single remote control. Not many of us will ever require playback programming of 200 or 300 CD's, but should the need arise, this is certainly the least expensive way to satisfy it!

Besides the usual power switch and transport controls, the DX-C100M's front panel has ten numbered track/disc selector buttons and a small button that sequentially switches the output jacks between CD, AUX 1, and AUX 2 signals. The panel also has a small display window showing the numbers of the disc and track being played along with a twenty-track music calendar for the disc currently playing. The player's infrared remote control duplicates all its front-panel functions and adds power, volume, and "function" buttons for use with certain Aiwa audio systems.

The DX-C100M comes with a comprehensive instruction manual (in Spanish and French as well as English), which is fortunate, since it is not always obvious from the control markings how to go about using and programming the changer. The sequence of button entries required to program it differs from what we have encountered on other CD changers, but a bit of experience with the manual at hand should get you on the right track pretty quickly.

The action in the disc magazine is



## MEASUREMENTS

Maximum output level	1.28 volts
Frequency response	20 Hz to 20 kHz +0.05, -0.7 dB
Channel separation	
100 Hz	68.5 dB
1 kHz	71 dB
20 kHz	61.5 dB
Signal-to-noise ratio (A-wtd)	80.4 dB
Quantization noise	-78.5 dB
Dynamic range	89.6 dB
Distortion	
1 kHz at 0 dB	0.014%
1 kHz at -20 dB	0.007%
20 Hz to 20 kHz at 0 dB	0.014 to 0.3%
Linearity error (at -90 dB)	+2 dB
Max. interchannel phase shift	1.5°
Defect tracking	
(Pierre Verany #2 test disc)	1,000 µm
Impact resistance	A
Disc-change time	22 seconds
Track-change time	see text

intriguing to watch (and *hear* — it is quite audible) as the shuttle mechanism goes to the selected slot (first returning the previous disc, if any, to its rightful place) and carries the disc down to the spindle before parking itself. One effect of all that activity is to give the player an unusually long disc-change time — about 22 seconds — whether one selects an adjacent disc or one at the other end of the magazine. We also noted that in its normal programmed mode, even track changes within the same disc could take several seconds. Unprogrammed operation was as rapid and uncomplicated as one could wish for, however.

The Aiwa DX-C100M was able to track through 1,000-micrometer information-layer gaps without difficulty. A gap of 1,250 micrometers occasionally resulted in a brief "tick," and larger gaps could interrupt the playback more seriously. This behavior is acceptable (no undamaged disc should present any tracking problems), although some CD players can cope with considerably larger interruptions.

The output voltage from a maximum-level (0-dB) signal was about 1.3 volts, considerably (about 4 dB) below the nominally standard 2 volts, although this is unlikely to present any problem in normal operation. Channel separation, though not as great as with many other CD players, was more than sufficient for subjectively complete isolation between channels.

Distortion (total harmonic distortion plus noise) was typically well below the manufacturer's 0.03-percent rating. A spectrum analysis of the output from a 0-dB, 1-kHz recorded signal, excluding noise from the measurement, showed distortion components (principally third and fifth harmonics) whose total rms value was 0.006 percent. Aiwa says the DX-C100M uses 1-bit digital-to-analog (D/A) converters with four-times-oversampling digital filters, so we were not surprised to find very good low-level linearity. The output from a -80-dB recorded signal was within a fraction of a decibel of its nominal value, although the error increased to about 2 dB at the -90-dB level. Interchannel phase shift was negligible.

Immunity to external shock and vibration was outstanding. No nondestructive impact we could apply to the player's exterior by hand produced any audible effect on the program.

The Aiwa DX-C100M is a well-built, highly versatile CD changer with more features than most of us would ever be likely to need. Its price is attractive, and its compact dimensions could make it a logical choice in many installations where some other megachangers might not fit easily. Like many other products that offer unusual or exceptional capabilities, it requires some practice for most effective use. In this case, that effort will surely yield substantial dividends. □



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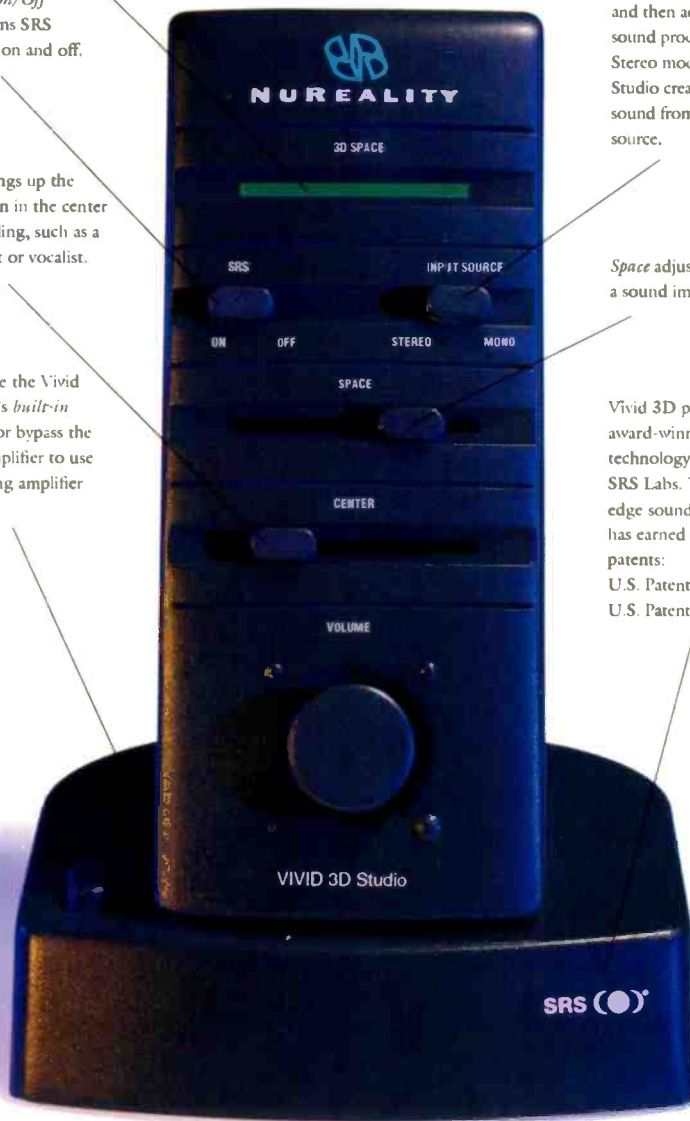
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U.S. Patent No. 4,841,572



\*This specially recorded CD recreates the experience of 3D sound from any CD player. The demo CD is available for a \$5.95 shipping and handling charge which can be fully credited toward the purchase of a Vivid 3D system. This offer applies only to Vivid 3D products purchased directly from NuReality. International orders do not include freight charges, duty or VAT.

\*\* Quote excerpted from a review of the **SRS (●)** technology from the April 1992 issue of *Audio Magazine*. The Vivid 3D sound enhancement system won the Retail Vision "Best Product" award in May 1994, and the Innovations award from the International Consumer Electronics Show in June 1994. © 1995 NuReality. All rights reserved. SRS is a registered trademark of SRS Labs. All product names are trademarks or registered trademarks of their respective holders. SR3

# TEST REPORTS



## Niles OS-10 Indoor/Outdoor Loudspeaker System

**JULIAN HIRSCH • HIRSCH-HOUCK LABORATORIES**

Conventional loudspeakers are designed for use indoors, or at least sheltered from the effects of outside weather conditions. They could be seriously damaged, both cosmetically and functionally, by exposure to the elements. There are times, however, when we would like to enjoy music out of doors, a desire that has given rise to a broad category of speakers referred to as weather-proof or "indoor/outdoor" speakers.

A recent addition to this family of products is the Niles OS-10, designed to serve as part of a multiroom music system as well as in marine applications. The OS-10 has been designed to withstand extended exposure to rain, sun, snow and ice, salt water, and ultraviolet (solar) radiation, among other things. Its enclosure is molded of non-resonant, mineral-filled white polypropylene, completely sealed to exclude moisture. The cabinet is wedge-shaped to fit into corners and is sup-

plied with a swiveling bracket for wall mounting. It is also equipped with threaded inserts for other types of brackets. For use without the swiveling bracket, the bottom of the cabinet has small rubber feet that protect the supporting surface. The input connectors, recessed into the back of the enclosure, are gold-plated five-way binding posts, mounted upside down to exclude water from the connection point.

### DIMENSIONS

8 $\frac{3}{4}$  INCHES WIDE, 11 INCHES HIGH,  
6 $\frac{3}{4}$  INCHES DEEP

### WEIGHT

6 $\frac{1}{2}$  POUNDS

### PRICE

\$380 A PAIR

### MANUFACTURER

NILES AUDIO, DEPT. SR, 12331 S.W. 130TH ST.,  
MIAMI, FL 33186

The OS-10 is a two-way system with a 5 $\frac{1}{4}$ -inch polypropylene woofer operating in a sealed enclosure. Niles says the driver's stiff, light cone, powerful magnet, and rigid steel basket enable the large cone excursions necessary to produce satisfying bass output from a compact loudspeaker. The woofer is teamed with a 1-inch soft-dome tweeter, with an unstated crossover frequency.

The OS-10's installation and operation manual is considerably more thorough and informative than the scanty information supplied with many loudspeakers. That is especially important for a product that may be installed in a variety of unconventional situations, and the nineteen-page manual provides suggestions for various placement options. One novel feature is that the speaker can be painted a different color from its normal white. The manual is quite specific on this procedure, which few of us normally attempt on our speakers. It even indicates how to remove the perforated metal grille (which is fastened much more securely than most speaker grilles) by using a bent paper clip to pry it loose. For what it's worth, we tried the recommended procedure and found that an ordinary paper clip was too flexible to do the job, but a large clip would not fit through the grille openings. The point of an awl loosened the grille easily, however.

Niles's specifications for the speaker include an 8-ohm nominal impedance, a sensitivity of 89 dB sound-pressure level (SPL) at 1 meter on-axis with 2.83 volts input of pink noise, and a frequency response of 100 Hz to 20 kHz  $\pm 3$  dB. The OS-10 is recommended for use with amplifiers rated at 5 to 100 watts per channel.

Wall mounting, recommended by the manufacturer, was not feasible for us, since we have to move the speakers about for different measurements. We therefore tested the Niles OS-10 speakers in a conventional placement, about 30 inches off the floor and 2 or 3 feet from the wall behind them and from the side walls.

A composite of the averaged room response of both speakers and a close-miked measurement of the woofer response produced a curve that was



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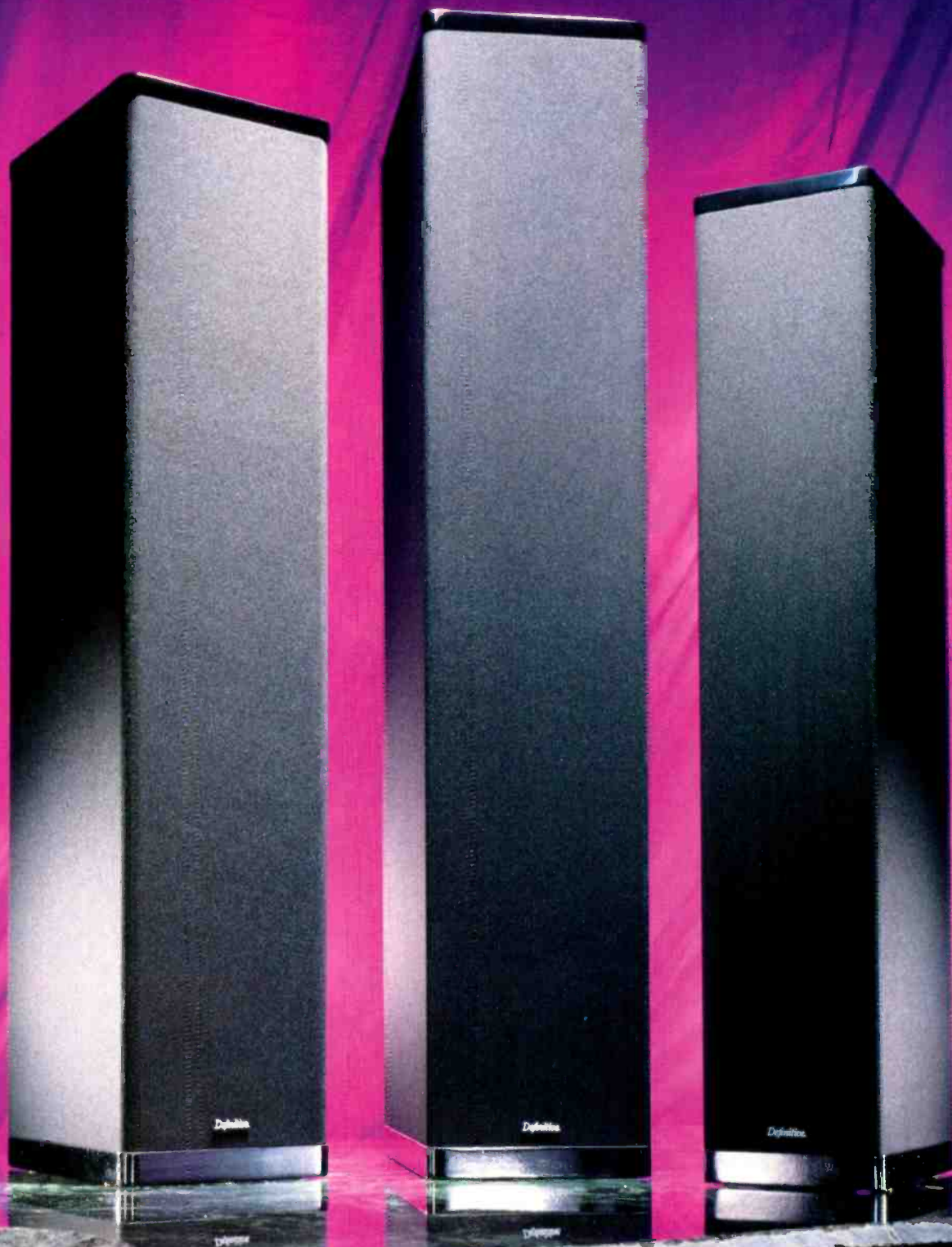
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— Stereo Review

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# TEST REPORTS

completely consistent with what we heard from them, as well as conforming to the manufacturer's specifications. The response was a very smooth  $\pm 3.5$  dB from 80 Hz to 20 kHz. The crossover frequency to the tweeter appeared to be in the neighborhood of 3 kHz, although there was no unambiguous evidence of this in the test data. The bass response fell off at 12 dB per octave below approximately 130 Hz.

Quasi-anechoic MLS measurements of the OS-10's frequency response yielded unusually flat curves from 300 Hz to 13 kHz, with an on-axis variation of less than  $\pm 2$  dB over that range. At 45 degrees off the system's axis, the response began to slope off above 13 kHz, reaching  $-20$  dB at 20 kHz. We were interested to find that our frequency and polar response measurements agreed quite closely with the manufacturer's data despite the different test environments. The OS-10 had a very constant group delay, varying only about  $\pm 100$  microseconds over the full audio range above about 500 Hz.

The system's impedance reached its maximum of just under 50 ohms at the bass resonance frequency of 105 Hz. The minimum of about 6 ohms occurred between 200 and 300 Hz, and

at most other frequencies the impedance was 8 ohms or higher.

Sensitivity was 89 dB, as rated. With an input of 3.2 volts (equivalent to a 90-dB SPL) the bass distortion was between 0.4 and 0.8 percent from 150 Hz to 1.3 kHz, reaching 1.5 percent at 2 kHz. The distortion rose steadily below 150 Hz to 7 percent at 60 Hz and 10 percent at 50 Hz.

In pulse power tests with single-cycle tone bursts, the woofer cone bottomed at an input of 160 watts at 100 Hz. At higher frequencies our amplifier clipped before the speakers distorted severely, at outputs of 350 watts at 1 kHz and 735 watts at 10 kHz.

Listening tests confirmed that the Niles OS-10 is considerably more than a limited-purpose all-weather speaker (albeit a very good one). Despite its bass limit of 80 to 100 Hz (depending on how you wish to define it), the speaker was not at all bass-shy. Its sound quality was above average for conventional speakers of comparable size and cost. Teamed with a good subwoofer, it left little to be desired in overall system performance. The OS-10 is a very good small speaker in its own right, with the bonus of weather-proof construction and exceptional installation flexibility. □



"You say all you have to do is remove the CD of the Saint-Saëns 'Organ' Symphony from its jewel box and your amplifier starts clipping? ..."

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- AR - Custom AV; Little Rock.
- AZ - Jerry's Audio Video; Phoenix; Tucson.
- CA - Access to Music; Larkspur; Accurate AV; So. Lake Tahoe; Audio Concepts; Long Beach; San Gabriel Bay Area Audio; San Jose; Christopher Hansen; West LA Coast Satellite; Alacadero; Santa Maria; Creative Stereo; Santa Barbara; Ventura; David Rutledge Audio; Palm Desert; Digital Ear; Justin Larson's; Redding; Monterey Stereo; Monterey; Pacific Coast AV; Newport Beach; Paradise; Sacramento; Performance Audio; San Francisco; Sound Co., Escondido; San Diego; Systems Design; Redondo Beach; Videotek; Westminster; Westchester TV; Bakersfield; Wilson AV; Woodland Hills.
- CO - Listen Up; Denver; Boulder; Colorado Springs.
- CT - Al Franklin's; Hartford; Carston's Audio Video; Danbury; Robert's Audio Video; New London.
- DC - Suburban Audio Buys.
- DE - Sound Studio; Newark; Wilmington.
- FL - Absolute Sound; Writter Park; Audio Center; Deerfield Beach; Invisible Audio; Pensacola; Hoyt Stereo; Jacksonville; Palm Audio; Destin; Sound Components; Coral Gables; Sound Ideas; Gainesville; Sound Insight; Ft. Pierce; Stereotypes; Daytona Beach; Stereo World; Ft. Myers; Naples; Stuart AV; Slatt.
- GA - Audio Warehouse; Savannah; Ken's Stereo Junction; Macon; Me-TV; Columbus; Music Audio; Atlanta; Stereo Connections; Valdosta; Stereo Festival; Atlanta; Stereo Shop; Martinez; Stereo Video Systems; Marietta.
- HJ - Audio Center; Honolulu.
- IA - Audio King; Des Moines; Audio Video Logic; Des Moines; Camera Corner; Davenport; Hawkeye; Iowa City; Cedar Falls.
- ID - Good Ear; Boise; Wise Buy; Idaho Falls.
- IL - United Audio Centers; Chicago & Suburbs; Camera Corner; Bloomington; Cars & Stereo; Rockford; Jon's Home Center; Quincy; Sound Forum; Crystal Lake; Select Sound; Naperville; St. Charles; Springfield.
- IN - Ovation Audio; Clarksville; Indianapolis.
- KS - Accent Sound; Overland Park; Advance Audio; Wichita; Audio Junction; Junction City.
- KY - Ovation Audio; Lexington; Louisville.
- LA - Alterman Audio; New Orleans; Melairie; Covington; Sound Advice; Baton Rouge; Wright's Sound Gallery; Shreveport; MA - Cookin'; Saugus; Goodwins Audio; Boston; Shrewsbury; Nantucket; Scud; Hyannis.
- MD - Audio Buys; Annapolis; Calhoun; Laurel; Rockville; Waldorf; Cumberland Elec.; Cumberland; Gramophone; Balt.; Ellicott City; Soundscape; Baltimore.
- ME - Cookin'; Portland; Sound Source; Bangor.
- MI - Pecar's; Detroit; Troy; Classica; Jazz; Holland; Classic Stereo; Kalamazoo; Grand Rapids; Front Row AV; Flint; Future Sound; Westland; Court St.; Listening Room; Midland; Sarnow; MN - Audio Designs; Winona; Audio King; Minneapolis & Suburbs; Rochester; St. Cloud; Audio Perfection; Minneapolis; MO - Independence AV; Indec.; Sound Central; St. Louis; MS - McLeiland TV; Hattiesburg; Players AV; Ridgeland.
- MT - Car & Home Stereo Center; Billings; Rocky Mountain; RT; Great Falls.
- NC - Audio Video Systems; Charlotte; Stereo Sound; Durham; Greensboro; Raleigh; Winston Salem; Audio Lab; Wilmington; Tri City Elect.; Conover.
- NE - Custom Electronics; Omaha; Lincoln.
- NH - Cookin'; Nashua; Manchester; Newington; Salem; S. Nashua.
- NJ - Hal's Stereo; Trenton; Monmouth Stereo; Shrewsbury; Wall; Sound Waves; Northfield; Sound Works; Cherry Hill; Woodbridge Stereo; West Caldwell; Woodbridge.
- NM - Sound Ideas; Albuquerque.
- NV - Upper Ear; Las Vegas.
- NY - Audio Breakthroughs; Manhasset; Audio Den; Lake Grove; Audio Expressions; Newburgh; Audio Junction; Waretown; Clark Music; Albany; Syracuse; Stereo Exchange; Manhattan; Manuel; Hart Elect.; Vestak; Innovative Audio; Brooklyn; Listening Room; Scarsdale; Rowe Camera; Rochester; Sound Mill; Mt. Kisco; Yorktown Hts.; Speaker Shop; Amherst; Buffalo; Stella's Stereo; Ithaca.
- OK - Contemporary Sounds; Okla. City; K Labs Premium Audio; Tulsa.
- OH - Audio Craft; Akron; Cleveland; Mayfield Hts.; Westlake; Audio Etc.; Dayton; Paragon Sound; Toledo.
- OR - Bradford's HiFi; Eugene; Chelsea AV; Portland; Beaver-ton; Kelly's Home Ctr.; Salem; Larson's; Medford; Roseburg; Stereo Plant; Bend.
- PA - Gary's Elect.; State College; GNT Audio; Lancaster; Hart Elect.; Baskley; Kingston; HiFi House; Abington; Broomall; Palmer Audio; Allentown; Stereoland; Natrona Heights (Pittsburgh); Stucic One; Erie.
- SC - AV Design; Charleston; Upstairs Audio; Columbia.
- SD - Audio King; Sioux Falls.
- TN - College HiFi; Chattanooga; Hi Fi Buys; Nashville; Lindsay Ward; Knoxville; Modern Music; Memphis; New Wave Elect.; Jackson; Sound Room; Johnson City.
- TX - Home Entertainment; Dallas; Houston; Audio Tech; Temple; Waco; Audio Video; College Station; Brock AV; Beaumont; Bunkley's; Sd. Systems; Abilene; Bjorn's; San Antonio; High Fidelity; Austin; Krystal Clear; Dallas; Marvin Electronics; Ft. Worth; Sd. Box; San Angelo; Sd. Quest; El Paso; Sd. Systems; Amarillo; Sd. Towne; Texarkana.
- UT - Alpine Elec.; Provo; AudioWorks; Salt Lake City; Crazy Bob's; St. George; Stokes Bros.; Logan.
- VA - Audio Buys; Arlington; Fairfax; Falls Church; Manassas; Audio Connection; Virginia Beach; Audiophonics; Roanoke; Home Media Store; Richmond; Stereo Type; Charlottesville.
- VT - Audio Video Authority; S. Burlington.
- WA - Definitive Audio; Bellevue; Seattle; Evergreen Audio; Silverdale; Pacific St. & Sd.; Wenatchee; Tin Ear; Kennewick; W. VA - Sound Post; Princeton.
- WI - Audio Emorium; Milwaukee; Absolute Sound & Vision; Sheboygan; Sound World; Wausau.
- Puerto Rico - Precision Audio; Ric Piedras.
- Canada - A & B Sound; Calgary; Edmonton; Kelowna; Vancouver & Suburbs; Victoria; Advance Electronics; Winnipeg; Audio Ctr.; Montreal; Ottawa; Bay Bloor Radio; Toronto; CORA; Quebec City; Digital Dynamics; Clearbrook; Great West Audio; London; Lipton's; New Market Ontario; Peak Audio; Halifax; Sd. Room; Vancouver; Sd. Station; Courtenay; StereoLand; Windsor.
- Mexico - Contact Grupo Volumen; Mexico City.

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# TEST REPORTS



## Enlightened Audio Designs TheaterMaster Surround-Sound Processor

DAVID RANADA • TECHNICAL EDITOR

As the first product to incorporate a Dolby Surround AC-3 decoder, Enlightened Audio Designs' TheaterMaster was for months the item on our test-report schedule that we were most eager to see come through the door. A lot of that interest arose from our desire to put AC-3 through its paces at last, but the TheaterMaster actually offers a great deal more than just that one capability. In addition to Pro Logic as well as AC-3 decoding, the TheaterMaster can also function as an audio source switcher and as a high-end digital-to-analog (D/A) converter — among the first to incorporate a decoder for Pacific Microsonics' widely touted HDCD system.

The TheaterMaster has six line-level analog and six digital inputs (three coaxial, two Toslink optical, and one ST-optical), making it suitable for use as a main system preamp/surround-decoder. Any of the digital inputs will take an AC-3 bit stream, which automatically activates the AC-3 decoder.

At present, however, that bit stream can be obtained only from a laserdisc player with an AC-3 RF output attached to the TheaterMaster through a special RF demodulator that extracts the AC-3 signal and formats it for transmission through a standard SPDIF digital interface. EAD thoughtfully supplied us with one of its T-8000 CD/laserdisc transports so equipped as well as a prototype of its SmartCable demodulator circuit. AC-3 laserdiscs are just starting to come to market, so we had to base our evalua-

tion of the system on the handful of titles available so far. For more everyday fare, the TheaterMaster's Pro Logic decoder uses the same Zoran signal-processor chip as its AC-3 decoder.

The TheaterMaster has no video circuitry or video switching capability, nor does it provide an on-screen display or headphone output. But video switching can be handled by an EAD accessory that is controlled through a rear-panel multipin connector. The processor does have balanced outputs available for the main left and right channels, a programmable AC outlet, and the ability to control room lights and other appliances via a supplied X-10 house-wiring interface.

The highest of tech is packed into the audio circuitry, which EAD says incorporates hand-matched, select-grade Burr-Brown PCM63 Series K 20-bit D/A chips (*that's* a pedigree). There is also an HDCD decoder chip that processes HDCD-encoded CD's (available only from Reference Recordings at present) and is said to act at all times as an "ultra-high-quality" digital filter for the D/A converters.

Some of the most interesting features relate to the use of subwoofers. The TheaterMaster can be programmed to perform low-pass filtering for subwoofers and high-pass filtering for the other speakers in a system. You can select the channels from which bass

### DIMENSIONS

17 INCHES WIDE, 5 INCHES HIGH,  
11 INCHES DEEP

### WEIGHT

32 POUNDS

### PRICE

\$6,995

### MANUFACTURER

ENLIGHTENED AUDIO DESIGNS, DEPT. SR,  
300 W. LOWE, FAIRFIELD, IA 52556



will be shunted to the subwoofer output, determine whether the signals to the speakers for those channels will also be high-pass filtered, and select the crossover frequency.

As you can see from the tabulated lab data, the TheaterMaster's measured performance ranged from very good to superb. The D/A conversion linearity, in particular, was outstanding down to remarkably low levels, a possible benefit — indeed, the only one we found — of the HDCD digital filter when playing normal CD's. But in our noise-shaped dither test, the TheaterMaster proved only average, providing an extension in dynamic range of approximately 7 dB at 3.5 kHz versus a theoretically possible 24 dB (the best we've seen so far is around 12 dB). Nonetheless, its sound quality when playing normal stereo CD's was superb, as were the cleanliness and accuracy of the Dolby Pro Logic decoding. For my reaction to AC-3 playback, see the next page.

When playing HDCD discs, the HDCD decoder automatically came on and produced easily measurable dynamic-range expansion, which was audible in direct comparison with undecoded HDCD playback. That alone would be enough to account for most of the characteristics anecdotally attributed to HDCD. And it corresponds with what little we've been able to glean so far about how HDCD supposedly works — that it is based on dynamic-range companding with a control signal buried in the digital signal's least-significant bits. Unfortunately, it is hard to figure out much from Pacific Microsonics' own literature on HDCD, which is long on techno-babble and short on real information.

Given everything the TheaterMaster does, its great flexibility, and the overall excellence of its performance, I wish I could give it good marks for ergonomics as well. But it stumbled badly in that category. The front panel provides no visual indication of the volume setting. The seriousness of that fault becomes clear when you try to set the unit up; the omission and the idiosyncrasies of the remote control conspire to supply hours of confusion. The elegant handset has very few buttons (eighteen) for the number of fea-

tures it must control. (That *always* warns of trouble ahead.) Two buttons, labeled F and #, are involved in operating almost all the features. EAD aptly calls the pound key (#) the "hash" button. These buttons are used in combinations with the other keys to form control sequences. The most complex are the ones for the most critical setup procedures, such as subwoofer and crossover setup and channel balancing. Example: The sequence #-L-F-1-2-F-# saves the left front channel's relative level as 12 dB below full up.

Familiarity will undoubtedly bring greater fluidity to the entry of such control sequences, though I've seen EAD personnel get confused during demonstrations. Heaven help you if you accidentally hit the wrong button or if your kids decide to play "cellular

phone" with the remote. You may have to laboriously reset every feature individually to get back to known settings as there is no restore-everything-to-factory-presets procedure.

Part of the problem is created by the front-panel indicator lights. Fully interpreting them involves paying attention to which ones are on and off, which ones are blinking slowly or quickly, and which ones do or do not light up as you enter your command sequence. You must also listen for one or two (it depends) confirmation beeps emitted by the unit, beeps that may be masked by the music.

Much of the rest of the confusion in setup comes from the instruction manual, which lacks charts of legal button sequences or indicator-light patterns. It mentions only in passing that there

## MEASUREMENTS

### DOLBY PRO LOGIC DECODER

All measurements made through a digital input with reference input level of -20 dBFS (decibels below digital full-scale) and reference output level of 0.2 volt.

#### Frequency response

left ..... 20 Hz to 20 kHz +0, -0.44 dB  
center ..... 20 Hz to 20 kHz +0, -1 dB  
surround ..... 20 Hz to 7 kHz +0, -3 dB

#### Noise

left ..... -73.2 dB  
center ..... -74.1 dB  
surround ..... -73.9 dB

#### Distortion (THD+N, 1 kHz)

left ..... 0.033%  
center ..... 0.034%  
surround ..... 0.093%

#### Overload (all channels)

..... none up to 0-dBFS input

#### Channel separation

left out, right driven ..... >75 dB  
left out, center driven ..... >43 dB  
left out, surround driven ..... >30 dB  
center out, left driven ..... >40 dB  
center out, surround driven ..... >65 dB  
surround out, left driven ..... >40 dB  
surround out, center driven ..... >65 dB  
left/right symmetry ..... excellent

#### Cross-channel distortion (worst-case, 1 kHz)

surround out, center driven ..... 3.2%

#### Surround-channel noise-reduction calibration error

re Dolby level (-15 dBFS) ..... 0 dB

#### Surround-channel noise-reduction tracking

..... excellent

### TWO-CHANNEL STEREO OPERATION

Unless otherwise indicated, the digital input reference level was -12 dBFS, the analog input reference level 0.5 volt, and the output reference level 0.5 volt.

**Max. output level** (gain full up) ..... 4.17 V

#### Analog input sensitivity

(for 0.5 V out) ..... 320 mV

#### Analog input overload level

(1 kHz, 0.3% THD)  
normal input gain ..... 2.6 V  
attenuated input gain ..... 5.3 V

#### Frequency response (20 Hz to 20 kHz)

digital input ..... +0, -0.17 dB  
analog input ..... +0.04, -0.25 dB

#### Linearity error

digital input (re 0 dBFS) .. >1 dB at -108.5 dB  
analog input (re 2 V in) ..... >1 dB at -105 dB

#### Distortion (THD+N, 20 Hz to 20 kHz)

digital reference input and output ..... <0.03%  
digital 0-dBFS input, 2-V output ..... <0.015%  
analog reference input and output ..... <0.041%  
analog 2-V input, 2-V output ..... <0.011%

#### Noise (A-wtd)

digital input (re reference levels) ..... -81.5 dB  
digital input (re 0 dBFS in, 2 V out) ..... -93.7 dB  
analog input (re reference levels) ..... -77.6 dB  
analog input (re 2 V in, 2 V out) ..... -89.7 dB

# TEST REPORTS

is a time-out period for the entry of some (but not all) key sequences. That reference is buried deep in the manual, well past where you should have been told about it. And there are mistakes. For example, you turn off a slight high-frequency equalization (a rolloff suitable for Pro Logic playback of THX laserdiscs) by F-ANLG-VOL UP, not F-ANLG-VOL DOWN as printed.

The irony is that the TheaterMaster has one feature that gives it the potential to be the easiest-to-set-up surround-sound processor of all. It comes with a microphone that plugs into a front-panel jack. The microphone's

output level is displayed on the lower-right line of LED's during surround-sound speaker balancing, which helps greatly in the process. I'm surprised that EAD didn't take the next step and use the mike together with the inboard computer, test-tone generator, and one of the analog-input A/D converters to do speaker balancing *automatically*.

That may come. Even as I was testing the processor a package arrived from EAD containing two revised integrated-circuit chips that implemented some changes to the control functions and enabled selection of the AC-3 decoder's late-night compression

function. I hope future software revisions will address such issues as the use of front-panel lights and the internal beeper and will implement some sort of volume-setting indicator. The manual should be revised immediately.

EAD has loaded the TheaterMaster with outstanding audio performance and exceptional versatility. The processor's digital Dolby Pro Logic decoding worked superbly, and its AC-3 capability takes surround-sound to a whole new level of excitement and realism. If EAD can just make those qualities easier to get at, it will have a truly great product. □

## AC-3: First Impressions

Use any of the standard movie-review clichés — stupendous, exciting, gripping, thrilling, stunning, marvelous, powerful, spine-tingling, a triumph, two thumbs up. ★★★★★ (highest rating) — and you'll be understating my first reaction to what will undoubtedly become a significant audio technology over the next few years: Dolby Surround AC-3. If you think Dolby Surround Pro Logic, to use its official name, provides an involving home theater experience, you ain't heard nothin' yet.

Although we had very little software to audition, the benefits of Dolby AC-3 compared with Pro Logic were quite vivid in playback of AC-3 laserdiscs (*True Lies*, *Clear and Present Danger*) and a special demonstration DAT (unplayable on consumer DAT decks) prepared by Dolby Labs. AC-3 has an enormous dynamic range; it seems capable of effortlessly reproducing both massive impact and vanishingly small details. In comparison, Pro Logic's surround channel has an audibly restricted dynamic range, usually because of its relatively high noise level after decoding. All of AC-3's five main channels have the potential to carry the full audio frequency range, compared with Pro Logic's restricted 100 Hz to 7 kHz surround-channel bandwidth. And, of course, AC-3's surround channels are in true stereo, a colossal step forward that makes such sound effects as falling chunks of *Travis* (seemingly every five minutes in *True Lies*) all the more pulverizing.

With audibly complete separation between all channels, AC-3 eliminates the subtle sound-steering artifacts that occur with most Pro Logic decoders (such as noise "breathing," signal "pumping," and image instability). And interchannel distortion effects, in which a dominant sound in one channel produces lower-level but greatly distorted outputs from the others, are gone. These advances combine to yield a cleanliness and precision to an AC-3 sound field that is immediately apparent and enormously appealing.

Our initial auditioning of Dolby AC-3 surround sound also touched on a few issues and controversies that may take some time to sort out.

■ **Bass management.** What kind of speakers should reproduce the low frequencies? Where should they be? How many should you have? Should you have full-range speakers for all five main channels? The cheap and easy answer is to send all the deep bass to one subwoofer in a corner. The cost-no-object answer may be six subwoofers (one each for five main speakers as well as a separate, larger subwoofer for the special low-frequency effects channel) placed who-knows-where. We don't know the answers yet.

■ **Dipole surrounds** (as in Home THX systems). The knee-jerk audiophile reaction to AC-3's stereo surrounds is that you now need direct-radiating surround speakers, not THX-type quasi-dipoles. But our experiments with AC-3 soundtracks indicated that dipole

surrounds still provide a more theater-like experience. In fact, direct-radiating surround speakers too easily image as pinpoint sources that can distract your aural attention away from the front and the action on the screen, something filmmakers never want.

■ **Surround decorrelation** (again as in Home THX). Most surround-sound movies made before the recent advent of discrete 5.1-channel digital cinema sound systems were mixed with only a mono surround channel. Unless they are remixed with stereo surrounds, their eventual AC-3 rereleases will not deliver appreciably better sonic envelopment than plain Dolby Surround with Pro Logic decoding, which can too easily produce in-the-head imaging effects from the two surround speakers in a normal home theater system. THX-type surround decorrelation would thus still be advisable. But AC-3's five discrete main channels now enable the *filmmaker* to apply artistically selected methods of surround decorrelation to old soundtracks, possibly using techniques too sophisticated to incorporate into home equipment.

We'll have lots of time to sift through these important issues in the years to come as AC-3 makes its eagerly awaited debuts in such media as digital videodisc and high-definition television. Meanwhile, run, don't walk, to your nearest hi-fi showroom and experience AC-3 in action. If you hear one new audio technology this year, it must be Dolby Surround AC-3. — D.R.



# The magazine that knocks you on your ear



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# CAR STEREO



## Soundstream SA245 Power Amplifier

KEN C. POHLMANN • HAMMER LABORATORIES

Some innovative cars, like the Edsel, are disasters that explode onto the scene and then disappear forever. Other innovative cars, like the Porsche 911, are incredibly good and live on, undergoing continual refinement and invention. Similarly, innovative audio products may suffer a brief, hellish existence or enjoy longevity and evolution. I reviewed the Soundstream MC245 car power amplifier in 1991. It was innovative because it consolidated five amplifier channels and crossover circuitry into a single chassis, enabling the user to bridge the amps as needed to yield three, four, or five output channels. I was highly impressed with its flexibility and praised its sound quality. Apparently the rest of the car-audio industry agreed. The MC245 became a legendary product and was widely copied. Time marches on, however, and to survive even the fittest must evolve. Thus, Soundstream has introduced the new and improved SA245. The question is, can the SA245 possibly live up to the lofty reputation of its predecessor?

The SA245's exterior is traditionally styled, with modest heat-sink fins running along its length. The extruded-aluminum chassis sports the trademark Soundstream blue. All input and output connections are aligned on one side of the chassis. Three large screw terminals accept power, ground, and remote-turn-on leads. Twelve smaller screw terminals provide speaker outputs. Specifically, there are individual outputs for the four main channels as well as two parallel outputs for the mono subwoofer channel. Six phono jacks accept line-level audio inputs for the four main channels and the subwoofer channel, with the two sub-

woofer inputs summed internally. All of these connections are gold-plated to resist corrosion. There are three recessed input-level controls, one each for the two main-channel pairs and the subwoofer channel. In addition, the subwoofer channel has a control to boost the bass level by as much as 9 dB at 45 Hz. Finally, a small red LED lights when the amplifier is powered.

There are five cutout holes on the bottom of the chassis. Three of them provide access to pairs of configuration slide switches. Two of the switches set the main-channel pairs for full-range operation or insert fixed 160-Hz, 12-dB-per-octave high-pass crossovers in the signal path. The two switches in the second hole set the channel pairs for stereo or bridged mono operation. In addition, the second switch can be set to route the inputs to the first channel pair to the second pair as well. The final two switches, in the third hole, configure the subwoofer channel. One selects external input or internal input from the first channel pair. The other selects flat response or inserts the bass-EQ circuit into the signal path.

A fourth hole provides access to a plug-in subwoofer-crossover resistor network. Although the slope of the low-pass subwoofer filter is fixed at 24 dB per octave, its cutoff frequency can be selected by substituting different resistor values. The amplifier is shipped with an 80-Hz crossover, but it can be varied from 50 to 800 Hz. The resistor networks are common parts, available in many electronic-parts stores.

Finally, the fifth hole gives access to a pair of 20-ampere fuses. Soundstream thoughtfully provides five plastic caps to plug the chassis holes so that dust and dirt will not enter the amplifier's interior.

A peek inside the SA245 reveals typically high-quality Soundstream construction. In fact, the SA245 shares more than a few design characteristics with the upscale Soundstream Reference amplifiers. It has a glass-epoxy military-spec circuit board along with 1-percent metal-film resistors throughout and 1-percent capacitors in critical signal-path stages. There are five dual-Class A discrete-component drive

### DIMENSIONS

8¼ INCHES WIDE, 2¼ INCHES HIGH,  
4½ INCHES DEEP

### PRICE

\$499

### MANUFACTURER

SOUNDSTREAM TECHNOLOGIES, DEPT. SR, 120  
BLUE RAVINE RD., FOLSOM, CA 95630





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\*Manufacturer's Suggested Retail Price. Dealer pricing may vary.

# CAR STEREO

stages, and a Darlington power-transistor array supplies the output muscle. As with most power amplifiers, the SA245 is protected against overheating and short circuits in a variety of ways. In addition to the main power-supply fuses, there are speaker-output circuit breakers and a thermal-shutdown circuit that triggers at 95° C. Infrasonic filters protect speakers from signals below the audible range, and an automatic muting circuit eliminates turn-on and turn-off thumps.

The SA245 improves on the MC245 in several ways, including the variable cutoff frequency for the subwoofer crossover and the steeper crossover slopes all around. That makes the new crossovers more expensive to build but also more precise and effective. And the SA245 adds a bass-EQ feature. Finally, the SA245 boasts a two-year limited warranty as opposed to the earlier one-year warranty.

The SA245 provided excellent test-bench results. Noise and distortion were both admirably low, and frequency response was flat across almost the entire audio band, falling off just a fraction of a decibel at 20 Hz. Measured power output comfortably exceeded the amp's specifications. For example, the SA245 is rated at 35 watts each to the four main channels and 100 watts to the subwoofer channel, all into 4 ohms. In reality, with a 12-volt supply it pumped out 52 watts each to the main channels and 110 watts to the subwoofer output. Although internal circuit breakers tripped when driving maximum power into 2-ohm loads, the fuses never blew. This is a very solid piece of work.

Preliminaries aside, I headed for the garage for the real test. Clearly, the multichannel SA245 can be configured in a variety of ways. For example, it can be driven with one, two, or three stereo input pairs. Channel pairs may be bridged, the crossover filters may be engaged or not, and so on. For this test, I bridged the SA245's main channel pairs, inserting the high-pass filter and internally routing the main input signals through the crossover to the subwoofer. I dropped the SA245 into my trunk, securing it with four self-tapping screws. I connected a stereo input from my upstream signal

## MEASUREMENTS

Unless otherwise noted, all measurements made with 14.4-volt DC power supply, all channels driven into 4 ohms.

### Output at clipping

(12 V, four-channel/two-channel/subwoofer)

8 ohms ..... 29/149/57 watts

4 ohms ..... 52/101/110 watts

2 ohms ..... 55/na/155 watts

(14.4 V, four-channel/two-channel/subwoofer)

8 ohms ..... 36/156/57 watts

4 ohms ..... 66/104/111 watts

2 ohms ..... 68/na/158 watts

**Noise** (A-wtd, re 1-watt output) ..... -86.6 dB

**Distortion** (THD+N at 1 watt)

at 1 kHz ..... 0.031%

at 20 kHz ..... 0.070%

**Frequency response**

..... 20 Hz to 20 kHz +0, -0.38 dB

**Channel separation** (at 1 kHz) ..... 68.3 dB

**Sensitivity**

(for 1-watt output) ..... 20 to 500 mV

**Current draw** (at idle) ..... 2.4 amperes

path and connected speaker leads to my front speakers and two rear subwoofers. I then attached fused power and chassis-ground leads and a remote-turn-on lead. (A minor gripe: I've lately gotten into massive car power and speaker cables, and I would have appreciated larger screw terminals.) I powered up the system, quickly adjusted input sensitivity, and adjusted the bass EQ for a slight boost. Chores completed, I hit the road.

An amplifier should sound good, be reliable, and pump out enough wattage, and a crossover should enable you to achieve flat frequency response. I considered the crossover first. Most cars have a midbass frequency-response hump related to their interior dimensions. The SA245's crossovers are designed to notch out midbass slightly to compensate for this effect, resulting in a flat response. In fact, that's exactly what happened in my case (after further boosting the subwoofer bass level somewhat). The bass response was quite good, and I was additionally comforted to know that I could vary the low-pass crossover frequency to address the problem more exactly. I also appreciated the steep filter slopes — a big improve-

ment over the MC245. Perfectionists will want a more comprehensive external crossover, but for the rest of us the SA245's internal crossovers do a great job.

I next considered the amplifier itself. A moving car isn't exactly an ideal environment for evaluating sound quality, so I parked and listened intently for subtleties. I was impressed by the essential absence of audible distortion and noise, the excellent imaging, and the snappy transient response. A perfect amplifier has no sound of its own, instead merely conveying a magnified replica of the input. In this case, both the main and subwoofer channels were extremely transparent; listening to familiar music, I felt that the SA245 stayed neutral, without putting any fingerprints on the music. In short, I appreciated the fact that the SA245 didn't impose any sound of its own.

Returning to the roadways, I cranked up the music to see how the SA245 would handle high levels. Clearly, this amp is not designed to bend sheet metal, but I found its power to be largely sufficient for my tastes. More important than being damn loud, the amp stayed clean with low distortion even as it approached its maximum output. This quality was particularly impressive in the subwoofer channel, which handled the worst abuse I inflicted on it without flinching. I also felt that the relative power balance between the main and subwoofer channels was about right. In other words, a single SA245 can successfully drive an entire car system.

Without question, the SA245 improves on the success of the MC245. Given the lofty status of the MC245, that is no small feat. But the SA245 manages to pound out more power with lower distortion, has an improved crossover design, enables you to vary the low-pass crossover frequency, and adds a bass-boost control. At the same time, it wisely doesn't mess with success. It still delivers very flexible, high-fidelity multichannel operation from a proven circuit design, robustly constructed with high-quality components. In short, on the Edsel/Porsche scale, the SA245 is solidly in the Porsche range — a textbook example of how the best can get even better. □



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# TROUBLE

**T**echnology giveth, and technology taketh away. The same miracles of sound and vision that bring music, movies, and high-tech video into our homes can, in the blink of an eye, go blank and mute. In other words, stuff breaks.

Yes, audio/video components have been known to fail from time to time — and sometimes that means a trip to the shop or, worse, to the trash heap. But often what looks, feels, and smells like component failure is really component folly, or a problem that is easily remedied. How many times have you cursed your system only to find out that a component was unplugged or a cable was disconnected? Or maybe the culprit was a blown fuse. The trick is

in learning how to tell the difference between a serious problem that requires the skill of a technician and one that you can fix yourself.

Today's A/V components are complicated, to be sure, and when they truly break there's not much you can do but call the doctor. But it pays to do a little troubleshooting of your own before you throw up your hands and rush to the repair shop. Since A/V receivers, integrated amplifiers, and power amps use most of the electrical power and do most of the real "work" in a typical sound system, they tend to be the most common troublemakers, along with components that have lots of moving parts, like VCR's and cassette decks.

## Lights Out

A dead receiver or amplifier with no lights and no sound may seem like an automatic service call. But before picking up the phone, confirm that the unit is powered from a live AC socket (use a lamp or other household appliance to check) — don't laugh, this one has fooled me more than once. If the component is still "dark," check its main fuse: *Unplug it from the wall socket* and look on its rear panel for a fuse holder, which will usually have a round,

black knurled knob. (If there's no external fuse, see "Lights On, No Sound" below for tips on replacing *internal* fuses.) Unscrew the knob and remove the fuse, a small glass tube with a metal cap at each end. When you hold it up to the light, you should see a thin wire inside running from cap to cap; if the wire is broken, the fuse is blown.

A blown fuse almost always indicates deeper ills, but you won't know for sure until you spend 25¢ or so on a replacement fuse. Never, *never*,

NEVER replace a fuse with anything but a fuse of the identical size, shape, and rating. A fuse's rating is printed in tiny type on one of the metal end caps (dig out a magnifying lens and find a strong light) and usually more legibly on the component's rear panel. A typical rating might be "AGC 2A, 250V," which means an AGC-type fuse rated for 2 amperes at 250 volts. AGC (or AG) fuses are widely available at electronics shops like Radio Shack and at hardware stores; buy three or four of 'em while you're

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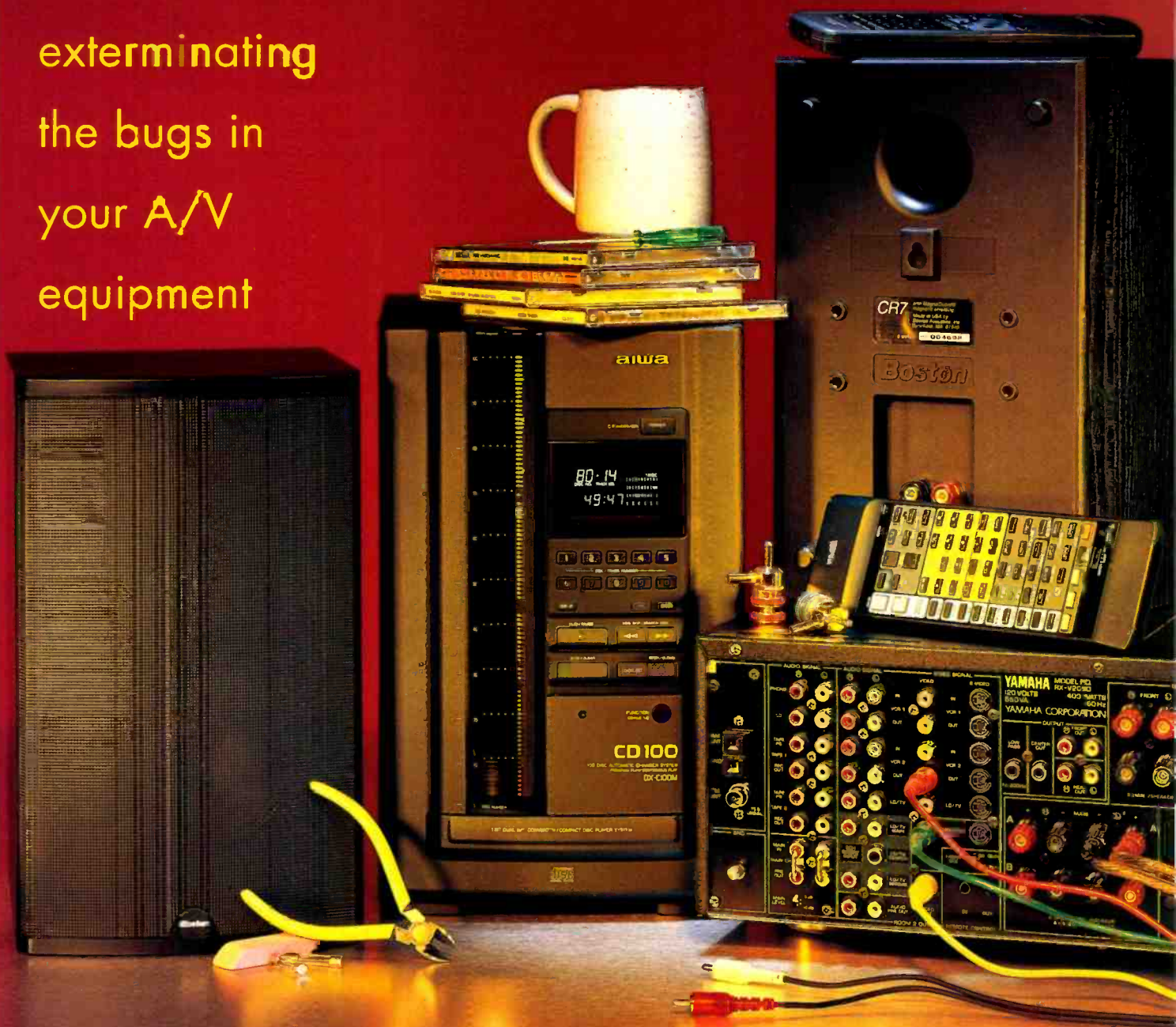
By Daniel J. Kumin





# SHOOTING

A guide to  
finding and  
exterminating  
the bugs in  
your A/V  
equipment



## TROUBLESHOOTING

there. If you put in a new fuse and it immediately blows, surrender: The component has power-supply problems, and there's nothing more you can do. Power-supply repairs are usually fairly straightforward and (relatively) inexpensive — provided nothing more has failed downstream. Unfortunately, that's not always the case.

### Lights On, No Sound

Sometimes a component lights up and appears operational, but you get no sound. Before you do anything else, eliminate some common "shorts between the ears." First return the volume control to a low level to avoid a heart-stopping surprise if and when you correct the problem. Then confirm that everything is indeed turned on, that you have in fact pressed play on the selected source component (with a disc or tape loaded), and that the correct source is selected on the receiver or amp. Check a few less obvious settings, too. If there's an A/B speaker-selector switch, make sure the appropriate pair is engaged and that any unconnected speaker outputs are turned off. And, unless you are trying to play a tape, double-check the tape-monitor or tape-play switch or button to make sure it's not engaged — a common embarrassment.



Other frequent troublemakers are the audio-video dubbing modes found on many A/V receivers. These permit you to mix audio and video sources for simulcasts or to record new sound on your camcorder tapes, and they're easy to confuse. If you're not already familiar with your equipment's A/V dubbing-selector setup, dig out the manual and study the relevant section. Make sure that no dubbing or simulcast mode has been selected — if one has, you might well get a picture from the expected source but no sound, or vice versa.

If everything looks correct but you still have no sound, try a different music source. For instance, if it turns out that CD's and FM work fine but cassettes don't, the problem almost surely resides in the cassette deck or in the connection between the deck and your receiver or amp (unless you've ingeniously inserted a blank tape). If, on the other hand, you switch through all of the connected source components and still get no output, you probably have receiver/amp trouble.

Try plugging headphones into the receiver or amp. If you get sound over the phones but not through the speakers, check the speaker-selector switches and wiring one more time. If those look correct and the lights are still on with no sound, you may have blown some fuses inside the receiver or amp.

*Please note:* Removing the top cover of your receiver or amplifier may well void your warranty and will surely expose you to a shock hazard even when the unit is disconnected from AC power. All amplifiers have power-supply storage capacitors that can retain a substantial electrical charge for weeks after they're unplugged. The bottom line: Don't muck about inside any electronic gear unless you know without any doubt what you're doing. Thus forewarned, look for several small fuses on a circuit board near the entry point of the AC line cord; one or more may be blown. Use *insulated-handle* needle-nose pliers to replace any bad ones you find — just don't squeeze too hard! — and then replace the cover and try the unit again. Repeatedly blown fuses indicate a power-supply problem.

### Dead Channel, Stereo Mode

A dead channel is usually the result of a faulty cable connection, so double-check all wiring before looking for a more serious problem. If the missing channel is peculiar to a single source, the fault lies in the interconnect (the RCA-type cable running from the source component) or in the source itself. Replace the suspect cable; if sound returns to the "bad" channel, you're done. If the channel remains dead and all other source components play okay, plug the suspect component into an input that you know is good (CD into the AUX-1 jacks, for example). If the fault persists, the problem is in the source component; if it disappears, the receiver or amp input you used before is defective or damaged (very rare).

It's not unheard of for volume- or balance-control potentiometers to become pitted or dirty, causing one or both channels to drop out. With the unit turned off, fully rotate all control knobs several times; if that restores sound to the dead channel, a simple potentiometer cleaning is in order; see sidebar, "Maintenance Department." [Thanks to reader Steve Kohn, of Hawaii, for this tip. — Ed.]

If one channel remains dead with all

sources, turn your attention to the speaker wire. Reverse the speaker connections, from left to right and right to left, *at the receiver end only*. If the missing channel stays the same (for example, there's still no sound from the left speaker), the speaker wire on that side is broken or disconnected somewhere. Replace it and recheck all connections, and the problem should be solved. But if the absent channel *changes sides* when you switch speaker wires, and remains AWOL with all sources, your receiver or amp has a nonfunctioning channel. Check for an internal fuse failure as above; if the fuses look okay, it's something deeper and more expensive.

### Missing Channels, Pro Logic Mode

Dropped channels in surround-sound modes are trickier to troubleshoot, but if you're methodical you can eliminate some common faults.

■ **Dead center channel.** First make sure that your A/V receiver or processor is set to the Dolby Pro Logic mode, and double-check the wire running to the center speaker. Confirm that your A/V receiver or decoder is not set to the phantom-center mode, which directs center-channel information to the left and right speakers, leaving the center speaker completely off. Next play a monaural source (a mono CD or laserdisc movie is ideal, or tune to a mono AM radio station or an FM station using the receiver/amp's mono mode); all of the sound should come from the center speaker. If you hear nothing (and the source is truly mono), the center-channel amplifier is malfunctioning or the center-speaker wire is broken or disconnected (check it again). If you hear the mono source from both the left and right channels, either you're not in Pro Logic mode or your source material is not really mono. If your mono source plays only from the left or right channel, and not the center, then the cable running between the source component and the receiver/decoder is probably partially unplugged or defective. Fix or replace the cable, and sound should come only from the center speaker.

■ **Dead left/right channels.** If sound comes from only the center speaker and the front left/right and surround speakers are silent, only one possibility exists: Your source material or component is mono. (Many movie soundtracks have long stretches of mono sound, especially in dialogue-only



scenes.) If you hear only the center speaker *and* the surrounds, then your A/V receiver/amp's main speaker switch is disengaged.

■ **Dead surround channel.** If your surround speakers are silent, your receiver/decoder is probably set to Dolby 3-Channel mode, which mixes the surround signal into the front left and right channels, or the program you're playing is not encoded in Dolby Surround (it's either mono or, in very rare cases, a poor stereo recording, one in which there isn't enough out-of-phase information to be steered to the surround channel). Or perhaps the cables running to the surround speakers are disconnected or broken. If you've eliminated all of these possibilities and the surround speakers are still mum, chances are the surround amplifier in the A/V component has failed.

■ **Dead subwoofer.** If your *powered* subwoofer isn't working, make sure the A/V receiver, amp, or processor's subwoofer mode is set to "on." (Depending on the component, you'll make this setting via an on-screen menu or a front- or rear-panel switch.) Usually, "sub-on" mode is required to activate the subwoofer output. If it's on and you still have no bass, and the sub's own power indicator is lit, check the interconnects between the subwoofer and your receiver, amp, or processor, replacing any that seem faulty. If these cables are okay, the subwoofer's electronics may have failed, and fixing that is a job best left to a service technician.

If there is no bass coming from a single *passive* subwoofer that's wired to your receiver or amp with speaker-level connections, it's almost certain that you've accidentally reversed the polarity on one of the cables (assuming you're playing a recording that has real bass). The wires between the receiver/amp and the subwoofer should be connected plus (red) to plus and minus (black) to minus at all eight points: the receiver/amp's left and right outputs and the subwoofer's left and right inputs.

### Bad Sound, Stereo Mode

If you get distorted sound from one speaker, check the speaker cables first. If the fault reverses sides when you swap speaker wires at the receiver/amp end, an amplifier channel is malfunctioning (probably the result of one or more damaged output transistors) — it's service-center time. If the dis-

The best way  
to isolate a bad  
channel in  
surround mode  
is to listen to  
each speaker  
on its own.

torted channel "follows" all source components and stays put when you swap speaker wires, then a poor connection or borderline speaker-wire fault is probably the culprit, or the speaker itself is ill (see "Speaker Failure" below).

Distorted sound from both channels usually points toward a global receiver/amplifier failure. Before you head for the shop, though, be sure that the sound is really bad by playing a variety of recordings on *all* of your source components. If the "defective" sound is not dramatically distorted, solicit a second opinion, and confirm that all sources are equally affected.

### Bad Sound, Pro Logic Mode

The best way to isolate a bad channel is to listen to each speaker on its own. Temporarily disconnect all but one speaker and listen to it alone, then disconnect it and go around the horn, auditioning one speaker at a time.

The center speaker should sound clean and clear with both dialogue and

music. Distortion during peaks at loud levels means the center-channel amplifier is running out of gas — get a more powerful center amp or a more sensitive center speaker, or turn down the master volume. Distortion at all levels indicates a failure in the center-channel amplifier circuits — see a service technician.

A left or right speaker heard on its own when Pro Logic is switched in will sound somewhat vague, and possibly a bit thin if your system has a subwoofer, because the mono signal has been handed off to the center speaker and the bass to the subwoofer. Distortion shouldn't be obvious, but you might hear some spitting on "p," "t," and "s" sounds during dialogue because some center-channel information has leaked into the left and right channels. More noticeable distortion heard only during high-level peaks could be caused by improperly set input-sensitivity or input-balance controls (an unlikely scenario in new components since those levels are set automatically these days). Distorted sound at all levels in both the left and right speakers suggests a global receiver/amp or processor fault, in which case the problem should also surface in two-channel stereo mode — unless the Pro Logic decoder circuitry itself is defective (exceedingly rare).

The sound of a lone surround speaker should be quite vague or diffuse. At the same time, it should also be clean (except, perhaps, for some transient spitting in dialogue) at all levels up to a master volume setting that produces very loud full-system sound. The surrounds may distort slightly as you approach or exceed that level if your system's surround-channel amps run out of headroom; that's normal. (Make a note of this master volume setting and don't play your system much louder; distorted or clipped signals are bad for speakers.) If the surround speakers sound distorted only during loud passages, the input-sensitivity setting may be wrong (although, as noted above, most new A/V components handle this automatically). Bad sound from the surrounds at all levels probably means damaged surround-channel amplifier circuits, but just to be sure, listen to several different recordings — the surround channel *is* noisy in some movie soundtracks.

### Speaker Failure

Loudspeaker failures are often caused by abuse rather than defects or

## TROUBLESHOOTING

old age. Whatever the cause, the signs are the same: One or more drivers don't work or operate at a reduced level and deliver poor sound quality. A dead tweeter is probably the most common speaker ailment. The symptom is dull, muffled sound from one speaker, and it stays put when you swap speaker wires. Check the back of the speaker for a tweeter-protection fuse, and replace it if it's blown. Also make sure that any driver level controls are set properly.

Woofer damage is less common. A blown woofer might be completely silent, or it might sound normal at moderate levels but produce buzzing, scraping, and other signs of distress when bass-heavy passages are played loudly. A blown midrange driver (in a three-way system) is uncommon although not impossible, and it can be difficult to detect. The best method is to play broadband noise (such as the hiss found between radio stations on the FM dial) and put your ear right next to the driver; if you hear nothing, the midrange is shot.

**C**rossover-component failures are rare but not entirely unknown. The symptoms usually mimic those of a blown driver, making it difficult to be sure the crossover is at fault. A service technician can determine quickly whether a suspect driver is blown. (You can do it yourself by removing the driver, unclipping its leads, and touching the two strands of speaker wire running from your receiver/amp directly to the driver's terminals — just make sure the volume is *very* low. If the driver plays, it's probably okay.) Damaged drivers are almost never repaired. Instead, they are replaced with new drivers of the same make and model.

### CD/Laserdisc Glitches

Optical-disc players seldom fail, but when they do it's usually in conveniently obvious ways. Symptoms include skipping, looping (repeated play of a short passage), or just plain failure to play a disc. To be sure that the problem is not caused by a defective, dirty, or damaged disc, play several discs, including new ones and some that play fine on another unit. Once you're satisfied that the problem lies in the player, you may want to try a commercial lens-cleaning disc before lugging the player to the repair shop;

optical-disc tracking problems are sometimes caused by a buildup of dust and dirt on the lens.

Most CD/laserdisc player problems, however, are traceable to misaligned servo circuits, aging or broken laser-optics, or failed integrated-circuit chips — all of which require the attention of a qualified technician. Optical players are complex, so take the unit only to an authorized service center for that brand.

### Tape Trouble

VCR's and cassette decks are packed with belts, motors, and gears, so they tend to break down more frequently than most nonmechanical components. A deck that refuses to accept a cassette or to wind a tape, that eats cassettes, or that suffers from other obvious mechanical ailments, such as gross wow and flutter (pitch warbling), is probably due a service-center visit.

If you're feeling adventurous, before opening the Yellow Pages unplug the deck from the AC outlet and remove its cover. If you see a broken

rubber drive belt, you may be able to purchase a replacement from a service center for a few dollars and install it yourself. But be forewarned that such installation procedures can be tricky, often requiring considerable disassembly. If that is the case, seal the deck back up and send it to the repair shop — unless you were the one fourth-grader in a million who actually got the alarm-clock back together again (and working!) after taking it apart unasked.

Less clear-cut woes, such as dull sound, a noisy (snowy) or flawed picture, or poor-quality recordings, may be traceable to dirty or magnetized tape heads. To be sure, visit your dealer and get a quick course on how to clean and demagnetize your particular deck. If the dealer suggests a head cleaner and demagnetizer for your audio deck, buy them: If you don't already use those tools, you should. (VCR's don't require demagnetization; just get a high-quality head-cleaning cassette and use it when necessary.) If the problems persist despite thorough cleaning and demagnetization, your deck may be suffering from worn or damaged heads, particularly if it has had more than a few hundred hours of use. Since tape-head replacement can range from about \$100 to several times that figure, it's usually worthwhile only for very high-quality machines.

### Video Woes

Let's get one thing straight right from the start: There is nothing — not so much as a fuse — that you can (or should attempt to) fix yourself inside any television or video-display component. A TV set's complex interior is rife with lethal voltages and currents, so you have no business poking around inside. Don't open that box! And don't say we didn't warn you.

■ **No picture.** It's rare for a TV to fail, but it can happen. If your screen stays dark when you turn the set on, chances are you have simply selected an input that's turned off or not in use. If the set provides on-screen control menus or command confirmation, key in a few commands on the remote control. If they appear on the screen, the TV is fine; your trouble is either a turned-off source (VCR or laserdisc player), a selected video input with nothing plugged into it, or a defective video interconnect cable.

If your TV is an older model with no on-screen control provisions, select

VCR's and  
cassette decks  
tend to break  
down more  
often than most  
nonmechanical  
components.



## MAINTENANCE DEPARTMENT

Before you pack up your "failed" component and head for the repair shop, be sure to eliminate faulty connections as the culprit. A few minutes spent double-checking your system's wiring may well save you hours of aggravation, not to mention an unnecessary repair bill. Suspicious symptoms include one or more channels that refuse to play, whether from a single source component (a CD player or cassette deck, say) or on all sources, constant or intermittent humming or buzzing with one particular source, and, possibly, distorted sound on one channel.

If you find a suspect cable, exchange it for a brand-new one or one that you know is good; often wire troubles are intermittent and show up only when a cable is twisted or turned a certain way — which may not happen until you relocate your system or move components around to make room for new ones.

Here's a 10-minute routine that I recommend performing on your entire system every year or so, even when everything seems to be in perfect working order: Turn off all components and unplug all AC power cords. One at a time, unplug each audio or video interconnect — the RCA-plug-equipped cables that run between components — and burnish the jack's outer perimeter and the

the set's internal tuner as the video source (make sure it's tuned to a broadcast channel). If the set is working, a picture will appear on the screen, or at the very least you'll get a full screen of video "snow" (which means there's no antenna or cable-TV lead connected to the set). Go back to the previously troublesome mode and make sure the source component is on, loaded with a disc or tape, and in the play mode. If the screen is still totally dark, try replacing the video interconnect. If it remains dark, and you're sure the set is plugged into a live AC outlet and turned on (the power indi-

plug's tip with an ordinary pencil eraser. Be sure to blow off any rubber shreds. (If you're obsessively meticulous, you can polish the jacks and plugs with a contact cleaner like Gromolin; it's expensive, but it does an excellent job.) As you reinsert each plug, rotate it a quarter-turn in each direction, and make sure it's fully inserted. Also evaluate each cable for signs of physical damage, and eliminate any kinks or tight bends in its routing (this simple procedure will help reduce the likelihood of cable failures).

Next, inspect your speaker wires — every one of them. Perform the same pencil-eraser routine on all those that terminate with a banana plug. Check bare-wire crimps and screw terminals for tightness, and if metal fatigue has broken off too many wire strands, restrip the ends to expose fresh wire. Also make sure that there are no wayward strands wandering from one terminal to another.

While you've got the components turned off, twist each of their rotary controls (volume, bass, treble, balance, and so on) back and forth several times. That helps prevent contact pitting, which could induce noise or, in severe cases, a dead channel. If you've noticed scratching noises while operating a component's controls, pick up a can of tuner cleaner/lubricant at an electronics store and, after unplugging the component's power cord and removing its top cover, spray a dollop into each potentiometer (the cylinder on the inside to which the knob is attached) while rotating the control back and forth several times. — D.K.

icator lights up), congratulations: Your TV is truly broken. Now you can call the service center.

■ **Bad picture.** There's nothing you can do about a video failure mode that induces a vertically shrunken picture, no picture, or other catastrophic disturbances, but some minor problems can be easily fixed. If, for example, the color exhibits a purple or greenish cast, particularly in the corners or along the edges of the screen, the picture tube has become magnetized, most likely by a nearby pair of unshielded speakers (the drivers in most A/V speakers sold today are magneti-

cally shielded to avoid this problem). Most relatively new TV's automatically degauss themselves when they are switched off and on again. If that doesn't work in your case, you'll need to have a service technician demagnetize the set's picture tube — a relatively inexpensive, 5-minute procedure that involves waving a sort of magic wand around the screen.

A screen that exhibits persistent diagonal or horizontal lines on broadcast or cable-fed channels is probably suffering from induced electrical noise of one sort or another. Sometimes merely cleaning and tightening the cable connections will cure the problem; sometimes replacing the RF cable that connects the set to the cable-TV wall jack or the TV antenna will do the trick. You can also try plugging the TV's power cord into a different AC outlet. If that doesn't clear up the picture, try turning off nearby noise sources — computers, cordless phones, intercoms, and the like — one at a time until you discover the offending source; then either relocate the device or keep it off while you're watching TV.

Similarly, a noisy (snowy) picture on all channels — one that was previously clear and clean — indicates a faulty connection. Check the antenna/cable leads, outside downloads (if any), and connectors. It's not uncommon for the screw-on F-connectors in cable hook-ups to vibrate loose, breaking the ground contact — just tighten these up by hand.

Finally, a fairly common home-theater problem is a constant 60-Hz hum or buzz caused by a ground loop between the cable-TV wiring and your home's electrical system. The fix is simple: Most A/V dealers can sell you a ground-loop-eliminator that you simply connect in-line with your main cable feed; in most cases, it will eradicate the hum. Or if you're a penny-pincher, like me, dig out two 75-ohm/300-ohm baluns (matching transformers) from your junk drawer and wire their 300-ohm (flat-wire) ends together; insert this device in-line, and the hum will often disappear.

**T**roubleshooting your A/V gear is always worthwhile. Even if you can't fix it yourself, you'll be ahead of the game. You'll know where the problem is — and which component to take to the shop instead of renting a truck to take the whole system. □

# Early Retirement

Like most of us, Rick Louthan is careful about spending his hard-earned money. But when the thirty-two-year-old maintenance mechanic and his family moved into a new house in Salem, Oregon, a few years ago, the bucks began to flow: first on lots of contemporary furniture, all carefully chosen to complement the house, and then on the killer home theater he had been dreaming about. Louthan, an avowed gadgeteer with stacks of old audio



gear in his attic, just couldn't resist the home theater temptation, even though he was running a bit short on cash. So he bit the bullet. "I took a chunk of my retirement savings and decided to just do it," he says. The 26 x 15-foot living/dining room in his new home was, after all, perfect for home theater.

Within weeks, Louthan had transformed a piece of his nest egg into a full-bore A/V setup that he insists gives the local cineplex a run for its money. The brain of the system is Yamaha's DSP-A2070 seven-channel integrated amplifier, which offers, in addition to Dolby Pro Logic, a wealth of digital ambience controls and settings, including eleven movie and twelve music modes. It powers all of the system's speakers except the subwoofer, delivering 80 watts across the front and 25 watts each to two front effects speakers and two surrounds.

A Technics SH-8066 twelve-band

equalizer/spectrum analyzer is patched into the DSP-A2070 to help spruce up poor-quality, non-Dolby-encoded soundtracks, but Louthan says he rarely uses it.

Movies are served up by either a Marantz LV-800 CD/laserdisc combi-player or a Sony SLV-595HF VHS Hi-Fi VCR, both of which route video signals (via the DSP-A2070) to a Sharp XU-101TU LCD projector perched atop a mirrored cabinet in the back of the room, a china closet that Louthan modified to accommodate components and wiring. The projector fills a 100-inch (diagonal) screen with what Louthan describes as a very bright but somewhat pixelized image; the screen blankets the room's large front window when it's pulled down. Louthan says that picture brightness improved substantially when he replaced the original bulb (which had burned out) with a new, modified bulb from Sharp.

Most of the speakers for the system are from Definitive Technology: a pair of two-way DR7 Studio Towers and a CI center speaker in the front and a pair of white BP2 bipolar surround speakers mounted high on the side walls toward the rear of the room. The center speaker sits on a homemade steel-tube stand.

A pair of Solid Monitors, from the Rock Solid Sounds division of B&W, supplement the Definitive lineup. Mounted in the front corners of the room, where the 19-foot cathedral ceiling begins its upward climb, the white speakers handle front-effects signals (generated when one of the DSP-A2070's Cinema DSP modes is engaged). "The sound just wraps



around you when the front-effects speakers are on," Louthan says.

Bringing up the bottom is Velodyne's mighty ULD-15 Series II subwoofer. Packing a servo-controlled 15-inch driver, it is powered by its own 400-watt amplifier, which also houses an active crossover. The handsome black-oak bass module, which is rated way down to 18 Hz, doubles as a coffee table in the front corner of the room.

Louthan uses the second output on the Marantz combi-player to feed a video signal (via the DSP-A2070) to the Mitsubishi VS-5073 50-inch projection TV he just bought for the family room (not shown). The audio portion of the signal is handed off to an Adcom GFP-555II preamplifier, which is also used to switch between a Pioneer PD-5010 CD player, a Nakamichi RX-202 cassette deck, and a Denon DP-37F microprocessor-controlled turntable with a Grado MF-1 cartridge. Power is supplied by an Adcom GFA-545II 100-watt-per-channel power amplifier, which drives a pair of Cerwin-Vega D-9 three-way speakers. A Sansui SE-510 seven-band graphic equalizer is also on hand just in case Louthan wants to tweak the system's response while listening to ZZ Top, the Stone Temple Pilots, or one of his other favorite rock bands.

All of the electronics gear, including the components used to pipe music into the family room, is housed in the modified china closet. Add up the receipts for all of the gear in both rooms, and you're looking at a tidy sum that easily exceeds \$15,000 (just don't tell his wife, Tracy).

To achieve goose-bump performance from his home theater, Louthan experimented with many different speaker locations. The surrounds were the hardest to place, he found, because of the open space above the 8-foot shelf wall in the back of the living/dining room. "The room is also very reverberant, so I made absorptive panels out of 6-pound-dense fiberglass and covered them with colored fabric," he says. "That made the system sound





much better." The panels conform to patterns designed by an artist, giving them the appearance of wall art.

There was one slight problem, however. The ferocious output of the Velodyne subwoofer ruined two expensive thermal-pane windows. Apparently the explosive low-frequency energy that characterizes so many of today's blockbuster movies did a number on

the seal that holds the gas in between the window panes. "I finally had the window company build a new one — using rubber grommets this time," Louthan says with a chuckle.

"I've really awed a lot of people with this system, and I still do that to myself," the proud owner reports. Even his sons, three-year-old Gage and six-year old Nicholas, are im-

pressed — especially with the THX laserdisc version of Disney's *Aladdin*. "The soundtrack of a movie like *True Lies* (starring Arnold Schwarzenegger) is so riveting that it's hard to even move. Sometimes I sit back and watch the expressions on people's faces. It's like a cartoon: Everybody moves to the left, then the right, and back again. It's really funny." — *Bob Ankosko*







**Designed for soundtracks,  
how do Home THX  
speakers perform on music?**



Several years ago, Lucasfilm introduced its Home THX program as a set of technical solutions to some of the problems of home theater sound. Although widely embraced, nearly every element of the program has provoked at least some controversy. The largest, and most interesting, of the arguments has had to do with whether the Home THX standards for front loudspeakers compromise their performance as music reproducers. While Lucasfilm contends that the speakers are equally adept in the two applications, dissenters maintain (often vehemently) that more conventional speakers sound much better with music and that the Home THX designs should be turned off with the TV.

So we decided to put the question to the test. All previous attempts we've seen have compared speakers of completely different design, obscuring which aspects were responsible for listener preferences. We wanted to find out, as nearly as possible, what effect the THX requirements themselves have on sound quality, with music and soundtracks alike.

A number of the Home THX specifications for front speakers have to do strictly with compatibility issues — impedance, sen-

PHOTO BY JOHN WILKES

sitivity, and the like. Others have to do with dynamic range. Two in particular, however, directly affect sound quality at all listening levels. One is that the frequency response be very flat on-axis and over a fairly wide horizontal angle. The other is that the speaker's vertical dispersion be limited to a fairly narrow angle at high frequencies, usually achieved by means of multiple-driver arrays. Although many speakers are not as flat as Home THX specifications would require, almost nobody claims that flat response is a bad thing. The part of the standard that has drawn fire is the requirement for restricted vertical directivity, which Lucasfilm says improves clarity, dialogue intelligibility, and localization by minimizing sound reflections from the floor and ceiling.

Coming up with two loudspeakers that differ *only* in their vertical directivity is virtually impossible, but we wanted to come as close as we could. Our goal was to find out just how well a Home THX speaker compared with a non-THX speaker as similar as we could find, except for vertical directivity, reproducing both film sound and music in blind listening evaluations. Easier said than done, since few manufacturers have directly comparable THX and non-THX models. But the M&K S-5000THX speaker, essentially two of the company's S-90 two-way speakers stacked tweeter-to-tweeter in a single enclosure to meet the THX specifications, seemed almost ideally suited to our purposes.

The S-90 (which was reviewed in the September 1994 issue) is a high-quality two-way system with a 1-inch dome tweeter and a 6½-inch polypropylene-cone woofer. Strips of acoustical foam are strategically located on the front panel to control diffraction. The S-90 is rated to handle 200 watts and has a frequency range of 80 Hz to 20 kHz. As mentioned above, the S-5000THX is essentially two S-90 speakers, one atop the other with the tweeters in the middle. The over/under topology is a common way of meeting the THX directivity specifications. The specified frequency range of the S-5000THX is 72 Hz to 20 kHz, and, not surprisingly, it is rated to handle 400 watts.

Hooking up and measuring a set of each in my listening room quickly

demonstrated that they were certainly fraternal, if not identical, twins. As expected, they had significantly different vertical directivity patterns, and the S-90's response showed a much larger floor/ceiling bounce notch around 100 Hz. Spectrally, the speakers were pretty darn close except that the THX version was about 2.5 dB hotter between 1.6 and 3.6 kHz.

#### THE TEST SETUP

I experimented with various near-coincident placements of the speakers, obtaining a good, close match with the S-90's directly on top of the S-5000THX's, which were mounted on 26-inch stands. That put the tweeters of the THX speakers at ear level, as recommended, and I could get a reasonable comparison by means of direct switching between sets of speakers.

The left and right speakers were driven by a pair of Bryston 4B power amplifiers, one for the S-90's and the other for the S-5000THX's, while the center speakers were driven by a single Accuphase P-300 — one channel for the S-90, the other for the S-5000THX. I adjusted the level controls for each of the amplifier channels driving a THX speaker to match the outputs of the speakers to within 0.5 dB when playing B-weighted pink noise.

The test setup also included a Lexicon CP-3 surround processor, which during the tests was used in its Home THX, Music Surround, and stereo modes. A pair of bipolar surround speakers was also integrated into the system. A Marantz LV-500 laserdisc player and a Denon DCD-1290 CD player delivered signals.

The speakers were compared using a two-position rotary control that switched left, center, and right channels simultaneously between the S-90's and the S-5000THX's. The switch positions were color-coded red (S-90) and blue (S-5000THX) with stick-on labels, and the speakers were draped with acoustically transparent black cloth to hide their identities.

#### THE TEST DESIGN

Seven listeners (not counting me) participated in a three-session experiment. All they were told was that two "speaker alignments" were being compared. In all three sessions the listeners were asked to express their prefer-

ences in three performance categories: spectral balance (frequency response), spatial accuracy (imaging), and definition and clarity. Finally, each listener was asked to indicate which system was more natural or pleasing. Ratings were scored on the following scale:

4 3 2 1 Same 1 2 3 4

If the subject thought the two sets of speakers sounded the same or equally good, he would circle "Same"; if he thought Red sounded marginally better, he would circle the first number to the left; and so on.

Three sessions, titled Stereo, Music Surround, and Film, were conducted for each of the listeners. Five of them listened individually with no other subjects present, while the remaining two were together for their sessions. The Stereo session included a set of eight music-only programs containing selections with male and female vocals, small ensemble with predominantly acoustic instruments, and choir with organ and full orchestra, all in conventional two-channel stereo using only the left and right speakers. The Music Surround session used the same musical selections played in the CP-3's Music Surround mode with the center and surround speakers enabled.

The Film session was conducted using the "Jungle at Night" campfire scene from *Indiana Jones and the Temple of Doom*. That scene contains male and female dialogue, an adolescent boy with a hard-to-understand foreign accent, and plenty of competing off-screen sound and action. The Lexicon was switched to its Home THX Pro Logic mode (again, with center and surround speakers enabled) for this piece. I gave the listeners a one-time preview of the scene on a tiny picture-in-picture screen before the session for orientation. There was no video during the listening comparisons, however, to eliminate visual cues for placement of sounds. Sessions were initially ordered by coin flip and then staggered so that the Film, Music Surround, and Stereo sessions did not always occur in the same order.

The listeners were all male audio enthusiasts ranging in age from twenty-five to forty-eight. All but one had participated in blind evaluative listening tests before, and all but that one had previous experience ranking per-



formance in the categories that we used for this test.

## THE RESULTS

**Spectral balance.** Six of the seven listeners thought the S-90's spectral balance was more natural for two-channel stereo, but by only a small margin, averaging roughly +1 on our rating scale. In the Music Surround sessions, an even smaller preference (about +0.5) developed in the other direction, favoring the S-5000THX, but the number of listeners on each side of the scale was identical. Surprisingly, the systems' average ratings were dead even in the Film sessions.

The measurements vividly showed the S-90's greater room interaction, which seemed to be easily discernible when listening to pink noise as adding fullness and mellowing the sound. Interestingly, one listener indicated that he preferred the S-90 primarily because it sounded more like what he was used to.

The S-5000THX's increased output between 1.6 and 3.6 kHz also manifested itself in the comments on spectral balance, but usually linked to other sonic characteristics. For example, one listener noted that the S-5000THX "had a cleaner center image but was too shrill." Another, however, came right out and called it "too bright and fussy."

**Spatial rendition.** The listeners were far more vocal about differences in spatial rendition. Everybody agreed that the S-90's produced a wider soundstage, perhaps as a result of the greater room interaction, but that the S-5000THX's created a deeper, more spatially precise sound field. Surprisingly, about half the listeners preferred the imaging of the S-90's in the Film sessions. Average scores tilted strongly (+2.5) to the S-5000THX in the Stereo and Music Surround sessions. Typical comments: "Blue [S-5000THX] seems to locate sounds better." "Less able to locate individual voices in choir" with

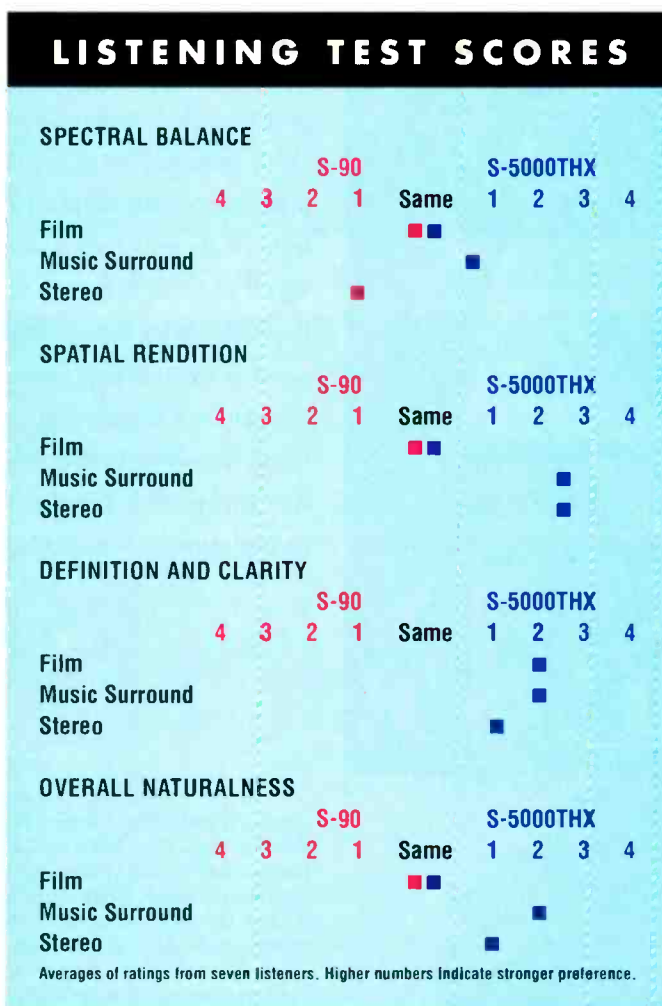
the S-90's. "Blue [S-5000THX] has a narrower but more localizable sound field." "Sense of depth on Blue [S-5000THX] was amazing in comparison." And "Red [S-90] just didn't want to center-up well enough."

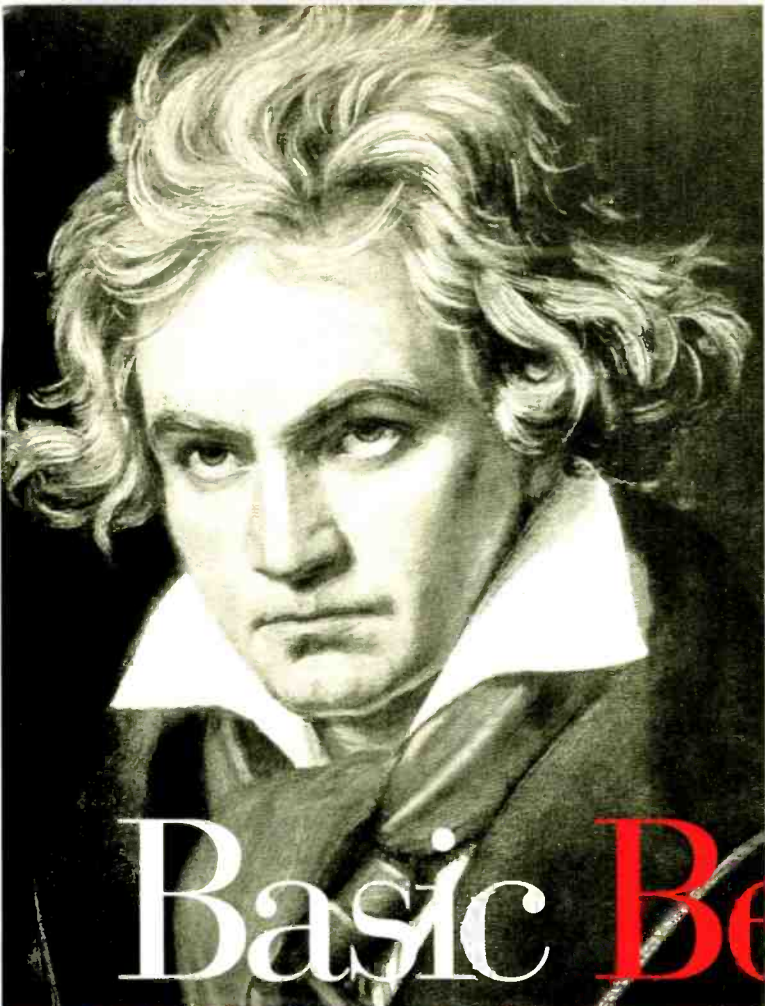
**Definition and clarity.** In this category the listeners preferred the S-5000THX for every type of program, by an average margin of +1 in the Stereo sessions and +2 in the Film and Music Surround sessions. Comments ranged from "Blue [S-5000THX] is more clear, with tight, defined highs" to "On dialogue, Blue [S-5000THX] sounds like the actors are speaking directly into my ear."

**Overall naturalness.** These rankings are interesting, with roughly equal ratings for the S-5000THX and S-90 in the Film sessions, a +1 preference for the S-5000THX in the Stereo sessions, and a strong +2 preference

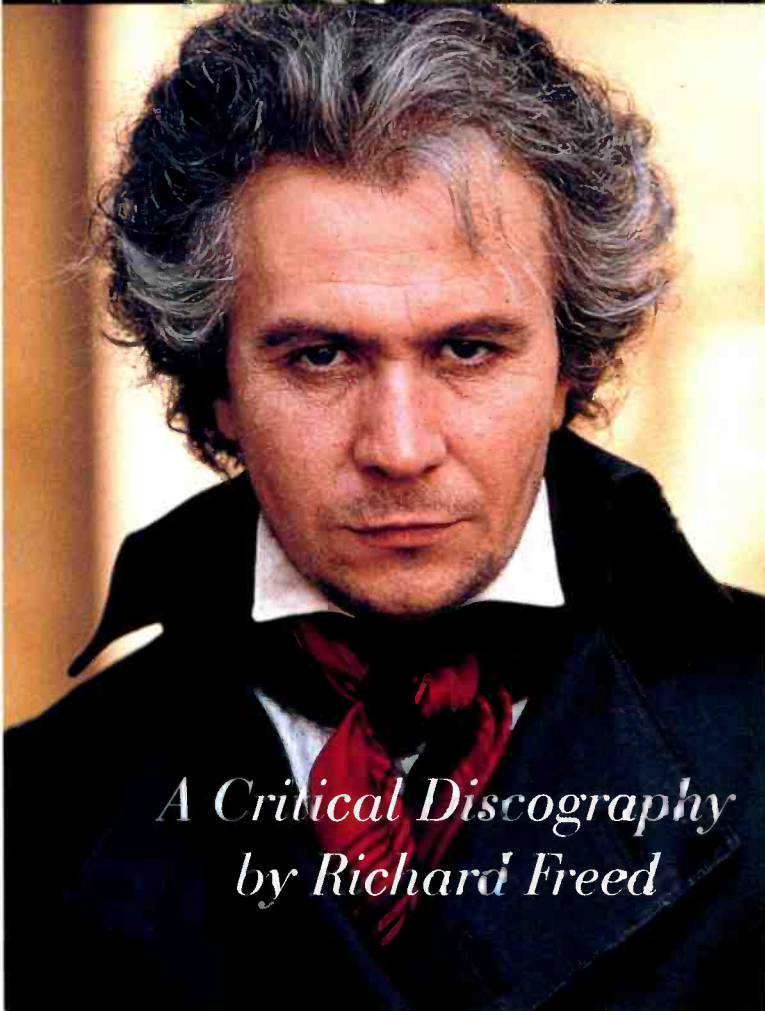
for the S-5000THX in the Music Surround sessions. Although most listeners felt that both speakers did an excellent job and gave the THX version clearly superior performance ratings overall, the two who preferred the more conventional S-90 were adamant in their choice. They didn't rate the differences between the two as large, but they were nonetheless insistent as to which speaker they would buy if they had to choose between them. That reaction could have to do with the response difference around 3 kHz, where the ear is very sensitive, or with the difference in how the speakers interact with the room. In my own listening, not blind and conducted over a couple of weeks, I was very surprised at how large the effects of the S-90's interaction with the room seemed in direct comparison with the S-5000THX, with its much narrower vertical dispersion. We are so accustomed to strong floor and ceiling reflections that it can sound a little peculiar at first when they are removed.

I found, however, that the more I listened to the two speakers, the more "right" the S-5000THX's presentation sounded. Although it would be precipitous to draw sweeping conclusions from a comparison of just two models, in this case there did seem to be, with speakers otherwise almost identical in design, real sonic advantages to the THX approach. My personal preferences mirrored the results of the blind listening comparison: The S-5000THX sounded a touch too bright, but the improvements in spatial presentation, intelligibility, and clarity — with ordinary music recordings as well as soundtracks — more than made up for it. At the very least, the test results should be a cautionary note to anybody who has jumped to the conclusion that Home THX speakers are by their nature suitable only for film or TV sound. □





# Basic Beethoven



*A Critical Discography  
by Richard Freed*

Peter Shaffer's *Amadeus* was great theater, even if it did take liberties with the facts of Mozart's too-short life and revive an unsupportable vilification of poor old Salieri; on both the stage and the screen, it surely awakened many people to the wonders of Mozart's music. Bernard Rose's movie *Immortal Beloved*, with its somewhat greater care for historical accuracy and more direct involvement of music in the telling of the story, may prove to be similarly effective in bringing the power of Beethoven to the awareness of new audiences. For those making this remarkable discovery, and for veteran listeners as well, here are recommended recordings of the music represented in the film and a small number of additional Beethoven masterworks that might be considered indispensable. All CD's are full-price unless indicated Ⓜ for midprice or Ⓢ for budget; names of some labels are abbreviated.

**THE NINE SYMPHONIES** are the essential core of the orchestral repertory, and many listeners like the idea of an "integral" set in a five-disc box. Both Nikolaus Harnoncourt, conducting the Chamber Orchestra of Europe (Teldec 46452), and John Eliot Gardiner, with his period-instrument Orchestre Révolutionnaire et Romantique (DG Archiv 439 900, with a bonus disc on which Gardiner discusses the music), show fluency, animation, and fine care for instrumental balances. The earliest of Herbert von Karajan's three sets with the Berlin Philharmonic is one of the high points of that conductor's vast discography (DG Ⓢ 429 036). George Szell's performances with the Cleveland Orchestra are still models of precision, power, and elegance, and as remastered for CD they add up to quite a bargain (Sony Ⓢ 48396).

**SYMPHONY NO. 3, IN E-FLAT MAJOR ("EROICA").** This work, which changed existing notions of what a symphony ought to be, remained Beethoven's own favorite. Klaus Tennstedt's live performance with the London Philharmonic is ablaze with conviction and handsomely recorded. Kurt Masur, in his remake with the Leipzig Gewandhaus Orchestra (Philips 434 913, with No. 8), and Günter Wand, in his with the NDR Symphony (RCA 60755, with *Leonore* Overture No. 3), are similarly persuasive in their balancing of power and warmth of heart. The "Eroica" from the Szell/Cleveland set, offered with No. 8 on Sony Ⓢ 46328, may be outclassed sonically, but not musically, and it's a great buy. Also of special interest is Otto Klemperer's galvanic 1953 mono recording with the Philharmonia (EMI Ⓢ 63855, with *Leonore* Nos. 2 and 3).

**SYMPHONY NO. 5, IN C MINOR.** Günter Wand's live remake is outstanding in every respect (RCA 61930, with No. 6). Masur, too, in his Leipzig remake, leaves little to be desired (Philips 426 782, with No. 1), and neither does John Eliot Gardiner's fiery version in the complete set listed above. Carlos Kleiber's Fifth with the Vienna Phil-

Gary Oldman portrays the composer Ludwig van Beethoven in the recent biographical film *Immortal Beloved*.



harmonic, perhaps the most striking of all, is extravagantly offered alone on a full-price CD (DG 415 861).

**SYMPHONY NO. 6, IN F MAJOR ("PASTORAL").** Günter Wand's new live recording of this beloved work is just about all one could wish for in respect to both performance and sonics (with No. 5, above). André Previn's account with the Royal Philharmonic is one of this conductor's finest recorded performances (RCA 7747, with the *Egmont* Overture). Fritz Reiner's recording with the Chicago Symphony is similarly appealing, and the fine sound belies its age (RCA 60002, with No. 1).

**SYMPHONY NO. 7, IN A MAJOR.** Gardiner's energetic account is another high point of his cycle (see above). Karajan's 1962 performance is an outstanding component of his integral cycle, also listed above. Kleiber's compelling version with the Vienna Philharmonic is to be repackaged with his Fifth next year, but for now it's all by itself on DG 415 862. Pierre Monteux's 1961 recording with the London Symphony, in a first-rate transfer, offers a heady combination of dynamism and warmth (London 433 403, with Dvorak's Symphony No. 7). The classic Toscanini/New York Philharmonic recording from 1936 is no substitute for a modern version but is a good deal more than a mere souvenir (RCA 60316, with Haydn's Symphony No. 101 and other works).

**SYMPHONY NO. 9, IN D MINOR ("CHORAL").** The version of the Ninth Symphony in Gardiner's complete set is all-surpassing in terms of drive and excitement. Daniel Barenboim's highly personal reading with the Berlin State Orchestra is less driving but more overtly dramatic in its broader proportions (Erato 94353). The power and integrity of René Leibowitz's 1961 recording with the Royal Philharmonic come through brilliantly in the fine transfer (Chesky CD66). Wand, with the NDR Symphony, also achieves grandeur without ceremoniousness (RCA 60095). The 1962 Karajan/Berlin Philharmonic version (in DG 429 036) and the earlier of Karl Böhm's two Ninths with the Vienna Philharmonic (DG 427 196, or with No. 3 and other works in 437 368) are both rich in traditional values.

**THE FIVE PIANO CONCERTOS** (in three-disc sets). Murray Perahia, who is heard in the soundtrack of *Immortal Beloved*, recorded the concertos with Bernard Haitink and the Concertgebouw Orchestra (Sony 44575). Arthur Rubinstein's set, with Josef Krips conducting the Symphony of the Air, has an especially fine "Emperor" (RCA 61260, with the Piano Sonata No. 18). Leon Fleisher's classic set with Szell and the Cleveland Orchestra (Sony 48397) includes the Triple Concerto (played by the Istomin-Stern-Rose Trio with Eugene Ormandy and the Philadelphia Orchestra). Vladimir Ashkenazy is both soloist and conductor in his spirited and stylish set, also with the Cleveland, and it includes the Choral Fantasy (London 421 718). Discs from the Perahia and Fleisher sets are also available singly, and their versions are strongly recommended for Concertos Nos. 1-4.

**CONCERTO NO. 5, IN E-FLAT MAJOR ("EMPEROR").** Recordings of this work are among the valedictory gems left by Claudio Arrau (with Colin Davis conducting the Dresden State Orchestra, Philips 416 215) and Rudolf Serkin (with Seiji Ozawa and the Boston Symphony, Telarc 80065), but both come without additional works. Serkin's earlier recordings on Sony are better buys in that respect, as is Rubinstein's "Emperor" with Erich Leinsdorf and the Boston Symphony (RCA 5676, with No. 4). Both Alfred Brendel's recording with Haitink and the London Philharmonic (Philips 434 148) and Emanuel Ax's digital one with Previn and the Royal Philharmonic (RCA 61213) come with fetching accounts of the Choral Fantasy.

**VIOLIN CONCERTO IN D MAJOR.** The earlier of Arthur Grumiaux's two Philips recordings, with Alceo Galliera conducting the New Philharmonia, is the most thoroughly satisfying account of this noble work, and it happens to be an exceptional value as well (426 064). Similarly attractive in both respects, and of similar vintage, is Josef Suk's performance with Adrian Boult and the same orchestra (EMI 67765). Both discs include Beethoven's two romances for violin and orchestra.

**OVERTURES.** Beethoven composed four different overtures for his opera *Fidelio* (three of them known by the opera's original title, *Leonore*), one for his ballet *The Creatures of Prometheus*, and another half-dozen for various theatrical works and festive occasions. All eleven are offered, on two discs, in crisp, authoritative readings by Herbert von Karajan with the Berlin Philharmonic (DG 427 256), in somewhat more expansive ones by the Vienna Philharmonic under Claudio Abbado (DG 429 762), and in performances by the Minnesota Orchestra under the alert and perceptive Stanislaw Skrowaczewski, whose set includes more of Beethoven's music for the stage (Vox CDX 5099).

**FIDELIO** is the kind of opera we'd expect from Beethoven, a work that celebrates and glorifies his most cherished personal ideals — of individual liberty, of justice, of conjugal devotion and triumph over adversity. The most durable and moving recorded performance is the one conducted by Otto Klemperer, with Christa Ludwig in the title role and Jon Vickers as Florestan (EMI 69324, two CD's).

**MISSA SOLEMNIS.** It was on this score, composed in the same period as the Ninth Symphony, that Beethoven wrote, "From the heart — may it also go to the heart." John Eliot Gardiner conducts his Monteverdi Choir and English Baroque Soloists, with fine vocal soloists, in a propulsive and convincing performance on a single disc (DG Archiv 429 779). Those who find his reading *too* propulsive may be more comfortable with a two-disc version: the expansive live recording by the Chicago Symphony Chorus and Orchestra under Daniel Barenboim, with equally effective soloists (Erato 91731), or Karl Böhm's with the Vienna Philharmonic, the Vienna State Opera Chorus, and an outstanding solo quartet, which is more animated than Barenboim's and more radiant than Gardiner's but at a disadvantage sonically (DG 437 925).

**STRING QUARTETS.** Overall, the Talich Quartet gives the most satisfying accounts of the sixteen quartets and the *Grosse Fuge*, and Calliope gets them all onto seven discs (9633/39). The Vermeer Quartet's recordings, hardly less persuasive, benefit from more lively sound (Teldec 76547, nine CD's). The Quartetto Italiano's probing performances triumph over dated sound (Philips 426 046, 420 797, and 426 050, ten CD's in all). All these sets are available in separate packages of the early (Op. 18), middle, and late quartets, and some of the performances are on individual discs as well.

**PIANO TRIOS.** The "Archduke" Trio in B-flat Major, Op. 97, remains the defining work in the literature for this combination of instruments (piano, violin, and cello). The Suk Trio's 1961 recording is deservedly a classic (Supraphon 11 0707, with the Triple Concerto). The new recording by the Chung Trio is also very distinguished and benefits from superior sonics (EMI 55187, with the Op. 11 Trio). The Beaux Arts Trio's disc of the "Archduke" includes the "Ghost" Trio (Op. 70, No. 1, in D Major), which is heard in *Immortal Beloved* (Philips 412 891). The sets of the complete piano trios by the Beaux Arts (Philips 432 381, five CD's) and the Istomin-Stern-Rose Trio (Sony 46738, four CD's) are both first-rate.

**THE VIOLIN SONATAS.** The grandest of these, the "Kreutzer" Sonata (Op. 47, in A Major), is frequently paired with the earlier "Spring" Sonata (Op. 24, in F Major); David Oistrakh and the pianist Lev Oborin are exceptionally persuasive in these two works (Philips 412 255) and in their survey of the complete cycle (Philips 412 570, four CD's).

**THE PIANO SONATAS.** The three most popular sonatas — the "Moonlight" (Op. 14, No. 1, in C-sharp Minor), the "Pathétique" (Op. 13, in C Minor), and the "Appassionata" (Op. 57, in F Minor) — are often packaged together. The most persuasively performed such sets are those by Arthur Rubinstein (RCA 61443, with Op. 81a, "Les Adieux"), Alfred Brendel (Philips 411 470), Claudio Arrau (Philips 422 970), Vladimir Ashkenazy (London 410 260), Daniel Barenboim (DG 419 602), and Rudolf Serkin (Sony 37219). For all thirty-two sonatas in a single box, Richard Goode's ten-CD set (Nonesuch 79328) is an eminently sound choice. □



As virtually every speaker manufacturer rushes to deliver "home theater" speakers to the marketplace, M&K amasses nearly twenty years of experience in the field—dating back to Hollywood screening-room installations in the 1970s.

M&K engineers have spent well over a decade studying the varied aspects of surround

sound—including encoding and decoding; soundtrack recording; and the differences between reproducing sound in theaters and in homes.

M&K speakers excel in the reproduction of all source material. Accuracy, low coloration, pinpoint imaging, wide dynamic range, and deep-bass reproduction are all critical for music as well as film soundtracks. M&K Satellites and Subwoofers have been acclaimed for these attributes since the '70s.

And this is why M&K knows that any speaker that claims to be optimized for either music or film sound, one at the expense of the other, will never reproduce either one properly.

### M&K Home Theater Systems

Conventional speakers make the music and effects on film soundtracks compressed and dull. But M&K's exciting dynamics and "quick" transients give you precise 3-D imaging and a lifelike presence.

M&K Satellites are *timbre-matched* using virtually identical speaker drivers, crossovers, and frequency response, for a seamless 360° surround-sound performance. With an all-M&K home theater system, voices and effects do not change char-

acter when their sound moves from left to right or front to back in your room.

Even if you are just adding an M&K subwoofer, front/center, or surround



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HOME  
THEATER**

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# Hideaway Speakers

If you wanted to conceal speakers in your walls or ceiling back in the early Eighties, there weren't many options. Assuming you wanted something that would sound better than the commercial ceiling speakers used in supermarkets, elevators, and your dentist's office, you had to modify a pair of conventional home or car speakers for in-wall mounting — a painstaking process that involved making your own mounting brackets and grille covers. Or you could hire a professional sound contractor to do the job for you. In those days, high-fidelity in-wall/ceiling speakers simply weren't available off the shelf.

Things changed in 1982 when custom installer Scott Struthers, then owner of Home Technology Systems in Southern California, got tired of having to fabricate every in-wall speaker he installed. It may have been the job of installing *eighty* in-wall speakers that prompted Struthers to ask speaker designer Bill Kindel for help in designing a high-fidelity speaker specifically for in-wall mounting. Their collaboration yielded a two-way speaker with a mounting bracket and a paintable grille.

"After that, installing in-wall speakers was easy because we had a system," recalls Struthers. "We weren't creating a new de-

Today's in-wall speakers offer variety in style, features, and performance.

By Rebecca Day



## Hideaway Speakers



Snell's AMC-450 (\$499 a pair) combines a 6½-inch woofer and a ½-inch textile-dome tweeter in a 10¼ x 7¼ x 3½-inch in-wall package rated down to 60 Hz.



MTX has two subwoofers designed for mounting in the floor or ceiling, or in a wall. The FS-8A (\$239) and the FS-10A (\$279) are rated down to 52 and 48 Hz, respectively.



Boston Acoustics' Model 350 (\$300 a pair) has a 5¼-inch woofer and is rated down to 68 Hz. Installation requires a 9 x 6-inch cutout and 2½ inches of rear clearance.

Featuring a 5¼-inch woofer and a 1-inch tweeter, the Niles HD525 (\$300 a pair) is said to play down to 55 Hz. It has spring-loaded terminals to simplify hookup.



Martin-Logan's 63½-inch-tall Stylos (\$2,695 a pair in black, \$2,995 in white) can be mounted in or on a wall or on an optional stand. It has a 6½-inch woofer and a 38-inch electrostatic element.



sign every time we put one in." Eventually, Struthers and his partners realized that speaker manufacturing was far more lucrative than the custom installation business, so they formed Sonance — a company dedicated to manufacturing in-wall speakers. Today, with some thirty models, Sonance has one of the largest selections of in-wall/ceiling speakers and is a leader in a vibrant market served by more than fifty companies.

A lot has changed since Sonance helped usher in the age of the high-fidelity in-wall speaker. While it once seemed as though all in-walls were rectangular and more or less created equal, today's in-wall crop offers plenty of variety in style, features, and performance. The classic rectangular in-wall is now available in many sizes and with an assortment of drivers — there are even a few models that use electrostatic or ribbon transducers. Round speakers designed for unobtrusive in-wall or ceiling mounting are becoming more common. And many models incorporate clever new mounting schemes that simplify installation.

Recognizing that limited space and the desire for a clean appearance often lead to in-wall speakers in locations that degrade sound quality, manufacturers are also building more flexibility into their products. Many in-walls now offer some sort of acoustical or electrical control over their output to help listeners compensate for poor placement or room acoustics.

Sonance, MTX, and Spakercraft, for example, sell in-wall speakers that have pivoting tweeters. Being able to aim the high-frequency output toward the listening area makes it possible to achieve decent imaging with such less-than-ideal locations as high on a wall or in the ceiling. And with in-wall surround speakers, being able to aim the tweeter's output off-axis can help create a diffuse sound field.

**S**pakercraft's 6.5MIT (\$465 a pair), with a 1-inch soft-dome tweeter and a 6½-inch dual-voice-coil woofer, is said to play down to 40 Hz with only 0.33 cubic foot of air space behind it. It's covered by a lifetime warranty. MTX's five Pivot Pointe models team 1-inch pivoting titanium-dome tweeters with woofers ranging from 5¼ to 8 inches in diameter (\$250 to \$400 a pair). For additional flexibility, MTX provides a tweeter-level switch on the baffle.

Sonance, which pioneered the piv-



oting tweeter a few years ago, has taken sound shaping even further with its high-end D series of in-walls. Designed for professional installation, each of the three-way speakers has a series of two-position treble, midrange, and bass switches on its baffle (two of the three models also have a pivoting tweeter). The flagship D6000 (\$999 a pair) has eight switches (three treble, two midrange, and three bass) that can be set to yield numerous response-altering combinations, allowing you (or your installer) to tweak the sound to suit your taste and to compensate for a room's acoustical characteristics. The effects of different settings are outlined on the speaker's baffle and in the owner's manual.

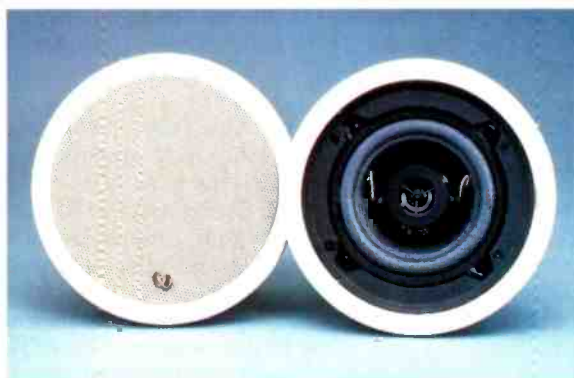
### Ceiling Speakers Looking Up

Ironically, the most popular location for in-wall speakers these days, according to Sonance's Struthers, is the ceiling, as people strive to make their speakers all but disappear. To meet this demand, many manufacturers are offering round speakers designed to complement recessed lighting fixtures. Infinity's new ERS 360 (\$250 a pair), derived from the company's rectangular Model 540 in-wall, has a 5¼-inch woofer and a coaxially mounted ¾-inch tweeter and comes with a white perforated steel grille. Boston Acoustics' Model 335 (\$250 a pair), also a 5¼-inch coaxial design, offers the choice of a standard white grille or a black one that's recessed.

The trouble with ceiling-mounted speakers is that they can sound less than musical if you're not positioned directly under them. Sound levels often vary as you move from one location in the room to another. While you might think that increasing tweeter output would smooth out coverage, experts say it can actually do more harm than good by turning the sweet spot into a hot spot of overly bright, disproportionately loud sound.

Makers of ceiling speakers address these problems in different ways. MB Quart, for example, uses a special crossover design in its new Model 160 Luna speaker (\$399 a pair) to create a "flat power response" that is said to distribute sound more evenly throughout the room. The result: greater flexibility in speaker placement and improved off-axis response.

To eliminate hot spots, Sound Advance Systems (formerly known as B.E.S.T., or Bertagni Electronic Sound



Designed for mounting in the ceiling or in a wall, Infinity's ERS360 (\$250 a pair) is a 5¼-inch coaxial system with a ¾-inch tweeter. A steel grille is included.

B&W's Signature Seven (\$1,000 a pair) teams an alloy-dome tweeter and a 7-inch woofer in a 14¾ x 11 x 4-inch package with a removable baffle. It's rated down to 40 Hz.



SpeakerCraft's Model 6.5MIT (\$465 a pair) boasts a pivoting tweeter, a 6½-inch dual-voice-coil woofer rated down to 40 Hz, and bass and treble level switches.

The 1-inch titanium-dome tweeter in MB Quart's Quart 90M (\$649 a pair) plays down to 1.5 kHz to deliver a "focused musical presence." The system has an 8-inch woofer.



Hailed as the world's first magnetically shielded in-wall center speaker, Polk Audio's AB705c (\$249) has a 6½-inch woofer and is rated all the way down to 32 Hz.

## Hideaway Speakers

Transducers Corp.) uses a flat wide-dispersion diaphragm that is actually the face of its unique CT77D ceiling speaker (\$345 each). The 24-inch-square speaker fits in T-bar-type suspended ceilings and is said to have high-frequency dispersion of 140 degrees on both the horizontal and vertical planes. Bandwidth is given as 40 Hz to 19 kHz. The standard finish is white, but a variety of silkscreen patterns are available, or you can create your own finish with paint, wallpaper, or fabric.

### In-Wall Home Theater

Home theater, with its standard requirement of at least five speakers, has only compounded the problems of

speaker placement. But now Polk Audio has come out with the world's first magnetically shielded in-wall center speaker, the AB705c (\$249 each). A shielded version of Polk's AB705 in-wall, it uses a 6½-inch woofer and a 1-inch dome tweeter to deliver a rated bandwidth of 32 Hz to 25 kHz. The speaker comes with a paintable white metal grille, but Polk also offers an optional cloth grille.

KEF takes speaker concealment a few steps further with its Ci-200QT motorized speaker (\$400 each), which tilts down out of the ceiling when triggered by a low-voltage DC signal. Able to serve as the front left, center, or right speaker in a home theater, the Ci-200QT features an enclosed 8-inch

KEF Uni-Q driver (a woofer with a center-mounted tweeter) that's attached to a motorized gear-drive assembly. The 14¼ x 10¾ x 8-inch speaker, rated down to 50 Hz, has a sensitivity of 90 dB and can play in either its retracted or deployed position.

### Installation Short Cuts

Makers of in-wall and ceiling speakers are constantly evaluating new ways to simplify installation for both the do-it-yourselfer and the seasoned professional. "Custom installers always tell us they need three hands to mount in-wall speakers — one to hold the speaker, one to connect the speaker wire, and another to put the speaker in the wall," observes Steve Ravinski, KEF's marketing manager. KEF's solution was to use spring-lock push terminals instead of binding posts so that you can hold the speaker *and* compress the terminals with one hand.

## Hidden Subwoofers

Subwoofer/satellite systems have gone a long way toward appeasing music lovers who want deep bass but not a pair of large, obtrusive speaker enclosures. But the sub/sat solution still requires visible satellite speakers even if the bass module is tucked away in a corner. The next step toward invisible sound is to use a pair of in-wall or ceiling speakers as the satellites. But you'll still need a subwoofer of some sort if you want to reproduce the lower part of the musical spectrum, because most in-walls don't deliver deep bass.

"It's very difficult to achieve low bass without an enclosed cabinet," explains Ted Hollander, head of custom installation at Absolute Sound in Winter Park, Florida. Reproducing that lower octave requires an enclosure that "you can't really fit in a typical wall," he says. As a result, many people end up combining in-wall satellites with a conventional subwoofer hidden in a closet or under the stairs.

An extra closet or hideaway space isn't always available, however, and some people want to have all of their speakers concealed in the walls. Enter the in-wall subwoofer, now offered by several companies including Niles Audio, KEF, Sonance, MTX, and Phase Technology.

Niles takes a two-piece approach with its SW-800 in-wall powered subwoofer system (\$1,000), which combines an 8-inch woofer in an enclosure that fits between wall

studs with an outboard 100-watt amp/crossover. The 42¼ x 14¼ x 3¼-inch sealed bass module is designed to overcome the challenge of placing a subwoofer in a vibration-prone wall. The enclosure is made of half-inch-thick medium-density fiberboard to minimize its interaction with the drywall and to reduce leakage into adjoining rooms. To add more oomph to the system's 8-inch woofer, Niles uses a "BumpBack" magnet said to allow the woofer to be driven harder without bottoming out. The exposed portion of the subwoofer is covered by a 10¼ x 14¼-inch perforated-metal or cloth grille. Rated frequency response is 38 to 100 Hz ±2 dB.

Phase Technology's Ci-Sub IV subwoofer (\$250 each) is an open-back infinite-baffle design that can be mounted in an optional fiberboard enclosure (\$130) to prevent leakage into other rooms and bass-canceling vibrations. When used without an enclosure, the Ci-Sub IV is said to require substantially less power than a comparable stand-alone subwoofer because of its "true infinite-baffle" design. Rated bandwidth is 28 to 90 Hz.

MTX offers two bass modules in its Blueprint Series designed to be mounted in a floor, ceiling, or wall. The 8-inch FS-8 (\$239) is rated down to 52 Hz and the 10-inch FS-10A (\$279) to 48 Hz. Both are 8¾ inches high, 27½ inches deep; widths are 10½ and 14½ inches, respectively. — R.D.

Phase Technology has greatly streamlined the installation of its CI Series speakers (\$200 to \$500 a pair) by replacing the conventional mounting bracket with a simple locking clamp located on the speaker's frame. The clamp holds the speaker frame to the wall. The company also builds speakers that have removable baffles, an approach several manufacturers have adopted to enhance installation flexibility. Being able to separate the baffle (which holds the drivers) from the mounting frame makes it possible to avoid speaker damage during construction and to service or upgrade drivers without having to remove the frame.

### Choices, Choices

As the in-wall boom continues, more high-end speaker companies are participating in a category that's clearly here to stay. B&W, which has been selling in-wall speakers for several years now, recently introduced what it calls the first "legitimately high-end in-wall speaker." Chris Browder, executive vice president, says that B&W's new Signature Seven (\$1,000 a pair) overcomes the primary obstacle designers have faced in producing high-quality in-wall speakers: variations in such installation conditions as wall thickness, "enclosure" volume, and wall resonance. "Some manufacturers create in-wall enclosures so that they know these parameters," Browder observes, "but that really works only for new construction. People are reluctant



to tear out a wall to insert a speaker enclosure; you're better off minimizing the variables than designing a dedicated enclosure."

The Signature Seven, which is based on the same fundamental design principles as B&W's exotic Silver Signature speaker, uses a 1-inch alloy-dome tweeter (governed by a three-position level control), a 7-inch woofer, and a crossover network designed to maintain highly accurate phase performance. Its low-frequency limit is given as 30 Hz at -6 dB. A removable baffle and a wide-flange frame help simplify installation.

The RM-1 Ribbon Monitor (\$900 a pair) from Apogee Acoustics features a 4-inch-long ribbon tweeter that can be oriented horizontally or vertically to provide proper vertical directivity; the adjustment is a simple matter of removing four screws. The 16 x 11 x 3½-inch open-backed speaker is rated down to 45 Hz. Apogee also offers the 54½ x 12 x 3¼-inch sealed-cabinet Ribbin Wall, which can be mounted in (\$1,495) or on the wall (\$1,595).

Martin-Logan's Stylos hybrid electrostatic speaker (\$2,695 a pair in black, \$2,995 in white) can be mounted in or on the wall or placed on an optional stand; the company even offers optional pivoting brackets for side-wall mounting. The Stylos combines a 38-inch electrostatic element and a 6½-inch woofer in a slender cabinet that measures 63½ x 10½ x 4½ inches. Frequency response is given as 55 Hz to 20 kHz ±3 dB and sensitivity as 88 dB.

The first in-wall speaker from NHT (Now Hear This), the Model 1.1iw (\$350 a pair), is designed to deliver reasonable bass at low listening levels without breaking up at higher levels, according to general manager Chris Byrne. The designers measured the speaker's response in an in-wall setting and then modified the drivers accordingly. The 1.1iw's rated frequency response is 55 Hz to 20 kHz ±3 dB.

**A**s multiroom audio becomes more affordable and home theater a more common household amenity, in-wall speakers are likely to become even more popular. And that's good news for music lovers, because the more in-walls manufacturers sell, the more resources they'll devote to making "invisible" speakers sound as good as their free-standing counterparts. It'll just be more good music to go around. □

The 4-inch ribbon tweeter used in Apogee's RM-1 Ribbon Monitor (\$900 a pair) can be oriented horizontally or vertically. Its 6½-inch woofer is rated down to 45 Hz.



Klipsch's iW200 (\$235 each) unites a horn-loaded tweeter with two 6½-inch woofers in a 10¼ x 20½-inch frame that has a removable baffle. It's rated down to 40 Hz.



Phase Technology's CI-60IV (\$250 each) has a removable baffle and uses locking clamps to secure its frame to the wall. It has a 6½-inch woofer and a 1-inch tweeter.



Sonance's three-way D6000 (\$999 a pair) has eight switches (three treble, two midrange, and three bass) that can be set to yield numerous response-altering combinations.



Instead of conventional cone drivers, the face of Sound Advance Systems' "invisible" SA-2 (\$795 a pair) is a flat polystyrene diaphragm that can be completely concealed with paint, light wallpaper, or fabric (its location is spotlight in photo). Rated bandwidth is 70 Hz to 20 kHz.

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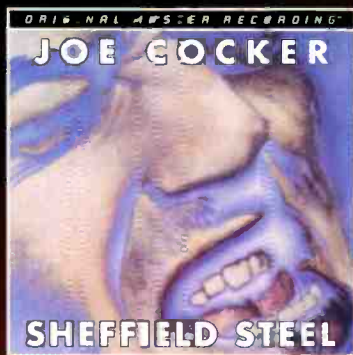
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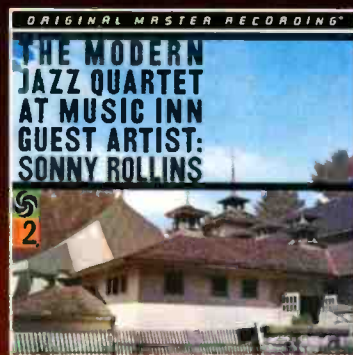
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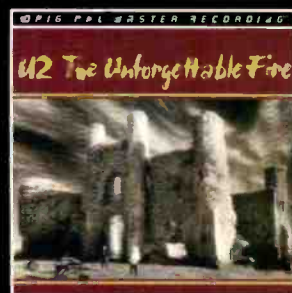
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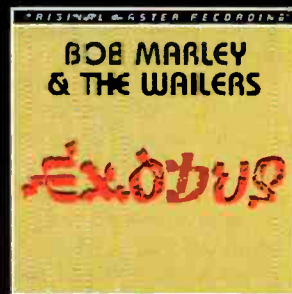
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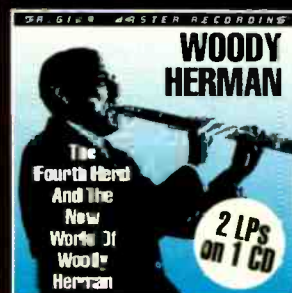
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# BEST OF THE MONTH REVIEWS

STEREO REVIEW'S  
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THE OUTSTANDING  
CURRENT RELEASES

## The Ass Ponys: *Smaller Than Life*

Could an Ass Pony be a kind of Crazy Horse? Well, yes and no. Yes, on their major-label debut, "Electric Rock Music," this small-town Ohio band takes its snaggletoothed arrangements in all kinds of directions, from hard rock to jangle-pop to sweet country. Yes, there's an electric guitar doing nice stuff out in front and a singer who takes his Henry Aldrich voice to the Neil Young stratosphere. But no, the Ass Ponys don't go for the big picture as Neil Young and Co. do. Their music is smaller than life. Their songs work because they focus on the significant detail, the revealing character. If O. Henry had rocked out, I bet he would have been an Ass Pony.

"Electric Rock Music" is the band's third album, which might explain why the Ponys are so coherent, playing music that's calculatedly roughhewn while making sounds that fit together perfectly. The bass is dynamic without going crazy, the drums snappy without fibrillating, the guitars imaginative without getting slick. The arrangements match the deceptively low-key lyrics. On *Grim*, for example, when the singer screams painfully over how his ex-girlfriend was his only joy, the band lurches from a sweet/sour verse into a full-out howl of a chorus.

What makes the Ass Ponys truly special, however, is the way in which they capture the quality of life in Smalltown, U.S.A. Chuck Cleaver, the Pony credited with the words, is clever without being a smart-ass. He's not laughing at the people in these depressing little burgs, he's laughing with them — hey, he's living with them. When he sings about Grandma's collection of wacky crafts attempting to be really practical household items or the guy whose girlfriend left him for Jesus, he does it straight. That same kind of delivery gives a lot of power to this end-of-the-day assessment in *Live Until I Die*: "It's evening and I'm alive / No bruises or abrasions outside / No bones protruding through my skin / What a wonderful way / For the day to end." David Lynch tried to capture the manically depressed heart of podunk in *Blue Velvet* and *Twin Peaks*, but he got carried away with his own weird tics. Cleaver gives us less, and it means so much more.



Ass Ponys bassist Randy Cheek told an interviewer recently that "Anything could be an Ass Ponys song." I am encouraged by that statement, because I believe it means that there will be many more Ass Ponys songs. And I'll take all I can get.

Ron Givens

### ASS PONYS

#### Electric Rock Music

*Grim*; *Little Bastard*; *Ape Hanger*; *Place Out There*; *Lake Brenda*; *Wall Eyed Girl*; *Live Until I Die*; *Peanut '93*; *Banlon Shirt*; *Gypped*; *Blushing Bride*; *Earth to Grandma*; *Otter Slide*  
A&M 314 540 270 (45 min)

## Bach's Brandenburgs In A Set To Savor

Even if you already own a recording of Bach's "Brandenburg" Concertos, go out today and buy Philip Pickett's new set. When you get home, do the following, in this order: 1) Tear off the plastic shrink-wrap and open the jewel box. 2) Take out the booklet and hide it. 3) Load the discs. 4) Push "play."

I've never heard a livelier and tastier version of this best-loved of Bach's instrumental suites, nor have I ever read

such rubbish as the essay Pickett wrote to accompany the recording.

To begin with the good stuff: Bach's suite is a collection of inventive variations on the concerto grosso, which he copied out to present to the Margrave of Brandenburg. They run the gamut from an elegant concerto for harpsichord, flute, and violin (No. 5), played with exquisite grace by Pickett's New London Consort, to a medley of brisk dance tunes (No. 1)

# BEST OF THE MONTH REVIEWS

whose eminently danceable performance here reminds us that the minuet, as stately as it may sound to our ears, was meant to *swing*, to get people up out of their seats.

No matter where you stand on the question of playing Baroque music on old instruments, this is a performance to treasure. The playing doesn't get much better than this, from the bracing bite of the strings to the crisp, colorful flair of the winds. The hunting horns in the first concerto will make you want to take your trusty musket down from the chimney and let loose the dogs. If you prefer your Bach smooth and serene, you may find Pickett's version rough-edged: This is peaty, single-malt Bach, not for faint-hearted sippers of the blended variety.

As for that booklet I instructed you to hide, on the inside cover are a pair of portraits, exactly the same size, of composer and conductor, apparently intended to prove that Philip Pickett has a better hair stylist than Bach. Then there is the essay, which makes better garden fertilizer than musicology.

Pickett believes that each of the concertos has an allegorical basis, and he shops around mythology and Baroque painting until he finds something he likes. For example, the third concerto is written for three groups of three violins, three violas, and three cellos, which adds up to nine — hey, aren't there nine Muses? And

NICK WHITE/LONDON RECORDS



Conductor Philip Pickett



SANDY SHERWIN/RAZOR & THE

Dar Williams: unguarded openness and intimacy

nine heavenly spheres in classical cosmology? That must be it! In No. 2 the strings "must symbolize" Homer, while the recorder "must represent" Virgil; in No. 4 the strings are Apollo and the recorder the satyr Marsyas. And so on.

Not one shred of documentary proof is adduced to support any of this moonshine, which is scholarship of the "Nobody can prove I'm wrong" school. But does it matter? When it results in a performance as vigorous and shapely as this, I don't care if Pickett tells me he was thinking about his favorite recipe for guacamole.

Jamie James

## BACH: Brandenburg Concertos

New London Consort. Pickett cond.  
L'OISEAU-LYRE 440 675 (95 min, two CD's)

## Dar Williams, Folkie Original

Just when you thought New England singer-songwriters had stretched their collective imaginations as far as they'd go, here comes a startlingly fresh voice in twenty-eight-year-old Dorothy Snowden "Dar" Williams, a pixie-ish woman whose airy soprano darts between Nanci Griffith's stridency and her own childlike spurts of unguarded openness. In her debut album, "The Honesty Room," Williams pays tribute to her folkie predecessors with solo acoustic guitar and evokes medieval and Celtic melodies with the spare accompaniment of violin, mandolin, and cello. Lyrically, however, she almost always strikes out for original territory.

While she displays confidence and

earnest intensity on serious songs about art, death, and existential angst (*Mark Rothko Song*), social consciousness in the atomic age (*The Great Unknown*), and the meaning of love and independence (*In Love but Not at Peace, This Is Not the House That Pain Built, You're Aging Well*), she soars highest on songs that put her sterling sense of humor to use. The opening *When I Was a Boy*, for example, begins as both a homage to *Peter Pan* and a fanciful recollection of a tomboy girlfriend ("I won't forget when Peter Pan came to my house, took my hand / I said I was a boy, I'm glad he didn't check"), but by the end it's become a commentary on the emotional freedom of androgyny and the male and female in us all.

There are many other delights in "The Honesty Room," among them *Alleluia*, an irreverent, imaginative take on life in heaven as a high-school angel, and *Flinty Kind of Woman*, in which a pack of small-town mothers go gunning for a man who exposes himself to their kids.

There's an intimacy that Williams arouses that goes beyond the standard coffee-house sense of community, perhaps because this youngest of three daughters of Yale and Vassar graduates generally follows her head and not her heart (the album's one nod to sentimentalism is *The Babysitter's Here*, told from a child's point of view).

In concert, Williams says, when things go well "the great paradox of the folk audience is that the people don't feel the singer has been heard — they each feel that *they've* been heard." On record, at least, that's a most enjoyable two-way street.

Alanna Nash

## DAR WILLIAMS The Honesty Room

*When I Was a Boy; Alleluia; The Great Unknown; When Sal's Burned Down; The Babysitter's Here; You're Aging Well;*



*Traveling Again (Traveling I); In Love but Not at Peace; Mark Rothko Song; This Is Not the House That Pain Built; I Love, I Love (Traveling II); Flinty Kind of Woman; Arrival*  
**RAZOR & TIE 2816 (47 min)**

## Rachmaninoff From St. Petersburg

I have always had a special fondness for the work of the conductor Yuri Temirkanov, going back to his 1978 Royal Philharmonic recording of Rachmaninoff's Second Symphony for Angel. A new RCA disc of Rachmaninoff's Symphonic Dances and other works, recorded in London's excellent Blackheath Concert Hall, offers Temirkanov and the St. Petersburg Philharmonic in top form, and in the Rhapsody on a Theme of Paganini they are joined by one of the best of the Soviet-trained piano virtuosos, Dmitri Alexeev.

The CD opens with the brief overture to Rachmaninoff's early opera *Aleko*, which is by turns pensive and menacing. The massive tone and intensity of the St. Petersburg strings presage in no uncertain terms what we will hear during the hour of music that follows.

Performances of the twenty-four variations that make up the Paganini Rhapsody usually emphasize their combination of razzle-dazzle and sentiment, but here one senses a deeper collaboration between soloist and conductor that brings out the heartbreak underlying the music. The playing is marked by superb discipline on the part of soloist and orchestra alike, and the recording is flawlessly balanced between them. For me the high point arrives with the deep sighs in Variation No. 17, which lead the way into the "big tune" of No. 18. The whole reading comes across as a labor of love that goes beyond mere virtuosity.

Temirkanov's reading of the Symphonic Dances — Rachmaninoff's very last work, which was received coolly at its premiere and neglected for decades after — is highly individual without being mannered. He shows himself to be a real master of free phrasing in the opening movement, which starts on the fast side but shifts gears with considerable subtlety. The great central waltz movement is less febrile here than usual, being treated — most convincingly — as a large-scale

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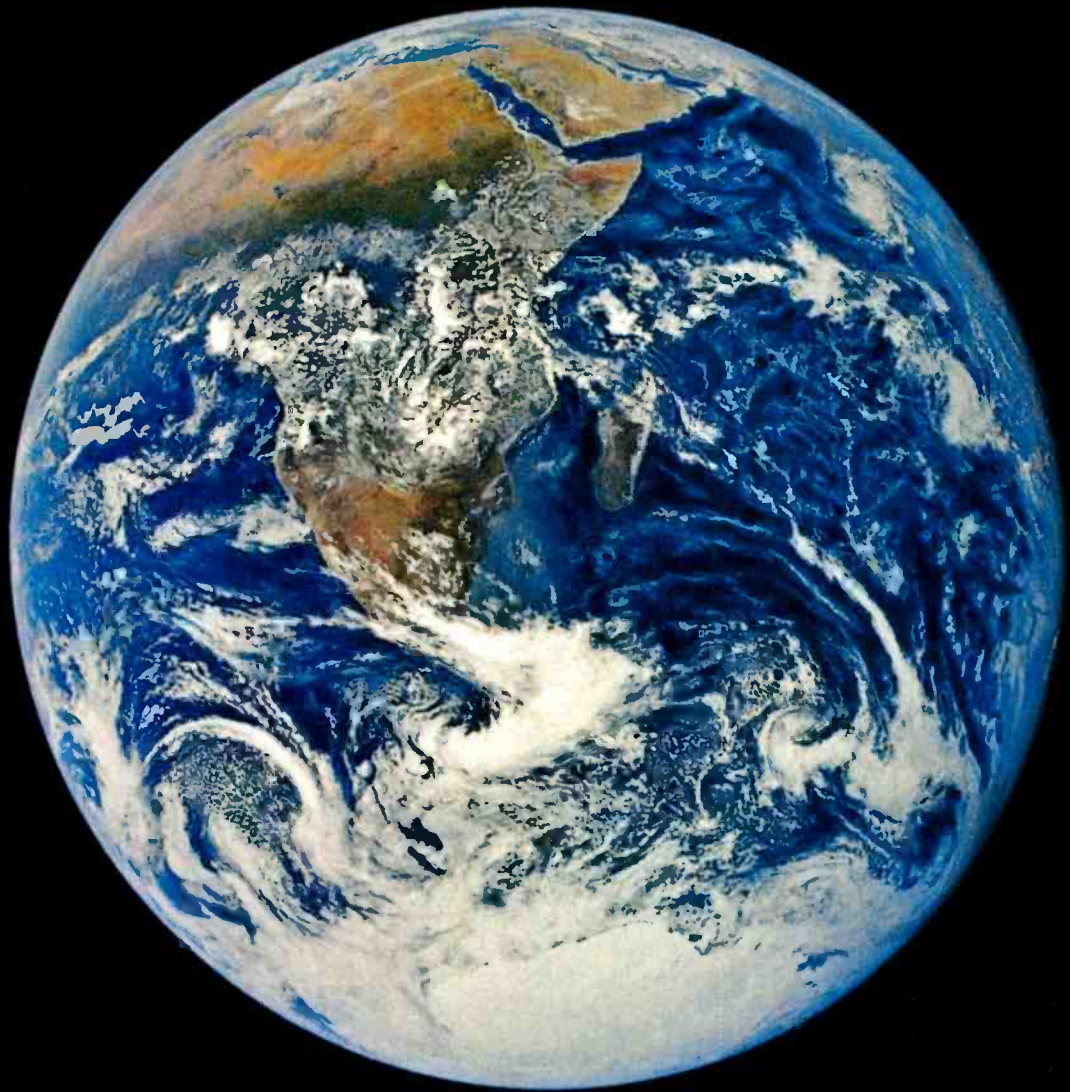
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Conductor Yuri Temirkanov



*valse triste*; the trumpet interjections cut right to the heart. The concluding fantasy on the *Dies Irae* chant melody, which like the first movement quotes from some of Rachmaninoff's earlier works, is grippingly dramatic without being whipped to a meaningless frenzy. As the composer directed, the final tam-tam stroke is allowed to ring until it dies out on its own — a telling effect. The Blackheath hall contains and defines the sound beautifully. There are other fine recordings of the Symphonic Dances, but this one is special. Don't pass it up. *David Hall*

**RACHMANINOFF:**  
**Symphonic Dances; Rhapsody on a Theme of Paganini; Overture to "Aleko"**  
 Alexeev; St. Petersburg Philharmonic,  
 Temirkanov cond.  
 RCA 62710 (63 min)



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# POPULAR MUSIC

NEW RECORDINGS REVIEWED  
BY CHRIS ALBERTSON,  
FRANCIS DAVIS, PHYL GARLAND,  
RON GIVENS, ROY HEMMING,  
ALANNA NASH,  
PARKE PUTERBAUGH, AND  
STEVE SIMELS

**BROTHER PHELPS**  
*Anyway the Wind Blows*  
ASYLUM 61724 (40 min)  
Performance: Disappointing  
Recording: Good

When Doug and Ricky Lee Phelps split from the Kentucky Headhunters, the last thing anybody expected was a kinder, gentler sound, especially since Ricky Lee, the Headhunters' former front man, was the wildest looking cat of the bunch. Kinder/gentler was, nonetheless, what you got on their first album, but now, on their second, they've attempted to clone the raw, raucous Headhunters sound, even reprising one of their old songs (*Ragtop*). The problem is that the Phelps need their old cohorts — and their synthesis of boogie, bluegrass, and rock — to make it work. They also need a producer other than themselves. Here, we've got three songs by Dennis Linde, even the best of which sounds a little manufactured, and two (*I Ain't Ever Satisfied*, *The Other Kind*) by Steve Earle, which shows good taste even if the Phelps can't make Earle's gritty vignettes sound believable. We're also offered a mediocre original tune about a guy on the make (*Johnny*), a Kennedy Rose bit of romantic philosophy (*Walls*), the breezy J.J. Cale title song, and, in a tip of the hat to Seventies country-rock groups, Firefall's *Cinderella*. In other words, an eclectic mishmash, and not a very interesting one at that. *A.N.*

**COLLECTIVE SOUL**  
ATLANTIC 82745 (46 min)  
Performance: Kinda good  
Recording: Ditto

Collective Soul is kinda bluesy, kinda Southern, kinda Brit. Kinda like Carl Perkins by way of T. Rex, or Delaney and Bonnie's crowd when they were working with Joe Cocker. Cross-cutting riffs, divided-octave vocals, and big fat singalong choruses are what put this crew on the map. On their second album they don't fiddle much with the successful formula of their debut. Three guitars grind out workmanlike gobs of goo while singer/leader Ed Roland mouths hippie-trippyisms like "Let love lead and let love flow" on the Lenny-Kravitz-meets-Black-Crowes opening track, *Simple*. The band teases the feet with stop-start rhythms in numbers like *Untitled*, and pumps up the volume on the riff-happy *Smashing Young Man*. Overall, they come off like an alternative Lynyrd Skynyrd for the Nineties, and you get the sense that if they went all out they could really pack a ferocious wallop. But even though it's a lit-

SALLY MARS/BAR/NONE

## BEYOND THE VALLEY OF THE CANYONS OF YOUR MIND

Sundazed Records has long been our favorite reissue label (after all, they resurrected the oeuvre of the immortal Nancy Sinatra for CD), but this time they've totally outdone themselves. Yes, Sundazed has unleashed three vintage acid-rock albums from Those Fabulous Sixties — albums so obscure that even I, older than Methuselah and a record collector a most all my life, had never heard of them before I got the press release. Best (and wiggiest) of the bunch is the C.A. Quintet's "Trip Through Hell," a "Sgt. Pepper" wannabe with more fuzz guitar than you've had hot meals; almost as good are the Maze's "Armageddon" (lots of great organ) and

"Fapardokly," a self-titled psych-pop effort from a bunch of guys who later played with Captain Beefheart. Verdict overall: way, way cool. *S.S.*



tle freeze-dried, there's something about muscular, stripped-down tracks like *Gel*, a crotch-minded rocker from the Gary Glitter mold, that makes Collective Soul a hip-shaking blast. *P.P.*

**STEVE FORBERT**  
*Mission of the Crossroad Palms*  
GIANT 24611 (40 min)  
Performance: ZZZZZZ  
Recording: Apt

The latest of Steve Forbert's mediocre comeback albums (he made his debut in 1978) makes it hard to believe that this folkie with a perpetual rasp was ever considered a precocious contender. While he still has a graceful way with a melody, Forbert has virtually nothing to say, and this

collection of mostly acoustic folk/pop songs, distinguished only by the presence of keyboardist Benmont Tench, just lopes along. Most of the tracks explore love lost and found. The most interesting of these is *Oh, to Be Back with You*, fitting a laconic lament around religious symbolism. Elsewhere Forbert concocts a tale about a former Cotton Queen who embezzles from the bank to pay for fertility treatments (*The Trouble with Angels*) and, in the jazzy blues of *Don't Talk to Me*, blathers on about a woman whose revealing clothing makes him declare, "All I want for Christmas is a one-night stand." This particular woman is evidently spectacular, but even she can't save Forbert from the wasteland of his once fertile creativity. *A.N.*

**Chris Mars: ready for Oprah?**



**CHRIS MARS**  
*Tenterhooks*  
BAR/NONE 052 (43 min)  
Performance: Alternately fun and intense  
Recording: Home job

Replacements drummer Chris Mars returns with his third solo album of left-field, eclectic Brit-styled pop, once again striking a delicate balance between hit and miss. Mars produced the record in his home studio and, as a result, seems to have included every barking dog, every strike of his cuckoo clock, and even his neighbor's lawnmower into the mix. At times, in genuinely funny satires like *White Patty Rap*, which goes after white musicians who imitate black rappers, that's an advantage; oth-

er times it just gets in the way. Mars tends to get boring with his overly serious social commentary, like *Cadaver Dogs*, which wags a finger at network news and its endless parade of dead bodies. But he scores with *Mary*, an affecting look at a psychotic young girl with a shameful secret; with *Water Biscuits*, a brutal put-down of the suburban middle class; and especially with *The Forkless Tree*, a hilarious look at the half-wit families that air their most intimate dirty linen — starting with incest — on TV talk shows. **A.N.**



**SIOUXSIE & THE BANSHEES**

**The Rapture**

GEFFEN 24630 (54 min)

**Performance:** Gorgeous when it works  
**Recording:** Lush

**T**here's no getting around it: Siouxsie & the Banshees make some of the best make-out music in all of rock. The icy-voiced Siouxsie Sioux remains the pop world's Natasha Fatale, and the band does haunting textures and sensual atmospherics as well as anyone. That's fortunate, because they still can't get by on songwriting alone. "The Rapture" aims to be a more artful album than usual, throwing out the traditional synthesizers and bringing in art-rock godfather John Cale as part-time producer. The five Cale-produced tracks are indeed the strongest, brightening up the sound with some new touches: brushed drums on *O Baby*, acoustic slide guitar and accordion on *The Lonely One*, viola and psychedelic phasing on *Falling Down*, girl-group harmonies on *Forever*. These tight, catchy tunes even allow Siouxsie to loosen up and show some warmth. Elsewhere you'll find the predictable bummers, with the title track droning on for 12 minutes as the lyrics descend into teenage Sylvia Plathisms. In short, another spotty Banshees album, although the high points are higher this time out. **Brett Milano**

**CHRIS SMITHER**

**Up on the Lowdown**

HIGHTONE 8060 (41 min)

**Performance:** Good 'n' greasy  
**Recording:** Just right

**G**uitarist-singer Chris Smither, who describes his style as "one-third Lightnin' Hopkins, one-third Mississippi John Hurt, and one-third me," follows his 1993 "Happier Blue" with a highly satisfying album of technical dazzle and atmospheric scene-setting. With a voice that suggests crushed gravel rolling down a conveyor belt, Smither moves from Bob Dylan's un-

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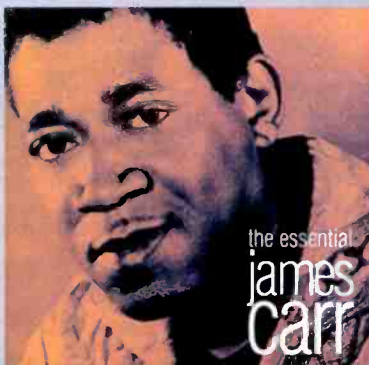
settling *What Was It You Wanted*, a tale of sexual game-playing with an insinuating melody fit for a David Lynch film, to Jesse Winchester's uptempo *Talk Memphis*, which captures the joys and sorrows of the city through evocative lyrics and note-bending electric guitar work. Much like the early Eric Clapton, Smither lets his instrument take center stage, employing vocals and lyrics mostly as accompaniment. When he launches into the slippery slide of his own *Can't Shake These Blues* or the bad-dream shroud of *I Am the Ride*, the world takes an extra spin on its axis. **A.N.**

**BRUCE SPRINGSTEEN**  
Greatest Hits  
COLUMBIA 67060 (77 min)  
Performance: **Misleading**  
Recording: **Fine**

**C**onfession time: I became a rock critic at almost the same time Bruce Springsteen released his first album (1973), and in all the years since, no rocker but Paul Westerberg of the Replacements has ever moved me as much on a gut emotional level. Which is to say that, in my humble opinion, Springsteen's best work (including bootlegs) is as passionate, funny, profoundly honest, and raise-the-hair-on-the-back-of-your-neck thrilling as rock-and-roll has ever dreamed of being.

This ill-conceived best-of, however, reflects that only fitfully. The absence of anything from Bruce's first two albums (the second of which is arguably his most musically inventive) is simply bizarre; sure, the later *Hungry Heart* and *Dancing in the Dark* (both included) were his biggest chart-toppers, but only a marketing exec could consider them as crucial as early MIA's *Spirit in the Night* and *Rosalita*. There's no live stuff, either, an equally puzzling omission, and the new songs with the reunited E Street Band are at best generic. Even the famous 1982 outtake *Murder Incorporated* (released here, Bruce notes, at the request of longtime fans) is just okay; this longtime fan could name twenty better

## DARK NIGHT OF THE SOUL



**H**e made some of the greatest soul records of the Sixties, but, alas, singer James Carr has become a cult legend more for his highly publicized mental problems than for his music (yes, kids, it's the Syd Barrett syndrome, R&B style). Fortunately, Razor and Tie has just reissued "The Essential James Carr," which is just that — all his best singles, including the indisputable classics *Pouring Water on a Drowning Man* and the original *Dark End of the Street*. Short of an Otis Redding best-of, you're not likely to hear more emotionally charged Southern soul shouting any time in the foreseeable future. This one's a genuine must-have. **S.S.**

unreleased Springsteen studio tracks right off the top of his head.

Of course, to give the album its due, there are some truly magical moments: *Thunder Road* still chokes me up after all these years; *Born to Run* remains an amazing accomplishment; *The River* is the best faux-folk song ever to come out of New Jersey; and the home-made *Atlantic City* is eerily prescient as both music and cultural criticism. But overall it's hard not to view "Greatest Hits" as a big-time missed opportunity, or perhaps a portrait of an artist in severe midlife identity crisis. Hmmm... anybody know how Paul Westerberg is feeling these days? **S.S.**

### MATTHEW SWEET

100% Fun

ZOO 72445-11081 (41 min)

Performance: **Familiar**  
Recording: **Good**

**M**atthew Sweet's latest album — the third that combines his softer power-pop tendencies with the harder guitar pyrotechnics of guests Richard Lloyd and Robert Quine — starts off with a killer song, *Sick of Myself*. For a long time, I couldn't bring myself to listen to the next one because I had to keep returning to the buoyant melody, soft vocals, and brilliant, jagged guitar solo. So I just kept listening to *Sick of Myself*. I have yet to get sick of it.

Then I played the rest of the album. And it's quite good — catchy tunes, relevant ob-



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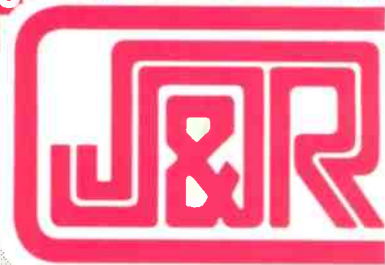
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Springsteen: midlife crisis?





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servations, crisp playing. But, on the whole, it does not sustain the glory of that opening tune. For one thing, the musical formula seems to be wearing thin. As much as Sweet tries to vary the use of his two guitarists — pushing them up front, tucking them into the background, teaming them up — the recipes aren't as tasty. And while the riffs and melodies are fresh from tune to tune, the lyrics are not, and the sappy stuff is therefore a little too sappy (although a direct, plaintive ballad, *I Almost Forgot*, is entirely winning despite its utter sappiness).

The inescapable irony of Sweet is that he is sweet, from his voice to his effortless tunecraft. While he sometimes offers a bracing counterpoint through lyrics that cast a little darkness over his romantic preoccupation, he has benefited greatly over the last three albums from the gnashing of Lloyd and Quine. If those guys are ever downplayed, or even phased out entirely, where will Sweet go to get his sour? *R.G.*

#### TANYA TUCKER

*Fire to Fire*

LIBERTY 28943 (35 min)

Performance: Updating her sound

Recording: Very good

In her long and uneven career Tanya Tucker has metamorphosed several times, from country Lolita to TNT rocker to whatever you want to fantasize in between. In recent years, however, she's evolved into a surprisingly mature singer with a subtle feminist edge, and on her latest album she emerges as a grown-up who makes no attempt to deceive herself about life. The above-average clutch of songs lets her demonstrate both her famous grit and an almost matronly tenderness. On the title tune, a duet with Willie Nelson, Tucker shows what two people are really thinking in the sweaty-sheeted dark. She brings a similar matter-of-fact attitude to *Come In Out of the Cold*. On *I Bet She Knows*, a smoky, snaky blues in which she taunts a former lover, she drops to her throaty lower register. Both fetching and fevered, it's the passionate sound of a woman who's too confident to play games anymore, who thrills us from the sum of her varied experience. *A.N.*

**Tanya Tucker: tenderness and grit**



MARK TUCKER/LIBERTY

#### MIKE WATT

*Ball-Hog or Tugboat*

EPIC 67086 (68 min)

Performance: Clever

Recording: Cluttered

Don't look now, but the super-session concept has finally hit alternative rock. The credits of writer/bassist Mike Watt's new album, featuring a large chunk of the indie in-crowd, read like a marketer's dream: one Chili Pepper, two Beastie Boys, three Sonic Youths, the surviving Nirvanas. So it's no surprise that "Ball-Hog or Tug-

boat" is getting more of a promo push than the complete works of Watt's previous bands, the innovative Minutemen and FIREHOSE, put together.

Fortunately, Watt's a little too weird and way too subversive to play the all-star format by the book. Instead, he writes songs that send up the pretensions of his guests: *Against the 70's*, featuring Eddie Vedder, deflates the arena rock that Pearl Jam has a weakness for; *Piss-Bottle Man* takes a dig at Lemonhead Evan Dando's sex-symbol image by making him sing ever so sensi-

## John Prine Meets the Mainstream

In 1991, former Chicago postman John Prine recorded "The Missing Years," his twelfth album but the first to bring him mass attention (and a Grammy award) to accompany his longtime critical and cult acclaim. While it took that album to get Prine back to the level of creative consistency he attained early in his career with songs of lucid social commentary in the post-Vietnam era (*Hello In There, Your Flag Decal Won't Get You into Heaven Anymore*), Prine has never been a full-fledged bell-ringer every time out.

That's still true on "Lost Dogs & Mixed Blessings," a fourteen-song offering that skirts larger political commentary for smaller observation and insight into the human condition. Like earlier efforts, the new album is full of honesty, heart, and humor. *We Are the Lonely*, for example, revisits the same territory as *Hello In There*, Prine's ode to old folks, except this time it's to people of all ages. Beginning as a rumination on his desire for an unseen upstairs neighbor, the song evolves into a hilarious laundry list of singles so desperate to mate that they resort to the personals columns. After all, says Prine, "We are the lonely / All together / We're all alone." And then there are the songs that fulfill every promise — like *Lake Marie*, which details odd happenings at a Wisconsin resort area — and live up to Prine's reputation for quirky brilliance.

But the big news here is that for perhaps the first time in his twenty-five-year career Prine has a chance of getting mainstream radio play. The new album has a bigger, fuller rock sound than the acoustic folk that sustained him in the past. Producer Howie Epstein fleshes out *Ain't Hurtin' Nobody*, a sort of talking blues, with organ fills and female background singers, and he adds a big, pumping rock beat to *We Are the*

*Lonely and Leave the Lights On*, a rhythm number with a joyously happy ambience, a self-propelling beat, and stream-of-consciousness lyrics. "Lost Dogs & Mixed Blessings" also contains several moving love ballads, including *This Love Is Real*, where Marianne Faithfull contributes a perfect down-in-the-dumps, ravaged harmony vocal, and a reworking of the old Floyd Tillman schmaltz-fest *I Love You So Much It Hurts*, which Benmont Tench's piano transforms into something elegiac and time-defying.



It's odd to think of Prine, closing in on fifty, as a radio staple, but creatively he's still fertile. And in other ways, too, it seems. His new wife had a baby in late 1994, and by March of this year she was pregnant again — a mixed blessing, perhaps, for yet another old lost dog recently found. *Alanna Nash*

#### JOHN PRINE

*Lost Dogs & Mixed Blessings*

*New Train: Ain't Hurtin' Nobody: All the Way with You; We Are the Lonely; Lake Marie; Humidity Built the Snowman; Day Is Done; Quit Hollerin' at Me; Big Fat Love; Same Thing Happened to Me; This Love Is Real; Leave the Lights On; He Forgot That It Was Sunday; I Love You So Much It Hurts*  
OH BOY 013 (57 min)



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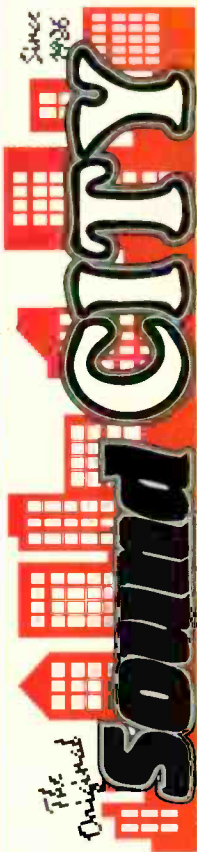
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# QUICK FIXES



## NAPPY BROWN

### Don't Be Angry

SAVOY JAZZ 0259 (44 min)

An unjustly overlooked footnote to rock history. Nappy Brown was a Fifties R&B stylist with a stuttering gimmick worthy of Buddy Holly and a couple of memorable hits, including this compilation's title tune. Well worth checking out. *S.S.*

## MIKE DOUGLAS

### You Don't Have to Be Irish

LEGACY/EPIC 66987 (33 min)

... but if you're a former TV talk-show host singing *Danny Boy* as you might in the shower, it probably helps. *S.S.*

## SHEENA EASTON

### My Cherie

MCA 11203 (43 min)

Pretty much what you'd expect — expensive-sounding production, mildly trendy dance grooves, and romantic ballads in the Vanessa Williams/Whitney Houston mode, the whole shebang rendered with rather frightening professionalism and a complete lack of feeling. Bottom line: Come home, Olivia Newton-John, all is forgiven. *S.S.*

## MICHAEL FEINSTEIN

### Such Sweet Sorrow

ATLANTIC 82740 (52 min)

Michael Feinstein shows good taste in his choice of songs, but the fancy arrangements cannot disguise his vocal limitations. His interpretations here remind me of an emotionally needy lounge singer who's telling me more about himself than I want to hear. *William Livingstone*

## STEWART FRANCKE

### Where the River Meets the Bay

SCHOOLKIDS 1531 (44 min)

A thoughtful singer/songwriter from the land of the MC5? Believe it or not, that's what Stewart Francke is, and his debut album is among the most impressive surprises of the year — musically rich, lyrically graceful, deeply felt, and without a hint of Jackson Browne Syndrome (i.e., it's never boring despite its mostly mid-tempo calm). Plus, ya gotta love somebody with the wit to name a song (*Kiss Kiss Bang Bang*) after a book by Pauline Kael. Highly recommended, and not just to Detroit chauvinists. *S.S.*

## PHILIP GREEN

### Arias and Entrechats

ALANNA 5558 (51 min)

Philip Green has taken great love themes from opera and ballet and turned them into pop instrumentals with dance-band arrangements reminiscent of Tommy Dorsey and Guy Lombardo. To someone who knows the classical originals the disc is a very funny spoof. But it is so idiomatic that you could play it at a hotel ballroom on New Year's Eve and the senior citizens would glide across the floor without missing a step. Good fun. *W.L.*

## HUUN-HUUR-TU

### The Orphan's Lament

SHANACHIE 64058 (63 min)

Western music has reached some of the Turkic and Mongolian peoples of Central Asia, but it has not adulterated the purity of Tuvan throat singing, which requires producing two notes at once. In this program Huun-Huur-Tu, a vocal and instrumental quartet from Tuva, introduce a few nontraditional instruments, such as the guitar, but their work is still as otherworldly and exotic as world music gets, and I like it a lot. *W.L.*

## LEGENDS OF ACCORDION

RHINO 71847 (47 min)

Arguably the most eclectic accordion album of all time, with just about every squeezeboxer of note represented, from Dick Contino (*Lady of Spain*) to Clifton Chenier (*Squeeze Box Boogie*) to "Weird Al" Yankovic (*Lasagna*). Pick hit: a blistering *Theme from Perry Mason* by the aptly named Those Damn Accordions! *S.S.*



## THE VANDALIAS

### Mach V

BIG DEAL/CAROLINE 9015 (48 min)

Irresistible power pop by a punkish Minneapolis guitar band with a harmonic sophistication beyond their years, sort of what Green Day might sound like if they'd cut their teeth on the Raspberries instead of the Undertones. A real find. *S.S.*

## JUNIOR WELLS

### Everybody's Gettin' Some

TELARC 83360 (57 min)

In which the sixty-year-old blues legend is joined by some interesting guests (Sonny Landreth on guitar, Bonnie Raitt on vocals), resurrects songs both old (Tampa Red's *Don't You Lie to Me*) and unexpected (Bill Withers's *Use Me*), and comes up with an album very nearly as epochal as his Sixties stuff with Buddy Guy. Fabulous sound, too. *S.S.*

tively about, well, check the title; and on the opening *Big Train* he gets a Meat Puppets/Nirvana/Dinosaur Jr. supergroup to play a wonderfully dumb bit of blooze-rock. Unfortunately the disc is littered with filler tracks and rambling jams that suffer from the absence of Minutemen/FIREHOSE member George Hurley's fluid drumming. Still, Mike Watt may have found his niche as the guy who keeps indie-rock honest.

*Brett Milano*

## CHRIS WHITLEY

### Din of Ecstasy

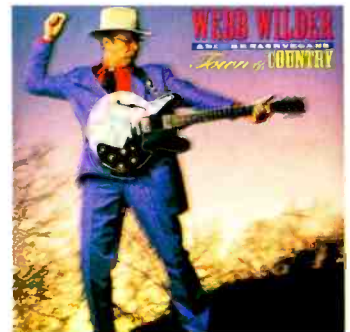
WORK/COLUMBIA 52970 (48 min)

Performance: **Strung out**  
Recording: **Good**

Chris Whitley seems to have learned a few things since his 1991 debut, "Living with the Law," and most of them are dangerous. For nearly all of "Din of Ecstasy," someone seems to be getting high or crashing low. Drugs seem to be the perfect way to begin or end an evening, which just wouldn't be complete without a bout of transcendental sex.

So why isn't everyone having a good time? For starters, Whitley writes lyrics that lacerate with contempt, although it's not always clear what he's so angry about. He's slouching toward higher ground, attempting to raise his consciousness, his moral standing, and his sexual responsiveness. Sometimes he makes it, but mostly he doesn't. Which leaves him in a snit. Or a stupor. Or both. And everything is a little too metaphorical; if it weren't for the guitars, you could get mighty tired of references to how "epiphany bleeds like rain."

But then there are the guitars. Whitley has turned them up since his first album, yet he hasn't left behind the sinuous elegance that made "Living with the Law" so special. On the hotter numbers here, he captures some of the full-blown sweetness of a Hendrix or the electric earthiness of a Page. The emotions in his playing are deep and complicated, but immediately understandable. If only his fingers were as skillful when they picked up a pen. *R.G.*



## WEBB WILDER & THE NASHVEGANS

### Town & Country

WATERMELON 1032 (44 min)

Performance: **Energized**  
Recording: **Good and rough**

Anybody who covers the Music Machine's *Talk Talk* — a bratty outcast's rant from 1966, sort of *Louie Louie* with an





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attitude — is automatically okay in my book. That's just one of the fifteen rock and country obscurities that Webb Wilder has dug up for his latest album, which shows how smart, lively, and just plain entertaining an all-covers set can be. Wilder's a gregarious type with a Foghorn Leghorn bellow of a voice, his band's equally adept at twang and thrash, and the songs they've chosen are, for the most part, worth reviving. Put it all together and you've got the kind of album that gives roots-rock a good name. Paced like a good club set complete with spoken intros, "Town & Country" sees-

saws from rock to country with a few surprise twists: the Small Faces' *My Mind's Eye* is done like an Everly Brothers tune while Rodney Crowell's *Ain't Living Long Like This* is bashed out Aerosmith-style. Wilder knows his history, and rock snobs will love the way he's covered two all-time critics' faves, the Flamin' Groovies and Mott the Hoople. But it doesn't take a musicologist to recognize Jerry Lee Lewis's *Rockin' Little Angel* as a heartfelt version of a great, little-known number. And you thought all record collectors were boring.

Brett Milano

# JAZZ REVIEWS

**DON BYRON**  
**Music for Six Musicians**  
 NONESUCH 979354 (60 min)  
**Performance: Luminous**  
**Recording: Excellent**

**M**usic for Six Musicians" is the versatile clarinetist Don Byron's "Latin" album, but it isn't really Latin at all, a seeming contradiction that goes a long way in explaining why Byron's third release might prove to be the freshest and most imaginative jazz album we'll hear this year. God knows that clavé rhythms can be as much a straitjacket as chord changes. But clavé serves only as a recurring motif here: Byron never lets it dictate the rhythmic flow of his compositions, the titles of which refer to Rodney King, Ross Perot, Shelby Steele, Al Sharpton, Clarence Thomas, and Anita Hill. Byron's eclecticism continuously yields surprises: there are cyclical Latin rhythms on *Crown Heights*, even though the piece is essentially a calypso, and the piece dedicated to Perot, despite starting off like a floating number written by Wayne Shorter, swells into an Ornette Coleman-like free improvisation.

The best piece of all might be *Sex/Work* (*Clarence/Anita*), in which Byron echoes his own phrases at strategic points during his solo, thus maintaining the sense of a melody being developed as a round. But everything here is intellectually satisfying

## DON BYRON

*Music for Six Musicians*



and emotionally stirring. By this point, it goes without saying that Byron plays his horn superbly. The word "virtuoso" is thrown around pretty loosely in jazz, but Byron is one of a small handful of musicians to whom the term actually applies. This new release establishes him as a force to be reckoned with beyond his obvious skills as an instrumentalist. F.D.

## ROSEMARY CLOONEY

**Demi-Centennial**  
 CONCORD JAZZ 4633 (62 min)  
**Performance: Solidly golden**  
**Recording: Very good**

**L**eave it to Rosemary! Instead of celebrating her fiftieth anniversary in show business with an album that reshapes past hits (actually, some of her Fifties ones are

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best forgotten), she's opted for a fresh and much more revealing alternative. On "Demi-Centennial" she's picked songs she links with people who have been especially meaningful to her over the past fifty years, among them Bing Crosby, Tony Bennett, Nelson Riddle, Marlene Dietrich, ex-hubby José Ferrer, and her children (liner notes by her brother, American Movie Classics host Nick Clooney, detail each song's connection). Rosie sings them all, whether familiar standards or newer songs by Dave Frishberg, Jimmy Webb, and Stephen Sondheim, with a warmth, expressive depth, and unfaltering musicality that few singers today can even begin to match. *R.H.*

**RONNIE JAMES**

Ronnie James and  
the Jez Hot Swing Club  
INTERSOUND 9141 (50 min)

Performance: **Amazing**  
Recording: **Excellent**

As jazz continues to bebop and boogie on the treadmill, we hear just about every facet of it reproduced by today's crop of musicians: ragtime, New Orleans, Dixieland, swing, and bebop are regularly emulated, and Coltrane clones, like Elvises, are everywhere. There is, however, one style that appears to have eluded the flame keepers: an intimate, highly rhythmic Swing Era style, the embodiment of which is found in the works of guitarist Teddy Bunn, singer Leo Watson, and the Five Spirits of Rhythm. This infectious form of jazz expression has no name, but, as I have just learned, it has a current exponent in guitarist-singer-songwriter Ronnie James.

A new Intersound CD features James and his Jez Hot Swing Club in a program consisting mainly of original material. By focusing on his own expertly written songs, James has taken his art beyond mere recreation and given us a new experience in familiar wrapping. The album perfectly captures an engaging and almost forgotten swing music sidebar, putting the attempts of Harry Connick, Jr. and others to shame. With his delightful songs, mellow voice, and Django-like guitar, James breathes fresh air into music that conjures up more innocent times. And while his keen perception forms the core of these gems, vital sparkle is added by Vince Montana's Hampton-styled vibes and the perfectly grooved solos of trumpeter Stan Slotter and baritone saxophonist Dennis DiBlassio. When the background singers occasionally join in, the sound brings back more recent memories of Dr. Buzzard's Sweet Savannah Band, and when James and his carefully chosen colleagues render such standard material as *Sweet Georgia Brown* and *China Boy*, the album explodes. *C.A.*

**CHRIS POTTER**

Pure

CONCORD JAZZ 4637 (61 min)

Performance: **Generally impressive**  
Recording: **Excellent**

As most jazz CD's tend to be in this era of protracted playing time, this one is extremely uneven. Drummer Al Foster and bassist Larry Grenadier lay down quite a

groove, but Potter — a twenty-four-year-old saxophonist who first attracted attention as a member of Red Rodney's band a few years ago — occasionally treats it as nothing more than an opportunity to wiggle from chorus to chorus without doing much of interest harmonically. Another minus is a version of *Fool on the Hill* that unsuccessfully attempts to transform Paul McCartney's sticky melody into a Coltrane-like devotional.

But much of what Potter has to offer on his third album as a leader is very impressive indeed. Although he plays five differ-

ent reeds or woodwinds here, and sometimes overdubs, he sticks mostly to tenor — a wise choice because this is the horn on which he is most forceful. Even if they're essentially only blowing vehicles, Potter's originals have a nice sense of detail to them. The most striking of these is the opening *Salome's Dance*, on which Larry Goldings and Potter match tones on organ and bass clarinet, an unusual and highly imaginative instrumental combination. Potter emerges as a young musician not fenced in by postbop conventions, and one therefore worth keeping an eye on. *F.D.*



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**BACH: Sonatas and Partitas**  
**for Solo Violin**  
 Christian Tetzlaff  
 VIRGIN 45089 (two CD's, 129 min)  
**Performance: Intelligent**  
**Recording: Superb**

**T**he Hamburg-born, twenty-nine-year-old Christian Tetzlaff seems to be at exactly the right point in his career to record Bach's solo sonatas and partitas: young and eager enough to relish the technical challenges and mature enough to convey the musical substance beneath the dazzling surfaces.

His performances are beautifully thought out, and some of the more complicated thickets of counterpoint are so resourcefully colored and articulated that it's easy to forget the essentially homophonic nature of the violin. The dance movements are refreshingly straightforward rhythmically, and they're played with a confidently inflected briskness.

Tetzlaff's approach to this music is highly Classical, right down to his emotional reticence. For some listeners this could be a serious drawback. In the famous chaconne that ends the second partita, the lack of emotion stalls the momentum. But these works can so easily squawk and shriek in the hands of emotive violinists that it's a relief to hear them so effortlessly executed, and they're beautifully recorded, too. *D.P.S.*

**BEETHOVEN: Piano Sonatas No. 8**  
**("Pathétique"), No. 14 ("Moonlight"),**  
**and No. 29 ("Hammerklavier")**  
 Earl Wild  
 CHESKY CD 120 (71 min)  
**Performance: Flawless control**  
**Recording: Good close pickup**

**E**arl Wild's image over the years has been of a fire-eating virtuoso pianist with a penchant for transcriptions and the works of Liszt and Rachmaninoff rather than more standard Austro-German Classical and Romantic fare. But this latest CD gives us

three of the best-known Beethoven sonatas.

In the "Pathétique," Wild makes the most of the contrasts in the first movement between the menacing *grave* episodes and the main body, which is *con brio* with a vengeance. Following a well-balanced slow movement is a bravura rondo with the inner voices meticulously set forth. The famous opening movement of the "Moonlight" is almost eerily calm, and Wild's delicate rendering of the succeeding allegretto adds impact to his fiercely taut treatment of the *presto agitato* finale.

The mighty "Hammerklavier" gets a splendidly imperious treatment throughout the opening movement and a fine realization of the brief and quirky scherzo. If Wild does not probe to its ultimate the "dark night of the soul" implicit in the 17-minute slow movement, he does sustain the big line with flawless control from start to finish. He is very much in his element in the demonic and intimidatingly complex fugal finale with its fearsome trills.

The recording seems rather closely miked, which works perfectly for the two early sonatas, but I would have liked a little more acoustic space for the vastnesses of the "Hammerklavier." Taken as a whole, though, this CD is a fine achievement — even a remarkable one for a musician just turned seventy-nine. *D.H.*



**BEETHOVEN: Violin Concerto;**  
**Romances**  
 Accardo; La Scala Philharmonic, Giulini  
 SONY 53287 (63 min)  
**Performance: Classic poise**  
**Recording: Good**

**S**alvatore Accardo is Italy's violin virtuoso par excellence, having made numerous elegant and brilliant recordings of Mozart and Vivaldi as well as all the Paganini concertos and caprices. He has also tackled Tchaikovsky, Prokofiev, and Ravel.

Even if he doesn't bring to the solo role of the Beethoven concerto — still the Everest of Classical violin concertos — quite the individuality that Itzhak Perlman did in his memorable 1981 collaboration with Carlo Maria Giulini and the Philharmonia Orchestra on EMI. Accardo's new reading with the same conductor is technically impeccable and utterly precise in phrase and rhythm, yet by no means lacking in heart. Tempos throughout are easier than in the 1981 recording, but not at the expense of the musical flow. The microphone pickup seems closer, too, which helps in matters of textural detail, but I miss the ethereal hush Giulini and the Philharmonia achieved in the opening pages of the slow movement.

If you want a Beethoven Violin Concerto that leans more toward the Classical than the Romantic, this new version is for you. The disc is filled out with the two Romances for Violin and Orchestra, also very well played. *D.H.*

**BRAMMS: Piano Concerto No. 2;**  
**Five Songs, Op. 105**

Kovacevich; Murray; London Philharmonic,  
 Sawallisch  
 EMI 55218 (62 min)

**Performance: Exquisite songs**  
**Recording: Warmer in songs**

**P**ianist Stephen Kovacevich's exceptional recent recording of Brahms's First Concerto with Wolfgang Sawallisch raised the highest expectations for the inevitable follow-up. If the impact of their recording of No. 2 is not quite as electrifying, well, this is a different sort of concerto, more expansive, more lyrical, more downright endearing than its fiery predecessor.

Soloist and conductor alike, however, seem curiously cautious toward those aspects of the work. The opening movement has poise, balance, and no little nobility, but the reading seems very much on the outside looking in. The finale is engaging in its way, with plenty of verve and sparkle, but is so aggressively energetic that Brahms's *grazioso* marking seems to have been either ignored or consciously rejected. The two inner movements are altogether more fully realized and richly satisfying, but the contrast between these portions and the outer ones is likely to be more jarring than convincing for most listeners.

The songs, though, compensate a good deal. Kovacevich accompanies mezzo-soprano Ann Murray in the five songs that make up Op. 105. The second song is *Immer Leiser Wird Mein Schlummer*, for which Brahms adapted the beloved cello melody



from the slow movement of the Second Concerto: it is especially welcome in this (apparently) first integral recording of the Op. 105 set, which adds up to a listening experience as rich in contrasts of mood and substance as the concerto itself. The performances are without exception superb, and the sound is a bit warmer than in the concerto, which has a rather distant focus. *R.F.*



**CAGE: In a Landscape**

Stephen Drury (keyboards)  
CATALYST 61980 (59 min)

**Performance: Effective**  
**Recording: Good with adjusted levels**

It used to be said that John Cage was the most famous unknown American composer; everybody knew who he was, but hardly anybody knew his music. That is now much less true than it used to be; since his death there has been an amazing rush to record his work. Interest has centered on the delicate and exotic prepared-piano pieces, mostly written in the 1940's to accompany dance works. This is the part of his output that is most accessible and most agrees with the temper of the current time: Eastern-influenced, meditative, engaging.

Everything here dates from 1938-1948, with the exception of the recording premiere of *Souvenir*, a rather baffling organ piece from 1983. Not everything is, strictly speaking, for prepared piano. The title piece is "prepared" only in that the sustaining pedal is held down throughout; pedal is also used liberally in *Dream*, a very attractive and relatively unfamiliar work of 1948. There is a piece for the nine notes of a toy piano, too, and another, *Prelude for Meditation*, that uses only four of the eighty-eight keys of a regulation grand. Stephen Drury, who is something of a Cage specialist, has found a lot of variety within the small, Zen aesthetic of this music.

The subtle colors are recorded close up, and the playback levels are high. That is not necessarily a problem, but I would back off the volume quite a bit, especially for the organ (whose fortissimos can blow your speakers) and the kiddie keyboard, which at "normal" levels sounds like the Toy Piano That Ate Carnegie Hall. I think we can safely say that this effect is not really what Cage had in mind. Drury, in his liner notes, actually quotes Cage's famous line that the purpose of music and art "is to sober and quiet the mind thus rendering it susceptible to divine influences." That credo, this mu-

sic, and these performances can live quite comfortably together if you just remember to lower the volume so the music can work its magic. *E.S.*

**GLASS: String Quartets Nos. 2-5**

Kronos Quartet  
NONESUCH 79356 (68 min)

**Performance: Inspired**  
**Recording: Glowing**

The ever-prolific Philip Glass has written no fewer than eight string quartets. I have always preferred his music for his own ensemble to his orchestral music, but the string-quartet medium suits him well, especially when the quartet is the Kronos. Of the four works recorded here, two originated as incidental music, No. 3 for the film *Mishima*, No. 2 for a play by Samuel Beckett. The two more recent works were commissioned as quartets, No. 4 in memory of the artist Brian Buczak, who died of AIDS, No. 5 by the Kronos Quartet, and both are among his most magical and even passionate works. The performances are consistently inspired, and the recording — made at Skywalker Sound in Marin County, California — positively glows. *E.S.*

**GRIEG: Cello Sonata; Intermezzo**  
**SIBELIUS: Malinconia; Cello Pieces, Opp. 77 and 78**

Mork; Thibaudet  
VIRGIN 45034 (69 min)

**Performance: Sinewy**  
**Recording: Favors piano**

Whatever its shortcomings in terms of classical form, Grieg's Cello Sonata is one of the most effective of his handful of large-scale instrumental works. In this latest recording, the tone production and performance style of the Norwegian cellist Truls Mork, a Tchaikovsky competition laureate, is lean and sinewy, and the pianism of the French virtuoso Jean-Yves Thibaudet is extraordinarily brilliant, especially in the final movement. Indeed, his instrument tends to overpower the cello from time to time, which I would judge stems as much from Virgin's production setup in Torgveien's Ski Hall as from his playing.

Neither the early (1863) Intermezzo by Grieg nor the Sibelius pieces are in the same league as the sonata. *Malinconia*, Op. 20, starts off in dramatic fashion but runs out of steam. There are lovely moments in the two Op. 77 pieces, titled *Cantique* and *Devotion*, but the four of Op. 78 (*Impromptu*, *Romance*, *Religioso*, *Rigaudon*) verge on high-grade salon fare except for *Religioso*, which was dedicated to the composer's brother. *D.H.*

**MAHLER: Symphony No. 2 ("Resurrection")**

Soloists; Prague Philharmonic Choir; Israel Philharmonic, Mehta  
TELDEC 94545 (78 min)

**Performance: Glossy**  
**Recording: Big on effects**

Zubin Mehta has always been a sympathetic conductor of Mahler's symphonies, and for the most part he's been fortunate in the choice of associates and venue.

The first of his three recordings of the Second Symphony, for London, with the dual advantages of the Vienna Philharmonic and a Christa Ludwig still at her formidable peak, is apparently not available in our country at present, and that's a shame, for his 1988 live recording on Pickwick is ruled out by its litful outdoor sonics as well as the fairly pedestrian reading, and this new Teldec version with the same orchestra and alto has little beyond sonic superiority to recommend it. And even the sound is undermined by some distressing spotlighting of big effects and by what seems like a snipped-out pause before the first entry of the chorus in the final movement.

But that hardly matters; more important

## Back to Bach



João Carlos Martins

Brazilian pianist João Carlos Martins launched his musical career in the early 1960's with well-received performances and recordings of the music of Johann Sebastian Bach. But a soccer injury forced Martins to retire from the concert stage in 1970. After surgery and a long rehabilitation — during which he became successful as a banker, boxing manager/promoter, rock-music impresario, and a politician — he's back on the concert circuit and has resumed recording. Earlier this year Labor Records released the first seven CD's (of a planned twenty), including both reissues and new recordings, of his traversal of the complete keyboard works of the composer he still champions after all these years: J. S. Bach.

is that where Mehta's Vienna reading was urgent and glowing, with one of the most eloquent and moving singers imaginable for the *Urlicht* movement, in both Tel Aviv performances he seems to have been content to stay on the surface and settle for glossy playing, and in the *Urlicht* alto Florence Quivar's untamed vibrato wipes out the simple dignity of the music and text. (Nancy Gustafson, the soprano in the finale, is only too happy to match or surpass her in that respect.) The Prague Philharmonic Choir performs at its usual fine level but cannot rise much above what is asked of it. *R.F.*

**PROKOFIEV: Piano Concertos Nos. 1 and 3**

Kissin; Berlin Philharmonic. Abbado  
DEUTSCHE GRAMMOPHON 439 898  
(42 min)

**Performance: Scintillating  
Recording: Splendid**

**Y**evgeny Kissin has the full measure of both works here, especially Prokofiev's youthful and exuberant First Piano Concerto. His fingers are as fleet and nimble as can be throughout the kaleidoscopic first movement, he responds with both warmth and elegance to the predominantly Romantic second movement, and after bringing a charming lilt to the tarantella-style episodes in the finale he makes the most of the mad dash to the end.

The recording of Kissin's performance of the popular Third Concerto in Moscow in 1985, when he was thirteen, is still available on RCA. The ensuing eight years brought him maturity and strength, along with state-of-the-art digital sound, for this September 1993 concert recording, which is replete with both dazzle and tenderness. The early pages of the second-movement variations and what follows say it all very beautifully. Claudio Abbado and the Berlin Philharmonic provide ideal collaboration, and the well-balanced recording leaves nothing to be desired. The overall playing time of the CD is short, however. *D.H.*

**SCHOENBERG: Verklärte Nacht; Pelleas und Melisande**

Atlanta Symphony, Levi  
TELARC 80372 (78 min)

**Performance: Lush  
Recording: Resplendent**

**Y**oel Levi may not have the charisma and dynamism of Robert Shaw, his predecessor as music director of the Atlanta Symphony, but the polish, precision, and tonal richness of this string-orchestra performance of Schoenberg's *Verklärte Nacht* (*Transfigured Night*) border on the world-class. Thanks not only to the playing but also to Telarc's production, Schoenberg's passionate idyll is depicted in almost overwhelmingly gorgeous sound. More intensity might be in order at the emotional crisis of the work, but the coda is sheer magic.

Among the two dozen and some other recordings of *Verklärte Nacht* on CD, this generously filled Telarc disc is the first to offer as coupler the composer's elaborate, Richard Straussian treatment of the Pelleas and Melisande tale. Densely textured and calling for an enormous orchestra, it uses the

same hothouse, late-Romantic musical language as *Verklärte Nacht* and *Gurrelieder*. The performance here brings the coloristic aspects of Schoenberg's scoring very much to the fore, thereby making the piece more listener-friendly than usual. *D.H.*

**SCHUBERT: Piano Sonatas in B-flat Major (D. 960) and A Major (D. 664)**

Radu Lupu  
LONDON 440 295 (59 min)

**Performance: Poetic  
Recording: A little dry**

**SCHUBERT: Piano Sonatas in A Major (D. 664) and B Major (D. 575); other works**

Michel Dalberto  
DENON 78914 (71 min)

**Performance: Ingratiating  
Recording: Very good**

**I**t has been too long since we last heard from Radu Lupu. He gets down to very serious business here in the last and greatest of the Schubert sonatas, the B-flat Major; his performance is inward and poetic in a way that rings true because it is leavened with animation. Spontaneity and thoughtfulness seem to go hand in hand with an instinctive regard for tonal beauty that makes itself felt in every phrase.

Lupu takes the big exposition repeat in the first movement, and he makes it work by keeping up the momentum. In the same vein, he does not have to belabor the dark mood of the brooding slow movement but allows it to speak straightforwardly, its dignity intact, and follows up with a light-as-air statement of the scherzo in which the marking "*con delicatezza*" is taken to heart, providing just the right level of relief following the weighty ruminations of the preceding half-hour. Only the final movement, curiously, fails to rise to the level of the first three — perhaps because it was recorded in a different session. No problems at all

in the earlier, three-movement A Major Sonata, whose middle movement is productively mined for emotional depth and most agreeably set off by the songlike lyricism of the outer ones.

Michel Dalberto has now progressed to the eighth installment of a Schubert survey (projected for completion just before the bicentenary of the composer's birth in January 1997) that comprises not only the sonatas but virtually all of his work for solo piano, including the collections of dances and various minutiae. The cycle has been a



delight so far, and I imagine many listeners will find Dalberto's somewhat brighter, more ingratiating way with the little A Major Sonata more persuasive than Lupu's unexpectedly probing one: certainly Denon's warmly realistic piano sound is more appealing here than the relatively dry acoustic London has provided for Lupu.

Dalberto's generously filled disc also includes not only the seldom heard B Major Sonata but many short pieces we simply never encounter, such as the Adagio in G Major (D. 178), the Six Ecossaisses (D. 421), and fourteen dances from Op. 9 (D. 365). Especially intriguing is the tiny Cotillon in E-flat Major (D. 976), all of 37 seconds long. Such pieces were as close to

## City of Strangers



Chanteuse Ute Lemper

**U**te Lemper, with successful audio and video recordings of the music of Kurt Weill and of songs made famous by Edith Piaf and Marlene Dietrich, has recreated the cabaret "chanteuse" of Paris and Berlin for a modern audience. But Lemper must feel a tie to New York as well, for her latest London Records CD, "City of Strangers," features songs of Broadway composer/lyricist Stephen Sondheim.

The German-born singer's acting ability has landed her roles in the Viennese production of *Cats* and recently a small role as a very pregnant model in Robert Altman's movie *Ready-to-Wear*. Lemper met the country singer Lyle Lovett on the set, and the two recorded a duet that will appear on her next album, due this fall.

PHOTO: RAFAEL DIERER DE L'HOMME/LONDON RECORDS



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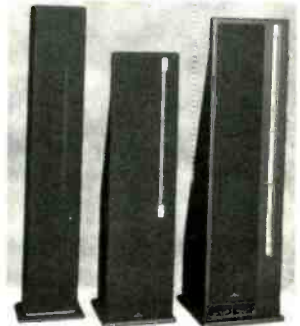
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# QUICK FIXES

**BACH: Prelude, Fugue, and Allegro; Suite in E Minor; Chaconne; Partita in E Major**

Julian Bream (guitar)  
EMI 55123 (70 min)

Except for the Chaconne (yes, *the* Chaconne, originally for violin solo), these are all works written or arranged for an unspecified instrument, often thought to be a lute; hence they have always been considered fair game for guitarists, and Julian Bream, among others, has played and recorded them often. His playing here is organized, sober, uninspired — in short, institutional. The performances go through the motions but not the emotions. *E.S.*



**GAVIN BRYARS: The Sinking of the Titanic**

Members of Balanescu Quartet; others  
POINT 446-061 (61 min)

Gavin Bryars's latest bit of metaphysical eccentricity is based on the hymn *Autumn*, reportedly played by the *S.S. Titanic's* salon orchestra as the ship went down. Around it he has woven an evocative tapestry of performed and electronified sounds suggestive of ships and seas and, one supposes, death by drowning. There are notable performers here, including violinist Alexander Balanescu, a children's choir, and others, but it is the totality of the effect rather than the individual contributions that counts. All is calmness and meditation as we — Bryars, the performers, the *Titanic*, its passengers, and presumably all the rest of Western civilization — slide off into the watery depths of eternity. *E.S.*

**MOZART: Sinfonia Concertante (K. 364); Divertimento (K. 205); Violin Concerto No. 5**

Belkin; Larsen; Salzburg Chamber Soloists  
DENON 78918 (77 min)

The Salzburg Chamber Soloists play without a conductor; Boris Belkin, listed as "artistic advisor," takes the violin lead in the two concerted works, and the concertmaster, Lavard Skou Larsen, switches to viola for the *Sinfonia Concertante*. Everyone seems to revel in the fine tunes and the colors spun from the modest instrumentation, and the performances have a chamber-music intimacy without sacrificing brilliance. *R.F.*

**RACHMANINOFF: Vespers**

St. Petersburg Chamber Choir, Kormiev  
PHILIPS 442 344 (56 min)

A collection of fifteen hymns written for the All-Night Vigil, a service of the Russian Orthodox Church that takes place in the middle of the night, Rachmaninoff's Vespers shimmer with luminous beauty, as passionate in their way as any of his intensely romantic piano concertos. The music is almost too rich to be taken in all at once; better to dole the hymns out, a few at a time, at the end of an evening of listening. The recording is spacious and bright. *J.J.*

**SCHUMANN: Piano Concerto; Violin Concerto**

Argerich, Kremer; Chamber Orchestra of Europe, Harnoncourt  
TELDEC 90696 (63 min)

Pianist Martha Argerich is in her best form here, with not only her usual electric virtuosity and explosive playing at the climaxes, but also an eloquent, deeply musical rhythmic elasticity that brings out all the romantic impetuosity of Schumann's Piano Concerto. The Violin Concerto does not fare so well. Written in rough, broad strokes, it seems even less impressive here than usual because Gidon Kremer and Nikolaus Harnoncourt inflate it pretentiously, offering weightiness in lieu of nuance. *D.P.S.*

**TCHAIKOVSKY: The Seasons;**

**Six Pieces, Op. 21**

Mikhail Pletnev (piano)  
VIRGIN 45042 (66 min)

In these piano works Mikhail Pletnev shows a quiet restraint in his imagery (a considerable contrast with his all-out dramatic approach when he's conducting the Russian National Orchestra) that suits this material just fine. The six early pieces will be an especially happy discovery for many who have never taken Tchaikovsky seriously as a composer for piano. *R.F.*



**SUMI JO: Carnaval! (French Coloratura Arias)**

English Chamber Orchestra, Bonyngé  
LONDON 440 679 (68 min)

The thirteen selections here from French operas and operettas are showpieces calling for daredevil pyrotechnics and flights up to E-naturals. They are dispatched with aplomb by soprano Sumi Jo and conductor Richard Bonyngé. The singing is expert if a bit faceless, largely because of indistinct pronunciation, but there's bravura aplenty. *G.J.*

Schubert's heart in their way as his songs and large-scale instrumental works, and they are presented here, as on Dalberto's earlier discs, with the same affection and respect lavished on the sonatas. *R.F.*

**R. STRAUSS: Salome**

Norman, Morris, other soloists; Staatskapelle Dresden, Ozawa  
PHILIPS 432 153 (two CD's, 103 min)

**Performance: Tempestuous  
Recording: Outstanding**

**S**eiichi Ozawa and his Dresdeners serve up a highly charged, even savage *Salome*, and I find their treatment of this stormy opera entirely convincing, tailored as it is to soprano Jessye Norman's volcanic portrayal of the central character. She is an inspired *Salome*; she captures the character's monstrosity while managing to lighten her majestic tone at certain junctures to achieve the insinuating and at times childish effects required. She finds a wide range of vocal colorations to reflect changing moods and, a few strained top notes aside, delivers her final scene with a commanding intensity.

While not of uniform excellence, the rest of the cast is more than satisfactory. Jochanaan's imprecations are unleashed by bass James Morris in a rich and steady tone but with little variety of expression. Kerstin Witt and Walter Raffener make a properly repugnant kingly pair: the mezzo limns Herodias's character with cannily expressive vocalism, while the tenor, as Herod, rarely resorts to singing where ranting will do. Tenor Richard Leech, by contrast, is an uncommonly suave and touching Narraboth. There are no outstanding voices among the assorted Jews, Nazarenes, and Soldiers, but the ensembles are effective, and the Philips engineers have captured the individual strands in clear focus — not an easy feat. In all, this is one of the best versions on disc of this much-recorded opera. *G.J.*

**R. STRAUSS: Sinfonia Domestica; Till Eulenspiegel's Merry Pranks; Festive Prelude**

Philadelphia Orchestra, Sawallisch  
EMI 55185 (70 min)

**Performance: Rich and supple  
Recording: Superb**

**A**nyone who needs to be convinced that Wolfgang Sawallisch made a good choice to lead the Philadelphia Orchestra is invited to give a listen to this live recording of two favorite Strauss tone poems, introduced by the magnificent and all too rarely performed *Festive Prelude* for large orchestra and organ. Judging by these performances at Tokyo's Suntory Hall, the Philadelphians are now playing with a finer polish and greater expressiveness than they have in years. The famed string sound, particularly, seems to have been fully restored to the glory of the Ormandy years; the adagio of the *Sinfonia Domestica*, for example, soars and overflows with exquisite emotion.

The recording is gorgeous, capturing the excellent acoustic of Suntory Hall with astonishing fidelity. I've never heard the hall's organ before, but in the hands of the (strangely) anonymous organist in the *Festive Prelude*, it is a mighty impressive in-



strument. Indeed, this recording of that work, with its massed strings, intricate brass passagework, and wide dynamic range, makes an exemplary demonstration disc. The phrase "live recording" once served as a warning to expect inferior sonic quality and lots of shuffling and snuffling; in this case, it means that a living, breathing (but very quiet) audience has contributed richness to the acoustic and a sense of immediacy to the interpretation. The applause at the end comes as a real surprise. J.J.

**VIVALDI: The Four Seasons**  
**KREISLER: Violin Concerto in the Style of Vivaldi**

Shaham; Orpheus Chamber Orchestra  
 DEUTSCHE GRAMMOPHON  
 439 933 (50 min)

Performance: Thoughtful  
 Recording: Excellent

The mere mention of yet another *Four Seasons* recording is enough to make many music lovers groan, but this is one of the most noteworthy new ones in recent years. Violinist Gil Shaham's playing is a joy throughout, displaying a lustrous tone, penetrating understanding, and a general sense of fun, and the conductorless Orpheus



Chamber Orchestra has rarely sounded so crisp. Together, they accomplish the near impossibility of making fresh listening experiences of these four little concertos.

And there are two notable bonuses: One is Fritz Kreisler's sunny, mildly schmaltzy Concerto in the Style of Vivaldi, a Viennese romantic's view of the Baroque. The other is a video version of the "Winter" concerto on CD-ROM (for Windows or Macintosh computers) that shows people slogging their way through New York City's 1994 winter storms while the orchestra rehearses indoors. It's a witty and unflinching musical foray into this new medium. D.P.S.

Collection

**MARIA BACHMAN**  
 Kiss on Wood

CATALYST 62668 (67 min)

Performance: Appealing  
 Recording: Neat

The violinist Maria Bachmann confirms her reputation as an exciting young performer of new music with this most attractive recording of works by James MacMil-

lan, William Bolcom, Aaron Copland, Alfred Schnittke, and Paul Dresher. Copland's bluesy *Nocturne* of 1928, an evocative early work that foreshadows his popular style of the following decades, is a real find. Bolcom's Second Sonata for Violin and Piano, even more jazzy, mixes modernism and pop Americana à la Joe Venuti (the finale is dedicated to his memory) in a wonderfully blatant manner. This multiculturalism also carries over to Dresher's *Double Ikat*, which has an Eastern flavor that is also a bit bluesy, and the big Schnittke Violin Sonata No. 1, which glides across a huge terrain

from country to folk with a great deal of spirit. Only MacMillan, with his *Kiss on Wood*, all neo-Baroque stop-and-go, is the odd man out here.

Bachman's gleaming tone, sweet temperament, and silky technique are shown off to best advantage in the curlicues of the Dresher piece, inspired by the weaving and the music of southeast Asia and performed and recorded with a wonderful focus and grace. But everything is played in an equally appealing manner by Bachman and pianist Jon Klibonoff, and it all sounds gorgeous in this neat recording. E.S.

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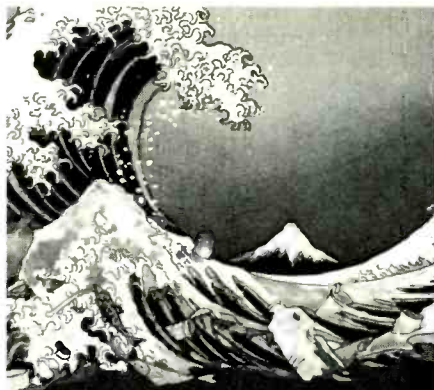
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Reader Service No.	Advertiser	Page Number
8	Acoustic Research	C4
1	Adcom	9
—	America Online	32a,b
—	BMG CD Club	16a,b
—	Bose	37
—	Bose/Acoustic Wave	6
—	Boston Acoustics	31
6	Cambridge SoundWorks	23, 25, 26, 27
44	Carver	29
13	Chase Technologies	6
14	Clarion	7
19	Crutchfield	81
15	Definitive Technology	42-43, 44, 45
—	Electronics Depot	97
2	Energy	11
—	Esquire Watch Company	21
—	Home Theatre Systems	95
20	J&R Music World	82-83
46	M&K	68
—	Marlboro	14-15
68	Mirage	C3
24	Mobile Fidelity	74
31	NAD	35
26	New West Electronics	85
42	NHT	19
—	NHT Sweepstakes	53
34	NuReality	39
39	One Call	91
37	Onkyo	12, 13
—	PARA	10
38	Paradigm	4
—	Pioneer-Car	2-3
40	Polk Audio	51
—	PolyGram Records	80
—	6th Avenue Electronics	89
41	Sound City	86-87
—	Uncle's Stereo	90
—	U.S. Army	41
60	Wire Tape	28
—	Yamaha	C2-1

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# THE HIGH END

BY PETER W. MITCHELL

This column ran in STEREO REVIEW for almost a decade, until the death of its author and originator, Ralph Hodges, last year. After a too-long hiatus, we are pleased to bring it back with Peter Mitchell at the helm. Peter has been contributing articles to this magazine for twenty years and has been known to some of us even longer, back to his days as a founding member of the Boston Audio Society. Trained as an astrophysicist, he has had practical experience in audio ranging from live recording to speaker design. We hope you enjoy his columns as much in the months to come as we expect to ourselves. —Ed.

## What Is High End?

From its inception, this column has been devoted to exploring the many aspects of our continuing audiophile quest for perfection in the reproduction of musical sound. It is a topic well worth exploring. New developments occur often in audio, promising to bring us closer to our ultimate goal of reproducing music so faithfully that it sounds like the real thing. Some of the best improvements involve the rediscovery of an old but forgotten verity.

People often assume that "high end" means "high cost." And there is a kernel of truth in that idea: Some high-end products cost thousands (or even tens of thousands) of dollars apiece. A wealthy enthusiast could spend \$50,000 to \$100,000, or more, for a basic stereo system.

That is an extreme example, however. Perhaps you can't afford to spend that much; certainly I cannot. But at every time in the half-century history of the hi-fi industry, the finest audio systems have always cost about the same as the finest automobiles. What one person may pay for a Lexus or Lamborghini, another person may invest to obtain great sound.

"High end" is really a matter of attitude. A \$50,000 high-end system could sound pretty darned wonderful. But it's also possible to assemble a satisfying high-end system in which no component costs more than a few hundred dollars.

Is high-end audio for you? Perhaps the quickest way to answer that is to examine your priorities. For example, my automobile provides reliable transportation, but it's not a status symbol; it was a five-year-old used car when I bought it. My audio system cost a lot more than my car, and my record collection cost more than either. Music is my most important leisure activity. TV (including home theater) may

occupy more of my time, but music is what I care about most intensely.

Is that true for you as well? If you listen to music casually, or as a background to other activities, then a stereo system from any mainstream manufacturer may sound good enough to please you. But if music is one of the core experiences in your life, occupying your focused attention nearly every day, then you owe it to yourself to experience the level of musical realism that a high-end audio system can provide.

In summary, high-end audio is mainly about the intensity of your interest in music, not about the size of your bank account. It's about the quest for the most lifelike musical sound that you can find, at any price level.

The main difference between a \$50,000 system and a budget high-end system is one of statistical probabilities. If you have \$50,000 to spend, the odds

surgery. If you make a poor choice, or something better comes along next year, you can always upgrade or replace it.

At every price level, selecting good products is only the first part of the quest for high-end sound. Dealing with issues of compatibility (interactions between products) is an equally important aspect of the search. This involves listening to various combinations of components, with the aim of identifying product pairings that work particularly well together in a system — complementing each other's virtues rather than aggravating each other's faults. For example, two amplifiers may measure equally well in a lab test. But, depending on your choice of loudspeakers, one amplifier may sound better than the other because of amplifier/speaker interactions that are not measured in standard tests. With different speakers your preference may be reversed. And with some amplifiers and speakers, it won't matter how they are paired. Listen, and choose for yourself.

The third leg of the high-end triad is a category called "tweaks": fine-tuning and small enhancements that may add up to a significant improvement in musical realism. Some tweaks are universal — careful positioning of the speakers, for example, and taming the acoustics of the listening room. The effect of other tweaks, such as vibration-damping or the selection of cables, may depend on your choice of primary system components, producing an audible benefit in some systems but little or none in others.

Many tweaks are controversial because their value is subjective, meaning that different listeners may arrive at different conclusions. In part this is because critical listening is a learned skill: Everyone's ability to detect and identify small differences improves with practice.

**H**igh-end audio is mainly about the intensity of your interest in music, not the size of your bank account.

are in your favor. You will probably end up with a system that sounds really good, particularly if you have the help of a well-informed dealer. (This outcome is not guaranteed, though — some \$50,000 systems do *not* sound very good.)

At the budget level, the odds are tilted against you. The universe of \$500 products is large, and selecting the very best from that diverse population requires close attention. If you're not careful (or lucky), you are likely to find that some part of your system contains a compromise or limitation that prevents it from delivering really satisfying performance. Fortunately, hi-fi is not life-or-death

Even listeners with similar hearing and experience may have different subjective reactions to a small change in sound. You and I may hear the same sound, but you might regard it as a significant improvement while it strikes me as trivial or nonexistent. Or we may be attuned to different aspects of the sound: I may respond mainly to differences in timbre while you care more about differences in imaging — or the other way around.

Judging tweaks usually doesn't involve much science. Often it's simply a matter of, "Let's try this and see if we like it." This is a hobby, after all; we do it because it's fun. □



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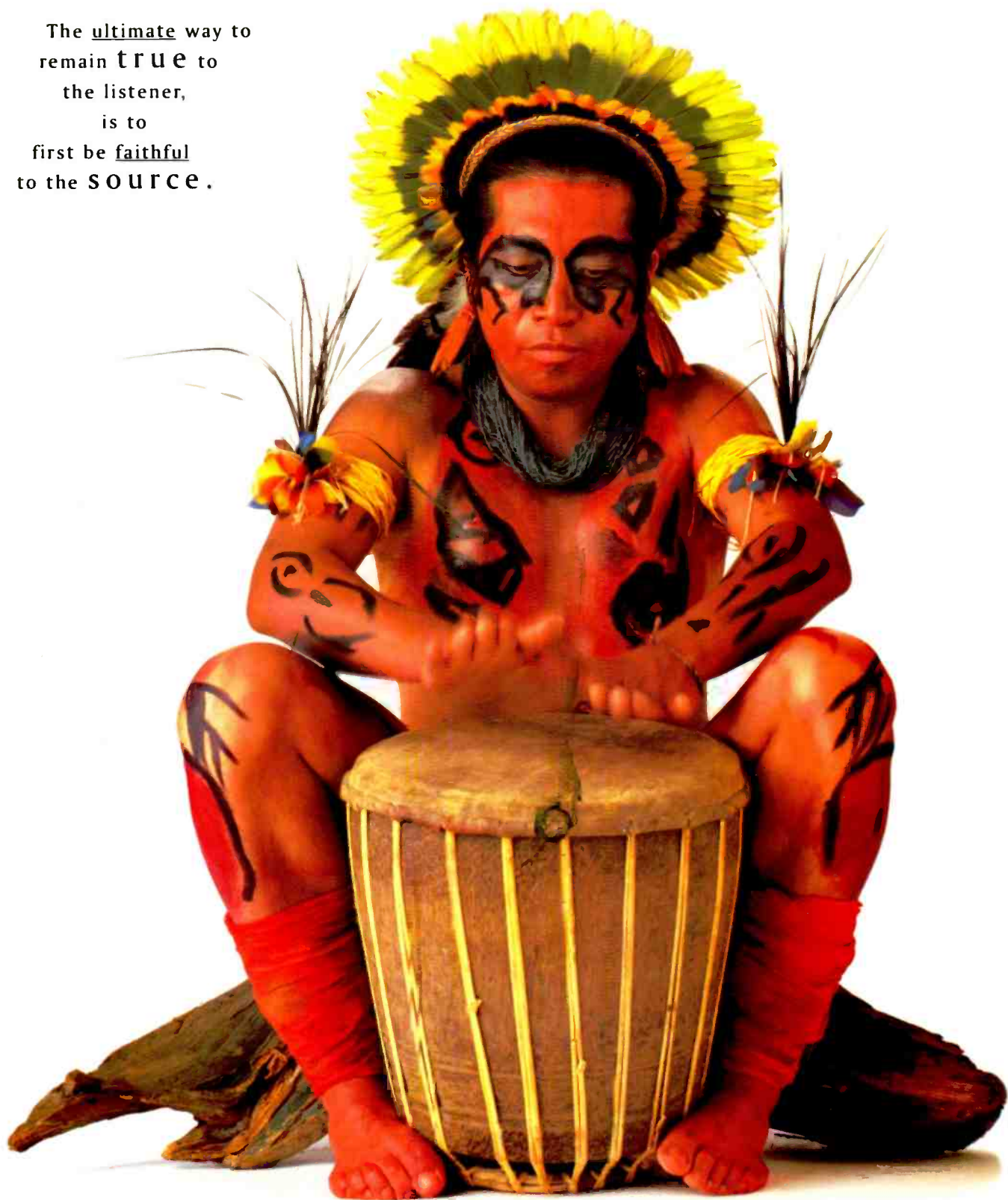
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