

# Stereo Review

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

## TRAVELIN' LIGHT

6 PORTABLES IN  
THE LAB AND  
ON THE BEACH

WHAT'S NEW  
IN HOME  
THEATER?  
DOLBY DIGITAL  
AC-3 ROUNDUP

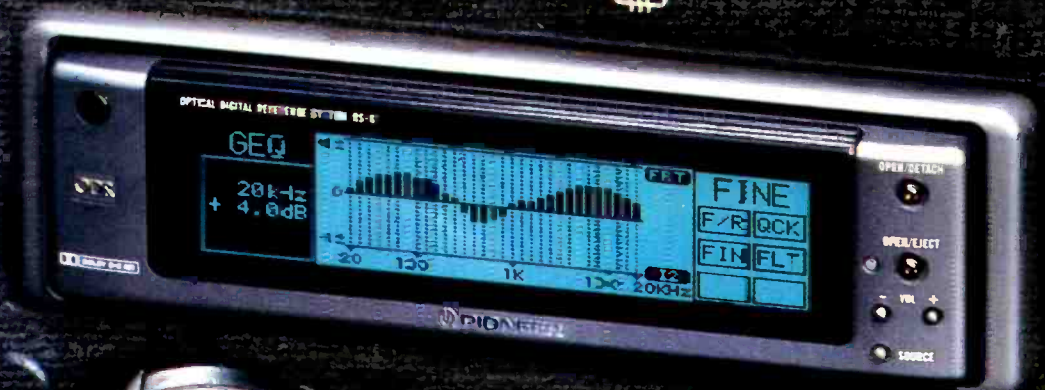
CAR STEREO GEARS  
UP WITH INNOVATIVE  
EQUIPMENT

TEST REPORTS  
Yamaha AC-3  
Processor/Amp,  
NHT Speaker  
System, AMC CD  
Player, and more



#BXBDHMY\*\*\*\*\*5-DIGIT 40222  
#BCH11000098 1#430492  
MAY 97  
DAVID S BUCHANAN PKY  
OXMOOR WOODS KY 40222-EEZ2  
#C105  
#VE40  
06276  
195272 7

**NOTHING DEFINES AN INDIVIDUAL,  
A GROUP OR A COMPANY  
LIKE ITS ACCOMPLISHMENTS.**



**The Premier® Optical  
Digital Reference System,  
the result of a passionate  
pursuit of performance.**

© 1997 PIONEER ELECTRONIC CORP. PIONEER ELECTRONIC CORP.

**P**ioneer Electronics has always been inspired by the goal of reproducing music with all the passion and integrity of the original live performance. The Premier® Optical Digital Reference System is the result of an intense quest for the absolute best performance in the car environment. It is simply the finest system of advanced, integrated audio components ever crafted for the automobile offering precision adjustment ordinarily available only in a professional recording studio.

**31-BAND DIGITAL GRAPHIC EQUALIZER** offers unprecedented digital control over the sound field environment in your car.

**DIGITAL CROSSOVERS** provide slopes from -6 to -36dB/oct.

**TIME ALIGNMENT** ensures the sound from all the speakers reaches your ears at precisely the same time.

**NOISE GATE** eliminates zero-bit data noise by detecting zero-bits from a CD and muting before any noise reaches the power amplifier.

**COMMANDER** puts total, digital audio control at your fingertips. All the adjustments are made from the driver's seat, not from the trunk. And all the Commander's controls are easily mastered with one hand thanks to its ergonomic design.

**OPTICAL DIGITAL LINK** provides a fiber optic connection that's impervious to a car's electrical interference. The Optical Digital Reference System extends the optic connection further than ever—from the audio source all

the way to the output stage of the power amplifier.

**CLASS A AMPLIFIERS** deliver audiophile performance—superb linearity, low distortion and high musicality—in a car environment.


**ODR SPEAKERS** are designed, engineered and manufactured by the world's leading car speaker manufacturer. They feature ceramic graphic diaphragms, titanium tweeters, alginate fiber composite cones, and edgewise-wound voice coils for uncompromising reproduction.

The best audio system in the world is only as good as the person installing it. So Pioneer hand picks a select group of car audio experts across the country to ensure that the sound quality engineered in the studio comes through loud and clear in your car. These experts are Premier Installation Specialists, and car audio is their passion.

If it's yours as well, call 1-800-PIONEER for more information on the Premier Optical Digital Reference System.



**PREMIER**

Maybe it's true that money can't buy you love. But for a very low amount of green, you can buy a lot of friendliness—in the form of the very fun, very friendly Plymouth Neon Coupe.  The sticker shows a friendly price of \$9,995\* for the Plymouth Neon Coupe. And that's with the energetic 16-valve 132 horsepower engine, cab-forward design, four-wheel independent ride-tuned suspension, dual front air bags,† side-impact

# Hi.



protection, cup holders...and the list goes on and on. But we'd rather let you drive one and see it all for yourself. Have fun.  And not only is Plymouth Neon very friendly to you—it's kind to the environment too. For example, each of its snazzy color choices consists of an environmentally friendly antichip coating on select body panels and water-based color coats—applied in processes that minimize emissions.

And recycling codes on major components.

Now that's something to smile about.

Don't you think? And with the equipment

you get, for a price of just \$9,995,\* the Plymouth Neon Coupe makes a compelling argument that opposites do attract. With a car this fun, at a price this low, maybe



Plymouth Neon Coupe. Starting at \$9,995.\*

# Low.

**1996 MODEL YEAR PLYMOUTH NEON**

**BASE PRICE: \$9,995**

**EXPERIMENTAL INFORMATION**

**NEED COST INFORMATION**

**CUSTOMER ONLY**

**FUEL MILEAGE INFORMATION**

**28** City **38** Highway

**TOTAL PRICE: \$9,995**

**CHRYSLER CORPORATION**

it really will turn out to be love. So check out the fun, friendly Plymouth Neon Coupe at your Plymouth dealer. To find out more good stuff, surf by on the Internet's World Wide Web at <http://www.plymouthcars.com>. Or give us a yo at 1-800-PLYMOUTH.



One clever idea after another.



That's Plymouth.

**Boston Acoustics  
Home Theater Options**

**SubSat Three-Piece Systems**  
Tiny satellites and big theater sound.

▶ **Compact Reference Series**  
Incredible sound from compact speakers.

**Lynnfield VR Series**  
Audiophile sound with the full impact of AC-3.

**Boston Acoustics THX® System**  
Dubbing studio quality sound.

# Ace Ventura, Aladdin, Night of the Living Dead. This is serious stuff.



## THE BOSTON CR HOME THEATER PACKAGE. A SERIOUS SYSTEM FOR \$999.

If you take your movies seriously, this is for you: the Compact Reference Home Theater Package. It features our much-touted CR7 main speakers. They impressed *Audio* magazine enough to call them "Great Performers." Plus, they said, "[The CR7's] sound is smooth and well balanced, and their bass competes with that of larger speakers." In the center: the CR1 center channel. Its tweeter is identical to the CR7's, and both speakers' bass units are tonally matched. So left/right pans are seamless, tonal balance is smooth and dispersion is broad. For surrounds, choose between our compact, flexible CR6 monitor with swivel-mount bracket or our award-winning CRX diffuse-field surround. Finally, there's the newest CR family addition: the CR400 powered subwoofer. It's a serious subwoofer in a compact package. The CR400's 75-watt amp and 8-inch DCD bass unit produce remarkable bass effects down to 35Hz (-3dB). And it offers volume control, a variable crossover and a polarity switch—features you'd only expect to find in larger, more expensive subs. Test-listen the CR Home Theater Package at your local Boston dealer. You won't hear anything else like it. Seriously.



Our \$999 CR Home Theater Package includes: a pair of CR7 mains, a CR1 center channel speaker, CR6 surrounds with brackets and a CR400 powered subwoofer.

**Boston Acoustics**

300 Jubilee Drive, Peabody, MA 01960 (508) 538-5000

AC-3 is a registered trademark of Dolby Laboratories, Inc. THX is a registered trademark of Lucasfilm Ltd.



Six CD portables ready to hit the beach: clockwise from top, the Fisher PC-D5700, Aiwa XP700, Magnavox AZ6848, Kenwood DPC-761, Panasonic SL-S341C, and Sony D-345. See page 60 for comparison tests.

Photograph by Jook P. Leung

# Stereo Review

INCORPORATING HIGH FIDELITY

## May 1996

<b>BULLETIN</b> .....	<b>8</b>
<b>LETTERS</b> .....	<b>12</b>
<b>NEW PRODUCTS</b> .....	<b>17</b>
<b>AUDIO Q&amp;A</b> .....	<b>24</b>
<b>SIGNALS</b> .....	<b>30</b>
<b>TECHNICAL TALK</b> .....	<b>32</b>
<b>POPULAR MUSIC</b> .....	<b>91</b>
<b>CLASSICAL MUSIC</b> .....	<b>99</b>
<b>TIME DELAY</b> .....	<b>112</b>

### STEREO REVIEW ONLINE

Join us at our site on America Online and link up with thousands of other people who are interested in the same good stuff you read about in STEREO REVIEW. Browse our message boards and put in your 2¢ worth... or ask for opinions about equipment or a special CD. Enter our Libraries and find a test report from last year. Pose your questions to the experts in our live conferences. Somebody swiped the March issue before you could get to it? You can find lots of the information you missed on STEREO REVIEW ONLINE.

All you need is a computer, a modem, and America Online software. To sign up, call America Online at 1-800-603-8181 for a free startup kit. Our keyword is STEREO REVIEW. See you in cyberspace!



PRINTED IN THE U.S.A.

### 35 Equipment Test Reports

Yamaha DSP-A3090 Dolby Digital AC-3 processor/amplifier, page 35  
 NHT VT-2 speaker, page 42  
 AMC CD8 compact disc player, page 48  
 NuReality VHT-200 Vivid 3D Theater processor, page 50

### 56 User's Report

Mission's M-Time integrated home theater system  
 BY DANIEL KUMIN

### 60 Life Is a Beach

Comparison tests of six top-brand portable CD players  
 BY KEN C. POHLMANN

### 70 Dolby Digital Surround

A look at the latest AC-3-equipped home theater components  
 BY DANIEL KUMIN

### 77 High Tech on the Road

Innovative technologies keep driving autosound gear to new heights  
 BY JOSEPH PALENCIAR

### 82 Systems

Satisfying a champagne taste on a beer budget  
 BY REBECCA DAY

### 85 Best Recordings of the Month

Randy Weston's breathtaking "Saga," Yo-Yo Ma plays cello concertos by Dvorak and Herbert, Tommy Keene's full-throttle "Ten Years After," and Asian-influenced music by Colin McPhee, Lou Harrison, and Chinary Ung



▲ Page 70



▲ Page 17



▲ Page 77

▼ Page 85





High-tech sound.  
Low-profile system.

Looks truly can be deceiving. Take for instance the Bose® Acoustic Wave® music system. At first glance, you would never imagine something so small could deliver such big, clear sound. Yet, with our patented acoustic waveguide technology, it does. The system also features a compact disc player (or cassette), AM/FM radio, and built-in speakers. And it's only available directly from Bose. So, call or write to learn about our in-home trial and satisfaction guarantee. And experience for yourself why the *Chicago Tribune* called the Bose Acoustic Wave® music system "...the least intimidating quality sound system ever produced."

Mr./Mrs./Ms. \_\_\_\_\_  
 Name (Please Print) Telephone \_\_\_\_\_  
 Address \_\_\_\_\_  
 City State Zip \_\_\_\_\_

Or mail to: Bose Corporation, Dept. CDD-W381A, The Mountain, Framingham, MA 01701-9168.

© 1996 Bose Corporation. Covered by patent rights issued and/or pending. Quote: Rich Warren, *Chicago Tribune*, 12/84.

Call today.  
1-800-898-BOSE,  
ext. W381A.

**BOSE**  
Better sound through research®

## Stereo Review®

Vice President, Editor in Chief  
LOUISE BOUNDAS

Executive Editor  
BOB ANKOSKO

Art Director  
MINDY OSWALD

Technical Editor Senior Editor  
DAVID RANADA ROB SABIN

Director, Hirsch-Houck Laboratories  
JULIAN HIRSCH

Managing Editor  
DAVID STEIN

Popular Music Editor Classical Music Editor  
STEVE SIMELS ROBERT RIPPS

Associate Editor Associate Art Director  
KEN RICHARDSON ANDREW THOMPSON

Assistant Editor Database Coordinator  
JAE SEGARRA SANTIAGO PIZZINI

Editor at Large  
WILLIAM LIVINGSTONE

Contributors: Robert Ackart, Chris Albertson,  
Francis Davis, Rebecca Day, Richard Freed,  
Phyl Garland, Ron Givens, David Hall,  
Bryan Harrell (Tokyo), Jamie James, George Jellinek,  
Daniel Kunin, Ian Masters, Brett Milano,  
Alanna Nash, Tom Nounsaine, Henry Pleasants (London),  
Ken Pohlmann, Parke Puterbaugh,  
Charles Rodrigues, Eric Salzman, Craig Stark

Vice President, Group Publisher  
TONY CATALANO

### Consumer Electronics Group Advertising

VP/Associate Publisher  
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  
Perry 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  
Promotion Coordinator: Dominique A. Leupi  
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

**HIFM**  
Hachette  
Filipacchi  
Magazines

Stereo Review is published  
by Hachette Filipacchi Magazines, Inc.

Chairman: Daniel Filipacchi  
President, CEO, & COO: David J. Pecker  
Executive VP & Editorial Director: Jean-Louis Gimbire  
President, Hachette Filipacchi New Media: Paul DeBenedictis  
Senior VP, Global Advertising: Paul DuCharme  
Senior VP, Director of Corporate Sales: Nicholas Matarazzo  
Senior VP, CFO, & Treasurer: John T. O'Connor  
VP, General Counsel: Catherine Flickinger  
VP, Manufacturing & Distribution: Anthony R. Romano  
VP, Circulation: David W. Leekey  
VP, Research & Marketing Services: Susan Smollens  
VP, Communications & Special Projects: Keith Estabrook  
VP, Magazine Development: Marcia Sachar  
VP, Dir. Creative Services, Corporate Sales: Lynn Chaiken  
Senior VP, Corporate Sales, Detroit: H. E. (Bud) Allen  
VP, Financial Operations: Margaret Carroll



NEW FOR 1996

## Stereo Review®

PRESENTS

### THE BASIC REPERTORY ON COMPACT DISC

A CRITICAL DISCOGRAPHY

**N**oted critic Richard Freed's revised and updated choices of the best current CD's of the most often performed music in the classical orchestral repertory. Hundreds of recommended recordings of symphonic works from Bach to Wagner!

To receive your copy of this handy pamphlet, send a self-addressed business-size (#10) envelope, stamped with 55¢ postage, and a check or money order for \$3 payable to Stereo Review (no cash, please), to The Basic Repertory, Stereo Review, 1633 Broadway, New York, NY 10019. Orders from outside the U.S.A. must be accompanied by a self-addressed envelope and \$4 (payable in U.S. funds).

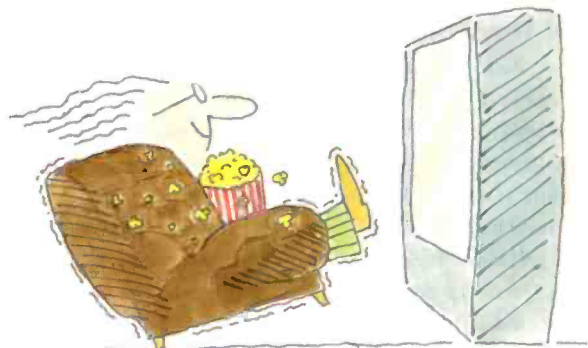




# Heard any good movies lately?



Adcom's 5-channel GFA-7000 amplifier is playing to rave reviews.



Today's movie soundtracks demand more than conventional home audio systems can deliver. That's why Adcom developed the Home THX® certified GFA-7000 power amplifier. With our GFA-7000, the movies you play at home will sound just the way the filmmakers intended. But that's not all. Adcom engineers went beyond the demanding requirements of THX® and created a home theater power amplifier that's caught the attention of the world's most critical audiophiles as well.

## The GFA-7000 is really five amplifiers in one.

The quantity and quality of power needed to faithfully reproduce the full range of frequencies and overall dynamic range of today's exciting soundtracks are highly demanding, especially considering that top home theater systems can utilize five separate full range speaker systems.

That's why Adcom's GFA-7000 has five separate amplifier modules, each rated at 130 watts into 8 ohms\*. To assure that no channel of information is compromised, each module must be capable of delivering all its power all the time, so each amplifier channel is given its own power supply and is mounted on its own circuit board. Even the toroidal power transformer has individual secondary windings for each amplifier module. With the GFA-7000, you'll never get stuck without enough power. It's like having true all-wheel drive.

## Movies or music, the GFA-7000 delivers a real performance.

The power amplifier is the heart of every high performance audio/video system. It is also the foundation on which Adcom has built its reputation for performance and value. You can be sure our GFA-7000 amplifier is an audiophile's amplifier, first and foremost. And because it exceeds THX® specifications and is ready for Dolby AC-3, it is sure to be the ticket to a movie buff's heart as well.

Listen to an award-winning movie or your favorite music on an Adcom GFA-7000. You'll hear what Adcom is always talking about. Two thumbs up for performance and value.

# ADCOM®

details you can hear

Distributed in Canada by Pro Acoustics, Inc. Montréal, Québec (514) 344-1226 • 11 Elkins Road, East Brunswick, NJ 08816 U.S.A. (908) 390-1130 © 1996 ADCOM

THX® is a registered trademark of Lucasfilm Ltd. \*Power ratings are to FTC requirements. Continuous average power at any frequency between 20Hz and 20KHz with all channels driven at less than 0.05% THD.

CIRCLE NO. 1 ON READER SERVICE CARD

# BULLETIN

BY BOB ANKOSKO & WILLIAM LIVINGSTONE

## FORMERLY KNOWN AS

To further confuse the already baffling nomenclature of enhanced CD's — audio CD's that also contain CD-ROM material — Sony Music has dropped the CD Plus moniker it used to launch several Columbia titles and has switched to the new marketing name CD Extra. . . . To keep us guessing on the home theater front, Dolby Labs has changed the name of its hot six-channel surround format from Dolby Surround AC-3 Digital to, simply, Dolby Digital — hoping to “clear up growing consumer confusion” over the term AC-3, the technical name for the coding technique Dolby developed for multichannel audio applications. . . . Meanwhile, published reports say that The Artist Formerly Known as Prince has come to at least one of his senses and will now be known again as Prince. More on this ego as it develops.

## SHAMELESS PLUGS

When this year's Grammy for the Best Historical Album was awarded to RCA Victor's “The Heifetz Collection,” plaques were sent to the liner-note writers, including STEREO REVIEW critics Richard Freed, George Jellinek, and the late Irving Kolodin. . . . *The Frank Sinatra Reader* (Oxford University Press, \$25), an anthology of critical writing, includes articles and reviews by Henry Pleasants, Morgan Ames, and Gene Lees that originally appeared in STEREO REVIEW and *High Fidelity* (which was folded into SR in 1989).

## MONDO VIRGIN, CATS

The 75,000-square-foot Virgin Megastore that is slated to open in Times Square on April 23 is billed as the largest retail music and entertainment complex in the world, with a million CD's

in stock. . . . Andrew Lloyd Webber's *Cats*, having racked up more than 6,138 performances, is now the world's longest-running musical, breaking the record held by Broadway's *A Chorus Line*. First produced in London in 1981, *Cats* has earned more than \$1.5 billion worldwide. Both the original London and Broadway cast albums are currently available on CD and cassette from Polydor.

## DVD DAMPER?

Executives from Blockbuster, the country's largest video retail chain, and Disney affiliate Buena Vista Home Video have said they will wait and see how the market for DVD develops before committing to the new format. A number of companies — including RCA, Toshiba, and Pioneer — have announced plans to sell DVD players this fall. Unresolved copyright issues represent another potential fly in the DVD ointment. As of this writing, copyright negotiations between the consumer electronics and movie industries had yet to yield a formal legislative proposal, which would be submitted to Congress to establish the video counterpart to the Audio Home Recording Act passed in 1992. So far only one movie studio, MCA, has said publicly that it will not release movies in the DVD format until copyright legislation is passed.

## WRONGWAY AMWAY?

A group of major record labels is suing the \$4 billion Amway Corporation and some of its top distributors for alleged copyright infringement. Court papers claim that millions of Amway promotional and motivational videotapes make unauthorized use of musical properties such as Starship's *Nothing's Gonna Stop Us Now* and the Beach Boys'



## HOME THEATER PC: THE BEST OF BOTH WORLDS?

Futurists have long predicted the day when the home computer and the A/V system meet in the family room as a unified entertainment center for doing everything from watching movies to surfing the Internet. That day is here, according to computer maker Gateway 2000, a leading direct-mail marketer of PC's. Pointing to research that shows a strong demand for a new kind of family-room computer system, the company expects to be selling the Destination “multimedia theater system” by the end of May.

Described as the first computer designed for group use, the system is built around a 31-inch high-resolution monitor and will include a separate 120-MHz Pentium PC with a six-speed CD-ROM drive, 16 megabytes of RAM, and a 1.2-gigabyte hard drive, as well as a TV tuner, an audio adaptor with separate speakers, and a wireless keyboard and FieldMouse remote control. Target price is under \$4,000.

Last fall, RCA demonstrated the prototype Genius Theatre, a 35-inch TV with a built-in Dolby Pro Logic decoder and a PC that has a CD-ROM changer and a wireless keyboard. The company has yet to announce specific marketing plans.

*Fun, Fun, Fun*. The Recording Industry Association of America (RIAA) says the Copyright Act would permit recovery of \$11 million for infringement claims, and compensatory damages could lead to a vastly larger court award. According to the RIAA, copyrighted songs were used in the videos to spur on Amway's sales force and glorify the lifestyle

of that corporation's most successful distributors, “including mansions, yachts, private planes, and exotic cars.” That would certainly explain Amway's use of Calloway's *I Wanna Be Rich* — not to mention, in a different light, George Thorogood's *Bad to the Bone*, Pat Benatar's *Hit Me with Your Best Shot*, and (our favorite) Bob Seger's *Shakedown*. □



**This Spring**

**Bose®**

**Proudly**

**Introduces**

**The World's**

**Second Best**

**Music**

**System.**

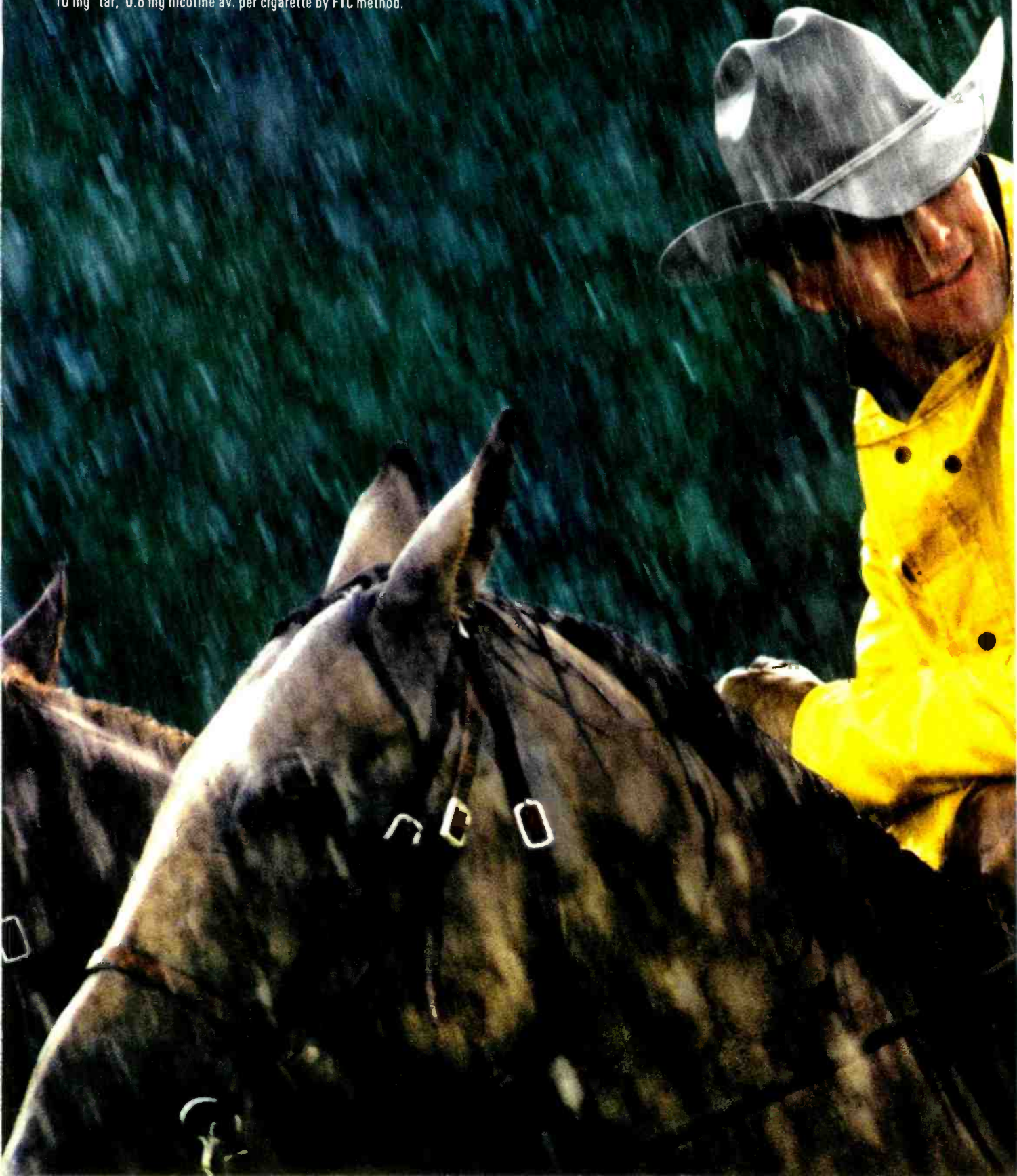
1-800-444-BOSE

Ext. 735

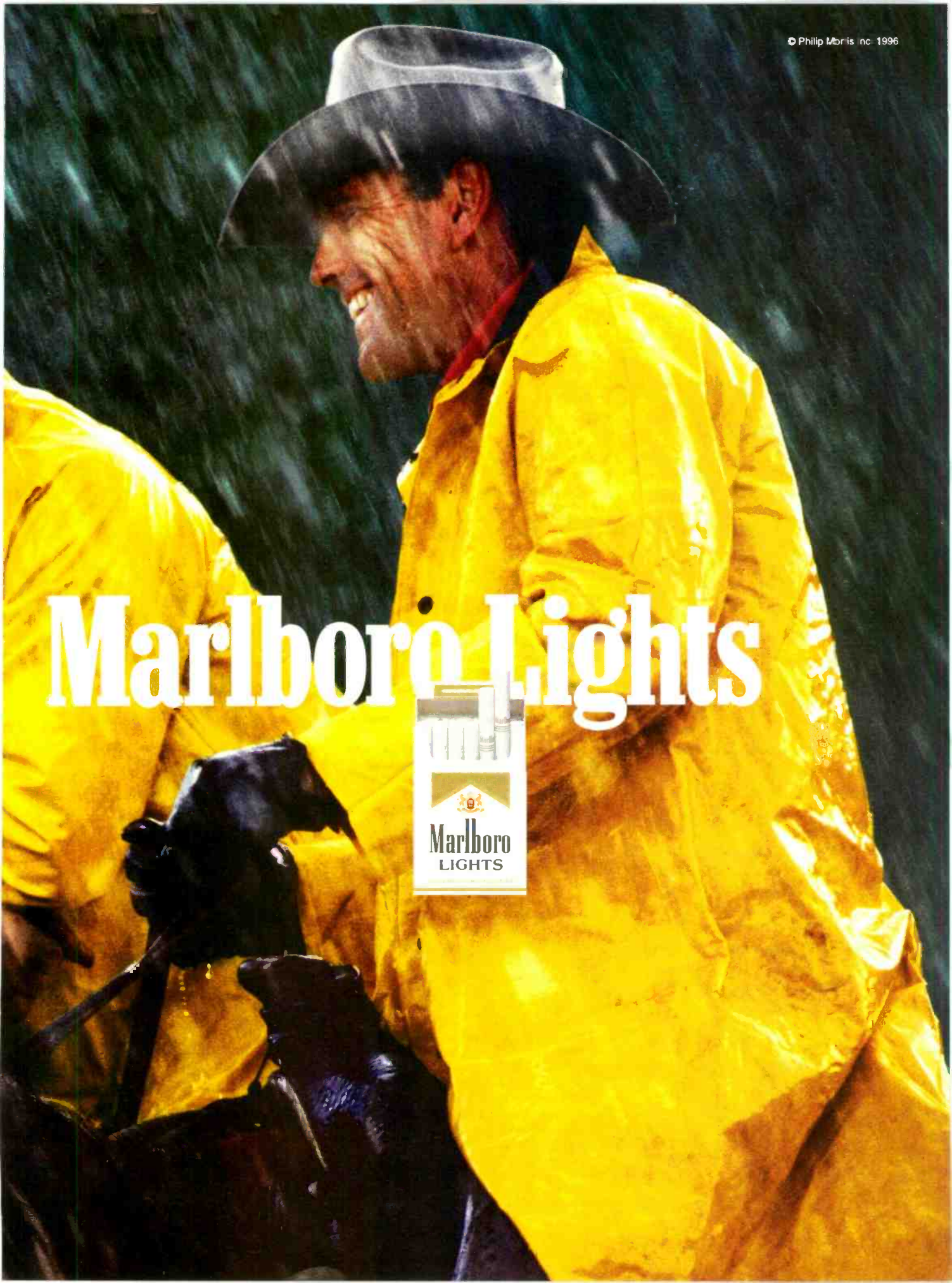


SURGEON GENERAL'S WARNING: Quitting Smoking  
Now Greatly Reduces Serious Risks to Your Health.

10 mg "tar," 0.8 mg nicotine av. per cigarette by FTC method.



# Marlboro Lights



# Let Us Entertain You!



Photo created and produced by Media Group Marketing, Inc. ©

## PARA Home Theater Specialists

When you're buying audio and video components, it's important to understand that it's not enough to buy a good TV and VCR. Components must also be chosen for how they sound together. PARA is a professional association of independent, specialty audio/video stores who are committed to the highest standards in retailing.

- ▼ PARA stores will take the time to ask about what you already own and suggest home theater components that will integrate into your current system.
- ▼ PARA home entertainment professionals are educated to explain the newest technologies in clear, friendly language, helping you get the best value for your money.
- ▼ Let us help you choose the system that's just right for you.

**CALL 1-800 4-PARA 94 to find the PARA dealer nearest you!**

**para**  
Professional  
AudioVideo  
Retailers  
Association

## LETTERS

### Recordable CD

Ken C. Pohlmann's "Recordable CD Is Here!" (March) was well written and informative, but conspicuously missing was any mention of SCMS, the copy-protection scheme promulgated by the recording industry. SCMS is a serious hindrance to home-recording enthusiasts like myself, not to mention garage bands wanting to demo their work.

CD recorders designed for computer installation not only lack SCMS, but the discs are far cheaper and have a full 74-minute capacity. And, as Mr. Pohlmann noted, sophisticated data manipulation and digital signal processing are possible only with a computer-based CD-R drive. While the analog-to-digital and digital-to-analog converters in the audio-only CD recorders may be superior, the latest computer sound cards are still pretty good. But even that's a non-issue for digital-to-digital copying, such as when you're constructing anthology CD's. I've had excellent results from my computer-based setup.

ROBERT K. RICKETTS  
Houston, TX

### International DVD

I'm confused. In "Report from Japan" in March, Bryan Harrell talks about the "mind-boggling" possibilities of DVD, including selectable subchannels for dialogue (up to eight languages), selectable subtitles (thirty-two different languages), and selectable aspect ratios. Sounds like a true multinational video medium.

But Peter W. Mitchell's "The High End" in the same issue talks about differences between players and discs for NTSC countries (Dolby AC-3 5.1 encoding) and PAL/SECAM markets (Philips Musicam coding system). Does this mean my dreams of getting movies on discs from my friend in Paris and sending back discs that might not be available there are dashed? LP's, audio tape, and CD's have long been international audio formats requiring no special equipment or conversion when used in any country in the world. Wasn't DVD supposed to achieve this kind of compatibility for video? What other use would we have for multiple language and subtitle capabilities?

WILLIAM C. MIDDLETON  
New Orleans, LA

*Although the DVD can, technically, be used for the kind of multinational movie disc that Bryan Harrell described, several U.S. movie studios have expressed concern about it. Many movies made in Hollywood are released on video in the U.S. while they're still in theaters overseas, and if U.S.-released DVD's reach those regions they could cut into theatrical receipts. So the studios are holding out for a coding system, involving both the discs and players, that would prevent releases intended for one region of*

*the world from being played in another — perhaps even when the same NTSC or PAL video format is used in both. The issue hasn't been settled, but for now it looks like you'll have to travel to France to take advantage of your friend's movie collection. Bon voyage.*

### Subwoofer Hookups

The last page of "Get Ready to Rumble" in March shows a number of powered-subwoofer connection schemes. Does any of this wiring require shielding?

WARREN GRANGER  
Decatur, GA

*All of the line-level connections between components require shielded interconnects; the speaker-level connections from a power amplifier (or amp section) directly to speakers can use ordinary wire.*

### Too Much Time

The March "Bulletin" states, in "CD Players: Time is on your side," that the \$310 Philips CD614, which played for 39.672 hours in an endurance test, cost 0.008 cent per hour of play (ignoring the cost of electricity). But for a \$310 player to cost 0.008 cent per hour, it would have to play for 3,875,000 hours, or about 442 years. Now that would truly be a CD player that could stand the test of time.

GLEN J. HUBER  
Crystal, MN

*Indeed. The actual figure was 0.007814 dollar per hour, which we rounded off, but we forgot to reposition the decimal when restating it in terms of cents. Thanks for clearing up our math.*

### Peaceful Coexistence

I'm sick and tired of the discussion as to whether the CD or LP has better sound. I'd like to take readers Tim Masten and Steve Kohn (March "Letters") back to the 1960's, when the adage was, "Do your own thing." I'd say to them: "Listen to your CD's and enjoy them. There is no need to convince us that CD's sound better than LP's, because we don't care." And I'd like to be here twenty-five years from now, when records look like marbles and are played on gumball machines, and the listeners of that era argue about whether marbles sound better than CD's.

PETER D'ARPA  
New Rochelle, NY

I must take exception to Steve Kohn's letter in March. People who listen to vinyl are not snobs. For many of us it is an economical source of fine music. Many of my amplifiers use tubes, and all were purchased (with one exception) in working order for \$100 or less. There is a lot of fine tube and



## **SMALL. POWERFUL. THE NEW KLIPSCH REBEL.**

Full Range sound from the only horn loaded speaker system small enough to fit anywhere!

Klipsch Horn Technology delivers incredible sonic performance because horn loaded speakers result in greater efficiency, broad dynamic range and high levels of output with low levels of distortion. The Rebel KSS-3 Sub/Sat System achieves a full range frequency response using two satellite speakers and a subwoofer powered by a 50 watt discrete amplifier. Sound is full and accurate from the *trill* of a piccolo to the *thwump* of a bass guitar string. You hear everything. Add a Rebel video shielded center channel and surrounds for a home theater system designed for people who demand great sound but prefer a compact system. **1-800-KLIPSCH**

 **Klipsch**<sup>®</sup> EST. 1946

The Legend Continues.<sup>™</sup>  
CIRCLE NO. 20 ON READER SERVICE CARD

solid-state equipment out there at low prices, if you're patient. Choose equipment carefully, and in either format. CD or vinyl, the music will sound great, and that's what we listen to, the music. All without wearing a Rolex.

ERIC B. THOBEN  
Kingston, NY

### Hearing Aid

Your reply to a letter from Ronald E. Adkerson in the January issue reinforces a fal-

lacy. Mr. Adkerson had his hearing evaluated and became aware of a sensorineural hearing loss. He wondered if he should use a hearing aid to listen to high-fidelity music.

I disagree with your answer: "If you didn't know you needed a hearing aid before your test, your hearing loss is probably slight and there is no reason to compensate." The primary reason to recommend a hearing aid is to maintain speech-discrimination levels. If a hearing-impaired individual continues to go without being properly

fitted for a hearing instrument, studies show that the brain "forgets" how to interpret sounds necessary for understanding speech.

Yes, Mr. Adkerson, you *can* hear high-fidelity music with hearing aids. There is a period of adjustment that every new wearer experiences. But for the typical individual with a moderate hearing loss, using a hearing aid to enjoy an audio program is preferable to cranking up the EQ. The purpose of an equalizer is to compensate for inadequacies of the listening environment, and it should be set with a real-time analyzer, not adjusted to compensate for a hearing loss.

MICHAEL V. RASICCI  
President, Micro-Ear Centers  
Canton, OH

# OHMmm...



Balance your home theater experience...JAMO's Center 160 delivers clear dialogue and perfectly placed special effects (*without* stressing your budget).

JAMO, Europe's favorite home theater speaker company—  
for perfectly centered home theater.

## Jamo®

JAMO has a full line of center channels—Center 50, Center 100, Center 200.

For product and dealer information: <http://www.jamospeakers.com>  
425 Huehl Road #8, Northbrook, IL 60062 • (847) 498-4648 • Fax (847) 498-1948

### Where's the Music?

I'm about to commit heresy. Despite your Record of the Year Award (February) and the views of all the other rock critics I've read, I can't stand Randy Newman's "Faust." For my money, these are not songs, they're speeches. Set to music, yes, but still monologues (or dialogues), not *songs*. I'm sure the whole thing will work well on stage, with actors and sets and action, but on a CD it's just a drag. I can just picture Newman writing all these speeches and then saying, "All right, how can I set *this* one to music? Now *this* one? . . ." So give it the award for best rock opera of the year, but there's a lot of better *music* out there.

BOB POULSON  
Tokyo, Japan

### The Cough Track

Recently I purchased the Vladimir Horowitz CD "The Private Collection, Volume Two" because of the review by Richard Freed in the December 1995 issue. Mr. Freed called the audiences during these concert recordings "consistently well behaved." If he meant they didn't whistle along or yell and stamp their feet, okay, they didn't. But about a third of the CD sounds as if it was recorded in a TB ward — I don't believe there are *any* tracks that have no coughing. I find this very annoying and feel it should be noted in reviews.

Note to concert-goers: If you're sick, *stay home!* Aside from being annoying, your cough is probably contagious, too!

JIM SHARPE  
Deming, NM

### Correction

The caption for the photo of an Acoustic Research speaker on page 52 of the February issue was incorrect. The speaker is the Model 218V, and its height is 13 inches. Thanks to reader Leonard Boese of Mt. Pleasant, Iowa, for spotting this error. □

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.



Is it still called a recliner  
*if you're always perched on its edge?*

Bring Parasound high-end audio to your home theater and you usher in some of the most sophisticated and elegant technology available. Which means you're not watching movies, you're experiencing them. For more information, please call 415-397-7100. Or better yet, visit your Parasound dealer, kick back, and relax. Then just try and stay that way.



PARASOUND



**HCA-2003 3 CHANNEL THX AMPLIFIER**

Over 200 watts per channel (300 watts at 4  $\Omega$ ) and 180 amps peak current. Transforms your existing stereo into a high-performance, no-compromise home theater.



**P/SP-1500 THX PROCESSOR/PREAMP**

Astonishing sound unleashed with simple on-screen operation. It's ready for our Dolby AC-3 decoder today so it won't be obsolete tomorrow.



**HCA-806 6 CHANNEL AMPLIFIER**

Over 80 watts per channel (120 watts at 4  $\Omega$ ) and 180 amps peak current means you're really serious about getting into the movies.

In Canada, call 604-984-3400. Dolby AC-3 is a registered trademark of Dolby Laboratories Licensing Corp. THX is a registered trademark of Lucasfilm, Ltd.

# GET REAL

REAL SOUND.  
THE BEST  
SOUND  
VALUE IN  
NORTH  
AMERICA.



**SD** SOUND  
DYNAMICS  
LOUDSPEAKERS  
FOR THE *SD* PERFORMANCE OF YOUR LIFE

**REFERENCE SERIES LOUDSPEAKERS.** For over twenty five years Sound Dynamics engineers have been making great sounding loudspeakers, at prices you can afford. Critics worldwide have raved about their unmatched versatility. Their outstanding accuracy and imaging makes this series the number one choice for home theater or audio systems. Audition the Reference Series today. Insist on full value for your audio dollar!

# NEW PRODUCTS



## ▲ KOSS

The five-channel transmitter that is supplied with the JR/900 900-MHz wireless headphones from Koss allows listeners to select the channel with the best reception or to use multiple JR/900's simultaneously. The system runs up to 10 hours

on Ni-Cd batteries; a recharger is built into the transmitter, which doubles as a headphone stand. Range is said to be 150 feet. Price: \$400. Koss, Dept. SR, 4129 N. Port Washington Ave., Milwaukee, WI 53212.

• Circle 120 on reader service card

## ▶ DEFINITIVE TECHNOLOGY

The frequency range of Definitive Technology's BP 2002 bipolar speaker is 18 Hz to 30 kHz, as delivered by a 12-inch side-firing subwoofer with built-in 125-watt amp, two 6¾-inch midranges, and two 1-inch aluminum dome tweeters. RCA inputs for the sub amp and an unfiltered AC-3-ready sub input with level control give flexibility for home theaters. The 43-inch tower has black-lacquer or cherry end caps. Price: \$1,998 a pair. Definitive Technology, Dept. SR, 11105 Valley Heights Dr., Baltimore, MD 21117.

• Circle 15 on reader service card



## ▲ M&K

To match room acoustics or the timbre of other manufacturers' speakers, M&K's S-85C center speaker can be wired for either "normal" or "maximum output/bright midrange" sound. There's also an optional 80-Hz high-pass filter. The

10½ x 6¼ x 8¼-inch speaker has a 5¼-inch polypropylene woofer and a 1-inch soft-dome tweeter on an angled baffle. Finish is white or black lacquer. Price: \$350. M&K, Dept. SR, 10391 Jefferson Blvd., Culver City, CA 90232.

• Circle 121 on reader service card

## ▼ TECHNICS

Optical detection of discs in the Technics SL-MC700 CD changer means that none of its 110 discs is ever more than 11 seconds away. Any disc can be replaced while another is playing. A single-play slot is also provided. CD's can be assigned to five user-named groups, as well as fourteen musical categories,

including Rock, Jazz, and so on. A standard IBM computer keyboard can be plugged in to facilitate giving the discs names, which thereafter appear on the scrolling front-panel display. Price: \$500. Technics, Dept. SR, One Panasonic Way, Secaucus, NJ 07094.

• Circle 122 on reader service card



# NEW PRODUCTS

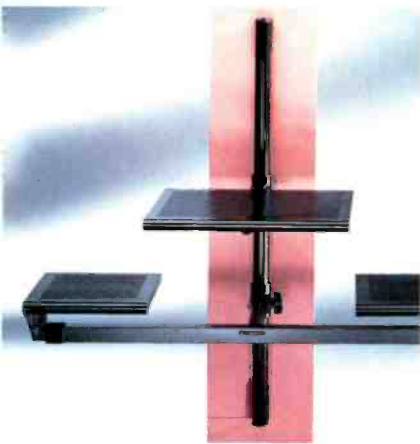


## ▲ ADCOM

THX certification is just the beginning for Adcom's GFA-7000 five-channel power amplifier, rated at 130 watts per channel into 8 ohms with less than 0.05% THD. An independent power supply, a distortion LED, and a thermal-overload protection circuit are provided for each

channel. Precision-matched components are used throughout the amp. Gold-plated RCA jacks and binding posts and a DB-25 THX connector round out the 41-pound package. Price: \$1,300. Adcom, Dept. SR, 11 Elkins Rd., East Brunswick, NJ 08816.

• Circle 123 on reader service card



## ◀ BELL'OGGETTI

The WMS-160 wall-mount system is made in Italy by Bell'Oggetti. The black-matte metal fixture sports perforated shelves, including an 18 x 15-inch platform (for stacking components) and a pair of 10½ x 12-inch speaker stands. Dimensions overall are 39 x 30 x 18½ inches; mounting hardware is included. Price: \$450. Bell'Oggetti, Dept. SR, 711 Ginesi Dr., Morganville, NJ 07751.

• Circle 125 on reader service card



## MEADOWLARK ▶

Meadowlark's Kestrel is a 36-inch-tall transmission-line speaker rated to deliver bass down to 38 Hz with only a 6½-inch long-throw woofer. Its 1-inch controlled-dispersion tweeter is time-aligned on a slanted, mechanically decoupled baffle and uses a first-order crossover to preserve signal phase. A frameless grille cover helps avoid buzzing and unwanted reflections. Available in rosewood, ebony, or maple. Price: \$995 a pair. Meadowlark Audio, Dept. SR, 1611-A S. Melrose Dr., #137, Vista, CA 92083-5497.

• Circle 124 on reader service card



## ▼ ALPINE

Alpine's CHA-S604 six-disc car CD changer is said to be the world's smallest at 9⅞ x 2⅜ x 6 inches. Its disc-to-disc access time is a zippy 4 seconds, and the Ai-Net bus allows 150-CD title memory and all-disc

random play when an Ai-Net head unit is used. A lighted magazine-eject button eases operation on the road. Alpine, Dept. SR, 19145 Gramercy Pl., Torrance, CA 90501.

• Circle 126 on reader service card



## ◀ PHILIPS

The Philips IS 5021 sound enhancer is a multifunction unit that includes a 20-bit A/D converter, a DAC-7 bitstream D/A converter, and a sampling-rate converter — as well as a digital signal processor for jitter removal, quantization-noise imaging, scratch suppression and

noise filtering for vinyl records, spatial stereo enhancement, mono-to-stereo enhancement, compression/expansion, pitch variation, and fade in/out. Price: \$1,500. Philips Key Modules, Dept. SR, 2099 Gateway Pl., Suite 100, San Jose, CA 95110.

• Circle 127 on reader service card

Introducing Eosone.

*The Dawn  
of New Sound.*

eō • sōne

Eosone is a new word, derived from ancient Greek and Latin, that means "The Dawn of New Sound". The name Eosone comes from antiquity, but Eosone is a new brand of high technology speakers custom engineered for today's home entertainment systems.

Audio Hall of Fame speaker designer, Arnie Nudell, has created a new brand of loudspeaker systems of such high performance and quality, one listen will convince you that they truly represent a "Dawn of New Sound".

*For information or store  
locations call 1-800-347-1876*

 **EOSONE**<sup>INTL</sup>  
INTERNATIONAL

CIRCLE NO. 32 ON READER SERVICE CARD

# NEW PRODUCTS

## ▼ SHERWOOD

Car audiophiles on a budget might look at Sherwood's XRM-3760D cassette receiver and XCM-750 CD changer package. The detachable-face XRM-3760D features autoreverse, a 4 x 30-watt amplifier, thirty AM/FM station presets, and line outputs.

The six-disc XCM-750 offers dual 1-bit D/A converters with eight-times oversampling and can be mounted horizontally or vertically. Price: \$499. Sherwood, Dept. SR, 14830 Alondra Blvd., La Mirada, CA 90638.

• Circle 128 on reader service card



## ▼ B&W

B&W has added three models to its 600 Series speaker line: the CC6 center monitor (\$350), the AS6 12-inch active subwoofer (\$699), and the THX-certified DS6 dipole surround (\$500 a pair). Several refinements to four existing 600 Series speakers, from the two-way, 14-inch-tall DM601 (\$400 a pair) to the

three-way, 39¼-inch-tall DM604 (\$1,500 a pair), include new precision crossovers, the same Kevlar midrange drivers used in B&W's Matrix Series, flared reflex ports, and restyled cabinets that minimize edge diffractions. B&W, Dept. SR, 54 Concord St., North Reading, MA 01864.

• Circle 130 on reader service card



## ▲ ACOUSTIC RESEARCH

The Model 308 HO bookshelf speaker, designed for Acoustic Research by Cary Christie, has an 8-inch side-firing woofer, a 5¼-inch midrange, and a 1-inch AeroFoam dome tweeter. The 19-inch cabinet is magnetically

shielded. Low frequency limit is given as 50 Hz, impedance 4 ohms, and sensitivity 92 dB. Price: \$599 a pair. Acoustic Research, Dept. SR, 535 Getty Ct., Benicia, CA 94510.

• Circle 129 on reader service card



## ◀ AUDIOQUEST

AudioQuest home theater kits include a video cable and a pair of audio interconnects. Three varieties are available, using Jade, Topaz, or Ruby interconnects. Prices start at \$45. AudioQuest, Dept. SR, P.O. Box 3060, San Clemente, CA 92674.

• Circle 131 on reader service card



## ▲ PIONEER

Like all of Pioneer's high-capacity CD changers, the PD-F605 has been redesigned to operate faster and quieter than prior models. It holds twenty-five discs, which can be grouped by genre, artist, or other categories. Best Selection Memory plays as many as twenty-

four favorite tracks from all discs, and a previous-disc memory assists track location by scanning the last fifteen CD's played. A wireless remote and an optical digital output are provided. Price: \$280. Pioneer, Dept. SR, 2265 E. 220th St., Long Beach, CA 90810.

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

Richard Maddox, *Home Theater* April 95



## Music to Your Ears

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

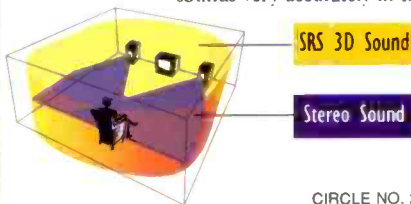
We’re flattered by Richard Maddox’s comments and every day we hear testimonials from users about how they are amazed by this technology. SRS (S) technology has won numerous accolades and has been granted several patents from various countries. Now through NuReality, the power of SRS 3D sound technology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

## How it Works

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

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

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



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

## Enhance your System

The Vivid 3D Theater easily connects to your existing system with standard audio cables, which are included. Within minutes you’ll be immersed in dynamic 3D surround sound. Like Richard said, SRS technology works remarkably well on any audio source, mono or stereo, as well as surround sound technologies such as THX® and Dolby Pro Logic®.

## The Holy Grail of Audio

The audio holy grail is to make the speakers sound invisible and to eliminate the sweet spot. We feel we’ve achieved this goal with SRS technology and the Vivid 3D Theater. Call today and discover what NuReality products can do for you. Experience SRS Technology for yourself with our free\* Demo CD.



**NUREALITY®**

**1-800-501-8086**

**714-442-1080**

<http://www.nureality.com>



CIRCLE NO. 29 ON READER SERVICE CARD

\*This specially recorded CD recreates the experience of 3D sound from any CD player and is available for a \$5.95 shipping and handling charge which is fully credited toward the purchase of a Vivid 3D system. This offer applies only to Vivid 3D products purchased directly from NuReality. Freight charges, duty or VAT are not included for International orders. All rights reserved. NuReality and the NuReality logo are registered trademarks of NuReality. SRS and the SRS logo are registered trademarks of SRS Labs. All product names are trademarks or registered trademarks of their respective holders. © 1995 NuReality, 2907 Daimler St. Santa Ana, CA 92705 714-442-1080

# "Selling Direct Allows Camb Speakers Hundreds Of Doll

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

## Ensemble®

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

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

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

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

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

## Ensemble II

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



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

Because 90% of the music is reproduced by the satellites,

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

## Ensemble III

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

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

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



## Ensemble IV

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



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

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

## The Outdoor

Our all-weather speaker is called *The Outdoor*. It has the natural, accurate, wide-range sound that Henry Kloss designs are known for. We don't know of any all-weather speaker

that sounds better. Free-standing (shown), \$299.99pr. In-wall version, \$349.99pr.



## Center Channel Speakers

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



# ridge SoundWorks To Price ars Below The Competition.”

Inc. Magazine



Center Channel Plus



Center Channel

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

## Surround Speakers

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



Powered Subwoofer

Slave Subwoofer

Powered Subwoofer II

in conjunction with the *Powered*

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



*The Surround II*



*The Surround*

## Powered Subwoofers

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

## SoundWorks Amplified Speakers

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



SoundWorks

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

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

## Factory-Direct Savings

Our speakers are available only directly from Cambridge SoundWorks, and through cost-efficient Best Buy stores.\* Order them, then listen in your own home. If you aren’t satisfied, return them

within 30 days for a full refund.

\*Actual prices may vary by store.



To Order, For a Free Catalog, Or For The Nearest Store Location, Call  
**1-800-FOR-HIFI**  
(1-800-367-4434)



**Critically Acclaimed. Factory-Direct.**

311 Needham Street, Suite 102, Newton, MA 02164  
Tel: 1-800-367-4434 Fax: 617-332-9229  
Canada: 1-800-525-4434 www.hifi.com  
Outside U.S. or Canada: 617-332-5936

© 1996 Cambridge SoundWorks. ©Ensemble is a registered trademark of Cambridge SoundWorks, Inc. KLH is a trademark of KLH, Inc. AR and Advent are trademarks of International Jensen Inc. ©Dolby and ©Pro Logic are registered trademarks of Dolby Laboratories Licensing Corp. Cambridge SoundWorks is not affiliated with KLH, Advent or AR.



CIRCLE NO. 6 ON READER SERVICE CARD

**CAMBRIDGE  
SOUNDWORKS**  
BY HENRY KLOSS



# FREE Audio Catalog

At Cambridge SoundWorks we make unique, critically-acclaimed 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. Call today and find out why *Audio* magazine said we may have “the best value in the world.”

- Call toll-free for factory-direct savings.
- Save hundreds on components and systems from Cambridge SoundWorks, Sony, Pioneer, AIWA, Harman Kardon, Philips, Carver and more.
- Audio experts will answer your questions before and after you buy, 8AM-Midnight (ET), 365 days a year—even holidays.
- 30-Day Total Satisfaction Guarantee on all products.
- 7-Year Parts & Labor Speaker Warranty.

“Best Buy.” *PC Magazine*



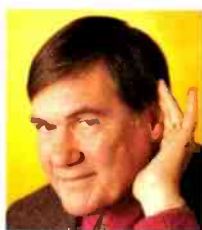
Add our award-winning \$219.99 SoundWorks system to your computer, radio, TV, or walkman for room-filling sound and powerful bass.

\$219<sup>99</sup>

**1-800-FOR-HIFI**  
Critically-Acclaimed. Factory Direct.

**CAMBRIDGE  
SOUNDWORKS**

311 Needham Street, Suite 102, Newton MA 02464  
Tel: 1-800-367-4434 Fax: 617-552-9229  
Canada: 1-800-525-4434 Outside U.S. or Canada: 617-552-5936  
World Wide Web Address: [www.hifi.com](http://www.hifi.com)  
©1996 Cambridge SoundWorks, Inc.



## AUDIO Q & A

IAN G. MASTERS

### Stressed-Out Receiver

**Q** From time to time I enjoy listening at fairly high levels, but whenever I turn the volume control a little less than halfway up my receiver's internal protection circuits shut everything down. Things are even worse when I switch on the bass boost. My main speakers seem to have plenty of capacity—they're rated at 140 watts—as does my 200-watt passive subwoofer. Both should be able to handle the output of my 60-watt receiver. What's going on?

JAY COOK  
Swanton, OH

**A** The fact that your speakers can handle quite a lot of power is, in this case, irrelevant, as there is almost no chance you could blow them by brute force with a 60-watt amplifier. But you could damage them by pushing your receiver too hard if it didn't obligingly shut down when the going gets tough. You're asking those output circuits to do a lot: drive both a pair of speakers and a subwoofer, produce power-hungry extra bass, and play at high levels. You're overdriving the amplifier sections into what may be a combined load of very low impedance. The current required to handle this exceeds the amplifier's capabilities, which triggers the protection circuits.

Your best bet is probably to power the subwoofer separately. You could either replace the passive model you now own with a powered version or buy an outboard amplifier to drive your present sub.

### Sub-Thing Out of Nothing

**Q** My new speakers sound great, but they are quite small, and I think they would sound even better with a subwoofer. I have an old two-way speaker that I'm not using. Is there a way I could use some sort of outboard filter to convert it into a subwoofer?

BILL HOUSTON  
New York, NY

**A** If your old speaker has good low-bass response, there's no reason you couldn't use it as a subwoofer, but you're correct in assuming that you'll have to find a way to restrict its response to the lowest octaves. Otherwise, you'll be able to locate sounds at the subwoofer's position. Even if you simply disable the tweeter by disconnecting it internally, the woofer in a two-way speaker probably extends too far into the midrange to be nondirectional.

If your receiver or amplifier has a dedicated subwoofer output, it will probably be associated with the sort of low-pass filter you require. The filter may have a fixed or

variable crossover, or it may be defeatable, so check the owner's manual to configure it. Once you've got a low-pass signal, you'll also need an amp to drive the speaker itself.

If your electronics lacks a low-pass subwoofer output, you could put a simple graphic equalizer between the receiver or preamplifier and whatever you use to power the sub. Make sure the equalizer has enough bands so that you can control just the bottom of the spectrum—below, say, 100 Hz. Then set those frequencies at their maximum levels and everything above them at the minimum. You may have to experiment to get it right, but it should work eventually.

### Slow Change

**Q** Last year I purchased a five-disc CD changer and was very pleased at how fast it moved from track to track. As time went on, however, it became slower and slower. Now it takes forever to find a track, and while it hunts, the carousel spins back and forth. Is this a problem that would be simple to correct, or does it require professional attention?

CARL SHARPE  
Yeadon, PA

**A** I think this is one for the shop. Today's components are inexpensive because things like programming and disc control can be assigned to microprocessors. When one of those goes berserk, as yours seems to have done, there's not much to do but replace it. That's not a job you can tackle yourself—if for no other reason than opening up the box is likely to void your warranty.

### Discount the Clerk

**Q** When shopping for CD's at a local music store, I asked the clerk why their prices were \$1.50 to \$4 higher than at places like Wal-Mart. He told me that their CD's are better because they were mastered directly from the original recording, while the discs at the discount store were second- or third-generation. He said these discs had inferior frequency response and a higher rate of skipping. Is any of this true?

R. MORROW SHELTON  
Flint, TX

**A** There are audiophile CD's mastered with sophisticated digital converters that often command a premium, but they are clearly labeled as such. Those aside, what the clerk told you is nonsense. Even if it were true, a second- or third-generation copy of a digital master tape would be virtually identical to the original. In fact, the

Ford Electronics

PARTNERS

with such name brands

as Sony, Clarion and Jensen

to offer you exceptional

SOUND

options.



*You can enjoy the excellent clarity and performance of the available premium electronic AM/FM radio with compact disc player.*



*The Ford Electronics/Sony 10 CD changer, mounted inside the trunk is available on all new Ford, Lincoln and Mercury vehicles. It can be operated through the radio buttons or remote control and offers these features; shuffle, select disc, seek and scan.*



*The Ford Electronics/Clarion center console 6 CD changer can put hours of quality CD sound at your fingertips.*

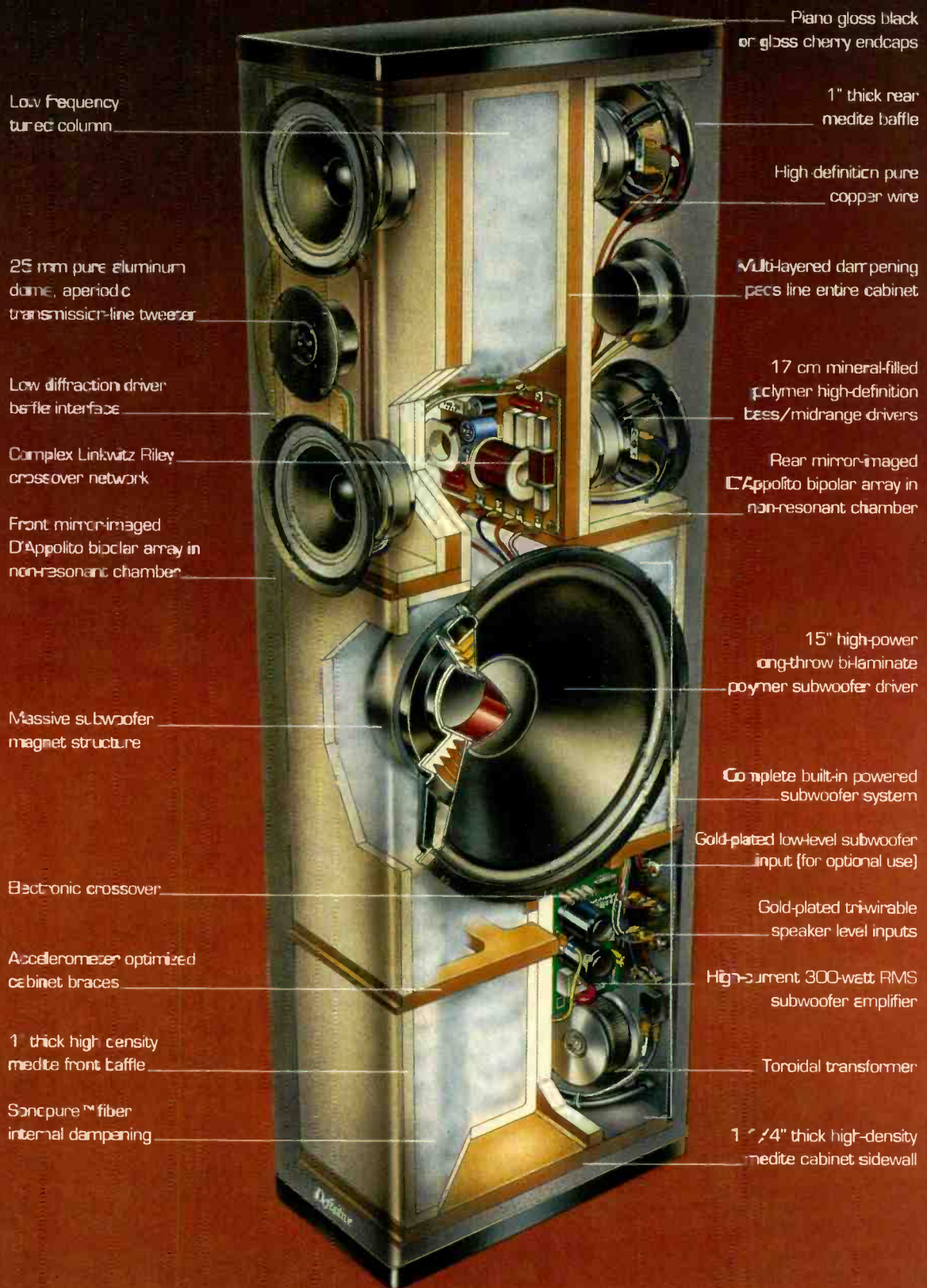
As a Ford or Lincoln-Mercury customer, you have a wide selection of available systems to choose from when purchasing or leasing a Ford, Lincoln or Mercury vehicle. Not only are these audio upgrades superbly manufactured by leading companies in the sound industry, they are the only systems that are acoustically designed by Ford Electronics for each vehicle to assure you maximum listening enjoyment. And they are backed by the factory warranty.\* See your Ford or Lincoln-Mercury dealer for further details.

\*See your Ford or Lincoln-Mercury dealer for a copy of the limited warranty.

For more sound information...  
call 1-800-367-3333.

  
**ELECTRONICS**  
TECHNOLOGY WITH A PURPOSE®

## Inside Definitive's Revolutionary BP2000



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

—Bren Butterworth, Home Theater Technology

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

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

—Julian Hirsch, *Stereo Review*

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

—Julian Hirsch, *Stereo Review*

## Speaker of the Decade

Now, with the BP2000, Definitive literally reinvents the loudspeaker. We have combined a six-driver dual D'Appolito bipolar array with a built-in (side-firing) 300-watt powered 15" subwoofer. (Yes, a complete powered subwoofer built into each speaker!) The result is extraordinary sonic performance beyond anything you've ever heard.

Both music and movies are reproduced with unequalled purity, transparency and lifelike realism. And the astounding high resolution imaging and awesome bass impact totally envelop you in sonic ecstasy. They are an amazing achievement!



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

## The Ultimate Home Theater

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

The complete system combines the BP2000s (\$1499 ea.) with a C/L/R 2000 center (\$650 ea.) and BPX bipolar surrounds (from \$399 ea.). Of course, dual 15" powered subwoofers are already built into the sleek BP2000 towers. Truly the ultimate listening experience! Visit your Definitive dealer today.

**Definitive Technology®**  
The Leader in High-Performance Loudspeakers™

11105 Valley Hts. Dr. • Baltimore, MD 21117 • (410) 363-7148  
Visit us at <http://www.soundsite.com/definitive>.

CIRCLE NO. 15 ON READER SERVICE CARD

See our dealer list on page 28

## Authorized Dealers

- AK: Alaska Audio; Juneau; Prinsal; Anchorage.
- AL: Cohen's Electronics; Montgomery; Kincaid's TV; Tuscaloosa.
- LI: Audio; Birmingham.
- AR: Custom Audio Video; Little Rock.
- CA: Jerry's Audio Video; Phoenix, Tucson.
- TX: Access to Music; Larkspur; Westlake; A/V; S. Lake Tahoe.
- IL: Access to Music; Lombard; S. Gabriel; Bay Area Audio; San Jose.
- CA: Access to Music; Long Beach; San Gabriel; Bay Area Audio; San Jose.
- CA: Access to Music; Long Beach; San Gabriel; Bay Area Audio; San Jose.
- CA: Creative Stereo; Santa Barbara; Ventura; David Rutledge Audio.
- CA: Palm Desert; DB Audio; Berkeley; Digital; Ear; Justin; Larson's.
- CA: Riddling; Monterey Stereo; Monterey; Pacific Coast A/V; Newport Beach.
- CA: Paradise; Sacramento; Performance Audio; San Francisco.
- CA: Sound Co.; Escondido, San Diego; SpeakerCraft; Riverside; Systems Design; Redondo Beach; Videopak; Westminster; Westchester TV; Bakersfield; Wilson A/V; Woodland Hills.
- CO: Listen Up; Denver, Boulder, Colorado Springs.
- CT: Al Franklin's; Greenwich; Carlson's Audio Video; Danbury; Robert's Audio Video; New London.
- DC: Suburbs; Audio Buys.
- DE: Sound Studio; Newark, Wilmington.
- FL: Absolute Sound; Winter Park; Audio Advisors; West Palm Beach; Audio Center; Deerfield Beach; Audio Video Store; Tallahassee; The Audiohouse; Vero Beach; Cooper for Stereo; Clearwater; Hoyt Sound; Jacksonville; Palm Audio; Design; Serious Sound; Tampa; Sound Components; Coral Gables; Sound Ideas; Gainesville; Sound Insight; Ft. Pierce; Stereotypes; Daytona Beach; Stuart A/V; Stuart.
- GA: Audio Warehouse; Stevens; The Stereo; Macon; Laser Disc Enterprises; Atlanta; World TV; Columbus Stereo Connections; Valdosta; Stereo Festiva; Atlanta; Stereo Shop; Martinez.
- HI: Audio Center; Honolulu, Waipahu.
- IA: Archer Audio Video; Ft. Dodge; Audio King; Cedar Rapids.
- IA: Des Moines; Audio Video Logic; Des Moines; Audio Visions; Sioux City; Camera Corner; Davenport; Hawkeye A/V; Iowa City, Waterloo.
- ID: Ultimate Electronics; Boise; Wise Guy; Idaho Falls.
- IL: Camera Corner; Bloomington; Cars & Stereo; Rockford; Good Vibes; Champaign; Joe's Home Cr.; Quincy; Sd Forum; Crystal Lake; Select Sd; Naperville; Sundown A/V; Springfield; United Audio Crs; Chicago & Suburbs.
- IN: Audio Video Lifestyles; Fort Wayne; Classic Stereo; Ft. Wayne, South Bend; Good Vibes; Lafayette; Ovalton Audio; Clarksville, Indianapolis.
- KS: Accent Sound; Overland Park; Advance Audio; Wichita.
- Audio Junction; Junction City, Manhattan.
- NY: Ovalton Audio; Lexington, Louisville.
- IL: Alf Herman Audio; New Orleans, Metairie; Lahn Charles Music; Lake Charles; Sound Advice; Baton Rouge; White Sound Gallery; Shreveport.
- MA: Cooking; Chestnut Hill; Monmouth Stereo; Shrewsbury; Shrewsbury; Manchester Sound; Hyannis; Pittsfield Audio; Pittsfield.
- MD: Audio Buys; Annapolis, Gaithersburg, Laurel, Waldorf; Gramophone; Baltimore; Elcott City; Soundscape; Baltimore.
- ME: Cooking; Portland.
- MI: Pecar's; Detroit; Troy; Classical Jazz Holland; Classic Stereo; Kalamazoo; Grand Rapids; Stereo Center FRAV; Flint; Court St.; Listening Room; Midland; Saginaw.
- MN: Audio Designs; Winona; Audio King; Minneapolis & Suburbs, Rochester, St. Cloud; Audio Perfection; Minneapolis.
- MO: Independence A/V; Independence; Sound Central; St. Louis.
- MS: McLelland TV; Hattiesburg; Players A/V; Ridgeland.
- MT: Aspen Sound; Missoula; Avital; Bozeman; Car & Home Stereo Cr.; Billings; Rocky Mt.; Hi Fi; Great Falls.
- NC: Audio Video Systems; Charlotte; Audio Visions; Wilmington; Now Audio Video; Durham, Greensboro, Raleigh, Winston Salem; Audio Lab; Wilmington; Tri City Elect.; Conover.
- NE: Custom Electronics; Omaha, Lincoln.
- NH: Cooking; Nashua, Manchester, Newington, Salem, S. Nashua.
- NH: HiFi Stereo; Franconia; Monmouth Stereo; Shrewsbury; Sound Waves; Northfield; Woodbridge; Music; Caldwell; Woodbridge.
- NM: Ultimate Elect.; Albuquerque; Sound Meax; Albuquerque.
- NY: Ultimate Elect.; Las Vegas; Upper East; Las Vegas.
- NY: Audio Breakthrough; Manhattan; Audio Den; Lake Grove; Audio Impressions; Newburgh; Audio Junction; Watertown; Clark Music; Albany; Syracuse; Stereo Exchange; Manhattan; Nanuet; Hart Elect.; Ithaca; Vestal; Innovative Audio; Brooklyn; Listening Rm; Scarsdale; Rowe Camera; Rochester; Sound Mill; M. Kisco, Yorktown Hts.; Speaker Shop; Arnhem; Buffalo.
- OK: Contemporary Sounds; Ok City; K Labs Premium Audio; Tulsa; Photo World; Bartlesville; Ultimate Electronics; Tulsa.
- OH: Audio Craft; Akron, Cleveland, Mayfield Hts., Westlake; Audio Etc.; Dayton; Classic Stereo; Lima; Paragon Sound; Toledo; Threshold Audio; Heath.
- OR: Bradford's HiFi; Eugene; Chelsea A/V; Portland; Beaverton; Kelly's Home Cr.; Salem; Larson's; Medford, Roseburg; Stereo Plant; Bend.
- PA: Audio Junction; Pittsburgh; Gary's Elect.; State College; ENT Stereo; Lancaster; Hart Elect.; Blakely, Kingstons; Hi Fi House; Abington, Broomall, Camp Hill, Harrisburg; Listening Post; Pittsburgh; Palmer Audio; Allentown; Pro Audio; Bloomsburg; Stereo Shoppe; Shrewsbury; Williamsport; Clearlake; Natrona Heights; The Stereo Shop; Greensburg; Studio One; Erie.
- RI: Stereo Discount Cr.; Providence.
- SC: A/V Design; Charleston; Custom Theater & Audio; Myrtle Beach; Upstairs Audio; Columbia.
- SD: Audio King; Sioux Falls; Sound Pro; Rapid City.
- TN: College HiFi; Chattanooga; Hi Fi Buys; Nashville; Now Audio Video; Knoxville; Modern Music; Memphis; New Wave Elect.; Jackson; Sound Room; Johnson City.
- TX: Home Entertainment; Dallas, Houston, Plano; Audio Tech; Temple; Waco; Audio Video; College Station; Brock A/V; Beaumont; Burkley's Sd. Systems; Abilene; Blom's; San Antonio; High Fidelity; Austin; Crystal Clear; Dallas; Marvin Electronics; Ft. Worth; Sound Box; San Angelo; Sd. Quest; El Paso; Sd. Systems; Amarillo; Sd. Towne; Texarkana.
- UT: Alpine Elect.; Provo; Audio Works; Salt Lake City; Crazy Bob's; St. George; Stokes Bros.; Logan; Ultimate Elect.; Layton, Murray, Orem, Salt Lake City.
- VA: Audio Buys; Arlington, Fairfax, Manassas; Audio Connection; Virginia Beach; Audiotronics; Roanoke; Home Media Store; Richmond; Stereo Type; Charlottesville.
- VT: Audio Video; Auburton; S. Burlington.
- WA: Aspen Sound; Spokane; Definitive Audio; Bellevue, Seattle; Evergreen Audio; Silverdale; Pacific Sight & Sound; Wenatchee; Tim Ear; Kennewick; WA; Sound Post; Puyallup.
- WI: Audio Emporium; Milwaukee; Absolute Sound & Vision; Sheboygan; Hi-Fi Heaven; Appleton, Green Bay; Sd. World; Wausau; Puerto Rico; Precision Audio; Rio Piedras.
- Canada: A & B Sound; Calgary, Edmonton, Kelowna, Vancouver & Suburbs, Victoria; Advance Electronics; Winnipeg; Bay Floor Radio; Toronto; Centre Audio; Charlot; Trois Rivières; CDRA; Quebec City; Digital Dynamics; Clearbrook; Great West Audio; London; Kebecson; Montreal; Upton's; New Market Ontario; Peak Audio; Halifax; Sound Room; Vancouver; StereoLand; Windsor; Trable El; Ottawa.
- Mexico: Contact Grupo Volumen; Mexico City.

CD's available at different retail outlets all come from the same plants. Record clubs do their own pressings, but even so I've never heard a club version that sounded different from a retail pressing. I suggest you give that particular store a wide berth.

## Laserdiscs Demystified

**Q** Have I got this right? During the production of a laserdisc, a carrier frequency is modulated by the video signal, and this FM signal is then digitized into 1's and 0's and encoded as pits on the surface of the disc. During playback, a laser reads the pits and converts the digital signal into FM, which is then demodulated into a video signal. If this is so, why are laserdiscs said to carry "analog" video?

JAMES SIMON  
Schenectady, NY

**A** That's what they do. Since the laserdisc's offspring, the CD, is totally digital, and since most laserdiscs today contain a digital audio signal, it's perhaps natural to suppose the video is digital as well. It's not.

In the videodisc system, the video signal is neither sampled nor quantized (turned into numbers), which are the primary operations of any digital encoding system. The video signal, like the videodisc's analog audio tracks, is indeed frequency-modulated. But it isn't then "digitized into 1's and 0's." Instead, the FM waveform is sharply peak-limited, resulting in a series of flat-topped (and flat-bottomed) pulses of varying duration. The continuously varying pulse length and the spacing between pulses are used to create the series of pits recorded on the disc's surface, but they represent the "zero crossings" of the original FM waveform, not binary 1's and 0's as in a digital system. The playback circuitry recovers the FM waveform from the pulses read by the laser optical system. Then the FM waveform is demodulated back into a standard video signal for display.

## Match Point

**Q** I have a pair of speakers made by a company no longer in business, and I would like to incorporate them in a home-theater system as the main left and right speakers. I know that the center speaker should match these as closely as possible, but I can't buy one from the same company. An audio salesperson will try to sell me a whole new set of speakers, but I'd rather keep the ones I already have and use the money I save elsewhere in the system. Any suggestions as to how to obtain a proper match?

RANDY GIBBONS  
Lewisburg, TN

**A** Even if you could buy a center speaker from the manufacturer of your main speakers, there's no guarantee of a good match, which is hard to predict in advance. Ultimately, your ears have to decide. Your first step is to analyze your present speakers carefully and try to identify their sonic character. That can be done only very approximately in the absence of other models to

compare them with, but if you can get a rough idea of their characteristics, it will help you to eliminate center speakers that exhibit gross differences. You may also be able to find some full-range speakers in the store that sound something like yours, and these can be used to make a preliminary selection of a center speaker. Either way, concentrate on matching the midrange and treble; the center speaker in most systems won't have to handle much bass if you use the "normal" center-channel setting of your Dolby Pro Logic (or Dolby Digital) decoder.

In the end, you'll have to take the plunge and buy what you think might work. Your best course of action is to buy from a dealer who will let you exchange the speaker if it's unsuitable. Then take it home and try it out. If the match is not perfect, a small amount of equalization might bring things closer, and some Pro Logic decoders have built-in center-channel equalizers for just that purpose. If you find you have to make extreme corrections you should probably take the new speaker back and try again.

## Reeling with Doubt

**Q** I'm in the market for a recorder, and I intend to use it a lot. The DAT decks I have looked at are out of my price range. I have looked at cassette decks with Dolby S noise reduction and all the other enhancements, but I am also considering buying a secondhand open-reel recorder from a reputable dealer. If I do, I know that I'll have to add some form of outboard noise reduction. When I have done that, what sort of performance can I expect to get compared with a Dolby S cassette deck?

JOHN KOPCIAL  
Westerville, OH

**A** Much of the engineering effort lavished on the cassette format over the years has been aimed at getting the sort of performance open-reel produced more than thirty years ago. Except for possibly higher wow and flutter levels, that performance has been achieved by Dolby S cassette decks used with high-quality tape. Also, as you noted, the open-reel deck is likely to need a noise-reduction (NR) system. But I know of no stand-alone encode-decode NR system still marketed to consumers, so you'd have to find a professional NR unit — and pay professional prices for it. The NR unit alone will cost you more than a Dolby S deck.

Furthermore, open-reel is a big pain to use. The tapes are awkward and expensive (and hard to find these days), and they take up a lot of space. Although I'm an open-reel man from way back, my machines sit idle almost all the time. Since today's cassettes really can surpass open-reel performance in most respects, I prefer to take advantage of the smaller format's much greater convenience. You might prefer it as well.

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.

# “All Definitive’s Bipolar Towers Deliver Astounding Sound for Music & Movie Perfection”

*You must hear the superiority of Definitive’s remarkably affordable BP6, 8, 10 & 20 and experience the miracle of bipolar technology!*

## “Truly Outstanding”

— *Stereo Review*

**A**bsolute sonic superiority and unexcelled value have made Definitive the leader in high-performance loudspeakers. It’s no wonder experts agree that Definitive’s critically acclaimed bipolar towers (priced from \$299 ea.) dramatically outperform the competition.

Our exquisitely styled, American-made, advanced technology bipolar (front and rear radiating) systems are the critics’ choice. They combine lush spacious sound-staging, lifelike depth-of-field, razor-sharp resolution and pinpoint 3-D imaging with powerful subwoofer-quality bass (to below 20 Hz), high efficiency and ultra-wide dynamic range. The result is superb music and movie reproduction so real that it has been called “an incredible sonic miracle.”



BP10 - \$550 ea.    BP20 - \$799 ea.    BP8 - \$399 ea.  
BP6 (not shown) - \$299 ea.

*The breathtaking performance of our award-winning bipolar speakers makes your music and movies really come alive.*

## “Music and Movie Sound was Stunning”

— *Video Magazine*

Combine BP6s, 8s, 10s or 20s with our matching centers, bipolar surrounds and optional PowerField subwoofers for the most lifelike, spectacular “you are there” music and home theater available. All are completely Dolby AC-3 ready.

## Award after Award Confirms Definitive’s Sonic Superiority

- *Stereo Review* “Dream System”
- *Video Magazine* Product-of-the-Year
- *AudioVideo* Speaker-of-the-Year
- CES Design & Engineering Awards
- *Sound & Vision* Critic’s Choice
- *Inner Ear Report* Editor’s Choice

You owe it to yourself to hear these remarkable speakers today.

**Definitive Technology**  
The Leader in High-Performance Loudspeakers™

11105 Valley Hts. Dr. • Baltimore, MD 21117 • (410) 363-7148  
Visit us at <http://www.soundsite.com/definitive>.

CIRCLE NO. 15 ON READER SERVICE CARD  
See our dealer list on facing page



## SIGNALS

KEN C. POHLMANN

# The Last Compact Disc

**A**lthough there are many households in the United States and many more around the world that have never seen a compact disc, for most of us the CD is a staple of modern life. In one fell swoop, the CD both obliterated the audio medium that it replaced, the LP, and extended its reach into areas that were never available to the vinyl disc. CD's dominate our home stereo systems, car stereo systems, and computer systems. Music, video games, encyclopedias, photo archives, computer software, and all kinds of digital data have found a home on CD.

But the CD is a child of the antediluvian 1970's. It will soon be superseded by the DVD, which is superior in all respects and will, over time, eclipse it. Still, the venerable CD family is an extended one, with a variety of read-only formats as well as a write-once format. And now, with the recent announcement of an erasable-CD standard, it appears that the family line is complete. Though the CD still has plenty of life left, it is clear that the CD-Erasable will be the last compact disc.

The compact disc began as a twinkle in the eye of the Philips physicist Klaas Compaan, who originated an idea that after a dozen years of research and development would result in one of the most successful consumer-electronics products of all time. In 1969 Compaan learned that engineers at RCA had devised an inexpensive way to manufacture photographic holograms by using a master stamper with microscopic formations to press copies. He realized that the technique could be used to produce discs holding photographic video images. He related the idea to his colleague Piet Kramer in 1970, and together in Philips laboratories they completed a prototype glass disc with a series of 1-millimeter square black and white images that could be projected on a screen. They decided it would be more efficient to record video, rather than images themselves, using a track of dimples to encode the analog FM signal. In July 1972 they publicly demonstrated a color videodisc prototype.

Philips engineers began contemplating an audio application for their new invention, but experiments revealed that the encoded FM signal wasn't the very best for

audio. They pursued a digital code, and within months a prototype disc with a sampling frequency of 44,000 Hz was playing through a 14-bit digital-to-analog converter. However, the digital code was particularly sensitive to errors caused by dust or scratches on the disc. Further work was needed.

In 1978 it was decided that finding solutions to all the CD's challenges would require a worldwide collaboration between manufacturers. Furthermore, collaboration would insure the universality of the new format. Sony accepted the Philips offer. One after another, design decisions were made. Philips proposed a sampling frequency of 44,050 Hz, whereas Sony wanted 50,000; they settled on 44,100. Sony devised a cross-interleaved Reed-Solomon error-correction code. Sony rejected the Philips 14-bit coding

### Politics and fear aside, the CD-E (erasable) is the crowning achievement of the CD family.

and insisted on encoding with 16 bits. Disc diameter was set at 120 millimeters, maximum playing time at 74 minutes.

In June 1980 the Philips/Sony Compact Disc standard was formally proposed. The CD was introduced in Europe and Japan in the fall of 1982 and in the United States in the spring of 1983. CD-ROM computer drives debuted in 1984. The CD-I (interactive) format was introduced in 1986, the CD-R (recordable) write-once standard in 1988.

And now comes CD-E. Philips announced the CD-Erasable draft specification late last year. CD-E discs are readable, writable, and rewritable in CD-E drives, readable and writable in modified CD-R drives, and readable in modified CD drives. In addition, CD-E drives are capable of reading all other types of CD.

The dimensions of CD-E's are identical to those of other CD's, and they use a polycarbonate substrate. As with CD-R's, CD-E's are molded with a groove that

provides tracking and timing information for the recorder. They are constructed with additional layers of materials, however, and employ "phase-change" technology to read and write data. The recording layer is composed of the elements silver, indium, antimony, and tellurium and can be shifted from a reflective crystalline state to a less reflective, amorphous (un-crystallized) state by heating with a laser spot. That allows binary data to be stored using the conventional CD's 8-to-14-bit modulation scheme. The low-power writing laser is essentially identical to that already used widely in CD-R recorders. But whereas the laser in a CD-R recorder uses two different power ratings to write and read marks on the disc, CD-E drives must use *three* different power ratings to write, read, and erase data.

The CD-E uses an aluminum reflective layer that, in conjunction with the surrounding layers, yields a reflectivity 65 to 70 percent lower than a CD's. Because of this, future CD and CD-ROM drives will have to be slightly redesigned for reliable reading of CD-E's. CD players have an automatic gain control (AGC) that adjusts the output signal level in relation to the intensity of the reflected laser light; to play CD-E's, the AGC's range must be increased. On the other hand, CD-E reflectivity is only about 15 to 25 percent lower than that of CD-R, so all CD-R recorders should be able to read CD-E's without any changes. By modifying the laser power level, future generations of CD-R recorders will be able to write to a CD-E.

CD-E recorders will be offered for sale later this year, perhaps selling for about \$2,000, and blank erasable discs should sell for about \$20 each. But don't waste time looking in your neighborhood stereo store. This technology is aimed at the computer market, where it will capitalize on the explosive demand for CD-ROM and CD-R drives.

The audio industry, unfortunately, is still hoping that affordable consumer digital recording will just go away. Record companies are barely comfortable with analog recording technologies (such as the audio cassette and VHS videotape), nervously unenthusiastic about data-compressed digital recording (such as Mini-Disc), basically hostile to the idea of write-once recording (such as CD-R), and scared to death of erasable technology (such as CD-E). Ironically, it will be computer users, not audio enthusiasts, who will benefit most from the last product of this long lineage of audio inventions.

Politics and fear aside, the CD-E is a remarkable engineering accomplishment and the crowning achievement of the CD family. Someday, DVD will reign. But today, the CD rules, and the CD-E is yet one more example of why the compact disc ranks among the most important technologies of the twentieth century. □





*Pete Sampras.* The youngest male to win the U.S. Open. Now, the first American male to win three consecutive Wimbledon titles.

Said *The New York Times* of Sampras: "It's just possible we have a latter day classic on our hands."

■ THE ART OF PERFORMANCE: THE MAKING OF A LEGENDARY CLASSIC.



The Movado Museum Watch is in the permanent collections of museums around the world.

Staatliches Museum für angewandte Kunst Neue Sammlung, Munich, Germany

Museum Moderne Kunst Vienna, Austria

Museo de Arte Moderno Bogotá, Colombia

Museum Boymans-van Beuningen, Rotterdam, The Netherlands

Museo de Arte Contemporáneo Caracas, Venezuela

Finnish Museum of Horology Espoo, Helsinki, Finland

Sezon Museum of Art Tokyo, Japan

Kunstindustri-museets Billedbog, Copenhagen, Denmark

Musée International d'Horlogerie La Chaux-de-Fonds, Switzerland

Museo de Bellas Artes Bilbao, Spain

Design Museum London, England

Kawasaki City Museum Kawasaki, Japan

Victoria and Albert Museum London, England

Museum Ludwig Cologne, Germany

The Museum Sapphire Bracelet Watch. Matte black finish solid stainless steel case and bracelet. Flat, scratch-resistant sapphire crystal. Swiss quartz movement. Water resistant to 99 feet. His or hers, \$1095.

**MOVADO**  
The Museum® Watch.

S W I S S

**Rogers & Hollands**  
Jewelers  
Jewelry created for now and forever™

To place an order call: 1-800-829-2600



## TECHNICAL TALK

JULIAN HIRSCH

# Audio's Ergonomic Challenge

**H**ave you ever unpacked a new hi-fi component, read the accompanying instruction manual, and found yourself confused or uncertain about the functions of some of its controls or features? Or even about how to go about installing and using it for its presumably intended purpose?

You might be surprised to learn that after forty-odd years of using, testing, and evaluating several thousand consumer hi-fi components, I still occasionally find myself in that situation. Reading the instruction manual carefully usually solves the problem. But not always. Suppose the instructions themselves are incomplete, vague, confusing, or just plain wrong?

In the past, it was not unusual for a test sample of a new product to arrive with a preliminary manual. Despite the occasional problems we encountered with preproduction samples (which we have always discouraged manufacturers from sending us), however, the manual was rarely a source of confusion at a time when a stereo receiver was probably the most complex audio component we tested.

Today, virtually every product we test is essentially identical to standard production units. The same applies to operating instruction manuals, and our experience with a component should closely match that of anyone purchasing it. But today's components are much more complex. The front panel of almost any recent audio/video (A/V) receiver can present a formidable appearance with its myriad lights, buttons, and knobs. In general, a relatively small percentage of these controls are likely to be used with any regularity, and some designers take advantage of that fact by locating infrequently used controls behind a hinged panel.

Intelligent ergonomic design, which makes *any* product more useful to its user, is probably more important than most of the usual electrical specifications, about which so many audiophiles become unnecessarily concerned. Given the considerable number and variety of components that I encounter, I naturally welcome any design feature that makes my work simpler.

The finest quality of internal parts and the best acoustic performance are of little

value to someone who cannot benefit from them because the product itself is not usable, either because of its inherent complexity or merely because of an inadequate instruction manual.

You may have heard the common advice about setting up or using a home audio system or a computer for the first time: When all else fails, read the manual. Believe it or not, though, reading the manual is still my *first* step after unpacking any electronic component. But what do I do when the manual is incomplete or incorrect? I have faced both of these problems at one time or another, although the latter is probably the more frustrating because the result of a given action is not as expected.

For example, I recently encountered an error in the manual of a rather basic ste-

**Intelligent ergonomic  
design is probably  
more important than most  
of the usual  
electrical specifications.**

reo receiver from a well-known manufacturer noted for innovative designs and high quality standards. My standard procedure when testing receivers is to install two preset tuner frequencies for AM and FM measurements (on clear channels in my area). That is normally a simple and straightforward process, although in this case the instructions occupied most of a full page of fairly fine print.

The instructions, though complex (involving five steps for storing each frequency), seemed clear enough. But the nomenclature of the controls was somewhat unconventional (and confusing), and the expected results never occurred. Finally, I simply tuned to the desired frequency each time I needed it rather than pressing a preset button.

Obviously, this was not a major problem for me. I have no reason to doubt that the memory system, which was unusually

complex and comprehensive, was working correctly. The flaw was an inadequately explained, confusing, and unreasonably complex process for what should be a simple and routine procedure. And that flaw could be a major problem for someone without my experience.

Ergonomics (the "science of work") was developed during the Second World War to insure that military equipment could be operated with maximum effectiveness by a wide variety of users. Such simple and logical measures as standard rules for control operation (for example, moving a switch up to turn it on or a knob clockwise to increase its effect) became a part of military and, to a considerable degree, civilian standards in this country and elsewhere.

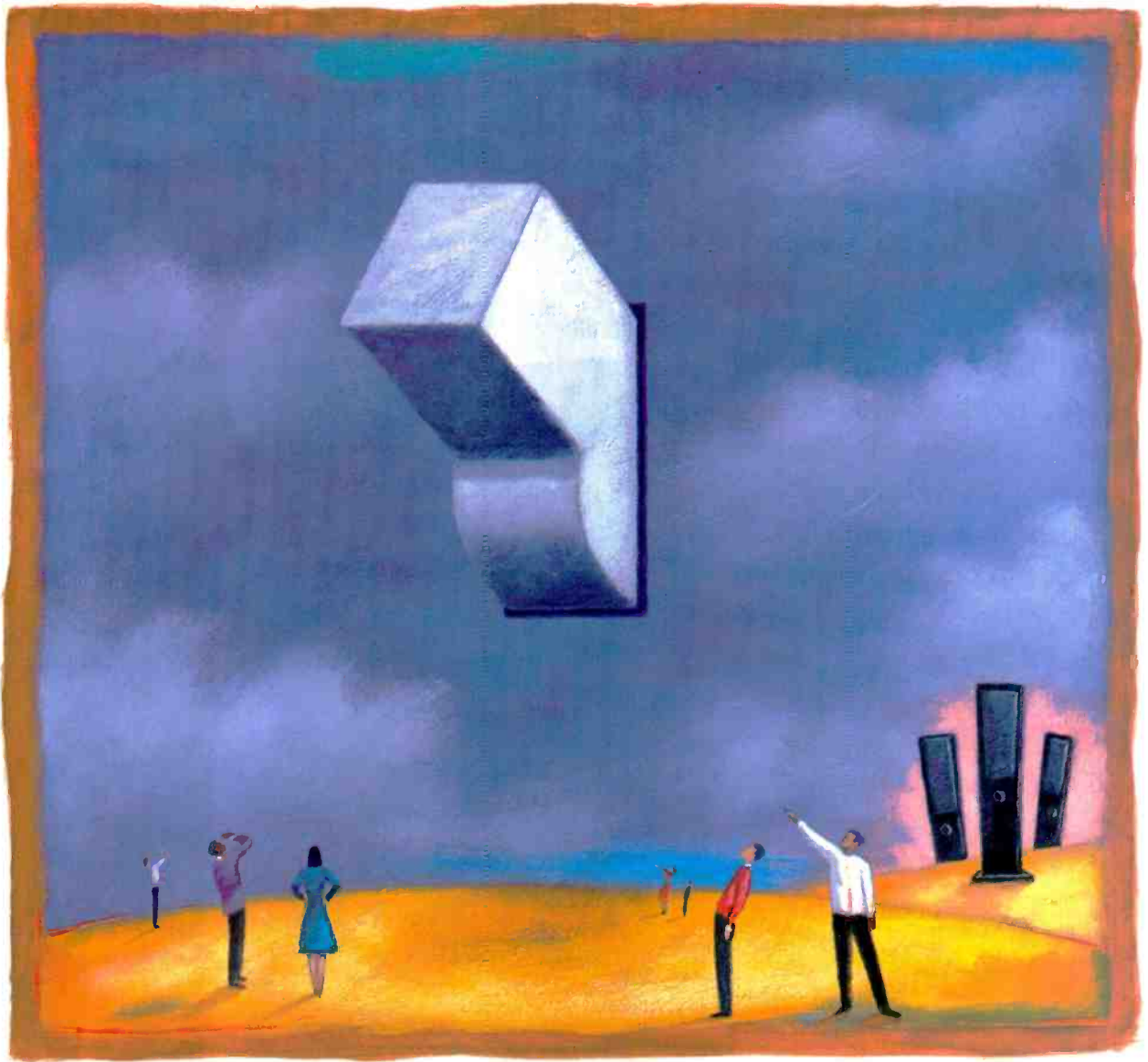
If you look at most consumer audio components, you will find that the same practices are widely used today. Fortunately, the case I have described is not typical. One of the most obvious examples of a de facto standard in consumer audio is CD-player controls. Every CD player uses the same symbols on its controls to denote play, stop, pause, fast forward, and track skip. There are various similar examples of such standardization that we accept as logical and reasonable without conscious thought.

Probably many users of a complex and bulky hi-fi component such as a receiver rarely see its rear panel once the system has been assembled and installed. This is the area through which the unit interfaces with the rest of the system, and on a full-featured A/V receiver it can be literally packed with connectors of various types.

Although the ubiquitous RCA plug and jack are almost universally used for signal connections, there is little standardization of such a simple matter as the orientation of a row of input connectors, which can be aligned vertically or horizontally in almost any order (fortunately, diagonal rows have not yet appeared). Typically, one must have a good view of the rear of the component, often a heavy and bulky receiver, simply to add or remove a signal source from the system.

In contrast, key automobile control locations are universally standardized (can you imagine having the brake and accelerator pedal locations differing from one car to another?). To be sure, getting your channels or program sources mixed up is hardly life-threatening, but it wouldn't cost any more to simplify the lot of the end user.

Fashion and style are certainly important factors in the design of any product intended for home use. There is no reason why they cannot coexist with its function, but it is also important to remember that the basic function of a home audio system is to reproduce sound rather than to overwhelm us with the configuration and styling of its controls. □



## Here's a switch - speakers that change with you.

In the past, you bought a specific speaker to do a specific job. When your needs changed, typically so did your speaker. NHT introduces the future: The VT-1A. A revolutionary new speaker that goes from optimum surround sound to tight, focused audio at the flip of a switch.

Move from center aisle at the cinema, to third seat flute section, as fast as you can turn your wrist. Because we've taken home theater to a new level. Where the choice is no longer between movies and music, it's between NHT and everybody else.



USE YOUR HEAD.

Now Hear This, Inc., 535 Getty Court, Bldg. A, Benicia, CA 94510  
For the NHT dealer nearest you: (U.S.) call 1-800-NHT-9993; (Canada) Artech Electronics Ltd., (514) 631-6448

CIRCLE NO. 19 ON READER SERVICE CARD

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

David Ranada, *Stereo Review*, January, 1996

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

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

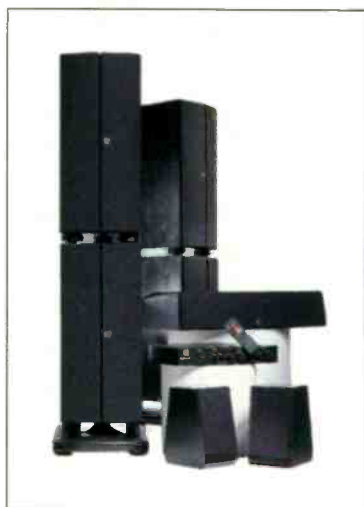
David Ranada, *Stereo Review*, January, 1996

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

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

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

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



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

*Matthew Polk*  
Co-founder, Polk Audio

**WARNING: THIS SYSTEM IS CAPABLE OF EXTREME SOUND PRESSURE LEVELS. SRT SYSTEMS ARE SUPPLIED WITH A SOUND PRESSURE LEVEL METER TO HELP YOU DETERMINE SAFE LISTENING LEVELS.**

Dealer Locator Number

1-800-992-2520

Ad code: 10014

**polkaudio**  
The Speaker Specialists®

5601 Metro Drive, Baltimore, Maryland 21215 USA (410)358-3600.

"Polk Audio", "The Speaker Specialists" and "Dynamic Balance" are registered trademarks of Polk Investment Corporation used under license by Polk Audio Incorporated.

CIRCLE NO. 34 ON READER SERVICE CARD



JOHN F. LEWIS

## Yamaha DSP-A3090 Integrated A/V Amplifier and Dolby Digital Decoder

DAVID RANADA • TECHNICAL EDITOR

**H**ard on the heels of Yamaha's first venture into Dolby Digital (AC-3), the RX-V2090 A/V receiver and DDP-1 AC-3 decoder that we reviewed in February, comes its second-generation AC-3 componentry: the DSP-A3090 integrated amplifier with built-in Dolby Digital decoder. I'm pleased to report that the new unit has solved the bass-management problems we found with the earlier combination. Furthermore, the DSP-A3090 contains quite a few added features that extend its versatility and usefulness as the centerpiece of a cutting-edge home-theater system.

The DSP-A3090's Dolby Digital decoder is the feature of greatest interest to home-theater enthusiasts. What is perhaps most unusual about it is that it can decode signals not only from an AC-3 RF output (available on several recent laserdisc players) but also from any AC-3 bitstream signal fed into the unit's S/PDIF digital inputs. And the DSP-A3090 provides five optical connectors and one coaxial digital connector, by far the greatest digital-input capability of any component we have

tested. This is one amplifier that will not become obsolete as new program sources with AC-3-encoded digital-bitstream outputs are introduced, such as digital satellite decoders and DVD (digital videodisc) players. The amplifier's VCR3 input, in fact, already carries an alternate DVD designation.

After AC-3 decoding, the DSP-A3090's most important feature is its inclusion of multiple digital sound-enhancement modes, which Yamaha calls Digital Sound Field Processing. In the DSP-A3090 these modes fall into two groups. Although there is some overlap between their functions, one group is primarily for surround-sound enhancement of two-channel stereo music, and the other is for enhance-

ment of video-oriented program material, whether stereo, mono, or surround-sound. In these enhancement modes, digital signal processing is used to generate multiple simulated "reflections" from the original signal. The levels, time patterns, and perceived spatial locations of these reflections mimic the sound fields of the specific performance venues being simulated as the reflection signals are fed through all the speakers in a surround system.

The DSP-A3090's twelve main enhancement modes are selected by individual buttons on the supplied programmable remote control or in round-robin fashion by a front-panel button. Each has two sub-modes. For example, the three Concert Hall modes each provide processing that can simulate the acoustics of two different halls. The three soundtrack-oriented modes — Movie Theater 1, Movie Theater 2, and Dolby Surround — also contain two different sub-modes apiece, and these sub-modes operate slightly differently depending on whether the input signal comes from a standard Dolby Surround-encoded source or from a Dolby Digital AC-3-encoded source. The six remaining modes are Church, Rock Concert, Jazz Club, Concert Video 1 and 2, and TV Theater. The first sub-mode of Concert Video 1 is named Classical/Opera; the manual insists that "it reproduces beautiful sound" and that "you will not be tired from long watching of an opera." (Even Wagner's *Parsifal*?)

Not only do you get twenty-four

**DIMENSIONS:** 17½ inches wide, 6¾ inches high, 18¾ inches deep.

**WEIGHT:** 46¼ pounds

**PRICE:** \$2,499

**MANUFACTURER:** Yamaha Electronics Corp., Dept. SR, P.O. Box 6660, Buena Park, CA 90620-6660

# TEST REPORTS

surround modes to choose from, but all have at least one adjustable parameter and most have several. Among the things you can change are the temporal spacing of the reflections, the length of time before they are generated, how quickly they decay, and their overall level. Use of the parameter controls is crucial for obtaining best results from Digital Sound Field Processing.

Like the RX-V2090 receiver, the new DSP-A3090 amplifier represents Yamaha's most elaborate realization of Sound Field Processing, with seven channels of amplification. In addition to the five speaker outputs, intended for the primary speakers in a home-theater system (front left, center, and right as well as surround left and right), each rated at 80 watts into 8 ohms, the DSP-A3090 contains a pair of 25-watt outputs to drive two "front-effect" speakers for reproducing frontal simulated reflections. These speakers should be placed, as the manual says, "further apart than the main [front left/right] speakers and on either side and a few feet behind and above the main speaker pair." If you don't have two extra speakers for the front-effect outputs, you can mix the front-effect signals into the front left and right outputs. But I don't recommend this option, which involves throwing a rear-panel Front Mix switch from the 7CH to the 5CH



position, since the added simulated reflections in the front left/right speakers can greatly disturb the depth and tonal quality of the stereo image. You might want to leave the Front Mix switch in 7CH mode even if you have only five speakers. Experiment.

Various built-in surround-sound "accessories" are also provided in the DSP-A3090. When playing Dolby Digital material, you can separately adjust the level of the low-frequency effects (LFE) signal that is used, as its name implies, to carry high-level low-fre-

quency sound effects. The adjustment range is from 0 to -20 dB in 1-dB steps, plus full LFE muting. You can also adjust the dynamic range during AC-3 playback from its normal setting of Maximum (the full theatrical dynamic range) down through Standard, suitable for relatively low-level listening, to Minimum, for playback at "extremely low" volume levels. Furthermore, with the Standard setting, you can separately adjust high-level compression and low-level boosting.

Two surround-sound accessories apply to all surround-sound processing. Center Delay adjusts a time delay applied to the center-channel signal so that if the center speaker is closer to the main listening position than the main front left/right speakers, its sound will still reach the listener simultaneously. The manual's explanations of the importance of this feature and of its adjustment are inadequate, which is unfortunately true of its explanations of other important features as well. Center Delay adjustment plays a major role in getting the tightest, most accurate, and most stable front image; increase the setting by 1 millisecond for each foot that the center speaker is closer to you than the main pair.

Finally, when it comes to surround-sound accessories, the DSP-A3090 luxuriously provides three (!) types of

## MEASUREMENTS

### STEREO PERFORMANCE

All data for analog input signals.

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

8 ohms	98 watts
4 ohms	154 watts

#### CLIPPING HEADROOM (re rated output)

8 ohms	0.88 dB
--------	---------

#### DYNAMIC POWER

8 ohms	106 watts
4 ohms	193 watts

#### DYNAMIC HEADROOM

8 ohms	1.2 dB
--------	--------

#### DISTORTION AT RATED POWER

(80 watts, 8 ohms, 1 kHz)	0.019%
---------------------------	--------

#### SENSITIVITY (for 1-watt output into 8 ohms)

CD	16.2 mV
phono	0.26 mV

#### NOISE (re 1 watt, A-wtd)

CD	-82.7 dB
phono	-77.8 dB

#### RIAA PHONO-EQUALIZATION ERROR

20 Hz to 20 kHz	+0.1, -0.58 dB
-----------------	----------------

#### FREQUENCY RESPONSE (tone controls centered)

20 Hz to 20 kHz +0, -0.27 dB	
------------------------------	--

### tone-control range

100 Hz	+8.2, -8.5 dB
10 kHz	+7.9, -7.6 dB

### BASS EXTENSION

maximum boost	+6 dB at 71 Hz
---------------	----------------

### DOLBY PRO LOGIC PERFORMANCE

All data for analog input signals.

#### FREQUENCY RESPONSE (large-speaker settings)

left, right	20 Hz to 20 kHz +0, -0.38 dB
center	20 Hz to 20 kHz +0, -0.5 dB
surround	20 Hz to 7 kHz +0 -3 dB

#### NOISE (re 1-watt output, A-wtd)

left, right	-71.9 dB
center	-68.5 dB
surround	-79.0 dB

#### DISTORTION (THD+N, 1 kHz, 1-watt output)

left, right	0.035%
center	0.049%
surround	0.050%

#### SURROUND-DECODER INPUT-OVERLOAD

MARGINS (at 1 kHz)	
left, right (re 2-volt input)	+2.5 dB
center (re 1.4-volt input)	+2.5 dB
surround (re 1.4-volt input)	+2.4 dB

#### SURROUND-CHANNEL NOISE-REDUCTION

CALIBRATION ERROR	
re Dolby level (247.5 mV)	+2.5 dB

### CHANNEL SEPARATION (worst case)

left out, surround driven	>43 dB
---------------------------	--------

### DOLBY DIGITAL (AC-3) PERFORMANCE

All data obtained with AC-3 signals from Dolby Labs AC-3 test disc.

#### OUTPUT AT CLIPPING (all channels driven, 1 kHz)

left front	82 watts
right front	84 watts
center	77 watts
left surround	77 watts
right surround	79 watts

#### FREQUENCY RESPONSE

(large-speaker settings, see text)	
left, right	20 Hz to 17.4 kHz +0, -0.4 dB
center	20 Hz to 18.1 kHz +0, -0.3 dB
surround	20 Hz to 18 kHz +0 -0.3 dB

#### NOISE (re 1-watt output, A-wtd)

left, right	-81.2 dB
center	-81.6 dB
surround	-83.6 dB

#### DISTORTION (THD+N, 1 kHz, 1-watt output)

left, right	0.053%
center	0.046%
surround	0.041%

### CHANNEL SEPARATION (worst case)

center out, surround driven	>67 dB
-----------------------------	--------

SURGEON GENERAL'S WARNING: Cigarette  
Smoke Contains Carbon Monoxide.

11 mg. "tar", 0.9 mg. nicotine av. per cigarette by FTC method.



## TEST REPORTS

digital equalizer. One is a five-band graphic equalizer that adjusts sound only in the center channel, with a  $\pm 6$ -dB range in frequency bands centered at 100 Hz, 300 Hz, 1 kHz, 3 kHz, and 10 kHz. The other two equalizers adjust signals separately to the main front speakers, the front-effect speakers, and the surround speakers. One is a glorified treble control with gains adjustable from +6 dB to -9 dB and "turnover" frequencies from 1 to 12.7 kHz. The other is a nifty single-band parametric equalizer offering a  $\pm 6$ -dB boost/cut range and center frequency variable from 1 to 12.7 kHz. Adjustments to all these equalizers can be made using the useful on-screen display, or, after some practice, with just the front-panel display (which can also be used to adjust all other settings of the DSP-A3090). Unfortunately, none of the equalizers is usable in plain two-channel stereo operation.

Except for the presence of multiple analog and digital inputs for some

round channels, and three AC convenience outlets, one unswitched.

A flip-down door on the front panel hides the bass, treble, and balance knobs (which I'd leave centered during Dolby Pro Logic decoding), a bass-extension switch, and a standard headphone jack. Minimal controls are also provided here for nonremote operation. The remote is essential for adjusting the DSP parameters and for speaker balancing, which is even more critical than usual in a full seven-speaker setup.

Lab measurements showed the DSP-A3090 to be a topnotch performer. Within our margin of error, its output powers met or exceeded Yamaha's specifications in both stereo and surround-sound modes. Note that while 80 watts per channel may not sound as impressive as 100 watts, it represents a maximum volume level only 1 dB lower. Furthermore, the DSP-A3090 could deliver this maximum power to all five primary channels *simultane-*

Labs AC-3 test disc are not well suited to our measurement equipment.)

The only problem I encountered was that the output from a pink-noise test signal swept across the front speakers (Delos "Surround Spectacular," Disc 2, Track 36) increased in the upper bass and lower midrange when it reached the center speaker. I sometimes heard this effect with soundtracks as a slight heaviness on male voices. It may have originated in an interaction between the crossovers provided in the DSP-A3090 and the bass response of the speakers I used, but it was also measurable as a +6-dB mound in response centered at 80 Hz when the front-speaker and subwoofer outputs were added at equal levels in a mixer. I was able to reduce the problem considerably by dialing in a -4-dB correction at 100 Hz with the center-channel graphic equalizer. Your speakers may not need any correction.

As for Yamaha's trademark Digital Sound Field Processing, it again proved its worth for all manner of music from classical to pop, although acoustic music, as usual, fared better than electronically manipulated productions. The default settings as a rule produced exaggerated effects, and I recommend lowering Room Size, Room Liveness, and Effect Trim with the DSP parameter controls and possibly also reducing the level of the front-effect speakers.

I was far less impressed with Sound Field Processing applied to surround-sound material, particularly soundtracks and especially Dolby Digital soundtracks. After all, the purpose of the multiple channels in such material is so that the producers can record or create a specific acoustic environment, as opposed to two-channel stereo material, which by definition doesn't carry its own surround-sound ambience — hence the effectiveness of DSP with stereo music and its image-blurring echoyness with multichannel soundtracks. Still, some people might like the effects produced with soundtracks — it can create a sensational showroom demonstration — and with the DSP-A3090 you can create and adjust them (even turn them off!) to your heart's content.

If you've been waiting for the opportunity to jump into the AC-3-encoded future, Yamaha's extraordinarily versatile and excellent-performing DSP-A3090 is by far the best Dolby Digital integrated component we've tested. Very highly recommended. □

### **The Yamaha DSP-A3090 is one amplifier that will not become obsolete as new program sources with AC-3-encoded digital-bitstream outputs are introduced.**

components, hookup is straightforward. The rule of thumb here is to connect as many source outputs to amplifier inputs as possible. For example, a laserdisc player with an AC-3 RF output should feed that signal as well as its standard analog stereo signal *and* the signal from its optical digital output to the DSP-A3090. The amplifier will decide which input to use when you switch to the laserdisc player (this decision can be overridden).

Audio-only connections are provided for a moving-magnet phono cartridge, a CD player, a tuner, and one recorder. A/V connections (including both S-video and composite-video connectors) are provided for a laserdisc player, a set-top Digital Satellite System or cable box, two record/play VCR's, a VCR3/DVD play-only source, and a front-panel video auxiliary source. Speaker connections are via two-way binding posts that accept stripped wires or single banana plugs. There are also pre-out/main-in connections for the three main front channels, separate mono and stereo line-level subwoofer outputs, line-level outputs for the front-effect and sur-

*ously*, which might required by Dolby Digital (but not Pro Logic) program material. That's a total of 400 watts being pumped into your home-theater speaker system. Used with speakers providing adequate bass response or, better yet, with a powered subwoofer or two, the DSP-A3090 is capable of generating prodigious amounts of sound, especially with AC-3-encoded soundtracks.

Good old Dolby Pro Logic processing was excellent in lab tests, with very low noise and distortion and unusually high channel-separation figures. Nonetheless, our measurements of AC-3 decoding once again demonstrated the overall superior cleanliness of the Dolby Digital process. And so it proved in listening tests. Despite my daily exposure to AC-3 decoding, I could not get over the system's outstanding improvements in imaging, dynamic range, noise, distortion and frequency response compared with even the best Dolby Pro Logic decoding, which the DSP-A3090 provides as well. (The Dolby Digital frequency-response spans we measured are limited because these signals on the Dolby





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

# Home Theater Made Easy

[The Bose® Lifestyle® 12 home theater system]



So simple it comes in one box. Within minutes you'll be enjoying your favorite movies and music more than ever.



Remote with real control. Automatically sets to surround sound for movies and TV, or two-channel stereo for music. Works right through walls.



Movie theater drama, concert hall excitement. Surround sound from five Virtually Invisible® cube speakers for left, center, right, and rear channels. Each about 6" high.

Lifestyle® music center replaces an entire rack of components. Includes built-in CD player and AM/FM tuner. Technology inside, simplicity outside.



*"You might call this product 'home theater in a box,' because everything is included and carefully thought out.... The performance is awesome, and system operation is very intuitive." – Home Theater Technology*

The challenge was clear. Develop the best sounding, easiest to use home theater system ever. The result is the Lifestyle® 12 system. Smaller. More convenient. With the kind of dramatic, lifelike performance you expect from the most respected name in sound. But hearing is believing, so call for dealers near you,

1-800-444-BOSE ext. 736.

**BOSE**  
Better sound through research®

# New Product Showcase: **Nitro Series™** from Jensen®

© 1996 Jensen is a registered trademark and Nitro Series is a trademark of International Jensen Incorporated.

**SO LOUD YOUR EYES WILL RING.**

Jensen Nitro Series car



audio gear. At finer audio stores. Call 1-800-67-SOUND.



IF IT'S TOO LOUD,  
YOU'RE TOO OLD.

CIRCLE NO. 18 ON READER SERVICE CARD

## TEST REPORTS



BOOK & LEUNG

# NHT VT-2 Speaker

**JULIAN HIRSCH • HIRSCH-HOUCK LABORATORIES**

**T**he VT-2 is NHT's reference audio/video speaker system. According to the manufacturer, it is designed (like its smaller brother, the VT-1A) to meet the needs of both high-fidelity home music systems and home theaters.

The speaker is a three-way tower system whose main drivers are grouped in the top portion of its 4-foot-tall cabinet. The two 5¼-inch polyethylene-cone woofers are mounted one above the other on the front panel, flanking a 1-inch fluid-cooled soft-dome tweeter that's offset from the center of the baffle. The speaker baffle, made of reinforced plastic, is designed to minimize the spacing between the drivers and to reduce interference effects.

These three drivers are magnetically shielded and operate in a subenclosure

within the cabinet. Frequencies below 125 Hz are reproduced by a 10-inch long-throw subwoofer, which is not magnetically shielded, located at the bottom of one side of the cabinet (opposite to the offset of the tweeter). The subwoofer uses most of the internal volume of the cabinet, which is vented through a 3-inch duct opening in the rear of the speaker.

**DIMENSIONS:** 7¾ inches wide, 18 inches deep, 48 inches high

**FINISH:** high-gloss black laminate

**WEIGHT:** 66 pounds

**PRICE:** \$1,750 a pair

**MANUFACTURER:** NHT, Dept. SR, 535 Getty Ct., Suite A, Benicia, CA 94510

The VT-2's cabinet is finished in a high-gloss black laminate, and the upper part of its front panel is covered by a removable black cloth grille. Two pairs of multiway binding posts are recessed into the rear of the cabinet; the inputs are paralleled by gold-plated jumpers, which can be removed for bi-amplified or biwired operation.

The installation instructions indicate that the mirror-image speakers (which are labeled Left and Right) should be positioned with the subwoofers facing outward — that is, away from each other. The VT-2 is equipped with stabilizer bars and spiked feet for use on carpeted floors; rubber feet are available for use on hard floors.

The most unusual feature of the VT-2 is its front-panel audio/video switch. According to NHT, the switch optimizes the radiation pattern of the speaker for either video or audio-only playback. In video mode, the soundstage is broadened across the horizontal plane, creating an ambient field that minimizes the sense of separation between the sound and the video image. In audio mode, the directional response of the system is said to be optimized to create the precise imaging required for music playback.

The only functional difference between the two modes is the frequency and slope of the crossover between the woofers and the tweeter. In audio mode, the crossover point is 2.3 kHz with 12-dB-per-octave slopes. In video mode, the crossover is at 5.5 kHz with 6-dB-per-octave slopes. In either mode, the subwoofer crossover is 125 Hz with a 12-dB-per-octave slope.

Since the NHT VT-2 system was designed with A/V systems in mind, we verified the effectiveness of its magnetic shielding. Above the subwoofer (about 18 inches from the floor), the strength of the magnetic field we measured did not exceed 2 gauss at any point on the cabinet exterior. Below that point, the strength of the field increased rapidly, but that shouldn't present any problems in normal installations, where the TV screen is a few feet above the floor. In other words, the VT-2 can be placed next to a TV without interfering with the picture — unless the TV is sitting on (or very close to) the floor.

The rated sensitivity of the VT-2 is 88 dB sound-pressure level (SPL) with a 2.83-volt input, which was consistent with our measurement of 89 dB. The system is recommended for use with amplifiers rated between 50 and

# Worker ants spend their entire lives bringing home sustenance to the queen and her young.

(We apologize if this sounds familiar.)



Work, work, work. And what do you have to show for it? We'd like to suggest the most thrilling home entertainment experience ever. A Pioneer® Dolby® Surround AC-3™ Audio/Video Receiver and LaserDisc Player. The first in the industry, our VSX-D3S receiver with



advanced AC-3 technology gives you the distinct pleasure of hearing six independent digital channels for true surround sound. Plus, all the power you demand from an advanced home theater system. The result? With our AC-3 receivers and AC-3 compatible LaserDisc players, your home theater can deliver



exciting digital surround sound, which until now was heard only in top theaters. Call us at 1-800-PIONEER to find out more about our complete range of home theater equipment and for a dealer near you. After all, worker ants don't get much time off. So you might as well make the most of it.

A D V A N C E D   H O M E   T H E A T E R



## TEST REPORTS

250 watts. Frequency response is rated at 25 Hz to 21 kHz  $\pm 3$  dB, and the nominal impedance is 6 ohms (4 ohms minimum).

The measurable impedance differences between the audio and video modes were slight. The minimum was approximately 4 ohms, as rated, and it remained between 4 and 8 ohms from 20 to 700 Hz. The maximum impedance, 18 to 22 ohms, occurred at 2 kHz in audio mode and 3 kHz in video mode.

In audio mode, the room response of the two speakers, placed 8 feet apart and 3 feet in front of a wall, was flat within  $\pm 4$  dB from 35 Hz to 20 kHz (the lower frequencies were unavoidably affected by room boundaries). From 300 Hz to 20 kHz, the response was excellent, within  $\pm 3$  dB. In video mode, response was quite similar except for a 3- to 4-dB difference in the mid and upper frequency range. Horizontal dispersion over a

$\pm 45$ -degree angle was typical of systems using 1-inch tweeters, with a  $\pm 3$ -dB variation up to about 10 kHz and a drop to about  $-10$  dB at 15 kHz.

**T**here was a measurable, though slight, difference in horizontal dispersion between the audio and video modes, principally in the range between 1 and 4 kHz. The most obvious audible difference was a slight increase in brightness in video mode, noticeable only during direct comparison between modes.

The close-miked response of the 5¼-inch woofers was impressively flat,  $\pm 2$  dB from the 125-Hz subwoofer crossover point up to about 6 kHz. The subwoofer response was at its maximum at 60 Hz, falling to  $-4$  dB at 35 and 140 Hz. The low-frequency output, extended by the port radiation, was clean and useful to well below 30 Hz.

We also measured the quasi-anechoic (MLS) frequency response of

the system in audio mode (limited to frequencies above 300 Hz) at microphone distances of 1 and 2 meters. The two response curves were essentially identical, with a variation of  $\pm 2.5$  dB from 500 Hz to 20 kHz.

In listening tests, the NHT VT-2 lived up to the promise of its measurements. In particular, its soundstage was seamless and believable, and despite the size and obvious presence of the speakers in a moderate-size room, they were audibly "invisible" at a normal listening distance.

We have noted a recent trend toward narrow-profile speakers with built-in side-firing subwoofers (both passive and powered), which have generally delivered outstanding low-bass performance without resorting to a physically separate subwoofer module. The NHT VT-2 is an excellent example of this genre, delivering palpable and truly room-shaking bass down to the 25-Hz range. □

### NHT'S VT-2 IN A HOME THEATER SETTING

**Y**ou can turn a pair of VT-2's into a full-fledged home-theater speaker system by adding a center speaker and a pair of surrounds. NHT conveniently supplies one speaker that handles both functions: the VS-2 (\$450). Its driver complement is the same as the VT-2's but without the built-in subwoofer. Accordingly, the VS-2 is small enough for both set-top center-channel and shelf-mounted surround duties. When placed horizontally, it measures 7¾ inches high, 19 inches wide, and 8 inches deep. The VS-2 weighs 17 pounds and is finished in high-gloss black. Connections are five-way binding posts.

The rear panel of the VS-2 has two screw holes for attaching an adjustable "foot" that can be used to aim the cabinet. The foot is attached with two finger screws. When the VS-2 is used as a set-top center speaker, it will usually be aimed downward toward your ear height at the main listening position. Such positioning is less critical when two VS-2's are used as surround speakers.

What is critical when using the VS-2's as surrounds is their placement relative to the main listening position. Since they are direct-radiating and not dipole speakers, the VS-2's can image "too well" when placed directly to the

sides, the locations usually recommended for dipoles. In other words, VS-2's placed to the side become prominent pinpoint sound sources that make it difficult to obtain a seamless enveloping sound field in combination with the front speakers. One solution is to keep the VS-2's on the side walls but move them 30 degrees back from a line across the room through the main listening position. We had great success with this approach.

Since the VT-2 speakers already contain their own subwoofers, you don't really need to add a separate subwoofer module. You might consider, however, getting two NHT SA-3 mono subwoofer amplifiers (\$750) and biamping the VT-2's. In that case, the main system amplifier or receiver would be used to power the upper drivers of the VT-2's while a separate SA-3 would power each VT-2 subwoofer section. This arrangement provides a significant boost in system output since the SA-3 is rated to deliver 250 watts into 6 ohms. A second advantage to using the NHT amplifiers to biamp the VT-2's is that they have high-pass-filtered line outputs that remove low bass from the signals feeding the upper drivers, thereby decreasing the possibility of overdriving them. The SA-3's high-

pass and low-pass crossover controls should be set to 125 Hz for the best results. While in theory you could use any power amplifier to biamp the VT-2's, it might be difficult because the relatively high crossover frequency NHT recommends is not accommodated by some equipment.

We evaluated the combined VT-2/VS-2 system with a standard, nonbiamped hookup to an integrated A/V amplifier equipped with Dolby Digital (AC-3) decoding. It sounded tremendous. Frontal imaging was very tight and precise, especially with the front-panel switches on the VT-2's set to the audio position (we never felt the need to throw them to the video position). Having two subwoofers is always the way to go, and they proved invaluable in cleanly reproducing explosive soundtracks at theatrical levels. Signal peaks during the AC-3 version of *True Lies* clocked in at 105 dB, which is very loud for domestic listening — even illegal under certain conditions in New York City. In addition to cleanliness at high levels, NHT's VT-2/VS-2 combo produced a welcome accuracy of timbre and imaging in playing both soundtracks and surround-encoded music. All in all, this is a home-theater speaker system that delivers extremely high sound quality. —David Ranada

# Our speakers speak for themselves.

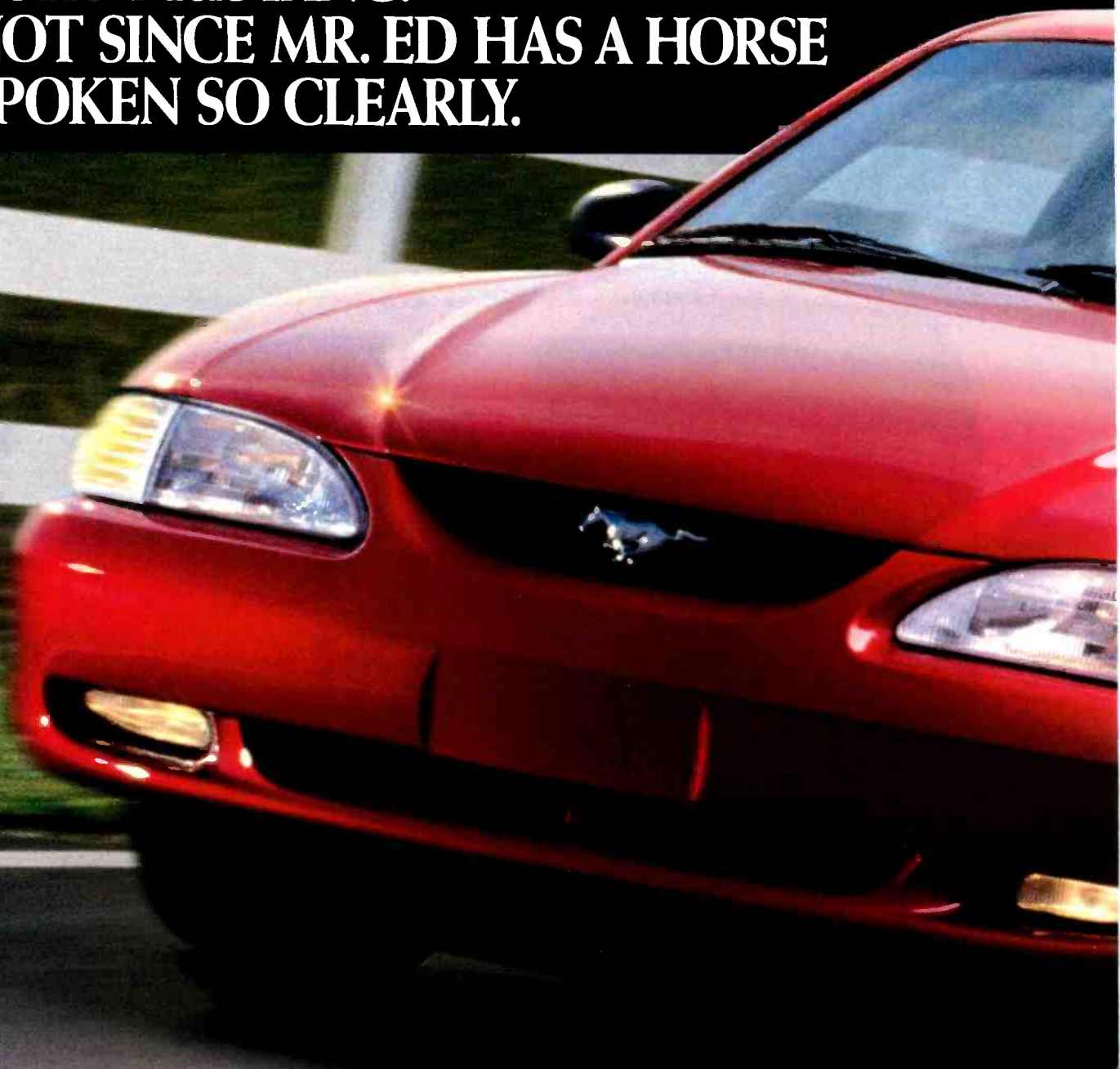


## And they're not the only ones talking.

**T**he critics agree, our amazing LX5 speakers pack a powerful punch! "...the new Optimus® PRO LX5 is the best-sounding \$300 pair of loudspeakers I have ever heard." —*Video Magazine*, March 1995. "...an astonishing hi-fi bargain if there ever was one." —*Audio*, July 1995. And now, *Video Magazine* has honored the Optimus PRO LX5 as one of the 20 best products of the year! Come in and find out what all the talk is about. For a store near you, call 1-800-THE-SHACK.

 **RadioShack**™  
You've got questions.  
We've got answers.®

FORD MUSTANG.  
NOT SINCE MR. ED HAS A HORSE  
SPOKEN SO CLEARLY.



THE NEW 4.6 L V-8  
**MUSTANG**  
GT

*Get a load of this, Wilbur.* • 215 hp Overhead Cam V-8 • Engine Immobilizer Anti-Theft System • Quadra-Shock Rear Suspension • Traction-Lok Axle • Available 17" Cast Aluminum Wheels • 4-Wheel Disc Brakes • Available ABS. Ford Mustang GT. **Never say whoa.**





**HAVE YOU DRIVEN  
A FORD LATELY?**





JOCK P. LEUNG

## AMC CD8 Compact Disc Player

**JULIAN HIRSCH • HIRSCH-HOUCK LABORATORIES**

**A**lthough CD players have been a part of the hi-fi scene for only a little over a decade, they have long since superseded the phonograph record as a prime source of recorded music and earned a place in virtually every home music system in this country.

Many of today's CD players appear to be clones, with very similar external appearance and operating features. For the most part, only a few high-end CD players depart significantly from the norm, offering distinctive styling and more refined performance, though generally at considerably higher prices.

The AMC CD8 represents an interesting departure from that pattern. AMC is a trademark of Weltronics Corporation. The CD8 has been designed to meet professional performance and quality standards at an affordable price. Its specifications are impressive. They include a MASH 1-bit digital-to-analog (D/A) converter with a linearity of  $\pm 0.5$  dB at levels ranging from 0 to  $-90$  dB and a signal-to-noise ratio (S/N) of 107 to 110 dB, which is substantially better than the S/N specifications of most other CD players, including some at consider-

ably higher prices. The CD8's other specs are typical of the best of today's CD players.

The all-black CD8 is relatively light and compact, and its front panel is simple and uncluttered, with a minimum of adornment. Its operating controls consist of eleven small round black buttons (about  $\frac{3}{8}$  inch in diameter), each clearly identified by a contrasting white label. Their functions include open/close (the disc drawer accepts those hard-to-find 3-inch CD singles as well as the standard  $4\frac{3}{4}$ -inch size), play, pause, stop, program, repeat, and time. Track selection and fast search are handled by two pairs of buttons on the right side of the panel. The power switch is a slightly larger green button on the far left, with a

small green pilot LED to indicate when the unit is powered.

While most CD players have rather elaborate multicolored displays, the CD8 presents just the basic information in a small ( $2\frac{1}{2} \times \frac{1}{2}$ -inch) yellow-green electro-luminescent window. With no disc loaded, the word DISC appears in the window. After a disc is loaded, the display shows the number of tracks and the total playing time. In the play mode these are replaced by the current track's number and elapsed time as well as the standard triangular play symbol. Although the display's response time is somewhat leisurely compared with that of most CD players, the uncluttered window is more readily interpreted at a glance than are many larger and more complex display panels.

The CD8 can be programmed to play up to twenty-one tracks in any order. In addition, the repeat function endlessly repeats the track that is currently playing or the entire disc. The time display has three modes: elapsed time in the current track, remaining time in the current track, and remaining time on the disc.

The CD8 comes with a full-function remote control that duplicates many of its programming and operating functions. Through the remote, the player can be set to repeat a designated track segment indefinitely (A-B repeat). Although the front-panel track up/down buttons can be used to select any track, the procedure can be somewhat cumbersome since it must be done one

**DIMENSIONS:** 16 $\frac{3}{8}$  inches wide, 11 $\frac{1}{4}$  inches deep, 3 $\frac{1}{2}$  inches high

**WEIGHT:** 10 pounds

**PRICE:** \$300

**MANUFACTURER:** AMC/Weltronics Corp., Dept. SR, 1414 S. Fair Oaks Ave., Suite 7, South Pasadena, CA 91030

## TEST REPORTS

step at a time (for example, you have to press the up button nine times to go from Track 1 to Track 10). The remote control, however, provides speedy direct access to any track via an eleven-digit numeric keypad.

All the features of the CD8 worked exactly as intended, but the response time of its transport mechanism was noticeably slower than that of most CD players when we were stepping through the tracks on a disc or using the fast-search mode.

Such idiosyncrasies seemed trivial when we measured the performance of the CD8. Its detailed performance specifications, unusual for such an inexpensive component, proved to be remarkably conservative. In fact, when we measured the low-level linearity of the D/A conversion, we suspected a flaw in our Audio Precision test equipment or setup, since the spectrum-analysis curve went below the normal lower limit of the graph (-130 dB). When we extended the range to -140 dB, it became evident that the low-frequency noise content of the CD8's output was almost 10 dB lower than we had ever seen in all the years we have been making this measurement.

Our measurements confirmed most of the other ratings of the CD8. In fact, the only one to fall short (by an insignificant amount) was dynamic range, which is specified as 98 dB and measured "only" 93 dB! While the player's relatively light construction makes it somewhat susceptible to physical shock on its top cover, it required some effort to induce mistracking — and in ordinary use the player was as solid as a rock.

In terms of appearance, the CD8 is rather plain, especially when compared with similarly priced models. It is also one of the few CD players in its price range (or above) to lack a headphone jack. The rear apron contains



**The low-frequency noise content of the CD8's output was almost 10 dB lower than we have ever seen in a CD player.**

only the analog output phono jacks and a single phono jack for the digital output, should you wish to make a digital recording, use a digital signal processor, or invest in an external D/A converter (although it is hard to imagine what benefit that might provide).

Once you have read the operating instructions and familiarized yourself with the CD8's basic features, you will find that it can do almost anything conventional higher-price players can do, and frequently better. The only sacrifice you make for the modest price of this truly state-of-the-art CD player is a headphone jack. I call that a bargain! □

### MEASUREMENTS

<b>MAXIMUM OUTPUT LEVEL</b> .....	2.16 volts
<b>FREQUENCY RESPONSE</b> 20 Hz to 20 kHz ±0.3 dB	
<b>CHANNEL SEPARATION</b>	
100 Hz .....	117.5 dB
1 kHz .....	117 dB
20 kHz .....	94 dB
<b>SIGNAL-TO-NOISE RATIO</b> (A-wtd) .....	108 dB
<b>QUANTIZATION NOISE</b> .....	-92.8 dB
<b>DYNAMIC RANGE</b> .....	93 dB

<b>DISTORTION (THD+N)</b>	
1 kHz, 0 dB .....	0.0024%
1 kHz, -20 dB .....	0.0024%
20 Hz to 20 kHz, 0 dB .....	0.0024% to 0.013%
<b>LINEARITY ERROR (-90 dB)</b> .....	+0.5 dB
<b>MAXIMUM INTERCHANNEL PHASE SHIFT</b> .....	1.6 degrees
<b>DEFECT TRACKING</b> (Pierre Verany #2 disc) .....	2,400 μm
<b>IMPACT RESISTANCE</b> .....	sides, A: top, C

**CRUTCHFIELD** \$3.00

**Sony DSS is Here!**

**SAVE!**  
on the perfect stereo



## FREE Stereo Catalog

Discover the fun, comfortable alternative to those dizzying, frustrating mega-stereo stores. Relax with your new Crutchfield catalog and find out why *Catalog Age* magazine calls Crutchfield the "King of Service."



You'll find Home Theater components and Digital Satellite Systems, too.

**Information you can't find anywhere else**

You'll love the detailed product descriptions, color photos, comparison charts and honest specs. All those technical terms are explained in the simple language that's helped make Crutchfield famous.



Discount: on major brands, with loads of information to help you shop and compare!

**You won't believe the selection**

We're a full-service, factory-authorized dealer offering discount prices on top name brands including **Sony, Kenwood, Pioneer, JVC, Polk, Bose, Advent, Infinity and Yamaha.**

**Fantastic service seven days a week**

- Information and advice you just won't find *anywhere* else.
- FREE technical advice when you need it — days, nights, even on the weekend!
- Nobody ships faster!

Call for your FREE catalog  
**1-800-955-9009**  
24 hours a day, 7 days a week

**CRUTCHFIELD**

1 Crutchfield Park, Dept. SR, Charlottesville, VA 22906  
Check out our Web site at <http://www.crutchfield.com>



LOOK & LISTEN

## NuReality VHT-200 Vivid 3D Theater Processor

DAVID RANADA • TECHNICAL EDITOR

**T**he home-theater craze has rekindled interest in two-channel image processors, which had a brief vogue at the end of the quadraphonic era. NuReality's VHT-200 Vivid 3D Theater incorporates a system called SRS (Sound Retrieval System) developed by Hughes Aircraft and patented in 1988.

The VHT-200 is a very simple device that operates at line level and hooks into the tape-monitor loop of a receiver or integrated amplifier. To replace the occupied monitor loop, the VHT-200 also has rear-panel jacks for a tape recorder. The front panel has three control knobs — Center, Space, and Output Level — a power button, and buttons that switch the SRS effect on and off, select between SRS processing for mono or stereo signals, turn the LED level readout off, and select the component hooked up to the VHT-200's monitor loop. The supplied infrared remote control duplicates only the power and SRS on/off buttons.

NuReality recommends that you start out by setting the Center and Space knobs to their 2 o'clock positions and adjust them to taste later. The Center knob essentially controls the prominence of vocals and other sounds anchored in the middle, while the Space knob controls the amount of SRS processing. I set the controls to produce equal C-weighted sound-pressure levels from surround-encoded

center-only and surround-only pink noise at equal signal levels. The Center control remained at 2 o'clock, but the Space knob came down to 11:30. These two controls operate relative to each other, and the same results can be obtained at more than one pair of settings. I suggest leaving the Center knob at 2 o'clock and adjusting only the Space knob, but not below 10 o'clock, which is about where SRS action ceases.

Both the front-panel and remote-control SRS on/off buttons produce a 3-dB increase in level when SRS is switched on, throwing all comparisons made using them in SRS's favor. Therefore, I left SRS switched on and adjusted the Output Level knob to 3 o'clock so that the overall sound level remained unchanged when the VHT-200 was switched into our main system amplifier's tape-monitor loop. Comparisons were made by activating that loop, not by throwing the SRS switch. Most of our listening and lab tests were done with the above settings.

**DIMENSIONS:** 16½ inches wide, 2¾ inches high, 9¼ inches deep

**WEIGHT:** 8½ pounds

**PRICE:** \$250

**MANUFACTURER:**

NuReality, Dept. SR, 2907 Daimler St., Santa Ana, CA 92705-5810

The most revealing measurements of the VHT-200 are its frequency responses when fed with pseudo-Dolby-Surround-encoded signals. The green trace in the accompanying graph shows that the unit's response from both channels was quite flat, except for the rolloff in the deep-bass region, when it was fed a surround-encoded center-channel (mono) signal. An encoded surround-channel-only signal produced an overall level boost as well as further boosts in the lower midrange, upper bass, and upper treble in both channels (red trace). When we fed a signal to the left channel only, the left output received similar but smaller boosts (solid blue trace), but a cross-fed signal that appeared in the right channel just 7 dB lower than the left channel over parts of the frequency range had a veritably mountainous shape (dashed blue trace). The VHT-200's effects derive from this inter-channel crossfeeding and the frequency-dependent boosting of out-of-phase information.

NuReality's data sheet says that the VHT-200 "does not use phase shift or time delay techniques," but our measurements revealed significant phase shifts between the driven channel and its cross-fed output when a left-only or right-only signal was fed into the unit. Some of these phase shifts may be the unavoidable results of the response-altering circuitry, but they also have audible consequences. Phase-shift networks *are* definitely employed when the VHT-200's mono mode is used, according to the SRS patents.

Taken alone, measurements of an image processor can create a misleading impression. Who would tolerate a CD player whose frequency response varied by ±9 dB and whose channel

WHAT

a GREAT

*behind*

 **EOSONE**  
INTERNATIONAL

Don't judge our speakers by just their pretty faces.

Look at the back of Eosone loudspeakers and you'll notice speaker drivers there. They are part of a unique Eosone technology called Radiant Surround Field™ or RSF. RSF creates a broader listening area so that everyone in the room, regardless of listening position, hears superior sound and spatial effects. Until now, you could only find this feature in "high end" speakers, costing as much as \$90,000 a pair!

With Radiant Surround Field technology every member of your family will enjoy rich, full fidelity sound, no matter where they are in the room.



Eosone Radiant Surround Field™ technology creates a very broad optimum listening area.



Conventional speakers limit optimum listening area.

■ = optimum listening area

■ = optimum listening area

For more information or store locations please call 1-300-347-1876

CIRCLE NO. 33 ON READER SERVICE CARD



## TEST REPORTS

separation decreased to only 7 dB over substantial parts of the audio band? You have to evaluate the VHT-200 and similar devices as if they were loudspeakers: by listening to a lot of different program material. In this case I must have gone through some 150 different tracks on CD's, laserdiscs, and even a couple of LP's I dug out of my collection of quadraphonic artifacts.

In our listening room the primary sonic effect of the VHT-200 was an added sense of sound coming from the side walls, which created an increased impression of envelopment. This side-wall sound was always "phasey" and created an unpleasant unequal-pressure-on-the-eardrums sensation when the Space control was turned way up. There was no firm image to the sides, just a vague sense of slightly bass-heavy, out-of-phase sound.

With most recordings, the width of the front image remained unaffected, as did the positioning of sounds from left to right and in depth. That stability was probably due to the flatness of the VHT-200's response when fed near-mono signals and the relative lack of crossfeeding at 2 kHz. Also, in sharp contrast to many ambience-enhancement systems based on artificial reflections, the VHT-200 added neither a sense of distance nor of reflection-based coloration in the frontal sound, a characteristic that greatly benefited vocal music from pop to opera.

But not all music was appreciably



enhanced, even with higher settings of the Space knob. Some music received practically no enhancement at all. The VHT-200's effects were very, very dependent on the recording and even the specific track. There were some musical genres that produced dependably superior results, but they tended to be rather esoteric: medieval choral music recorded in large churches with spaced microphones, for example.

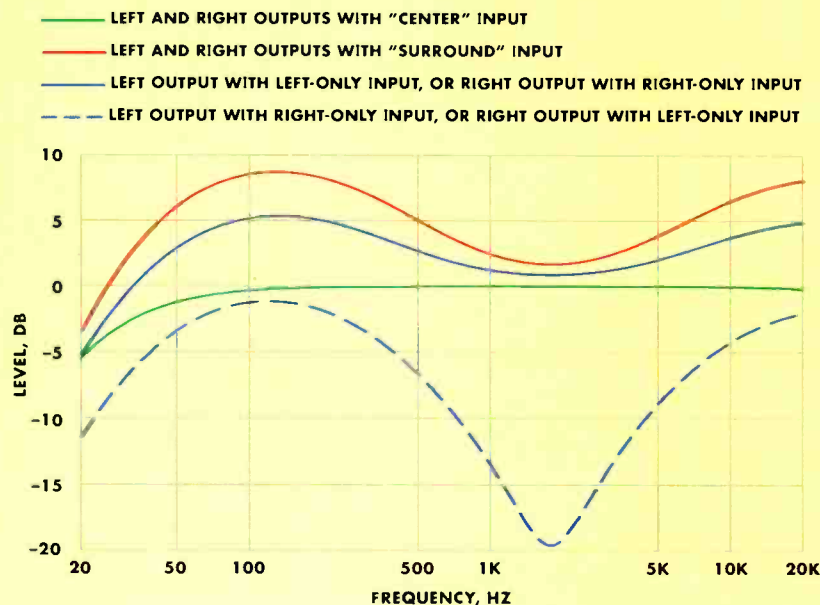
One type of recording was reliably improved by SRS: Ambisonic-encoded quadraphonic CD's played without quad decoding. These are almost exclusively classical and ethnic releases on the Nimbus label. Even with our conservative front-panel settings, the frontal imaging of Nimbus Ambisonic recordings was sharpened up consider-

ably, and some of the excessive recorded ambience seemed to be removed from the front and placed toward the sides. There were even fleeting moments producing a sense of over-the-head vertical ambience! The couple of SQ-encoded quadraphonic LP's I tried did not produce such vivid effects, however.

As for surround-sound movie soundtracks and surround-encoded music, the VHT-200 cannot be considered a replacement for a five-speaker system driven from a Dolby Pro Logic decoder, much less an AC-3 decoder. For starters, a two-speaker VHT-200 setup doesn't have a center speaker, which is essential for locking soundtrack dialogue to the screen from off-center viewing locations. Nor will the VHT-200 enlarge the prime listening area: As you move off the center line between the speakers, the front image starts collapsing toward the nearer speaker, as occurs in two-channel stereo listening but not with a surround system using a center speaker. And, contrary to the claim on the VHT-200's data sheet that there is "no 'sweet spot,'" I found that the phase-shifted crossfeeding between channels created a very small spot on the center line at which the SRS effect was most pronounced. Moving off the center line by as little as an inch, or turning my head, produced a noticeable loss of enhancement. When I sat far off-axis there was almost no spatial benefit.

It must be said, however, that the VHT-200's actions with surround-encoded soundtracks and music did produce a surprisingly satisfactory sense of envelopment and front-to-side sonic continuity, if not front/surround directionality. My favorite Pro Logic test sequences (the opening of *Star Trek VI* and the biplane sequence from *Indiana Jones and the Last Crusade*) were nearly as vivid with SRS over two speakers as with true Dolby Pro Logic playback over five — as long as I sat in the sweet spot. (I wouldn't recommend using SRS and Pro Logic simultaneously: the combination produced confusingly phasey surround-channel playback.) AC-3, of course, was superior to both systems, if only because of its true-stereo surround channels. But the VHT-200 can produce, with less noise and distortion than many Dolby Pro Logic circuits we've tested, much of the excitement of surround-sound home theater with only two speakers. It's a fun device that's worth experimenting with. □

### FREQUENCY RESPONSES



## CBGB New York City

Unintelligible lyrics always come through loud and clear thanks to the genuine JBL equipment at CBGB. JBL. Proudly serving misguided youth since 1946.

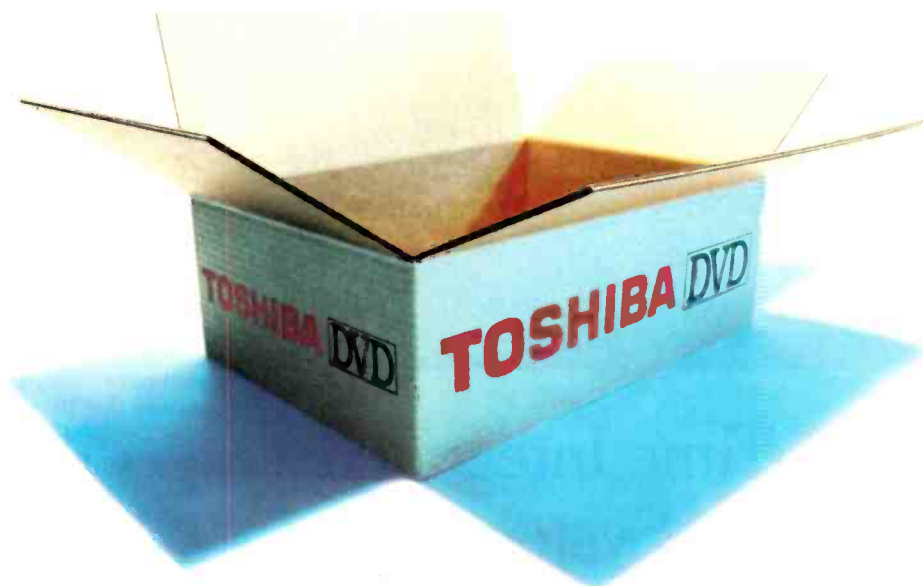


For the JBL dealer nearest you call 1-800-336-4JBL  
A Harman International Company

# DVD Is Where It's At.







# Toshiba Is Where It's From.



If you've been reading about DVD, you've seen a lot of references to Toshiba. That's no coincidence. Toshiba led the way in developing DVD technology. Technology that includes a component video signal, which means a picture better than laser disc, and three times better than VHS. Six discrete channels of Dolby® AC-3® digital surround sound and up to eight languages. Multiple aspect ratios (16:9, letterbox, pan and scan). And the versatility of multiple subtitles, camera angles and rating edits. All on one disc. So, if you enjoy being on the leading edge of home entertainment technology, you know that DVD is where it's at.

When you're ready to experience the brilliant picture and the extraordinary sound that DVD delivers, won't it make sense to get the technology from its source? Toshiba is the source of DVD technology. And DVD is the future.

For more information on Toshiba DVD, call 1-800-631-3811.

In Touch with Tomorrow

## TOSHIBA

Toshiba America Consumer Products, Inc., 82 Totowa Road, Wayne, NJ 07470

**The Leader In Digital Video Technology**

<http://www.toshiba.com/tacp>

CIRCLE NO. 39 ON READER SERVICE CARD

## USER'S REPORT



LOOK & LISTEN

# Mission M-Time Integrated Home Theater System

DANIEL KUMIN

**P**roducts like Mission's M-Time don't cross my threshold every day. For that matter, they don't appear every year, or even every other year. In fact, M-Time is about as unusual an A/V product as I can think of, one that breaks the mold — and forges a new one.

Mission Electronics is a British firm best known over here for its loudspeakers. The company also produces a full line of hi-fi components including CD players, tuners, and its well-respected Cyrus amplifiers. That's a good thing, since the \$3,995 M-Time system depends on expertise in all of those areas, and more. In this case a picture must serve for a thousand words, so I'll leave the details of its physical appearance to the accompanying photo. Briefly, M-Time consists of a compact subwoofer/TV-stand/component cabinet and a stack-on module that contains (deep breath) a center speaker, an AM/FM tuner, a multichannel amplifier, a Dolby Pro Logic/music-surround decoder, a multiroom controller-amplifier, infrared

and RF remote controls, and more . . . phew! The grand idea is home theater in one package: You plopp your 27- to 35-inch TV on top, wire up two suitable speaker pairs for front left/right and surround duties, and you're done. (Actually, M-Time comes in *two* cartons, but never mind). Measuring 28 inches wide, 19 inches high, and 16 inches deep, the whole business weighs about 85 pounds and is finished in a slightly opalescent dark gray with black knit grilles.

M-Time's top module features a sculpted front panel with pushbutton controls (except for a horizontal, multifunction volume control) and a striking, 3½ x 2-inch back-lit pictographic LCD window. The layout is unusually simple and arrestingly different. Once you get past M-Time's European look and feel (and cryptic, iconic graphics), operation is largely intuitive. There's a muting headphone jack, and the source keys have inset LED's that light green to show the selected component — an elegant touch. The center speaker, which is a permanent part of

the module, is essentially Mission's Model 73C, a \$249 speaker with two 4-inch "mid-woofers" and a 1¾-inch cone tweeter.

Bass is delivered by a pair of 6-inch polypropylene drivers firing from rear-vented enclosures built into the sides of the main cabinet. In addition to the center speaker, the stack-on module houses nine channels of amplification, rated to deliver 100 watts each to the left, center, and right speakers, 40 watts each to a pair of surround speakers, 60 watts to each subwoofer, and 40 watts each to a pair of remote speakers.

Mission says that M-Time accommodates TV's with screen sizes up to 35 inches (diagonal), but my 31-inch Proton (admittedly a shade rotund) barely fit. Its feet just caught the top corners of the M-Time system's top surface, with a few inches of the set hanging over on either side. Even so, it looked pretty slick.

I set the M-Time system up at one end of my 20 x 15-foot studio. On the theory that people are unlikely to use the sleek M-Time with bulky main speakers, for most of my listening I used a pair of Rock Solid Monitors (a two-way minispeaker made by B&W) in the front and a second pair in the rear of the room. Source signals were supplied by a Digital Satellite System (DSS) receiver and a laserdisc/CD combi-player, both of which I placed inside the M-Time component cabinet. The combi-player was a bit of a squeeze, so I wouldn't rely on housing larger components like Pioneer's Elite combi-players.

Hookup was straightforward, although impeded by Mission's use of European-style banana-plug jacks, which are incompatible with the U.S.-style dual banana plugs fastened to all of my cables (at least Mission supplies plenty of Euro-plugs). The FM tuner's 75-ohm input also uses a European connector (DIN), but Mission provides every conceivable adaptor, so that was no problem. (To be fair, most of the world adheres to these standards — it's we Americans who are screwy.)

Mission also supplies a small condenser microphone that plugs into the electronics module's rear panel. You put the mike in the listening position, hit the remote's CAL(ibrate) button twice, and the system automatically balances the level of each channel in accordance with Dolby Pro Logic standards — a process that takes about 10 seconds. Too cool! When I checked

## USER'S REPORT

the results with my sound-level meter, the five channels were within  $\pm 1$  dB of one another over a solid 20-dB range.

M-Time provides three A/V and two audio-only inputs; video in/out is by composite (RCA) jacks only. In addition to the front left/right, surround, sub, and Zone 2 auxiliary speaker outputs, there are line outputs for the front left/right, subwoofer, and Zone 2

Hz) seemed to blend in better with the subs; it also allowed me to use a relatively low crossover point, which reduced bloom and improved bass definition. Setting the crossover point and level proved to be tricky. Specifically, the rear-panel frequency knob (which is continuously variable between 50 and 150 Hz) didn't have quite the upper-bass effect I expected, so it took awhile

inside the electronics module revealed that decoding is handled by the Analog Devices 2126A chip, widely found in high-end decoders. The DPL dynamics were also first-rate, and all of M-Time's output channels proved to be quieter than those of many A/V receivers, although the internal cooling fan did produce a just-audible drone between musical selections.

Though overall DPL surround performance was excellent, M-Time's built-in center speaker was its limiting factor. While generally accurate and naturally balanced, the center speaker's tonal quality was decidedly different from both of the main speaker pairs I tried, which caused voices to waver a bit spatially. The discontinuity of tone was most noticeable (to me, anyway) when sounds were panned laterally. The center speaker's relatively low position (14 inches off the ground) is partly to blame. In a typical seating arrangement this puts the listener's ears well off-axis vertically — especially compared with the main speakers, which in my case were about 2 feet higher (roughly even with the TV screen). The problem is compounded by the center speaker's somewhat limited vertical dispersion. When I sat on the floor with my ears at roughly its level, the timbre match between left/right and center was much better.

**Mission's M-Time was impressive right from the get-go.**

**It had plenty of power to drive the front main speakers to solid levels, and it sounded good too.**

channels, though not for the center signal. There's also an eight-pin DIN connector to accommodate the onboard Dolby Digital AC-3 decoder Mission plans to release this fall.

Up and running, M-Time was pretty impressive right from the get-go. It had plenty of power to drive the front main speakers to solid levels, and it sounded very good in the process. The onboard power amps also had no problem driving my B&W 803-II tower speakers.

As a plain sub/sat system (the Rock Solid Monitors plus M-Time's dual subs), the setup sounded quick and defined, without the boom that's all too common from small subs, and it delivered a respectable dose of deep bass. With some program material, there was a smidgen of audible "chuffing" from the ports, but putting a fuzzy pillow against the wall 2 feet behind the ports lessened the effect a good deal by absorbing some reflections. Mission pegs the low-frequency limit of the M-Time subs at  $-6$  dB at 25 Hz; to my ears it sounded more like  $-6$  at 35 or 40 Hz, but, then again, subs are highly room-dependent. That brings up one disadvantage of the system: Subwoofers should be placed where they provide the deepest, smoothest, and loudest bass, which almost always is in a corner. But since M-Time doubles as a TV stand, it must remain front and center and a couple of feet from the wall behind it, which is usually not the ideal subwoofer location.

Next I tried M-Time's three-channel surround (3-Channel Logic) option. The center speaker can be operated in wide or normal mode, with the latter rolling off at 90 Hz. I preferred the wide setting in most cases because the speaker's natural rolloff ( $-6$  dB at 70

to dial in the "right" balance between the sub and satellites.

In two-channel stereo mode, M-Time played loud and sounded solid, but dynamic range was not infinite: When I pushed the Rock Solid speakers to high volume levels, they sounded somewhat glassy and "squished," but this was before harsh distortion arrived. About 10 seconds later its internal protection fuses popped — wisely, no doubt — preventing serious damage.

In full Dolby Pro Logic (DPL) surround mode the system opened up very nicely, and it played a good deal louder, too. M-Time steered DPL signals smoothly and accurately. A visit

### A FEW NUMBERS

**A** quick, informal trip across the test bench revealed that Mission's M-Time is a legitimate hi-fi product. Though the integrated system did not quite nail every spec I tested, its shortcomings were generally insignificant.

The amplifier's main left/right channels delivered 90 and 94 watts, at 0.02 and 0.04 percent total harmonic distortion (THD), across the full bandwidth (specs are 100 watts at 0.02 percent THD). Since the center channel is hard-wired to the built-in speaker, I couldn't test it. The surround channels delivered their rated 40 watts at about 0.25 percent THD; response was just about dead on the Dolby Pro Logic spec at  $-3$  dB at 90 Hz and 7 kHz. Each sub output produced about 50 watts at clipping (at 75 Hz) with the crossover wide open.

Mission rates the main channels

as  $-3$  dB at 2 Hz and 80 kHz. The left channel approached this wide bandwidth ( $-3$  dB at 8 Hz and 78 kHz), but the right side managed "only" 17 Hz and 22 kHz as  $-3$ -dB points — still excellent. Subwoofer output was a bit peaky but included useful infrasonic filtering ( $-30$  dB or so at 12 Hz) and a fairly steep rolloff, roughly between 12 and 18 dB per octave depending on the selected crossover frequency. A-weighted S/N referred to 1 watt was 75 dB for the left and right channels (meeting the specified "95 dB," which presumably refers to full power) and about 68 dB in the surround channel. Crosstalk at 1 kHz in Pro Logic surround mode ranged from 65 dB (left-right) to 27 dB (center-right). All in all, more than solid performance for such a heavily integrated layout. —D.K.

# Stereo Review

## SUBSCRIBER SERVICE

PLACE  
LABEL  
HERE

**MOVING?** Please give us 8 weeks advance notice. Attach label with your old address, and write in new address below.

**RENEWING?** Check box below and attach label with corrections marked, if any.

**SUBSCRIBING?** Check box and fill in coupon. For gift subscriptions attach a separate sheet.

**Send STEREO REVIEW  
for 1 year at \$17.94**

- New Subscription     Renewal  
 Payment enclosed     Bill me

Canadian and foreign orders  
add \$8 per year.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_

ZIP \_\_\_\_\_

**1(303)604-1464**  
**FAX 1(303)604-7455**

**STEREO REVIEW**  
P.O. Box 55627, Boulder CO 80322

## USER'S REPORT

Since there's no law that says you can't put your TV directly on top of the M-Time cabinet and stack the electronics/center-speaker module on top of the TV (assuming it fits), I tried this (it required extending the supplied subwoofer leads). While the resulting sandwich was a bit on the precarious side, there was a marked improvement in front-stage tonal balance.

On other fronts, M-Time's FM tuner sounded good with strong, clear signals but no better than average with weak or crowded ones. More seriously, there is no manual tuning mode, so if you want to tune in weak stations you're out of luck: The seek-tuning routine passes these by altogether. The tuner's AM performance was nonexistent at my semi-rural location: With the supplied loop antenna, it failed to bring in a single AM signal — a bummer come baseball season. On the bright side, at least for radio fans, the tuner has a whopping twenty-eight presets, each of which will hold an FM or AM station.

In addition to Pro Logic and 3-Channel Logic, M-Time has four analog music-surround modes: Church, Club, Hall, and Stadium, all of which offer various combinations of ambience extraction, channel routing, and delay. All were unusually subtle — even pleasing with some program material. Even better, M-Time includes a clever feature that I fervently wish every surround-sound designer would copy: twenty-eight programmable memory banks, each of which can be used to assign various surround-mode and level settings to a particular input. For example, you could create a preset for classical music that links the CD input with the Hall surround mode and level settings of, say, -3 dB for the center channel and +1 dB for the surrounds. Another preset might link the FM source button with a cut in the subwoofer channel (to compensate for most commercial broadcasts' insistent bassiness). The possibilities are almost endless, and with twenty-eight presets you should be able to cover the bases.

To evaluate the multiroom capabilities of M-Time, I set up a temporary second zone by routing a trio of 30-foot RCA cables out a window and up to a second-story bedroom equipped with a good 20-inch stereo monitor and a pair of speakers. To select an A/V (or audio-only) source for the remote area, you hit the Zone 2 key on the front panel, which changes the green LED inset in the currently se-

lected source button to red. While still in "red mode," select any source, and the appropriate signal is routed to Zone 2 without affecting the volume and surround settings of the source playing in the main room. Mission supplies a wireless "X-pander" RF remote for controlling volume and preset up/down selection from Zone 2 — or just about anywhere in the house for that matter.

M-Time's multiroom functions worked very well, delivering video and audio performance on a par with the quality of the signals delivered to the main system. Why Mission chose not to include source-selection and additional source-component controls on its X-pander remote, or at least offer them as an option, is a mystery, though. And as far as I know there's no way to expand functionality using an aftermarket RF remote because Zone-2 commands cannot be invoked via an infrared remote control and thus cannot be "taught" to a learning remote. Consequently, source selection for the second zone must be done manually in the main room.

Okay, it's time for the M-Time tally. On the plus side, you get a very competent core home-theater system in an exceptionally elegant and well-integrated package. You also get a potentially valuable turn-key remote-room system (less TV and speakers), limited component storage, a decent center speaker, and compact dual subwoofers. On the down side, it costs \$4,000 — which is not unreasonable for all those goodies but a significant sum nonetheless.

While you could save some money and perhaps upgrade performance here and there by going the separates route, you'd be giving up the highest degree of integration and space efficiency I know of in the realm of serious home-theater gear. You'd also be giving up a piece of striking industrial design that would be impossible to duplicate. These factors will prove well worth the additional expense to some people and clearly not to others. But however you view it, Mission's thought-provoking M-Time is an exercise in audio/video design and execution that deserves close scrutiny by all home-theater buffs — and designers — if only to experience an alternate reality for the surround-system paradigm.

*Mission Electronics, Dept. SR, 400  
Matheson Blvd. E., Unit 31,  
Mississauga, Ontario L4Z 1N5*



# HOW YOU SPEND YOUR TIME

Fearless,  
FOCUSED.  
You drive  
AHEAD.  
Taking your shot.  
LEADING  
the way.  
ESQ.  
It's how  
you spend your  
TIME.

ESQUIRE WATCH COMPANY

**ESQ**

SWISS



**NORDSTROM**  
Select Stores

COMPETITOR™  
Swiss quartz precision.  
Solid stainless steel.  
Gold micron accents.  
Water-resistant to 330 ft.  
His or hers, \$295

## COMPARISON TESTS

Aiwa  
XP700

Fisher  
PC-D5700

Kenwood  
DPC-761

Magnavox  
AZ6848

Panasonic  
SL-S341C

Sony  
D-345

# SIX CD PORTABLES

# Life's A Beach

BY KEN C. POHLMANN



The first portable CD player I reviewed (and the first one ever made) was the Sony D-5. It weighed in at a hefty 1 1/4 pounds, not counting the six C-cell batteries needed to power it. It was vulnerable to shock and vibration, and its sound quality was not its finest asset. In 1985 it cost \$300. Figuring about 4 percent inflation per year, that same player would cost around \$460 today. Although the D-5 was a miracle when it was introduced, compared with modern CD players it is truly an antique.

Today's portable players are smaller, lighter, and more resistant to shock, they sound better, and they're far cheaper.

You can find a multitude of excellent CD portables with list prices hovering around the \$200 mark. If you worked backward, these players would have sold for a mere \$130 in 1985. But it's the Nineties, and we have come to expect miracles from the consumer-electronics industry.

Frankly, we're all busier now than we were in the Eighties, and there are more ways to spend our leisure time. If we get tired of listening to music, we might fire up our home theaters, paint some pictures on our PC's, or surf the World Wide Web. To

compete for our dollars and our time, today's audio products have to be darn good. So exactly how good *are* today's portable CD players?

To answer that question I gathered a half-dozen of the latest offerings from Aiwa, Fisher, Kenwood, Magnavox, Panasonic, and Sony. To keep the playing field level and ascertain value at a moderate price, I looked for players costing around \$200; ultimately, my choices ranged from \$180 to \$225. First I examined each player's styling and features. I loaded each one with a fresh set of rechargeable batteries to test playing time, then ran each of them through a battery of bench tests. Then I ran myself up and down Miami Beach, each player strapped to my torso, to test their jogworthiness. Afterward I listened to all the players using reference-quality headphones. Finally, considering all the pros and cons, weighing their importance and irrelevance, I passed judgment.

By and large, the six players proved to be remarkable for what they have in common. All of the manufacturers have crammed an unusual amount of high technology into today's tiny CD portables, bringing the conveniences of typical home players to units you can cradle in your hand or slip into your briefcase.

For example, along with the usual play/pause, stop, and track-search buttons, all of the portables I tested offered fast audible scanning, typically

activated by holding down the next or previous track button. Sequential track programming, in some cases of up to twenty-four tracks, was also par for the course. Intro scan, which plays the first few seconds of each track on a disc, was available on some units. So were a variety of repeat and play modes, including one-track, all-track, and random.

To varying degrees, these units also offered features you won't find on home CD players. Each has a hold button to lock the controls and prevent inadvertent operation during transport or use. Some offer bass-boost or even digital signal processing to enhance playback through headphones.

Also, all these portables feature an antishock system. Engaging the system bumps up the rotational speed of the disc and switches on a buffer memory. The increased rotational speed allows data to be loaded from the disc more rapidly than it is played, with the excess being stored in the buffer. When mistracking occurs, the player draws data from the buffer without interrupting the audio output. If vibration persists and the buffer runs dry, output is muted until correct tracking resumes, at which point the buffer memory is quickly replenished. The primary downside is that using the fast rotational speed and the buffer increases power draw, which reduces battery playing time.

Besides their special features, CD portables also tend to come with their own breed of accessories. Headphones are de rigueur, with external (over-the-ear) phones more common than earbuds among the better players. Other common extras (though not always supplied) include rechargeable batteries, a combination AC power adaptor and recharger, a car-lighter power adaptor, and a cassette-style adaptor that will let you play CD's through a car system's cassette head unit.

### Aiwa XP700

The Aiwa XP700, like all of the players that are reviewed here, uses a 1-bit digital-to-analog (D/A) converter. It has a plastic clamshell case that's slight-

ly larger than some others, in the group, with a sloping, rounded front and silver-colored transport keys. Sequencing of up to twenty-four tracks is accomplished with the Display/Enter button in combination with the previous and next track buttons. A P.Mode button is used to select one-track or all-track repeat or random track play. Inconveniently, random play can only be switched on when the player is in pause mode.

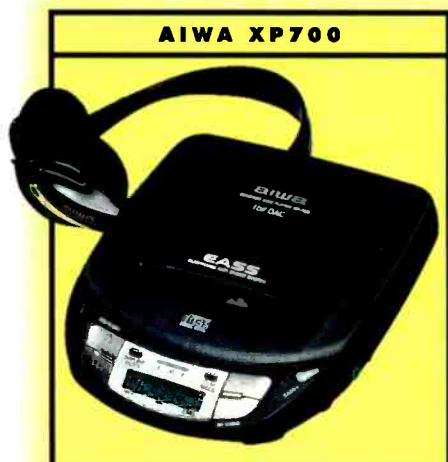
A central LCD provides numeric readouts for track numbers and times and labels for programmed tracks, random play, and resume play. There is also an icon for track repeat and a graphic display that shows the buffer level for the anti-shock circuit. The Display/Enter button toggles the LCD between three options: track number/elapsed time, track number/remaining time, and remaining tracks/remaining time. Three LED's show the battery condition: green for full, orange for half used, and red for depleted.

The EASS (Electronic Anti-Shock System) button turns on a 10-second buffer memory. As with all the portables in this test, sound output is briefly muted whenever you activate or deactivate the anti-shock feature while the disc's rotational speed is adjusted. Another switch turns on the resume-play feature: If you turn the unit off during play, it



will resume playback once you turn it on again more or less from the point where you stopped ( $\pm 30$  seconds). The same switch is also used to simultaneously activate the hold function, locking the controls.

The XP700 is accompanied by an AC adaptor/charger and takes two AA batteries. Unlike most of the other players in these tests, it does not come with rechargeable batteries or, for that matter, even dry-cell batteries. It does, however, come with a plastic battery case that attaches to the back of the unit and holds two additional AA's to allow extended play. The owner's manual suggests that playing time is 9 hours with alkaline dry cells and the antishock circuitry on, 10 hours with antishock off. If the external battery case is added, playing times are said to jump up to 18 and 20 hours.



**HIGHLIGHTS:**

- 10-second antishock buffer
- Defeatable bass boost (two levels)
- Twenty-four-track programming
- Resume play
- Three-LED battery/charge display

**SUPPLIED ACCESSORIES:**

- Over-the-ear headphones
- AC adaptor/charger
- Extended-play battery case (holds two AA cells)

**MAXIMUM RATED PLAYING TIME**

- With two alkalines: antishock on, 9 hours; antishock off, 10 hours
- With four alkalines and extended-play case: antishock on, 18 hours; antishock off, 20 hours

**DIMENSIONS (WHD):** 5 $\frac{3}{8}$  x 1 $\frac{1}{4}$  x 6 $\frac{3}{8}$  inches

**WEIGHT** (without batteries): 9.6 ounces

**PRICE:** \$180

**MANUFACTURER:** Aiwa America, Dept. SR, 800 Corporate Drive, Mahwah, NJ 07430

**Fisher PC-D5700**

**T**he Fisher PC-D5700 has a conventional plastic clamshell case with a rounded and angled front panel. There are the usual transport functions as well as a fast-scan mode. (Perhaps I've grown unduly impatient, but the scanning on this player seemed a bit slow to me.)

A P.Mode button is used in conjunction with other keys to program up to twenty-two tracks. The same button also accesses a variety of play modes including one-track repeat, all-track repeat, intro scan (first 10 seconds of each track), random repeat, program repeat, and programmed play. An Anti-Skip button engages a 10-second buffer memory. Also on hand is a DSP button that can increase bass, ambience, or bass and ambience together. Your choice is indicated by red LED's below the control panel.

The LCD readout can show elapsed track time, remaining track time, or total tracks and time remaining. There is also a low-battery indicator as well as a graphic display showing the antishock buffer level. When you use the external power input, both the LCD and the buttons are back-lit; when the unit is running on battery power, they are only lit momentarily as the buttons are pressed.

The PC-D5700 is unusually well equipped with accessories, among them a rechargeable battery that slips into the internal AA battery compartment and, notably, a soft carrying case with strap. Such cases were once a staple with CD portables but seem to have largely disappeared.

**Kenwood DPC-761**

**K**enwood's DPC-761 has a conventional gray plastic case with rounded front, but its control buttons are located on the top of the clamshell in the rear, a nice design that eases disc access.

Up to twenty tracks can be programmed using the P.Mode button and the previous and next track buttons. In addition, if the P.Mode button is pressed twice, it engages a special AI Edit mode in which all of the tracks on a disc are played within a specified time interval (15, 30, 45 or 60 minutes). The player checks how many tracks are on the disc and calculates an equal playing time for each track based on the chosen interval, fading out each track and skipping to the next accordingly.

Another uncommon feature is the User Repeat mode. If the P.Mode button is pressed and held down at any time while a disc is playing, that spot on the disc is marked; you can then return to that position repeatedly by pressing the button again. A separate repeat button selects one-track repeat, all-track repeat, shuffle (random) play, or automatic scan (first 20 seconds of each track). Kenwood's Digital Anti-Shock Circuit (DASC) lets you choose a 5- or 11-second buffer time, the only antishock system in this group to offer such an option.

The headphone jack on the right side of the case accommodates remote-control headphones. Internally, the unit accepts two AA batteries. The owner's manual advises that playing time with rechargeable batteries is 4 hours with the antishock feature off, 3 $\frac{1}{2}$  hours with it on. Playing time with alkaline batteries is given as 9 and 5 $\frac{1}{2}$  hours, respectively. Alone in this group, the Kenwood player does not have a line-level output jack. Consequently, you must use the headphone output when connecting it to an external playback system. While that shouldn't be a problem, it does unnecessarily add an extra layer of electronics to the signal path.

An LCD provides alphanumerics for track numbers and times, labels for the various playback modes and features, and a bar graph showing the buffer-memory level. A battery-indicator icon blinks when the rechargeable batteries are nearly exhausted or when dry-cell batteries are about half used. A nice touch is that the LCD momentarily shows a numerical value corresponding to the volume level when adjustments are made. Finally, the DPC-761's LCD readout is also the only one among this group that says "hello" when you hit the play button. If yours is a particularly lonely life, this might be just the player for you.

**Magnavox AZ6848**

**T**he Magnavox AZ6848 resides in a gray case with a rounded front that, like those of the Aiwa and Fisher players, is a bit larger than the rest. The buttons are big and sculpted for easy operation. Interestingly, inside the clamshell is a unique slide switch to select either green or orange illumination of the LCD and back-lighted buttons, though these are illuminated only when the external power jack is used.



A mode button selects the various playback options, and a program button is used along with the track buttons to store up to twenty tracks. Magnavox also provides a DSC (Digital Sound Control) button to select different EQ settings including Car, Jazz, and Rock; only the audio signal at the headphone jack is affected. All the buttons feel solid and deliver a nice click when they're pressed — a welcome perk. A slide switch turns on the 3-second Electronic Shock Absorption (ESA) buffer memory.

This player offers a large, easy-to-read LCD with alphanumerics for track numbers and times as well as labels for all engaged functions and a graphic that shows the state of the buffer memory. There is an "empty battery" indicator for both dry-cell and Ni-Cd batteries and also a "weak battery" indicator for dry cells.

Magnavox sportingly provides a plethora of accessories, including, among others, a mini-plug-to-RCA adaptor cable and a snap-on plastic base plate for mounting the player in a car. The AZ6848 incorporates an internal battery case that holds four AA batteries; four Rayovac Renewal rechargeable alkalines were boxed with my test sample as part of a Magnavox promotion, though only regular Ni-Cd rechargeable batteries can be charged with the supplied 6-volt AC adaptor/charger. The owner's manual advises that playing time is 9 hours with four alkaline batteries, 3 hours with four regular Ni-Cd batteries.

### Panasonic SL-S341C

**P**anasonic's SL-S341C features a compact and nicely contoured black plastic case that is rounded in front and back and has small sculpted buttons. The primary controls are located on the sloping front panel. A Memory/Recall button is used to program up to twenty-four tracks, and a repeat button selects one-track or all-track repeat.

All other controls are located on the right side of the chassis — good for righties, perhaps not so good for lefties. Among them are slide switches for a 10-second Extra Anti-Shock memory system and a bass-boost circuit. There is also a nicely recessed headphone jack that prevents the plug from protruding too far.

Underneath is a battery compartment that holds two rechargeable or dry-cell AA batteries, though none are

<b>FISHER PC-D5700</b>	
	
<p><b>HIGHLIGHTS:</b></p> <ul style="list-style-type: none"> <li>• 10-second antishock buffer</li> <li>• Three DSP modes (bass, ambience, both)</li> <li>• Twenty-two-track programming</li> <li>• Program repeat</li> <li>• Intro scan</li> <li>• Back-lit LCD and buttons</li> </ul> <p><b>SUPPLIED ACCESSORIES:</b></p> <ul style="list-style-type: none"> <li>• Over-the-ear headphones</li> <li>• Rechargeable Ni-Cd battery</li> <li>• AC adaptor/charger</li> </ul>	<ul style="list-style-type: none"> <li>• 12-volt DC car adaptor</li> <li>• Car cassette adaptor</li> <li>• Carrying case with strap</li> </ul> <p><b>MAXIMUM RATED PLAYING TIME:</b> NA</p> <p><b>DIMENSIONS (WHD):</b> 5¼ x 1½ x 6½ inches</p> <p><b>WEIGHT (without batteries):</b> 9.5 ounces</p> <p><b>PRICE:</b> \$220</p> <p><b>MANUFACTURER:</b> Fisher, Dept. SR, 21350 Lassen St., Chatsworth, CA 91311</p>

	
<p><b>HIGHLIGHTS:</b></p> <ul style="list-style-type: none"> <li>• Switchable 5- or 11-second antishock buffer</li> <li>• Defeatable bass boost</li> <li>• Twenty-track programming</li> <li>• User repeat</li> <li>• AI Edit</li> <li>• Auto scan</li> </ul> <p><b>SUPPLIED ACCESSORIES:</b></p> <ul style="list-style-type: none"> <li>• Over-the-ear headphones</li> <li>• Rechargeable Ni-Cd batteries</li> <li>• AC adaptor/charger</li> <li>• 12-volt DC car adaptor</li> </ul>	<ul style="list-style-type: none"> <li>• Car cassette adaptor</li> </ul> <p><b>MAXIMUM RATED PLAYING TIME</b> With two alkalines: antishock on, 5½ hours; antishock off, 9 hours</p> <p><b>DIMENSIONS (WHD):</b> 5½ x 1¼ x 5¾ inches</p> <p><b>WEIGHT (without batteries):</b> 9.7 ounces</p> <p><b>PRICE:</b> \$225</p> <p><b>MANUFACTURER:</b> Kenwood America, Dept. SR, P.O. Box 22745, Long Beach, CA 90801</p>

included with the player. The owner's manual advises that playing time is 10 hours with two alkaline batteries and the antishock circuit deactivated.

The LCD, nicely back-lit when the player is used with the AC adaptor, of-

fers alphanumerics for track numbers and times, function labels, a low-battery indicator, a buffer-level indicator, and various messages — including a thoughtful "Sorry" in the event the buffer runs out and play is interrupted.

## Sony D-345

The Sony D-345 features an essentially round case, and its overall footprint is about the size of a disc. The clamshell lid contains the primary controls, including transport keys, a button to turn on the 10-second Electronic Shock Protection (ESP) system, and Play Mode and Repeat/Enter buttons. Pressing the transport keys results in a short beep in the headphones to confirm operation (the beep can be defeated by pressing and holding the stop button while connecting power to the unit).

The Play Mode and Repeat/Enter buttons are used to select intro scan (first 15 seconds of each track), one-track play, or shuffle (random) play, with a repeat option for each mode, or to program playback of up to twenty-two tracks. Sony is guilty of some poor ergonomics here. Consider: To repeat all tracks, you hit the Repeat/Enter button. But to repeat only one track, you must first sequence through a menu with the Play Mode button, then hit the Repeat/Enter button. It's confusing and inconvenient to use two different operations to select similar functions. The LCD messages can also be misleading. For example, cycling

through the Play Mode menu to find the one-track repeat mode results in a "1" appearing in the LCD, which suggests that the feature is activated. But if you don't hit the Repeat/Enter button (which adds a hairpin arrow icon to the display), the player remains in one-track play mode and thus stops and turns off at the end of the track. Say what?

Other unusual controls on this unit include a separate Charge button, to connect the AC adaptor to internal batteries for charging, and a switch labeled AVLS, for Automatic Volume Limiter System, which restricts maximum playback volume to prevent hearing damage. There is a dedicated slide switch to activate resume play and another to turn on the hold function. The headphone jack is accompanied by a flat connector socket used with a remote-control headphone.

Beneath the unit is a battery compartment that holds two rechargeable or dry-cell AA batteries. The owner's manual advises that a pair of alkaline batteries provides 8 hours of playback with ESP on, 12 hours with it off. With Sony BP-DM10 rechargeable batteries, rated at 650 milliamperes/hour, playing time is said to be 3 hours

with ESP on, 3½ hours with it off. With Sony BP-DM20 batteries, rated at 1,100 milliamperes/hour, playing times are given as 6 and 7 hours, respectively.

The LCD shows track numbers and times, labels for the various play modes, and icons for repeat play and battery level. There is a label for ESP playback but no buffer-level indicator.

## Bench Tests

CD player design has come a long way since the first portable player was introduced, even at a \$200 price point. Measurements on all six of these players were pretty impressive. In fact, although individual players fared better or worse in specific tests, no single player emerged as an outright winner or loser by a significant margin. In terms of frequency response, the Fisher player showed the steepest high-frequency rolloff, down 2.55 dB at 20 kHz. The Sony was the best behaved, with a modest 1.1 dB rolloff, and the Magnavox was close behind at -1.3 dB.

In terms of A-weighted signal-to-noise ratio (S/N), the Fisher was slightly inferior to the others at 86.5 dB, and the Panasonic was only a tad better at 87.2 dB. The Sony player was the S/N champion with an excellent reading of 104.1 dB. In measurements of total harmonic distortion plus noise (THD+N) at a 0-dB level, the Fisher, at 0.18 percent, performed relatively poorly compared with the others, and the Aiwa hovered nearby at 0.12 percent. The Kenwood had the best reading, 0.039 percent.

The Magnavox was the linearity champion, measuring a 0-dB error at -90 dB. The Fisher was almost as good with a +0.1-dB error. The Panasonic had a problem with this test, showing a -6.1-dB error on two different preproduction samples. An error this large in a modern player often indicates an engineering flaw, though it wasn't apparent in my listening tests. Conversely, the Panasonic showed the best tracking ability, playing through a 2,500-micrometer (µm) defect. The Aiwa proved to be nearly as good by tracking a 2,400-µm defect. The Fisher was the poorest in this department, failing to track anything larger than a 750-µm defect. Generally speaking, then, the Fisher player fell a bit short of the others on the bench in most critical areas, but no player was clearly superior in all respects.

<b>MAGNAVOX AZ6848</b>	
	
<b>HIGHLIGHTS:</b> <ul style="list-style-type: none"><li>• 3-second antishock buffer</li><li>• Digital Sound Control (Car, Jazz, Rock modes)</li><li>• Twenty-track programming</li><li>• Resume play</li><li>• Switchable green/orange back-lighting</li></ul> <b>SUPPLIED ACCESSORIES:</b> <ul style="list-style-type: none"><li>• In-car headphones (see photo on page 60)</li><li>• Rechargeable Rayovac Renewal batteries (four AA cells)</li><li>• AC adaptor/charger</li><li>• 12-volt DC car adaptor</li></ul>	<ul style="list-style-type: none"><li>• Car cassette adaptor</li><li>• Mini-plug-to-RCA cable</li></ul> <b>MAXIMUM RATED PLAYING TIME</b> With four alkalines: antishock on, NA: antishock off, 9 hours <b>DIMENSIONS (WHD):</b> 5¼ x 1½ x 6¼ inches <b>WEIGHT</b> (without batteries): 10.1 ounces <b>PRICE:</b> \$199 <b>MANUFACTURER:</b> Philips Consumer Electronics, Dept. SR, One Philips Dr., Knoxville, TN 37914

## PANASONIC SL-S341C



### HIGHLIGHTS:

- 10-second antishock buffer
- Defeatable bass boost
- Twenty-four-track programming
- Resume play
- Back-lit LCD

### SUPPLIED ACCESSORIES:

- Over-the-ear headphones
- AC adaptor/charger
- 12-volt DC car adaptor
- Car cassette adaptor

### MAXIMUM RATED PLAYING TIME

With two alkalines: antishock on, 6 hours, 40 minutes; antishock off, 10 hours

**DIMENSIONS (WHD):** 5 1/16 x 1 1/4 x 5 1/2 inches

**WEIGHT** (without batteries): 8 ounces

**PRICE:** \$200

**MANUFACTURER:** Panasonic, Dept. SR, One Panasonic Way, Secaucus, NJ 07094

third at 3 hours, 35 minutes, and the Kenwood was just behind at 3 hours, 20 minutes. The Fisher was a distant fifth with a surprisingly short 1 hour, 55 minutes. The Magnavox played for 3 hours, 35 minutes, but it required four batteries to do it.

To test the players' ability to resist shock and vibration, I spent a sunny afternoon jogging along Miami Beach (it's a tough job, but someone's got to do it). To make certain that I was properly shocked, I chose the 21st Street beach, which is topless. I strapped on each of the players one at a time and jogged about a quarter-mile down the beach and back.

I tried each player with its antishock feature both off and on. No matter which player I used, it was obvious after only a few steps that antishock circuitry is a necessity in all but the most stable environments. In the past, some portables relied on complex mechanical isolation and were quite resistant to shock without electronic devices. Today, however, manufacturers have apparently abandoned mechanical methods and rely solely on the electronic buffer memory to do the job, no doubt because electronic methods are cheaper and require less space to implement.

At any rate, without antishock, I found all the players to be surprisingly sensitive — you certainly couldn't jog with them. Nonetheless, some did fare just a little better than the others. The Fisher player was the best in this regard, followed by the Aiwa, Kenwood, and Magnavox; the Panasonic and Sony players tied for last place.

With the antishock feature activated it was a different story, and all the players became quite shock-resistant — up to a point. Specifically, they could withstand shocks that caused mistracking for as long as their buffer memories were outputting data. When a buffer runs out, of course, the audio output stops until the shock subsides and tracking can resume. With a 10-second buffer, there's usually enough time to cover most bumps and jolts a player is likely to encounter, although a rapid succession of jolts will eventually empty the buffer.

Four of the players (Aiwa, Fisher,

Panasonic, and Sony) have 10-second buffers. In each case, sound output continued for 10 seconds after the onset of a lengthy series of jolts, occasionally with very minor sonic glitches as data flowed from the buffer. In some cases, as I later verified on the test bench, some noise and distortion were added to the signal when the buffer was engaged. The Aiwa unit, in particular, also suffered from a cumulative distortion effect. I found (and Aiwa warns about this in a page appended to its product documentation) that if the antishock button is switched on and off repeatedly, sound output may become distorted; you have to hit the stop button and start playback again to clear things up.

The Kenwood's buffer can be set to either 5 or 11 seconds. Sound quality was not affected in the 5-second mode, but audible distortion appeared when the 11-second mode was engaged. The Magnavox has only a 3-second buffer memory, so it is vulnerable to shocks that last longer than 3

## SONY D-345



### HIGHLIGHTS:

- 10-second antishock buffer
- Defeatable bass boost (two levels)
- Automatic Volume Limiter System
- Twenty-two-track programming
- Resume play

### SUPPLIED ACCESSORIES:

- Over-the-ear headphones
- AC adaptor/charger
- Mini-plug-to-RCA cable

### MAXIMUM RATED PLAYING TIME

With two alkalines: antishock on, 8 hours; antishock off, 12 hours

**DIMENSIONS (WHD):** 5 1/4 x 1 1/4 x 5 3/4 inches

**WEIGHT** (without batteries): 7.8 ounces

**PRICE:** \$199

**MANUFACTURER:** Sony Electronics, Dept. SR, Sony Drive, Park Ridge, NJ 07656

## Battery/Shock Tests

In some cases, the battery playing times stated in the owner's manuals were optimistic; perhaps some sort of secret super-long-life batteries were employed by the factory technicians. To perform a consistent test of each player's battery life, I purchased a number of new AA nickel-cadmium rechargeable batteries. Although alkaline dry cells yield a longer playing time, I personally prefer Ni-Cd's because they can be used reliably over and over, perhaps up to 500 times; as a result, they tend to be much more economical. I also tested each player with its antishock system switched on, since this feature is a virtual necessity any time these units are used while on the move.

Five of the six players use two AA batteries for their basic power configuration. The Sony was the clear long-distance champion with a 5-hour playback. The Aiwa came in second, at 3 hours, 55 minutes. The Panasonic was

# LABORATORY MEASUREMENTS

	AIWA XP700	FISHER PC-D5700	KENWOOD DPC-761	MAGNAVOX AZ6848	PANASONIC SL-5341C	SONY D-345
<b>MAXIMUM OUTPUT LEVEL</b>	0.56 volt	0.84 volt	0.82 volt	1.0 volt	0.7 volt	0.64 volt
<b>FREQUENCY RESPONSE</b> (20 Hz to 20 kHz)	+0.7, -1.8 dB	+0, -2.55 dB	+0, -2.2 dB	+0, -1.3 dB	+0, -2.1 dB	+0, -1.1 dB
<b>DE-EMPHASIS ERROR</b> (at 16 kHz)	+0.2 dB	+0.1 dB	+0.06 dB	-0.1 dB	-0.1 dB	0 dB
<b>CHANNEL SEPARATION</b> at 100 Hz	46.8 dB	47.7 dB	32.9 dB	50.4 dB	45.4 dB	52.4 dB
at 1 kHz	46.7 dB	47.8 dB	52.4 dB	51.8 dB	45.2 dB	52.6 dB
at 20 kHz	35.3 dB	38.2 dB	69.9 dB	40.5 dB	35.7 dB	41.4 dB
<b>SIGNAL-TO-NOISE</b> ratio (A-weighted)	92.3 dB	86.5 dB	91.1 dB	100.7 dB	87.2 dB	104.1 dB
<b>DYNAMIC RANGE</b> (A-weighted)	82.6 dB	98.8 dB	91.4 dB	101.7 dB	99.5 dB	91.5 dB
<b>DISTORTION</b> (THD + N at 1 kHz)						
at 0 dB	0.12%	0.18%	0.039%	0.056%	0.08%	0.055%
at -20 dB	0.93%	0.78%	0.19%	0.37%	0.81%	0.4%
at 0 dB, antishock on	0.16%	0.26%	0.039/0.18%*	0.056%	0.19%	0.19%
<b>LINEARITY ERROR</b> at -70 dB	+0.2 dB	0 dB	-0.1 dB	0 dB	-0.5 dB	0 dB
at -80 dB	+0.4 dB	0 dB	+0.4 dB	+0.1 dB	-2.1 dB	+0.1 dB
at -90 dB	+0.9 dB	+0.1 dB	+1.6 dB	0 dB	-6.1 dB	+1.4 dB
<b>EXCESS NOISE</b> 16 bits (EN16)	14.8 dB	8.8 dB	7.3 dB	4.2 dB	5 dB	8.1 dB
20 bits (EN20)	31.85 dB	24.7 dB	21.6 dB	17.7 dB	18.8 dB	22.8 dB
<b>QUANTIZATION NOISE</b>	66.2 dB	86.0 dB	83.8 dB	79.6 dB	85.5 dB	85.9 dB
<b>INTERCHANNEL PHASE</b> SHIFT (at 20 kHz)	0.5 degree	1.2 degrees	1.1 degree	0.5 degree	0.3 degree	1.1 degree
<b>DEFECT TRACKING</b> (Pierre Verany #2 test disc)	2,400 µm	750 µm	1,250 µm	1,500 µm	2,500 µm	1,000 µm
<b>PLAYING TIME</b> (Ni-Cd rechargeable, antishock on)	3 hrs, 55 min	1 hr, 55 min	3 hrs, 20 min	3 hrs, 35 min**	3 hrs, 35 min	5 hrs
<b>IMPACT RESISTANCE</b> top/sides, antishock off	C-/C	C/C	C/D	D/C	D/D	D/D

\* 5-second antishock mode/11-second antishock mode

\*\* using four AA batteries (others require only two)

## Two New CD Player Tests

With this article STEREO REVIEW is introducing two new tests for CD players: Excess Noise measured at 16-bit and 20-bit resolutions (EN16 and EN20, respectively). EN16 results indicate how well players reproduce the standard 16-bit CD dynamic range. The EN20 test shows how well they do playing recordings made using extended dynamic range processes — so-called “20-bit” or even “24-bit” CD’s. EN20 is the first test ever developed specifically to measure this aspect of CD player performance.

A full explanation of the test rationale and methodology will appear in a later article. For now, suffice it to say that special low-level test signals were generated by

computer and saved on a recordable CD. The EN16 and EN20 numbers represent a player’s deviation from theoretically perfect performance. Choose players with lower EN numbers, as they represent dynamic-range performance that’s closer to the ideal. Note that EN20 is an extremely difficult test for present-day digital-to-analog converter circuits, so don’t expect to see EN20 results as good as those for EN16 for some time, if ever.

Both EN16 and EN20 results *must* be interpreted along with the results from a traditional linearity test conducted at -90 dB. It is possible for a product to perform better on EN16 tests at the expense of linearity. Conversely, a player can’t do outstandingly well in EN20 without good linearity. In the case of identical EN results between two players, opt for the player with less lineari-

ty deviation (that is, disregarding the plus or minus sign).

With the EN20 measurement our margin of error at this stage of the test’s development is about ±1 dB, so EN20 results that are within a decibel of each other should be considered identical. Also note that, in the real world, the 20-bit noise levels we’re talking about are hovering around the threshold of hearing. Nonetheless, truly superior EN20 performance (say, something lower than 10 dB, which we haven’t yet encountered) would indicate a player that provides outstanding performance on standard CD’s and one that would have such low noise levels with extended-dynamic-range CD’s that it would contribute virtually no audible noise to the recording itself. The recording would then become the limiting factor.

—David Ranada

seconds. Consequently, it had a harder time in my jog test than the other models. But, to its credit, it was able to resume tracking after interruptions slightly faster than some other units, and, perhaps most important, the sound quality was not affected when the buffer was switched in. Bottom line: Although the antishock circuits in some of these portables can degrade sound quality slightly, they are effective in protecting against shocks. If you feel like jogging, grab your Nikes and flip the switch.

### Sound Quality

**T**he headphones supplied with CD portables vary widely, and their sound quality is almost always inferior to the signal quality available at the headphone jack. To keep things fair and get a better feel for the ultimate performance of each player, I used a pair of Sennheiser HD 475 (\$150) headphones as a reference. These are high-quality, open-air headphones with a 60-ohm nominal impedance and a rated sensitivity of 94 dB at 1 kHz.

First I listened to each player with its antishock feature engaged (and with the Kenwood's buffer set for 11 seconds). As noted, five of the six players exhibited increased noise and distortion. The Magnavox did not, and the Kenwood overcame this flaw when its buffer was set to 5 seconds. I suspect that this effect is the result of using some sort of data reduction to decrease the bit rate, which effectively increases the buffer size.

The sound quality with the antishock circuits activated was certainly not horrible, but the difference can be audible. On one hand, that is not a serious problem — if you're listening in a situation where the player is jumping around, sound quality is probably not the most important issue. For stationary listening in a quiet environment, however, it's important to switch out the antishock circuit or decrease the buffer time. Interestingly, although five of the six players exhibited this flaw, only the Panasonic and Kenwood owner's manuals pointed it out.

With the antishock circuits turned off and the players secure in my listening room, I focused my ears on the finer points. As the bench tests suggest, each player's sound quality was quite good. When I listened through the Sennheiser headphones or an external playback system, overall noise

was quite low, as was distortion. Frequency response was pretty good, as were such other parameters as channel separation, dynamic range, quantization noise, and so on.

After a long listening session, I could not reliably pick out any one player as having better sound quality than its colleagues, nor could I find one that was clearly inferior. Given the

**The antishock circuits work well.  
If you feel like jogging, grab  
your Nikes and flip the switch.**

tight price range, this was no surprise. Indeed, these players would have to be auditioned against a much better reference player to ascertain their sonic deficiencies. In that case, you might conclude that they lacked the extra smoothness and sense of ambience that only the best players can deliver. Given the low price point, however, it's safe to say that each player provides a level of sound quality that is very appropriate for a portable and on par with the others in this group.

### Conclusions

**A**ll the players tested were fairly close in terms of features, measured performance, and sound quality. They did differ in battery playing time and supplied accessories, though here, too, the differences were often quite minimal.

Overall, the Fisher PCD-5700 was my least favorite. Though it sounded as good as the others, comparatively speaking it showed a number of weaknesses on the test bench, including frequency response, S/N, THD+N, and tracking. Distortion rose even higher when the antishock circuit was turned on, and its playing time of 1 hour, 55 minutes with my fully charged Ni-Cd's was way too short. To its credit, it was the least vulnerable to shock when its antishock circuit was off, it had good D/A linearity, and it comes with a number of useful accessories, including batteries.

The Magnavox AZ6848 player was excellent on the test bench and also comes with many good accessories, and I appreciated its degradation-free antishock buffer. Nonetheless, the 3-second memory is simply too short for

some portable applications and limits the player's real-world utility. In addition, although it had reasonable playing time, it required four batteries to achieve it instead of only two.

The Panasonic SL-S341C player came up a bit short on the test bench in terms of D/A linearity, though it had the best defect tracking in the group and its playing time was good.

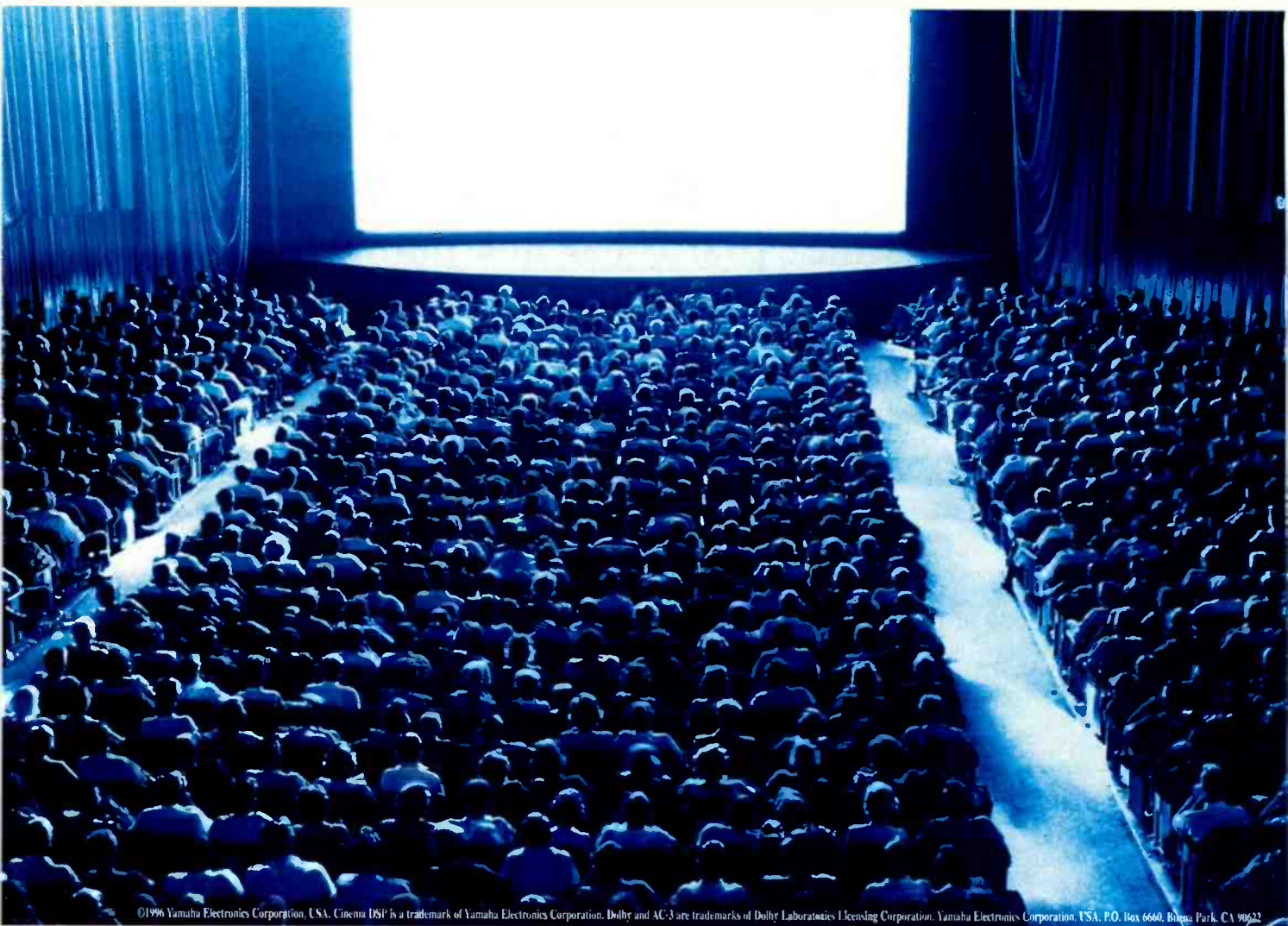
It also had a nice compact footprint. It comes with some useful accessories, but these don't include rechargeable batteries.

The Aiwa XP-700 player performed well on the bench and in particular showed excellent tracking ability. In addition, its playing time was very good. Nonetheless, it comes in a fairly bare-bones package that is mostly devoid of accessories.

The Kenwood DPC-761 nosed ahead of most of the other players. It was good on the test bench, with the lowest distortion measurements. But I particularly liked this player because of its switchable antishock circuit, which provides either a very long buffer with slightly degraded audio quality or a short buffer with no degradation, the best of both worlds. Moreover, it comes packed with accessories. On the downside, its playing time was only mediocre.

By the slimmest of margins, the Sony D-345 was my favorite in this group. It was strong on the test bench, has a very small footprint, and, above all, provided the longest battery playing time. It does have some ergonomic flaws, however, and could be improved with a switchable antishock circuit and more accessories, including rechargeable batteries.

Given how close these different models are in performance, your choice can reasonably be based on such things as specific programming features, playing time, shock resistance, or another aspect that's important to you. Whichever model you choose, however, rest assured that your \$200 or so is buying a piece of electronics that was simply unimaginable at that price only ten years ago. □



©1996 Yamaha Electronics Corporation, USA. Cinema DSP is a trademark of Yamaha Electronics Corporation. Dolby and AC-3 are trademarks of Dolby Laboratories Licensing Corporation, Yamaha Electronics Corporation, USA. P.O. Box 6660, Brea Park, CA 92622



### The Theater

*The DSP-A3090 lets you choose from 30 sound field modes. From L.A.'s Roxy and New York's Cellar Club, to churches and concert halls around the world. Seven-channel amplification sends 80 watts to each of the main, center and rear speakers, plus 25 watts to both front effects speakers. Analog, video and S-video, plus RF, coaxial and optical digital inputs link you to today's and tomorrow's Dolby Surround AC-3 components.*

Raise the curtain on a conventional home theater and listen closely. What's missing? • The theater. • Until recently, the expansive acoustic environment that helps give a real movie palace its sense of grandeur just didn't seem possible from a sound system sandwiched between a sofa, a coffee table and a couple of ficus trees. • Decades of Yamaha experience in sound field measuring and processing, custom integrated circuit design and audio microchip fabrication changed all that. And now with the new DSP-A3090 Digital Sound Field Processor, we've introduced unique technology that creates the unmistakable sensation of a first-run theater's acoustic spaciousness, combined with the unparalleled accuracy and dynamic range of Dolby® Surround AC-3.™

Now available in convenient take-home size.



Proprietary Yamaha processing techniques maintain the depth, openness and realism the director envisioned when mixing the original soundtrack for the big screen. While also preserving the directional relationships of every sound. So you hear each note – and every squeak, creak, rattle and roar – placed exactly where the director intended. • We call it Tri-Field Processing. And it's made possible by the latest generation of the Yamaha Cinema DSP technology that's kept us at the forefront of home theater for more than a decade. • For the dealer nearest you, call 1-800-4YAMAHA. Or visit us on the web at <http://www.yamaha.com> • Then listen to the DSP-A3090 and hear the results for yourself. • You may take home a 1200-seat movie theater. But you'll still only have to vacuum under the couch.

**YAMAHA®**

WHERE HOME THEATER LIVES.



#### The Technology

*The sophisticated micro-circuitry that makes our new Cinema DSP possible is designed and produced exclusively by Yamaha. Our microprocessors apply the vast library of sound field data we've amassed creating products for audio professionals, both on the stage and in the studio. And they're manufactured with the advanced processes we've perfected through years of experience fabricating our own custom chips.*

# Dolby Digital

A LOOK AT THE LATEST

## AC-3 HOME THEATER COMPONENTS

by DANIEL KUMIN

**D**olby Digital, the new surround system that's currently the talk of the town, finds itself in a familiar position for most new technologies. On one hand, manufacturers are eager to offer the latest and greatest technology, if for no other reason than to keep up with the high-tech Joneses. On the other, many of these same companies worry about making obsolete their bread-and-butter components — the Dolby Pro Logic-based processors, preamps, and A/V receivers that have fueled the home-theater boom.

For those readers just back from an extended tour of duty in the Biosphere, Dolby Digital, the new name for what was formerly known as Dolby Surround AC-3 Digital, is the surround-sound system used in many of today's state-of-the-art movie theaters and a small but growing number of home theaters. The system is often referred to simply as AC-3, the name of the perceptual-coding scheme it uses to squeeze six channels of digital audio into a data stream running at 384 kilobytes per second, about a quarter of the data rate of an ordinary two-channel CD. Modeled on the way the human ear works, perceptual coders shrink the data stream by discarding sounds that are either too soft to hear or masked by louder sounds. While

many audiophiles and sound engineers continue to debate just how "transparent" the AC-3 data-reduction process is, most agree that it delivers sound that is quite close to CD quality. Either way, Dolby Digital offers several clear-cut advantages over Dolby Pro Logic, the system used to decode the many thousands of existing four-channel Dolby Surround soundtracks.

First and foremost, Dolby Digital provides "5.1" *discrete* digital channels compared with Pro Logic's *four matrixed* analog channels (four channels encoded into two channels during recording and decoded back to four on playback). The AC-3 channel layout is left, center, and right in front, left and right surround in the rear, and a sixth channel (the ".1"), called low-frequency-effects (LFE), to feed one or more subwoofers. Key benefits include improved dynamic range and channel separation.

Each of Dolby Digital's six channels has at least 85 dB of dynamic range, perhaps 10 dB better than typical Pro Logic, which goes a long way toward enhancing realism. And because the system is digital, there can be full separation between all channels, which means, among other things, a more distinct-sounding center channel — important in a dialogue-intensive medium like movies — and lower noise. Even top-of-the-line Pro Logic components are plagued by noise, especially in the surround channel, caused mostly by unavoidable matrix-

ing artifacts as well as by the effects of channel separation that varies with frequency content and signal level.

Second, in sharp contrast to Pro Logic's bandwidth-limited (100 Hz to 7 kHz) mono surround channel, which is usually reproduced by two speakers, Dolby Digital provides two discrete surround channels capable of delivering *full-range stereo*. That puts an extremely flexible and powerful tool for creating ambient and spatial effects in the hands of film sound engineers. Rear sounds can be panned from left to right or placed anywhere in between, something that simply can't be done with Dolby Surround/Pro Logic.

Third, Dolby Digital's LFE subwoofer channel, which handles only frequencies below 120 Hz, opens up the potential for far more deep-bass energy than is possible with Dolby Pro Logic. The catch is, you need a playback system that can reproduce it.

To experience the sonic thrills afforded by Dolby Digital at home, you'll need a laserdisc player with an AC-3 RF output, an AC-3 decoder (outboard or built into another component), five or six channels of amplification, at least five speakers (preferably five plus a subwoofer), and, last but certainly not least, some Dolby Digital program material.

As of this writing, Dolby Digital soundtracks exist on only about four dozen laserdiscs (see box on page 75). Note that these discs still carry the familiar Dolby Surround soundtrack to

PHOTO BY DAN WAGNER



# Surround



Kenwood's flagship KC-21 tuner/preamp (\$2,800) is one of the more distinctive Dolby Digital components in terms of features and styling. Besides AC-3 and digital Pro Logic decoding, it offers a THX processing mode, two-zone control, and a touch-screen remote that transmits signals over the 900-MHz radio band.



# Dolby Digital Surround



Upgrading Harman Kardon's AVR 80 THX receiver to AC-3 is a straightforward matter of plugging an outboard decoder into the six discrete-channel RCA inputs on its rear panel. It also has a stereo digital input and is rated to deliver 85 watts across the front and 50 watts to each surround.



Meridian's Model 565 digital surround processor (\$4,490) features proprietary AC-3 decoding software, a THX 5.1 mode, and a slew of surround modes for music. In AC-3 mode, you can adjust dynamic range, bass level, and signal delay for all channels or each one separately.



Adding Rotel's soon-to-be-released RDA-980 outboard AC-3 decoder (not shown) to the RSP-980 THX-certified surround processor (\$1,300) is a one-plug affair thanks to the computer-style DB-25 multipin connector that links the components. The RDA-980 will sell for less than \$1,000.

maintain compatibility with Pro Logic components, which will continue to be the primary surround-sound system for years to come. But with the recent selection of AC-3 as the audio standard for the U.S. version of the DVD (digital videodisc) system, Dolby Digital soundtracks will also appear on the DVD movie discs slated to hit stores later this year when the first DVD players arrive. And let's not forget that AC-3 audio is part of the high-definition TV (HDTV) system being readied for introduction next year.

So what's happening on the Dolby Digital electronics front? After a slow start in 1995, which saw only a handful of AC-3 components reach store shelves, things are finally picking up steam. In addition to more than a dozen AC-3-ready laserdisc players now on the market, a number of companies have announced, or are already selling, stand-alone AC-3 decoders or A/V components that have either AC-3 inputs or built-in AC-3 decoders.

## LASERDISC PLAYERS AND RECEIVERS

Combination laserdisc/CD players that are equipped with an AC-3 RF output are now available from a number of manufacturers, including Pioneer, Yamaha, RCA, Panasonic, Denon, Marantz, Runco, Theta Digital, and Mitsubishi. Pioneer has two new models, the CLD-D505 (\$650) and the CLD-D605 (\$1,000), both of which offer hands-off dual-side play. The company has also announced its intentions to market the world's first combination CD/laserdisc/DVD machine this fall. Panasonic recently introduced its first AC-ready model, the LX-H680, an autoreverse player that lists for \$600.

Once you have a player that can spit out the six-channel AC-3 signal, you'll need a decoding device of some sort. An A/V receiver that incorporates the whole digital-surround enchilada provides a very cost-effective way to get into the AC-3 game — especially if the A/V receiver you already own can't be upgraded for digital surround. In one box you'll get both Dolby Digital and Dolby Pro Logic decoding, five channels of power, a dedicated subwoofer output, and plenty of frills.

The least expensive AC-3 receiver at the moment is Kenwood's new KR-V990D (\$1,200), which is rated to deliver 100 watts across the front and 70 watts to each surround channel, or 120 watts a side in two-channel stereo

mode. Denon's AVR-3600, which is expected to sell for about \$1,800 when it comes out in July, also features a digital Pro Logic decoder, a tuner equipped to decode text messages in special RDS (Radio Data System) broadcasts, and five 100-watt amplifiers that put out 200 watts per channel in stereo mode. Then there are Pioneer's groundbreaking AC-3 receivers, the \$2,100 Elite VSX-99D and the \$1,925 VSX-D3S (reviewed here last December), which have been on store shelves for months now.

### OUTBOARD AC-3

Of course, if you have an existing home theater and want to upgrade to Dolby Digital, you can add an outboard decoder — but only if your system consists of discrete components or is built around an A/V receiver or integrated amplifier with preamp inputs for five channels (pretty rare). Since AC-3 demands five *discrete* channels of amplification, most mid-line Pro Logic receivers cannot be adapted for it; they don't make provisions for AC-3's LFE channel, and their surround-channel signal paths are usually mono. (Don't worry — there will soon be plenty of "AC-3-ready" A/V receivers to choose from.)

Outboard AC-3 decoders are available from several companies, or soon will be. Marantz's DP-870 (\$699) provides six-channel input/output via conventional RCA jacks and is meant to be permanently patched between the preamp and power amp in a separates-based system or the pre-out/main-in jacks of a discrete-five-channel receiver or integrated amplifier (the subwoofer and its amp would connect directly to the DP-870). Unlike components that perform both AC-3 and Pro Logic decoding, the DP-870 decodes only AC-3 signals, through its AC-3 RF or digital inputs. Whenever a non-AC-3 signal appears at its inputs, it simply passes it directly to the power amplifiers.

Harman Kardon's forthcoming ADP-303 is conceptually similar to the DP-870, with a six-channel RCA-jack input/output that can be used to pass signals through from upstream surround processors or to loop them back to the few components that permit such an arrangement. (The company's recently introduced AVR 80 THX receiver has a six-channel input position just for a loop-back setup.) Due sometime this summer, the ADP-303 (\$799) is built



While all of the dozen or so DVD players scheduled to hit store shelves in late 1996 or early 1997 will play regular CD's in addition to the DVD movie discs, only Pioneer has announced plans to sell a machine that also plays laserdiscs. Above is a prototype of that player.



To make the move to Dolby Digital as simple as possible, Onkyo uses a DB-25 multipin connector between its ED-901 outboard AC-3 decoder (\$850) and TX-SV828 THX receiver (\$1,500). The decoder features a Cinema Re-EQ control that engages a gentle treble rolloff in the front channels.



Panasonic's LX-H680 combination CD/laserdisc player (\$600) is equipped with the special RF output needed to feed the six-channel digital AC-3 signal into a decoder. It offers dual-side play and has a servo system that adjusts the laser pickup and motor for optimum tracking.

# Dolby Digital Surround



The retro-styled SA-TX30 A/V receiver from Technics (\$800) has six discrete-channel inputs for a quick AC-3 upgrade. It packs a Dolby Pro Logic surround decoder with seven music modes and is rated to deliver 100 watts each to the three front speakers and 50 watts to each surround.



Succeeding Lexicon's benchmark CP-3 surround processor, the software-configurable DC-1 digital controller comes in three versions: a basic Dolby Pro Logic model (\$1,995), a THX model (\$2,295), and a top model offering both THX and AC-3 processing (\$4,500).



Marantz's DP-870 AC-3 decoder (\$699) performs AC-3 and Dolby Pro Logic decoding and provides six-channel input/output via RCA jacks. It connects between the preamp and power amp in a separates-based system or the pre-out/main-in jacks of a five-channel receiver or integrated amp.



Pioneer's Elite VSX-99 (\$2,100) was the first A/V receiver with onboard AC-3 decoding to hit the market last year. It's rated to deliver 100 watts to each of five channels and has a subwoofer output as well as Dolby Pro Logic and several music-surround modes.

around the Zoran AC-3 DSP chip and has a front-panel master volume control as well as AC-3 RF and digital inputs.

A slightly different tack is taken by Parasound with its forthcoming P/DD-1500 Dolby Digital surround decoder, which is expected to sell for about \$600. This slim black box offers an AC-3 RF input and three digital inputs, but its only output is a computer-style twenty-five-pin DB-25 connector (a quasi-standard multichannel pathway officially supported by Lucasfilm and Dolby Labs). Hookup is simple — as long as the component you're connecting to has a DB-25 input, as does Parasound's P/SP-1500 THX preamp (\$1,500). If it doesn't, you'll need to buy a DB-25-to-RCA-jack "snake" adaptor (Monster Cable makes one).

**T**he Parasound P/DD-1500, which has three digital inputs plus the standard RF jack, performs either AC-3 or Pro Logic decoding; you can switch between the two or select a nonsurround mode. Or you can bypass it altogether when using the upstream component's surround processing. The decoder's AC-3 implementation is quite thorough. In addition to controls for dynamic range, center-channel delay, and LFE-channel level and destination, it also has a Re-EQ button on its remote control that engages a gentle treble rolloff in the front channels. Lucasfilm is only now allowing the THX re-equalization feature to be offered on its own (it's usually part of the three-prong Home THX process, which also includes timbre matching and surround decorrelation).

Onkyo's ED-901 AC-3 decoder, which may be on store shelves by the time you read this, is similar to the Parasound except that it doesn't provide Dolby Pro Logic decoding and offers only one fixed level of dynamic-range control. Expected to sell for less than \$850, the ED-901 also has a re-equalization control, but Onkyo breaks away from the pack by employing the Motorola AC-3 chip rather than the Zoran device used by most other manufacturers. Onkyo, too, provides only the computer-style DB-25 connector for foolproof, one-cable hookup. In this case, the preferred destination is Onkyo's flagship THX receivers, the Integra TX-SV919THX and the new TX-SV828 (\$1,500), both of which sport an AC-3-ready DB-25 input.

Three new A/V components from

Rotel — the RTC-970 tuner/preamp (\$800), RTC-985 THX tuner/preamp (\$1,500), and RSP-980 THX processor (\$1,300) — have rear-panel DB-25 connectors for easy hookup to the firm's soon-to-be-released RDA-980 outboard AC-3 decoder. Slated to hit store shelves in June with an under-\$1,000 price tag, the RDA-980 is an AC-3-only device that provides the usual RF input plus two digital ports and a center-channel delay control but no dynamic-range control or Pro Logic mode.

Compared with the outboard decoders described above, the \$1,530

SP-99D digital surround processor introduced last year by Pioneer is a different kettle of fish. Equipped with a pair of analog line inputs (which receive full analog-to-digital conversion), AC-3 RF and two digital inputs, and discrete six-channel RCA outputs, the SP-99D performs AC-3 and Pro Logic decoding in addition to offering three non-Dolby ambience-enhancement modes. While it's probably not the most cost-effective choice for systems that already include a high-quality Pro Logic or THX processor, it could be the ideal upgrade for owners of two-channel systems who don't

want to be locked in to just one surround format.

If you're worrying about what you're going to plug your new AC-3 decoder into, relax. By the end of the summer, plenty of "AC-3-ready" receivers will be on the market. The companies leading the way here include Marantz, Sony, Onkyo, Harman Kardon, Technics, and Yamaha. What's "AC-3-ready" mean? Simply that the component has a six-channel (including subwoofer) input, either via RCA jacks or a DB-25 connector, ready to accept decoded AC-3 audio signals. Sony plans to add three AC-3-ready A/V re-

## Dolby Digital Laserdiscs

Unless otherwise noted, the following are currently available; list prices range from \$34.95 to \$49.95.

**ALIVE** (Touchstone Pictures, dist. Image Entertainment). Release TBA.

**ALIEN** (20th Century-Fox, dist. Image Entertainment).

**ALIENS** (20th Century-Fox, dist. Image Entertainment).

**AMADEUS** (Paramount, dist. Pioneer Entertainment).

**THE AMAZING PANDA ADVENTURE** (Warner Bros.).

**BATMAN FOREVER** (Warner Bros.).

**BEACH BOYS: AN AMERICAN BAND** (Pioneer Entertainment).

**BRAVEHEART** (Paramount, dist. Pioneer Entertainment).

**CLEAR AND PRESENT DANGER** (Paramount, dist. Pioneer Entertainment).

**CONGO** (Paramount, dist. Pioneer Entertainment).

**CRIMSON TIDE** (Hollywood Pictures, dist. Image Entertainment).

**DAY OF THE DOLPHIN** (New Line, dist. Image Entertainment).

**DIE HARD** (20th Century-Fox, dist. Image Entertainment).

**DIE HARD II: DIE HARDER** (20th Century-Fox, dist. Image Entertainment).

**DIE HARD WITH A VENGEANCE** (20th Century-Fox, dist. Image Entertainment).

**DON JUAN DEMARCO** (New Line, dist. Image Entertainment).

**DROP ZONE** (Paramount, dist. Pioneer Entertainment).

**DR. ZHIVAGO** (MGM/UA, dist. Warner Bros.).

**FORREST GUMP** (Paramount, dist. Pioneer Entertainment).

**FREE WILLY 2** (Warner Bros.).

**GOLDENEYE** (MGM/UA, dist. Warner Bros.). Release TBA.

**GUYS AND DOLLS** (Hallmark, dist. Image Entertainment).

**INTERVIEW WITH THE VAMPIRE** (Warner Bros.).

**IN THE MOUTH OF MADNESS** (New Line, dist. Image Entertainment).

**JADE** (Paramount, dist. Pioneer Entertainment).

**JUDGE DREDD** (Buena Vista Pictures, dist. Image Entertainment).

**A KID IN KING ARTHUR'S COURT** (Buena Vista Pictures, dist. Image Entertainment).

**LEAVING LAS VEGAS** (MGM/UA, dist. Warner Bros.). Release TBA.

**THE LION KING** (Walt Disney, dist. Image Entertainment).

**A LITTLE PRINCESS** (Warner Bros.).

**LORD OF ILLUSIONS** (MGM/UA, dist. Warner Bros.).

**THE MADNESS OF KING GEORGE** (Samuel Goldwyn, dist. Image Entertainment).

**MORTAL KOMBAT** (New Line, dist. Image Entertainment).

**MY FAMILY** (New Line, dist. Image Entertainment).

**OUTBREAK** (Warner Bros.).

**PACIFIC SURF, MOOD TAPES** (Ron Roy Productions, dist. Image Entertainment). Release TBA.

**RICHARD III** (MGM/UA, dist. Warner Bros.). Release TBA.

**ROB ROY** (MGM/UA, dist. Warner Bros.).

**ROLLING STONES LIVE AT THE MAX** (Imax, dist. Image Entertainment). Release TBA.

**THE SANTA CLAUSE** (Walt Disney, dist. Image Entertainment).

**SEVEN** (New Line, dist. Image Entertainment/Criterion).

**SHOWGIRLS** (MGM/UA, dist. Image Entertainment). Release TBA.

**SPACEBALLS** (MGM/UA, dist. Image Entertainment). Release TBA.

**SPECIES** (MGM/UA, dist. Warner Bros.).

**STARGATE** (Carolco, dist. Pioneer Entertainment).

**STAR TREK: GENERATIONS** (Paramount, dist. Pioneer Entertainment).

**THAT'S ENTERTAINMENT I, II, AND III** (MGM/UA, dist. Warner Bros.). Release TBA.

**TOP GUN** (Paramount).

**TRUE LIES** (20th Century-Fox, dist. Image Entertainment).

**UNDER SEIGE** (Warner Bros.). Release TBA.

**UNDER SEIGE 2** (Warner Bros.).

**UNSTRUNG HEROES** (Hollywood Pictures, dist. Image Entertainment). May 1 release.

**U2: RATTLE AND HUM** (Paramount, dist. Pioneer Entertainment).

**VIRTUOSITY** (Paramount, dist. Pioneer Entertainment).

**WAITING TO EXHALE** (20th Century-Fox, dist. Image Entertainment). Release TBA.

**THE WILD BUNCH** (Warner Bros.). Release TBA.

# Dolby Digital Surround

ceivers to its ES series lineup in August, and an outboard Dolby Digital decoder is slated to hit store shelves later this year when the company rolls out its DVD player.

## UPSCALE AC-3

A handful of more costly high-tech AC-3 components are vying for state-of-the-art laurels. Enlightened Audio Designs' impressive TheatreMaster A/V preamp/processor (reviewed here in June 1995) retains the honor of having been the world's first AC-3-equipped device to hit the streets. At

## PLENTY OF AC-3-READY RECEIVERS WILL SOON BE AVAILABLE.

\$6,995, it's "only" \$1,000 more than its non-digital-surround sibling.

Equally noteworthy is Meridian's powerful Model 565 DSP surround controller, which features proprietary AC-3 decoding software (implemented by one of *three* Motorola DSP chips) and THX 5.1 processing. The Model 565's AC-3 implementation is comprehensive, providing extensive control over dynamic range and bass-signal management, a signal-delay adjustment for each channel, a proprietary all-channel-delay "LipSync" mode intended to improve audio/video synchronization in small rooms, and a slew of proprietary DSP surround modes for music and other non-Dolby sources. The processor also has a DSP function that monitors all eight of its channels and uses a psychoacoustically optimized limiting filter to prevent any or all channels from overloading. The Model 565 costs \$4,490; an AC-3 upgrade package for previous-generation Model 565 processors is available for \$695.

Meridian also recently introduced an outboard AC-3 demodulator (a circuit that normally resides inside the AC-3 decoder). Dubbed the Model 519, the \$695 device takes the AC-3 RF output from a laserdisc player and demodulates the digital data using a proprietary process that's said to reduce jitter (timing errors). The result, according to the British company, is improved detail.

Harman Kardon takes a very different approach to AC-3 processing with its Citation 7.5 digital processor, due out in September (\$1,500 target price). In contrast to the company's "plain" ADP-303 outboard AC-3 decoder, the Citation 7.5 has a THX 5.1 mode and inputs/outputs for stereo subwoofers and extra side-mounted surround speakers to preserve the utility of the proprietary non-Dolby surround modes designed by pioneer Jim Fosgate. The final version of the processor, which is controlled with an on-screen graphical interface, may also contain a unique Six-Axis encoder that permits decoded AC-3 signals to be recorded/encoded in a standard two-channel stereo signal. The Model 7.5 has RCA connectors so that it can be used as an add-on

with most Fosgate-Audionics, Harman Kardon, and JBL Synthesis A/V controllers in either pass-through or loop-back layouts.

Denon's flagship A/V tuner/preamp, the \$3,500 AVP-8000 that hit store shelves late last year, delivers full AC-3 implementation and THX processing for both four-channel Pro Logic and 5.1-channel AC-3 modes. The husky component also features an on-screen control interface, an RDS (Radio Data System) tuner, and a host of flexible DSP-surround modes and other audio/video goodies.

Yamaha neatly splits the difference between affordability and high-end hauteur with its new DSP-A3090 (see test report in this issue). The \$2,400 integrated amp combines fully implemented AC-3 decoding and Yamaha's own digital Pro Logic decoding with numerous proprietary DSP modes. These include Yamaha's Cinema DSP enhancements, which can be applied on top of either Pro Logic or Dolby Digital processing. In addition to an AC-3 RF input and multiple digital inputs, the unit has separable analog outputs and inputs that permit the use of an outboard power amp with any channel.

One of the more distinctive AC-3 components is Kenwood's new flagship home-theater centerpiece, the \$2,800 KC-Z1 tuner/preamp/controller. Striking in appearance, the KC-Z1 combines conventional tuner/preamp

functions with full-featured AC-3 and digital Pro Logic decoding and THX processing. It serves as a two-zone controller and comes with an innovative touch-screen wireless remote that attaches to the front panel. Since the remote transmits and receives signals over the 900-MHz radio band, it can be used to control the system from just about anywhere in a typical house.

Massachusetts-based Lexicon, maker of the benchmark CP-3 surround processor, is retooling for the discrete-digital era. The firm's new high-performance, software-configurable DC-1 digital controller is available in full AC-3/THX regalia for \$4,500, but you can start with a base Pro Logic-only model for \$1,995 and upgrade from there.

Audio Design Associates' \$4,000 SSD-66 is an AC-3-equipped A/V preamp that provides full AC-3 and Pro Logic decoding and three digital inputs. It does not have the usual AC-3 RF input for connection to a laserdisc player; instead, you have to use the company's RFD-1 outboard demodulator, which costs \$999.

Theta Digital is taking a decidedly upscale route with its new Casablanca preamp/processor. The highly customizable, computerlike design has a card-based expansion-slot layout and can be ordered with anywhere from two to twelve channels of throughput configured in almost any combination. A "basic" 5.1-channel version with Pro Logic processing on board runs \$4,295; the AC-3 option adds \$850 (a fully rigged Casablanca would exceed \$10,000). While analog and digital audio inputs and outputs are standard, a \$600 option adds video-signal routing, turning the Casablanca into a full A/V system controller. Other options include various levels of digital-to-analog (D/A) conversion and digital signal processing.

**B**efore 1996 is over, retail shelves may well be groaning with Dolby Digital components. It is also possible that some market-share-hungry company will bring out a stripped-down AC-3 decoder for less than \$500, with a \$999 basic AC-3 receiver likely to be not too far behind. Neither will insure that Dolby Digital will be universally adopted, however; only time will tell that. But if it does catch on — and my guess is that it will within a couple of years — the industry is Ready with a capital "R." □

# HIGHTECH ON THE ROAD

AUTOMAKERS TODAY ARE DOING everything they can to make you think twice about investing in add-on car stereo gear. For starters, they're now packing factory-installed sound systems with the same high-performance CD players and component speakers you once had to buy from a car audio specialist. And then

there's the car environment, which has grown increasingly hostile to add-on components. Shrinking interiors leave little room for subwoofer enclosures. Complex automotive electrical systems generate objectionable noises in sophisticated custom sound systems. And replacing a factory-installed radio becomes practically impossible if its electronics are integrated with other factory electronics, as is often the case in modern vehicles.

Under the circumstances, convincing motorists to dump a factory sound system is a hard sell. But the autosound market thrives on challenges. And during the recent Winter Consumer Electronics Show (WCES) in Las Vegas, scrappy car stereo manufacturers stepped into the ring to prove that they're still contenders.

---

Innovation keeps  
driving autosound gear  
to new heights

BY JOSEPH PALENCHAR

---

For enthusiasts who want to add to a factory system rather than chuck it, WCES served up a smorgasbord of new options: JBL and Stillwater introduced their first powered subwoofers, and JBL expanded its selection of amps that mate with any factory radio. Accessory companies unveiled a wider variety of cable adaptors that let you use a factory source unit's built-in CD-changer controls for a store-bought changer, at a savings of up to 50 percent

Sony and Clarion, for instance, unveiled reference-quality CD players whose performance exceeds most anything available from the automakers. Facing interference issues head-on, more manufacturers — including Clarion and Coustic — upped the line-level output voltages of selected source units to as much as 5 volts as compared to typical outputs of less than 1 volt. The higher voltages help mask alternator whine, relay clicks, and other noises created by low-voltage spikes injected into signal cables by a car's electrical system.

Taking noise resistance to a higher level, some car stereo companies, among them Coustic, Orion, Rockford Fosgate, and Xtant, expanded their selection of components featuring "balanced" audio-signal connections, an approach first used in pro audio gear. Infinity, Jensen, and SoundStream, meanwhile, introduced their very first balanced components.

To contend with shrinking interior space, Jensen, JL Audio, Stillwater, and others added more subwoofers designed for compact, sealed enclosures, sometimes as small as a third of a cubic foot for an 8-inch driver. And, hoping to squeeze more wattage into tight places, audio manufacturers also introduced more efficient amplifiers, with Coustic, Infinity, and Xtant showing some of the industry's first super-efficient Class D models.





Balanced inputs and outputs and a small footprint are features of Cooustic's DX-36, a new four-way active crossover.

over the cost of a factory-installed changer.

Other show knockouts were a five-channel surround decoder from Rocktron, the first source units from amplifier and speaker maker Rockford Fosgate, and, from Pioneer, the industry's first source units that double as car security systems.

## FACTORY ADD-ONS

It used to be pretty easy to link any CD changer to a factory radio with CD-changer controls. Since many factory-installed head units (and changers) are produced by well-known consumer-electronics manufacturers, a savvy car stereo dealer could just pick out a changer built by the same company, then install a custom-made or off-the-shelf DIN-cable adaptor to make the proper connections. In some new cars, however, these adaptors just

don't cut it anymore: automakers have modified the electronic "handshake" that lets their factory-installed radios and changers talk to each other. The new handshake, of course, isn't compatible with other changers.

Undaunted, accessory suppliers have returned fire with new adaptors that furnish both mechanical *and* electronic compatibility. They're available at prices of \$24 to more than \$100 from companies such as BlitzSafe, Peripheral Electronics, and Precision Interface Electronics for late-model cars from Audi, BMW, Mercedes, Volkswagen, and Volvo.

If your car's radio lacks changer controls, you may have thought about adding a changer by installing a changer/RF-modulator package. The modulator converts the changer's audio output to an FM signal, then routes it through the factory antenna cable to the factory tuner for playback. Though universal in application, RF modulators turn some people off because they sacrifice sound quality in the name of compatibility.

A new interface developed by JVC, however, could resolve the conflict. Called CD Direct Link, it's packaged with JVC's \$549 KD-MA1 twelve-disc changer. The interface module consists of changer-control circuitry, a switcher, a preamplifier, and an amplifier rated at 4 x 30 watts max (that is, four channels rated at 30 watts each). You connect the factory radio's speaker outputs to the module's speaker-level inputs and the car's speakers to the module's amplifier outputs. JVC's changer connects to the module as

well, through a DIN cable. Then you use the supplied wireless remote to control the module's preamp functions and to switch between the changer and radio. The module, also sold separately as the \$199 KS-RA1, works only with JVC changers.

To create the ultimate factory/custom hybrid system, Orion introduced a combination equalizer, preamplifier, and source switcher usable with factory head units. The half-DIN-size NT 300 BIQ (\$399) mounts on the dash and has standard RCA inputs or balanced line-level inputs that will accept most speaker-level signals. It allows



MTX's Thunder 2300 stereo amp (\$649) offers 150 watts per side (rms into 4 ohms) and an adjustable crossover.

switching between a factory radio and any changer and provides three equalizer bands, all with continuously adjustable center frequencies.

Xtant's first component equalizer can also be used to graft store-bought components onto factory radios. The P500a (\$549) offers standard or balanced line-level inputs as well as speaker-level inputs. It delivers five bands of fully parametric equalization, allowing adjustment of each band's center frequency as well as continuously adjustable Q (the range of frequencies around each center frequency). A built-in noise gate eliminates background hiss when no music signal is present.

Compatibility with all types of car radios is also a key feature of JBL's four new GT Series amplifiers. And there's a bonus: They turn on automatically when they sense audio signals from the head unit. That means you don't have to run a power wire from the amp to the radio's turn-on or power-antenna output. The new amps, expected in stores this summer, include the 4 x 35-watt GTQ190 (\$369) and the 4 x 60-watt GTQ360 (\$549).

Signal-sensing turn-on also appears in the first powered subwoofers from



Rockford Fosgate's first CD receivers include the RFX-8103 (\$629) with Smart On sequencing for amplifiers and processors and a convenient remote control.





A Detachable Face Security (DFS) system in the DEX-P88 (\$630) and other Pioneer Premier source units generates an ear-piercing tone to ward off intruders.

JBL and Stillwater. Stillwater's powered Kicker Substations are equipped with amplifiers rated at 50 to 140 watts and are priced at \$379 to \$599. An 80-watt amplifier powers JBL's GT650P, with a 6-inch driver, and the 8-inch GT800P. Prices weren't available at press time.

### SOURCE UNITS

Manufacturers are focusing as much on adding unusual features to source units as on maximizing audio performance. A prime example is Pioneer, which introduced in its Premier series the first replacement source units that double as security systems. Pioneer calls the feature DFS (Detachable Face Security) Alarm, and it's available in seven new detachable-face head units at prices ranging from \$280 for the KEH-P404 cassette receiver to \$850 for the high-end DEX-P99 CD receiver.

DFS works like this: Take the unit's detachable face with you when you



Orion's NT 300 BIQ (\$399) preamp/equalizer switches between a factory radio and a non-factory CD changer.

leave the car. Within 30 seconds after the last door is closed, the security feature arms automatically. When you open a door, you get from 5 to 45 seconds (user-adjustable) to reattach the face or turn the ignition key. If neither happens, the sound system generates a warbling, ear-piercing tone intended to drive a thief out of the car. If the system is connected to an optional relay, it will also interrupt the car's starter circuit, honk the horn, or flash the parking lights — your choice.

In another industry first, Sony has built 3-second buffer memories into a trio of in-dash CD players to virtually eliminate mistracking. First popularized in portable CD and MiniDisc players, the buffers are available in the CDX-C610 (\$530), CDX-C710 (\$500), and CDX-C910 (\$900).

JVC is also offering a feature previously unavailable in any replacement receiver. An Audio Cruise Mode now on some JVC source units automatically adjusts volume, bass, and treble in three increments depending on driving speed: users select the volume level and amount of equalization for each increment. Audio Cruise is found in two CD receivers, the KD-GS717 (\$379) and KD-GS919 (\$429), and in the KS-RT515 cassette receiver (\$329).

To add some flash to the dash, Clarion demonstrated the MAX2256, a \$2,000 double-DIN-size CD/cassette receiver with a motorized 5-inch color LCD screen that folds out to expose the cassette and CD slots. The screen displays audio-system information, the view from Clarion's rear-vision cameras (for vans and RV's), or road maps generated by a planned NAX9100 navigation system. The nav system will calculate and display the best route to a destination on the video road maps and will also update your location in real time based on signals from the Global Positioning System (GPS) satellite network. Clarion promises nav-system deliveries some-

time this year at an undetermined price. The MAX2256 should be in stores in June.

A couple of performance-driven, no-holds-barred CD tuners also made their debut at the show. Clarion's new flagship, the \$1,200 fixed-mount DRX9225, includes a multipath-resistant diversity FM tuner (which seeks the best signal from two separate antenna inputs), a high-quality 20-bit Burr-Brown digital-to-analog (D/A) converter chip set, and a hefty out-board DC-to-DC converter that bumps the unit's power supplies to  $\pm 15$  volts DC to deliver maximum headroom and a line-level output of 4 volts. Retro-looking volume and tone knobs are said to cause less distortion than their pushbutton counterparts.

Sony has likewise turned to diversity tuning and high-quality D/A and DC-to-DC converters in its new reference CD tuner, the CDX-C910 (\$900). Key features include built-in controls for optional digital signal processors and a motorized front panel that folds



Flexibility is a key selling point for Jensen's first six-channel amplifier, the KA4660HLx (\$450).

out to adjust the viewing angle and reveal the disc slot.

Although not nearly as pricey as the Clarion or Sony units, Rockford Fosgate's first source units are nonetheless intended for demanding enthusiasts. In its RFX-8102 (\$499) and RFX-8103 (\$629) CD receivers, the company has added some unique features. One, called Smart On, was designed to significantly reduce a big system's potential for generating loud turn-on thumps, which can sometimes damage speakers. To accomplish this, the CD receiver has two turn-on output wires instead of the usual one. Component signal processors connected to the first turn-on output are automatically powered up before the amplifiers, which are connected to the second output. The sequential turn-on prevents the amplifiers from passing along noises



Cassette and CD slots on Clarion's MAX2256 source unit (\$2,000) hide behind a motorized, 5-inch color LCD.

often created by signal processors or radios during the power-up phase. With another feature, which Rockford calls Any-Button Wake-Up, touching any button when the receiver is off activates whichever source was playing when you last shut it down, whether it was CD, tuner, or an optional Rockford six-disc changer.

## POWER AMPLIFIERS

If your job description has grown in recent years, then you have something in common with the car component amplifier, which is being called on these days to do much more than simply amplify audio signals. At the show, manufacturers proved they could stuff more active crossovers, equalizers, and other processors into their amps in order to pare the total number of components required for a high-performance system.

Jensen, SoundStream, and MTX, for instance, showed expanded selections of amps with on-board crossovers, and Sanyo introduced its first three amps with internal crossovers. Orion has adopted a flexible approach in its Extreme and HCCA series: Two signal-processing modules can be plugged into selected models. For now, only high- and low-pass crossover modules are available, but equalizer



Stillwater's 18-inch long PS80 Powered Substation (\$429) delivers 80 watts to an 8-inch woofer.

and infrasonic-filter modules are in the works. One Orion amp with this feature is the Model 250 HCCA (\$780), a 2 x 50-watt stereo unit that can generate 400 watts when bridged into a 1-ohm load.

Simplified installation was also the driving force behind a growing number of five- and six-channel amplifiers that do the work of multiple stereo amps. Lanza's first six-channel amp, the 6 x 33-watt Opti 6200 (\$650), features a built-in three-way crossover that permits triamplification. Jensen's first six-channel amplifier, the KA 4660HLx (\$449), features built-in high- and low-pass filters and is rated at 4 x 50 watts plus 2 x 30 watts. Alpine's first five-channel model, the MRH-F255 (\$350), delivers 25 watts each to four channels and 60 watts to the fifth.

Meanwhile, noise-resistant balanced inputs are making steady advances on

Model 1001d (\$1,099), to drive only subwoofers. It delivers 250 watts into 4-ohm loads but cranks out 1,000 watts into a 1-ohm load. Coustic's first Class D amp, a 100-watt mono unit, is built into the company's first two powered subwoofers, the DB-10 (\$399) and DB-8 (\$299). Both are diminutive; the DB-8, for example, packs an 8-inch driver in a 0.65-cubic-foot vented enclosure.

Infinity, with its three latest amplifiers, claims to have finally eliminated the bugs that plagued its earlier attempts at a cutting-edge Class D design. One challenge was shielding the amps better to bottle up the radio-frequency interference inherent in Class D amps. One new stereo model, the Digital 300 (\$999), delivers 300 watts per channel into 4-ohm loads, or 1,000 watts into 1 ohm.

On a lighter yet deeper note, SoundStream unveiled AirBass, a wireless



The CD Direct Link preamp/switcher supplied with JVC's KD-MA1 CD changer (\$549) is a unique alternative to an RF modulator.

their way toward becoming obligatory features in high-performance amplifiers. SoundStream introduced its first balanced-input amplifiers, as did Jensen with the debut of its competition-grade Nitro series.

Manufacturers are also packing more punch into smaller amps by raising efficiency, the ability to convert energy from a car's electrical system into music output. The biggest gains are promised by new Class D amplifiers that are said to be up to 80 percent efficient compared with the typical 50- to 60-percent efficiency of conventional Class AB amps. Put more simply: These amps can potentially deliver the output levels and performance of conventional amps two or three times their size with almost half the power consumption. Class D amps run cooler, too, because they convert less power into waste heat.

Xtant designed its first Class D mono amplifier, the

remote volume control for subwoofer amplifiers. The \$99 option consists of a keychain-hanging remote and an RF receiver that plugs into most SoundStream Reference series amplifiers.

## SIGNAL PROCESSORS

Component signal processors once again demonstrated their worth as foundations for well-designed sound systems. Most new models at the show were variations of traditional digital and analog processors, but Rocktron's CSA12 Circle Surround processor (\$499) was a prominent exception. Based on technology originally developed for professional audio applications, the CSA12 is said to create a 360-degree sound field from CD's encoded in the Circle Surround format, which delivers five discrete full-bandwidth channels of information. The CSA12 and a companion home decoder also decode any matrix-surround format, including Dolby Pro Logic, Shure Surround, and Ambisonics. The devices can also extract out-of-phase information from two-chan-

nel recordings to create a more enveloping sound field.

About 200 Circle Surround titles, mostly New Age music and sound effects, are already available from the North Sound label, and the audiophile labels DMP and Telarc plan to issue their own discs. More than sixty music CD's are currently encoded in Pro Logic, and that number is growing.

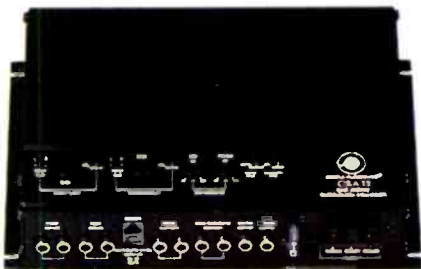
Special software isn't needed to derive sonic benefits from Sony's XDP-210EQ (\$600). Unlike many digital signal processors, this processor was engineered solely to enhance performance, not to simulate the acoustic ambience of concert halls or jazz clubs. It provides twenty-one bands of graphic equalization, a steep 36-dB-per-octave low-pass filter to drive a subwoofer amp, and a time-alignment function that focuses imaging at different seat positions.

The XDP-210EQ's most promising capability, however, is still under development. Sony wants to link an FFT (fast Fourier transform) analyzer to the unit's optional RS-232 serial computer interface in order to adjust equalization and volume levels automatically in response to changes in ambient noise levels — in real time, while you're driving.

Sony won't say how close it is to finding autosound's Holy Grail, but there are plenty of other new toys to play with while you're waiting. One is Coustic's DX-36 active crossover, which will be one of a small group of four-way crossovers when it hits stores in June. Pricing was unavailable at press time.

## SPEAKERS

Speaker chefs cooked up an assortment of recipes at this year's CES to cope with the automobile's challenging environment. Taking one approach, manufacturers upped their selection of subwoofers designed to generate prodigious bass from small, sealed enclo-



Surround sound in your car becomes a reality with Rocktron's new CSA12 Circle Surround processor (\$499).



Cerwin-Vega squeezed a 4-inch woofer into its AI 46P 4 x 6-inch plate (\$175).

ures. Rockford Fosgate's new Punch subs, for instance, operate in enclosures almost 50 percent smaller than those required by last year's models: The 8-inch RFP-1408 (\$63) is intended for a sealed box with an internal volume of only 0.3 cubic feet! And while the thought of a massive 18-inch subwoofer and its typically huge cabinet might turn some enthusiasts off, JL Audio boasts that its new 18W6 sub (\$549) operates optimally in sealed boxes with internal volumes of only 1.25 to 1.75 cubic feet. But will it move air? You bet: A single 18W6 is said to perform like *four* of JL's 10-inch subs.

Saving space was also the theme for MTX, which introduced eighteen new boxed speaker systems for slam-dunk installs: Many of the enclosures have special shapes to conform better to the cargo areas in hatchbacks, utility vehicles, truck cabs, and plain old cars. Twelve are passive subwoofer systems: six are full-range two-way systems. Prices start at \$179 for the two-box TS62 two-way system, which slips behind the seat of a pickup.

For satellite speakers, Cerwin-Vega squeezed a bit more sound into the same space by introducing the AI 46P (\$175 a pair), a 4 x 6-inch two-way component plate that uses a 4-inch woofer in place of the typical 3½-inch. Pioneer dished out a third-generation Rigilite cone to give music a better chance of being heard over wind and road noise. The new cones, made

of foam-injected polypropylene, are up to twice as thick as their predecessors but weigh up to a third less. That helped Pioneer boost power handling by 10 to 40 percent while also improving accuracy and bass output. The material appears in all eleven new A-series speakers from Pioneer, mostly coaxial and three-way models priced from \$80 to \$200 a pair.

In three of its new two-way component speaker systems, Alpine is using a special voice-coil/magnet assembly for woofers called DDDrive, or Dual-gap Direct Drive. Alpine says the structure focuses more magnetic energy into the voice-coil gap than other designs to provide more precise control over cone motion. DDDrive woofers are said to operate more smoothly and accurately over a wider bandwidth (up to 10 kHz) than comparable-size woofers. As a result, Alpine says, DDDrive component systems deliver surprisingly good imaging when the woofers are mounted low in factory locations, because a wider range of frequencies is generated at more nearly equal distances from your ears. The DDDrive systems are priced from \$330 to \$550 a pair.



Sony's CDX-C910 CD tuner (\$900) boasts diversity tuning and high-end digital-to-analog converters.

Like Alpine, Kenwood stressed improved accuracy, showing a trio of new full-range speakers that incorporate DualMag magnet/voice-coil assemblies. Kenwood uses two small but powerful neodymium magnets to improve cone-motion control. The two-way DualMag speakers retail for \$140 and \$160 a pair. A three-way version costs \$180.

If this year's crop of car stereo gear improves anything, it's that the competition between automakers and electronics manufacturers keeps driving the equipment to new and greater heights. Where it all goes from here remains to be seen. But if 1996 is any indication, other exciting new technologies are close at hand — perhaps just down the road. □

# Champagne Taste on a Beer Budget

**M**ichael Martin is the kind of guy who always thinks ahead. A former DJ who's hooked on jazz and classic rock, he didn't know exactly what equipment would go into the 15 x 17-foot listening room he created for his Northern California home three years ago, but he made sure the room could handle whatever came up. With the help of Greg Belemsian of Musical Images in Fresno, Martin constructed an electrical fortress, dedicating a 60-ampere power supply to stereo equipment. He connected three 20-amp circuits to the home's electrical panel with 10-gauge industrial-grade Romex cable to keep the power that feeds his system flowing freely. Martin is also a purist. He finished the job with hospital-grade receptacles and isolated the grounds to an 8-foot copper rod to nix the chance of ground-loop hum.

Before the sheetrock went up, Martin threaded enough 10-gauge Monster Cable speaker wire and coaxial cable and interconnects through the walls to accommodate home-theater components in the future. Finally, he deadened the walls with R-19 insulation and capped off the room with double-pane windows.

But Martin's primarily white listening room — with accents of gray and black — doesn't look like the typical electronics buff's refuge. It's extremely neat. "My wife Patty told me I could have this as a listening room if it looked classy and if I didn't play the music too loud," Martin says. "And there couldn't be any Stones posters stuck to the walls with thumbtacks."

So even though a pair of 6-foot-tall Martin-Logan Quest Z hybrid electrostatic speakers dominate the room, the

bulky Monster Cable and power cords running to them disappear into the walls. The room's other focal point — a custom-built 6½ x 5 x 2-foot stereo cabinet that backs into a closet space — has an attractive "curio" look. Solid doors on the bottom hide the audiophile bric-a-brac that tends to clutter most listening rooms: tape and record cleaners, owner's manuals, and some 300 cassettes. There's something else that makes the cabinet special. You don't see a single wire; the components seem to float on the shelves. Even in the adjoining coat closet, which provides easy access to system wiring, everything is hidden behind swing-out doors.

Inside the cabinet is a powerhouse of equipment that can put the electrical fortress to the test. And it does.



Every so often Martin likes to dig through his 2,800 LP's and pull out an old Led Zeppelin or Aerosmith record, slap it on his Linn Sondek LP12 turntable, and slowly crank up the volume knob on his Audio Research LS3 preamp. Thanks in part to the Martin-Logans' 90-dB sensitivity, he doesn't have to turn the knob far to get a wall-to-wall of sound out of a 180-pound pair of Krell MDA-300 monoblock amplifiers. "These are battleships," says the captain, speaking from experience. When he's in the mood to open up the engines on the Krells, he calls over a friend who has a sound-level meter and begins cranking. The meter consistently tops the 115-dB mark, and Martin knows he can push the limit even further. The limit? "Somewhere below clipping."

Martin says he has been able to push other power amps to the point where their thermal-protection circuits kicked in and shut them down. Not the Krells. "It's not a smart thing to do," he admits, "but I've stood outside the room, and the volume control on the preamp is only halfway up when the meter reads 115 dB. And I've never heard distortion." The Krells are rated to deliver 360 watts per channel into 8 ohms, 600 into 4 ohms, and 1,200 into 2 ohms, he boasts. An unexpected side effect: The amps double as space heaters, raising the room temperature by as much as 10 degrees after a serious workout.

Clean room, clean sound: That's Martin's overall goal, which is why he went with the Audio Research preamp and the Martin-Logans. The Quest Z speakers have a striking hybrid design. A sleek electrostatic panel sits atop a subwoofer cabinet that uses a 12-inch cone driver to fill out the bottom end. "These speakers not only can slam out some pretty heavy-duty bass, but all the highs and mids are crisp and clean," Martin raves. "They produce the most unbelievable soundstage — it seems to extend out from the speakers another 8 to 10 feet."

As for the preamp, "the Audio Research LS3 is very well defined," he says. Also in the LS3's favor is value for the money. "For the price, it's a steal; it has the performance characteristics of a preamp three or four times



the price." The LS3 doesn't pack a phono stage, so Martin uses PS Audio's Phono Link phono preamp, which plugs into the LS3's auxiliary input.

Martin got the Audio Research preamp for a very good price because he bought it secondhand. He has champagne taste on a beer budget, so he buys used equipment whenever it's practical. Even at used-equipment prices, though, he's invested a tidy sum in his stash. "I didn't approach this in a cost-is-no-object manner," he says. "Except for the speakers and turntable, I picked up the equipment used so that I could get the best-quality components for a reasonable price."

Being an LP aficionado, Martin spared no expense on the turntable. Instead of going with the Sondek's standard redwood base, he special-ordered a black-lacquer base to match the room and upgraded to the Akito tonearm.

When an LP needs help with the bottom end or when a poorly transferred CD requires softening, Martin puts his ADC Sound Shaper II graphic equalizer to work. Most of the time, however, it's removed from the signal path between the amps. "Straight wire with gain," the audiophile vows. "The whole idea of high-end audio is to do as little to the signal as possible."

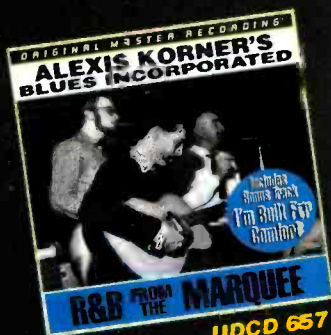
Martin's newest component, a Kinergetics Research KCD-40 CD player, was bought secondhand, too. A former DJ is also never too far from a radio, and Martin is no exception. He still uses the tuner from his old Reference Quadraflex 650FETR receiver. The tuner connects to an Archer (Radio Shack) VU-90 roof antenna whose output cable is split between the TV and the Quadraflex. Leaving no pre-amp output unused, Martin ran 40-foot interconnects from the LS3's tape out

to an old Magnavox receiver in the family room: instant multiroom audio. The Magnavox feeds a pair of Sony bookshelf speakers in the family room and a set of Polk Audio speakers on the patio.

An army of friends helped Martin create his room: A woodworker friend built the equipment cabinet to Martin's specs, another buddy put together a CD cabinet for his more than 500 jazz CD's, and yet another supplied the sound-level meter. In return they each got 90-minute compilation tapes dubbed from Martin's Nakamichi BX125 cassette deck to a Nak BX300 ("I didn't want to mess with mid-fi-quality dubbing decks"). His wife, Patty, is pretty happy with the final result, too, Martin says. "She's thrilled with the way it looks, but she says it's still too loud."

—Rebecca Day

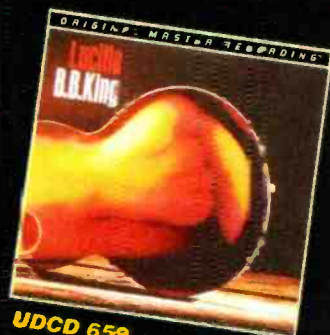
ORIGINAL MASTER RECORDING™



UDCD 657

# ULTRADISC II™

The GAIN System



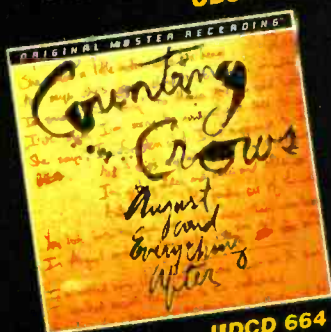
UDCD 659



UDCD 2-660



UDCD 662



UDCD 664



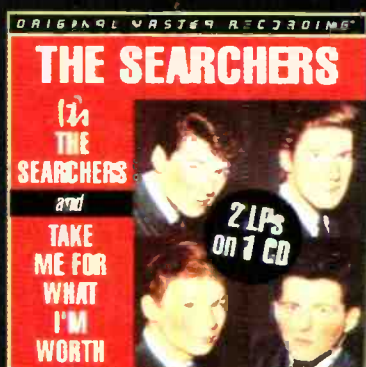
## NATURE'S ENCORE



UDCD 666



NEW RELEASE UDCD 665



NEW RELEASE UDCD 667



NEW RELEASE UDCD 668

### BETTER SOUNDING MUSIC. UPGRADE TO ULTRADISC II™

Your favorite artists sound surprisingly better on Ultradisc II™. Why? Because Mobile Fidelity's mastering technology is cut above—and you can hear the difference. As the creators of the 24k gold audiophile CD, we have developed major advances such as The GAIN System™, a proprietary mastering system that uses the highest grade of digital technology available. Starting with the original master tapes, we are able to capture every last nuance of the original recording. What does this mean? You'll hear music like you've never heard it before!

Ultradisc II™ The Original 24K Gold Audiophile Compact Disc.

To receive a color catalog or The GAIN System™ technical paper, call 800-423-5759



105 Morris Street • Sebastopol, CA 95472 • WWW URL address: <http://www.mfsl.com/>  
In Canada call 800-267-1216 (Music Retailers) or 800-455-4434 (Hi-Fi Retailers)

CIRCLE NO. 21 ON READER SERVICE CARD



# BEST OF THE MONTH

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



JIMMY KATZ/VERVE

## Randy Weston's Breathtaking "Saga"

**P**ianist Randy Weston's interest in the music of West Africa and the West Indies began showing up in his work several decades ago. His ambitious "Uhuru Afrika" (1960), with lyrics by Langston Hughes, was a celebration that fused American jazz with African music both traditional and new, pointing to the inevitable two-way flow of ideas. "Uhuru" was somewhat stagy, but Weston's quest for the real thing took him to Nigeria the following year, and the considerable time he has spent in Africa

since then has been a learning experience from which we all can now benefit.

Weston's music today does not have to seek to be African, it is inherently that, and thus he has taken jazz full circle. For his new Verve album, "Saga," he has assembled a septet of kindred spirits, including saxophonists Billy Harper and Talib Kibwe, trombonist Benny Powell, and a dynamic rhythm section of bassist Alex Blake and percussionists Billy Higgins and Neil Clarke. The result is an absorbing hour and 15 minutes of breathtak-

ing, intensely personal music in a richly textured, eclectic program.

Harper's deep-throated tenor sax is featured in the opening track, the strikingly lovely, laid-back ballad *The Beauty of It All*, and in a livelier setting in an older composition, *Loose Wig*. Then it's Kibwe's turn to shine in *Tangier Bay*, though the track has everybody contributing to notable advantage. I could mention lots of other highlights throughout the album, like the Powell/Weston interaction on *F.E.W. Blues*, but I'll go no further, for "Saga" is one of those rare recordings where everything is pure delight.

Randy Weston has been a largely overlooked treasure for too long. Best of the Month? Definitely, but Best of the Year wouldn't be a stretch either.

*Chris Albertson*

### **RANDY WESTON: Saga.**

*The Beauty of It All; Loose Wig; Tangier Bay; F.E.W. Blues; Uncle Neemo; Lagos; A Night in Mbari; Saucer Eyes; The Three Pyramids and the Sphinx; Casbah Kids; Jahjuka; The Gathering.* VERVE 529 237 (75 min).

## Cellist Yo-Yo Ma Champions Herbert, Dvorak

**S**ince it was Victor Herbert's Second Cello Concerto that provided the stimulus for Antonin Dvorak to compose his own famous concerto for that instrument, what is perhaps most surprising about seeing these two works together on a new Sony CD called "Concertos from the New World" is that no one has coupled them before. In any event, both composers (who became friends as well as colleagues during Dvorak's years in New York) would surely have been gratified to find the joint offering in such capable and committed hands as those of cellist Yo-Yo Ma, conductor Kurt Masur, and the New York Philharmonic — the orchestra that gave the premiere performance of the Herbert, with the composer as soloist and Dvorak in the audience, in 1894.

None of the few earlier recordings of Herbert's more than engaging concerto has served it nearly so well as this new one, which makes it both easier to understand Dvorak's swift and productive response to it and harder to understand the neglect it has suffered since. The Herbert concerto is cut to somewhat smaller proportions than Dvorak's, but in substance it glows with an expressive warmth. Ma and Masur do not have to underline that point. Their suave, elegant realization (particularly in the slow movement, which attains

# BEST OF THE MONTH



SIMON OBARJANEN/SONY CLASSICAL

**Yo-Yo Ma: suave, elegant Herbert, meltingly lovely Dvorak**

real eloquence by being kept moving) allows the work to emerge as a good deal more than a mere novelty or footnote — and in so doing raises the question yet again of how such a piece (and so much other music written in our country in the nineteenth century) can have been so utterly abandoned by our contemporary concert programmers.

The familiar Dvorak concerto is richly satisfying here, too. Ma's playing in the first movement is both more meltingly beautiful and a bit more animated than in his earlier recording of the work with conductor Lorin Maazel, the slow movement is more convincing now in its naturally flowing momentum, and throughout the performance there is a fine balancing of Dvorak's robust gestures and poetic

reveries. Masur is a splendid companion in both works, making sure that their symphonic character is fully realized as an enhancement of the solo part rather than in any sense a challenge to its primacy, and the sound quality is first-rate. If this release does not overturn allegiances to some of the towering earlier recordings of the Dvorak, it is a distinguished account in its own right, a duplication gladly borne for the downright indispensable performance of the Herbert.

*Richard Freed*

**DVORAK: Cello Concerto in B Minor, HERBERT: Cello Concerto No. 2, in E Minor.**

Yo-Yo Ma (cello): New York Philharmonic, Kurt Masur cond. SONY 67173 (61 min).

## Tommy Keene's Full-Throttle Pop

**W**hy isn't Tommy Keene a star? That's been a favorite question among lots of pop-obsessed critics for more than a decade. Possible answer: Keene, a fitfully inspired songwriter who has come up with his share of should-have-been hits (the mid-Eighties single *Back to Zero Now* is the most obvious ex-

ample), has never made a fully consistent album. Until now, that is. "Ten Years After," finally, is that album.

What Keene does isn't particularly unusual: hard guitar pop with yearning vocals, British Invasion references, and no holding back on hooks. What is unusual is the amount of smarts and heart he brings to the format. Some fans may

quibble with his shift from a jangly, semi-acoustic setting to the full-throttle electric sound here, but the new album is still typically Keene — not to mention neat, spiffy, and swell.

There weren't a lot of happy songs on Keene's previous albums. With "Ten Years After," it sounds as if his life has taken an upswing: The disc's two standouts, *Going Out Again* and *We Started Over Again*, are both about reuniting with an ex, and both are among the most romantic three-minute outbursts in recent memory. More characteristic is the haunting balladry of *Your Heart Beats Alone* and the bittersweet introspection of *Before the Lights Go Down*. Even hard rockers like *Turning on Blue* have their melodic subtlety, as Keene walks the line between emotional depth and thrills without skimping on either.

Throw in superb production and a likably weird thrash-punk finale, and what you get is a record that asks: Isn't it about time that Tommy Keene became a star?

*Brett Milano*

**TOMMY KEENE: Ten Years After.**

*Going Out Again; Turning on Blue; Today and Tomorrow; Your Heart Beats Alone; If You're Getting Married Tonight; On the Runway; We Started Over Again; Silent Town; Good Thing Going; Compromise; You Can't Wait for Time; Before the Lights Go Down.* MATADOR 0177 (42 min).



CHRIS CUFFARO/MATADOR

**Tommy Keene: hooks, heart, smarts**



# BEST OF THE MONTH

## Western Music With an Asian Flavor

**T**he influence of Asia on American music is usually traced to California composers like Henry Cowell and John Cage, but one of the great pioneers in this respect was from Montreal, Colin McPhee. McPhee fell in love with the gamelan ensembles of Bali, spent several years on that fabled Indonesian isle in the 1930's, and introduced its sound into Western music. His *Tabuh-Tabuhan* — one of three Asian-influenced works on a new CD from the British label Argo — uses two pianos, a celesta, a glockenspiel, a marimba, a xylophone, and two Balinese gongs to form the Western equivalent of a gamelan, and these instruments are set, often in rich, driving rhythms, against the orchestra. The first two movements of *Tabuh-Tabuhan* are brilliant inventions; only the finale, a little heavy-handed, is somewhat disappointing.

Lou Harrison, a West Coast composer of a younger generation, founded a California percussion ensemble with John Cage in the 1930's and has been a consistent exponent of Asian influence on American music. Several of the seven



JEFFREY HENSON/SCALES/IM. L. FALCONE

Conductor Dennis Russell Davies

movements of his *Suite for Symphonic Strings* are without harmonic movement or counterpoint. There are few overt Orientalisms; instead, the music evokes a feeling of distance and antiquity without ever sounding neo-anything. The current interest in world music and the acceptance of minimalism have made the music McPhee and Harrison wrote thirty and fifty years ago sound contemporary to today's ears.

Curiously, the least obviously Eastern of the three works on this disc is the only one by an actual Asian composer. Chinary Ung was born in Cambodia in 1942, graduated from that country's national conservatory and Columbia University, and has taught at the University of Pennsylvania and Arizona State. *Inner Voices* is an extremely colorful and beautifully written piece of musical poetry that infuses a strong Western technique with the subtler aroma of traditional Asian musical styles.

The performances of all three of these works by an outstanding new-music orchestra and conductor — the American Composers Orchestra under Dennis Russell Davies — are superb, and the recording itself is tops. *Eric Salzman*

**McPHEE:** *Tabuh-Tabuhan*.

**HARRISON:** *Suite for Symphonic Strings*. **UNG:** *Inner Voices*.

American Composers Orchestra, Dennis Russell Davies cond. ARGO 444 560 (68 min).

## NOW ON CD

### POPULAR

**IRON MAIDEN.**

**CASTLE 102.** Debut from the metal band that didn't (honestly) inspire Spinal Tap, now with three bonus tracks.

**JEFFERSON AIRPLANE: Takes Off.**

RCA 66797. The album that kicked off the San Francisco rock explosion, now on CD with both the stereo and mono mixes.

**NAPOLEON XIV: The Second Coming.**

RHINO 72402. Long-unavailable 1966 recording featuring the controversial hit *They're Coming to Take Me Away, Ha-Haaa!*, plus three songs from a lost follow-up album, some new tracks, and liner notes by both the "artist" and Dr. Demento.

**JOHNNY WINTER: Saints & Sinners.**

COLUMBIA/LEGACY 66420. The 1974 rock album by the Texas blues-guitar legend, with guest appearances by brother Edgar Winter, Rick Derringer, and the Blues Brothers' horn section.



### CLASSICAL

**FALLA: El Amor Brujo; The Three-Cornered Hat, Dances.**

**STRAVINSKY: The Firebird, Suite.** Grace Bumbry (mezzo-soprano, in Falla); Berlin Radio Symphony, Lorin Maazel cond. DEUTSCHE GRAMMOPHON 447 414. Remastered in DG's "The Originals" series, featuring Original-Image Bit Processing. Our review of the LP called the recorded sound "rich and handsome" (April 1966).

**DAVID OISTRAKH: Violin Concertos by Bach, Brahms, and Tchaikovsky; Romances by Beethoven.**

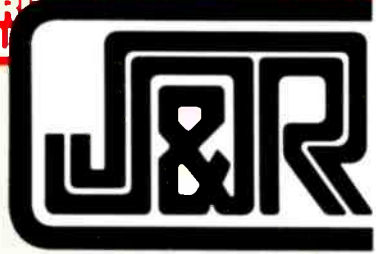
DEUTSCHE GRAMMOPHON 447 427 (two CD's). Another in DG's "The Originals" series, this set features the legendary Russian violinist in recordings from 1954 and 1962.

**TCHAIKOVSKY: Symphony No. 6 ("Pathétique"); 1812 Overture.**

**LISZY: Mephisto Waltz.** Chicago Symphony, Fritz Reiner cond. RCA 61246. Remastered "Living Stereo" recordings from the middle 1950's by the Hungarian-born maestro and the American orchestra he made into one of the world's best.

**THOMSON: Four Saints in Three Acts.**

Soloists; chorus and orchestra, Virgil Thomson cond. **The Plow That Broke the Plains, Suite.** Hollywood Bowl Symphony, Leopold Stokowski cond. RCA 68163. This first recording of *Four Saints*, in an abridgement by the composer from 1947, features singers from the original production. Stokowski recorded the suite from *The Plow That Broke the Plains*, originally a film score, in 1946.



### Mini Systems

**aiwa**

**Aiwa NSX-V10 Mini Audio System**

- CD player • Dual auto-reverse cassette
- AM/FM tuner with 32 presets • 16 watts/ch.
- Subwoofer output • Karaoke mic mixing
- 3-way speakers • Remote

Our Low Price **\$219<sup>95</sup>** (AIW NSXV10)

**Sharp CDC-444** \$179<sup>95</sup>  
 • 3-disc CD dual cassette, AM/FM

**Aiwa NSX-V70** \$449<sup>95</sup>  
 • 3-CD, auto-r/cass, AM/FM, 100 watts/ch.

**Denon DC-30** \$599<sup>95</sup>  
 • 6-CD auto-r/cass, AM/FM, remote

**JVC MXC550 HIGHLY RATED** CALL  
 • 6+1-CD, dual A/R, cas, 40 watts x 2, AM/FM

**Yamaha GX-5 TOP RATED** CALL  
 • 3-disc CD, dual A/R, cas, AM/FM, powered spkrs

**Denon D-1000S** CALL  
 • 3-disc CD, dual A/R, cas, AM/FM, Dolby Pro Logic

### Receivers

**Technics TOP RATED**

**Technics SA-GX490 Home Theater Receiver**

- 80 watts x 4 or 100 watts x 2 • Dolby Pro Logic • A/V remote control • 30 AM/FM presets • 4 audio/2 video inputs

Mr. Sug. Retail \$399.95

Our Low Price **\$249<sup>95</sup>** (TEC SAGX490)

**Technics SA-GX190** \$159<sup>95</sup>  
 • 100 watts/channel, A/V remote

**JVC RX-318** \$179<sup>95</sup>  
 • 110 watts/channel, A/V remote

**TEAC AG-SV7150** \$279<sup>95</sup>  
 • 100 watts/ch., Dolby Pro Logic, remote

**Technics SA-GX690** \$299<sup>95</sup>  
 • Home Theater, 100 watts/ch., Dolby Pro Logic

**Denon DRA-835R** \$449<sup>95</sup>  
 • 100 watts/ch., 40-AM/FM presets, remote

**Luxman RV-371** \$1199<sup>95</sup>  
 • 75 watts x 2, 55 watts x 3, Dolby Pro Logic, DSP

### Amps/Preamps

**dbx**

**dbx XB150 Subwoofer Power Amplifier**

- Designed to work with subwoofers only, while main amp is free to power the midrange & highs
- Boosts bass with 140 watts RMS into 4 ohms from 20-200Hz
- Volume control

Our Low Price **\$179<sup>95</sup>** (DBX XB150)

**Proton AP-2000** \$249<sup>95</sup>  
 • Preamp, subwoofer crossover, remote

**Luxman C-383** \$799<sup>95</sup>  
 • Preamp, MM/MC phono, remote

**Gemini XG2000** \$428<sup>95</sup>  
 • Power Amp, 250 watts/ch., rack-mount...

**Luxman M-383** \$1199<sup>95</sup>  
 • Power Amp, 220 watts/ch., high-current design

**Carver PM-700** CALL  
 • Power Amp, 225 watts/ch., Professional Series

**Luxman A-384** \$799<sup>95</sup>  
 • Integrated Amp, 90 watts/ch., hybrid

**This Month's**  
 CALL TO ORDER  
 MUSIC REVIEWED IN THIS ISSUE

**Great Independent Releases**

**TWISTED WILLIE**

JUS 9

**Twisted Willie**

An alternative all-star tribute to Willie Nelson, with Johnny Cash, L7, Presidents of the U.S.A., X & others

**\$10<sup>99</sup> CD \$5<sup>99</sup> CASSETTE**

**Eric Matthews: It's Heavy In Here** SUB 70312.....CD \$11.99

**Edwyn Collins: Gorgeous George** BRN 58.....CD \$11.99  
 .....Cassette \$6.99

**Dar Williams: Mortal City** RAZ 2821.....CD \$11.99  
 .....Cassette \$6.99

**Old & In The Way-That High Lonesome Sound** ADI 19.....CD \$11.99  
 .....Cassette \$6.99

**Gravity Kills: Gravity Kills** TVT 5910.....CD \$11.99  
 .....Cassette \$7.99

**Todd Rundgren: Individualist** ION 6000.....CD \$12.99  
 .....Cassette \$7.99

### CD Players/Changers

**Technics**

**Technics SL-PD987 5-Disc CD Changer**

- Front-loading 5-disc design allows changing of 4 discs while 1 plays
- iD Scan • Pitch control • 32-track programming • MASH 1-bit DAC • Remote

Mr. Sug. Retail \$269.95

Our Low Price **\$199<sup>95</sup>** (TEC SLPD987)

**RCA CD-1051M** \$89<sup>95</sup>  
 • Mid-size, 20-track programming, remote

**Technics SL-PG450** \$139<sup>95</sup>  
 • 1-bit, 20-track programming, remote

**Magnavox CDC74517** \$149<sup>95</sup>  
 • 5-disc changer, 30-track prg., BitStream, remote

**Technics SL-PD787** \$159<sup>95</sup>  
 • 5-disc changer, 32-track programming

**Technics SL-MC50** \$299<sup>95</sup>  
 • 60-disc changer • single CD play, 32-track prg.

**Aiwa DX-C100M** \$349<sup>95</sup>  
 • 100-disc changer, 99-track prg., remote

### AudioSource Components

**AudioSource**

**AudioSource SS Six Surround Sound Processor**

- Easy-to-use set & forget operation • Dolby Pro Logic processor • Amp output: 24 watt center + 24, wait rear or 24 watt x 2 rear
- Subwoofer output with built-in crossover

Mr. Sug. Retail \$329.95

Our Low Price **\$279<sup>95</sup>** (ASO SSSIX)

**AudioSource VS Two** \$99<sup>95</sup>  
 • Powered Center Ch. Speaker, 30 watts ea.

**AudioSource EQ-8/II** \$99<sup>95</sup>  
 • Equalizer, 10 bands/channel

**AudioSource EQ-11** \$119<sup>95</sup>  
 • Equalizer, 10 bands/ch., tape dubbing

**AudioSource EQ-14 NEW** \$229<sup>95</sup>  
 • 10 band Equalizer/Analyzer with mic

**AudioSource PRE ONE** \$229<sup>95</sup>  
 • Preamp, MM/MC phono 2-outputs

**AudioSource AMP ONE** \$269<sup>95</sup>  
 • Power Amp, 80 watts/ch., bridgeable

### Headphones

**KOSS**

**Koss ESP/950 Electrostatic Headphones**

- High-accuracy reference quality for the discerning audiophile
- Includes amplifier, carrying case & external battery pack
- Straight-line response from 8Hz - 35KHz

Our Low Price **\$479<sup>95</sup>** (KOS ESP950)

**Sony MDR-V400** \$59<sup>95</sup>  
 • Closed ear, digital series, folding headband

**Koss Pro 4XTC** \$69<sup>95</sup>  
 • Open air design, deep bass, dual plugs

**Koss Pro 4AA** \$79<sup>95</sup>  
 • Studio Pro Headphones, closed-ear

**Sony MDR-D55** \$99<sup>95</sup>  
 • Portable Audiophile model, fold ng headband

**Sennheiser HD545** \$129<sup>95</sup>  
 • Open-Air, wide response, velour earpads

**Sennheiser HD580** \$249<sup>95</sup>  
 • Audiophile precision, Circumaural, DP RATED

### Cassette/DCC Decks

**PHILIPS** **75% OFF** Mr. Sug. Retail

**Philips DCC900 Digital Compact Cassette**

- Records & plays DCC tapes • Plays back analog cassettes using Dolby B & C
- Auto-reverse • Headphone jack • Remote control

Mr. Sug. Retail \$799.95

Our Low Price **\$199<sup>95</sup>** (PHI DCC900)

**TEAC V-375** \$69<sup>95</sup>  
 • Dolby B, auto-tape selector

**Aiwa AD-F450** \$129<sup>95</sup>  
 • Dolby B, C, HX-Pro, line bias, remote

**Aiwa AD-F850** \$229<sup>95</sup>  
 • 3-heads, Dolby B, C, HX-Pro, line bias, remote

**Aiwa AD-S950** \$289<sup>95</sup>  
 • 3-heads, Dolby S, B, C, HX-Pro, remote

**Fostex XR7** \$529<sup>95</sup>  
 • Multi-track 4-tk record, 6-outputs, parametric EQ

**TEAC V-8030S** \$699<sup>95</sup>  
 • 3-heads, 3-motors, Dolby S/B/C/HX-Pro, remote

### Double Cassette Decks

**JVC PITCH CONTROL**

**JVC TDW-709 Dual Auto-Reverse Cassette Deck**

- Auto-reverse record & playback from both decks
- Dolby B/C/HX-Pro • Simultaneous recording on 2 tapes • Pitch control • Mic mixing

Mr. Sug. Retail \$329.95

Our Low Price **\$199<sup>95</sup>** (JVC TDW709)

**TEAC W-515R** \$89<sup>95</sup>  
 • Deck # 1 auto-rev., Dolby B

**Aiwa AD-WX727** \$149<sup>95</sup>  
 • Double auto-rev. Dolby B/C/HX-Pro, remote

**Technics RS-TR262** \$159<sup>95</sup>  
 • Double auto-rev., Dolby B/C/HX-Pro

**Technics RS-TR373** \$179<sup>95</sup>  
 • Double auto-rev., Dolby B/C/HX-Pro, 4-motors

**TEAC W-850R** \$199<sup>95</sup>  
 • Double auto-rev. rec/play, Dolby B/C/HX-Pro

**Technics RS-TR575** \$229<sup>95</sup>  
 • Double auto-rev. rec./play, Dolby B/C/HX-Pro

### JBL Speakers

**JBL**

**65% OFF** Mr. Sug. Retail

**JBL LX600 3-Way Speakers**

- 10" woofer • Titanium dome tweeter • 200 watts power handling • 8 ohm impedance
- Black cabinet

Mr. Sug. Retail \$858.00

Our Low Price **\$299<sup>95</sup>/pr.** (JBL LX600)

**JBL Performer** \$99<sup>95</sup>  
 • Compact, 4.5" full-range drivers, shielded, pair

**JBL SC305** \$129<sup>95</sup>  
 • Center channel, shielded, black, each

**JBL PS60** \$199<sup>95</sup>  
 • Powered Subwoofer, 6.5" woofer, 50 watts each

**JBL PS100** \$249<sup>95</sup>  
 • Powered Subwoofer, 10" woofer, 50 watts each

**JBL PS120** \$299<sup>95</sup>  
 • Powered Subwoofer, 12" woofer, 100 watts each

**JBL 4312BK** \$499<sup>95</sup>  
 • Studio Monitors, 3-way, 12" woofer, black, pair

### Bose Speakers/System

**BOSE**

**Was \$318/pr.**

**Bose® 301® Series III Direct/Reflecting® Speakers**

- Compact speakers that provide Stereo Everywhere
- 6" woofer • 2.3" tweeters in Free Space® Array • Slot-port enclosure system • 150 watt power rating • 8 ohms • Black or walnut

Our Low Price **\$249<sup>95</sup>/pr.** (BOS 301-III-BK) (BOS 301-III-WO)

**Bose® 100** \$149<sup>00</sup>  
 • Compact, 10-80 watts, black or white, pair

**Bose® 201®-III** \$159<sup>95</sup>  
 • "Direct/Reflecting", compact-size, 6" woofer, pair

**Bose® Acoustimass® 3-III** \$399<sup>95</sup>  
 • 2-cube speakers • small Acoustimass® bass module

**Bose® Acoustimass® 5-II** \$749<sup>00</sup>  
 • 2-cube speakers • large Acoustimass® bass module

**Bose® Acoustimass® 7** \$899<sup>00</sup>  
 • 4-cube speakers • large Acoustimass® bass module

**Bose® Lifestyle® 12 System** \$1999<sup>00</sup>  
 • CD player, AM/FM, Bass module • 5 cubes

CALL US TOLL FREE FOR ITEMS NOT LISTED IN THIS AD SE HABLA ESPANOL



SHOP BY PHONE  
 24 HOURS A DAY  
 7 DAYS A WEEK  
 FROM ANYWHERE IN THE USA  
 J&R Music World, Dept. SR0596, 59-50 Queens-Midtown Expressway Maspeth N.Y. 11378  
 FAX 1-800-232-4432

**1-800-221-8180**

For PHONE ORDERS ONLY  
 Outside U.S.A. Call:  
 1-212-406-7077

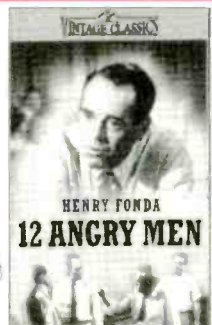


# MUSIC WORLD®

**Super Specials!**

CALL TO ORDER  
 OTHER MOVIE TITLES

Videos on VHS



**12 Angry Men**  
**\$15.99**  
 VHS

MGM/UA Vintage Classics—  
 Digital Transfers

- Inherit the Wind* ..... \$15.99
- Judgment at Nuremberg*...LTX/PS \$15.99
- Witness For The Prosecution* ... \$15.99

MGM/UA Screen Epics—  
 Remastered

- Exodus* .....LTX or PS \$19.99
- Greatest Story Ever Told* LTX or PS \$19.99
- King of Kings* .....LTX or PS \$19.99
- Ben-Hur* .....LTX or PS \$19.99
- Quo Vadis* ..... \$19.99

**Hi-Fi Stereo VCRs**



**TOP RATED**  
**Samsung VR8905**  
**Hi-Fi Stereo VHS Recorder**  
 •4-heads •181-channel cable-ready •MTS decoder •10-event/1-month programmable tuner •Jog/shuttle control •Closed caption decoder •StarSight TV program guide

Our Low Price **\$399.95** (SAM VR8905)

- Samsung VR8605** ..... \$199.95
- JVC HR-J620** ..... \$259.95
- JVC HR-VP628** ..... \$329.95
- Panasonic PV-4564** ..... \$339.95
- Sony SLV-940HF** ..... \$379.95
- Toshiba M-761** ..... \$389.95

**S-VHS VCRs/Laser Disc**



**50% OFF**  
**Mr. Sug. Retail**  
**JVC**

**JVC HR-S7100**  
**S-VHS Hi-Fi Recorder**  
 •VCR Plus+ with multi-system cable box controller •Jog/shuttle remote •1-year/8-event programming

Our Low Price **\$549.95** (JVC HRS7100)

- RCA VR721HF** ..... \$399.95
- Panasonic PV-S4566** ..... \$399.95
- JVC HR-S5100** ..... \$499.95
- Panasonic PV-S4580** ..... \$799.95
- Panasonic LX-H670** ..... \$399.95
- Pioneer CLD-V860** ..... \$699.95

**Camcorders**



**SONY**

**Sony CCD-TR100**  
**Hi-8mm Handycam Camcorder**  
 •12x variable speed zoom •Hi-Fi stereo sound •3 lux •LCD data panel remote •5-mode digital picture effect •AV digital fader •Flying erase head •Date/time record

Our Low Price **\$699.95** (SON CCDTR100)

- Panasonic PV-IQ205** ..... \$549.95
- Sony CCD-TR82** ..... \$579.95
- Panasonic PV-IQ505** ..... \$749.95
- JVC GR-SZ7** ..... \$949.95
- Panasonic PV-S770** ..... \$1099.95
- Sharp VL-H420** ..... \$1499.95

**A/V Furniture/Speaker Stands**



**STANDESIGN**

**Standesign Penta Audio Rack**  
 •5 black ash shelves set in black metal frame •Top shelf positioned on spikes •34" h X 20" w X 16" d •Shelf is 18.25" X 16" d •6.75" between shelves

Our Low Price **\$299.95** (STD PENTA)

- Target BT1** ..... \$29.95
- Wood Technology E-710** ..... \$49.95
- Studio Tech C-28 BB** ..... \$84.95
- Plateau Z4A** ..... \$149.95
- Elite EL-294** ..... \$189.95
- Bell'oggetti AR-703** ..... CALL

**Cameras**



**OLYMPUS**

**Olympus Stylus Zoom 105**  
**All Weather Zoom Camera**  
 •38-105mm f4.5-8.9 •Active autofocus •860-step autofocus •3-zone light metering •5 flash modes •Variable power flash •Electronic self timer •LCD status display •Auto setting with DX coded film

Our Low Price **\$249.95** (OLM STYLUS105)

- Olympus Infinity Zoom 2000** ..... \$129.95
- Canon Sure-Shot 70 Zoom** ..... \$149.95
- Yashica T4 SUPER** ..... \$169.95
- Minolta Freedom Zoom 90EX** ..... \$199.95
- Olympus SuperZoom 3500** ..... \$279.95
- Minolta Freedom Zoom 140EX** ..... \$329.95

**SLR Cameras**



**Nikon**

**Nikon FM2N-T**  
**Limited Edition Manual SLR Camera With Titanium Body**  
 •60/40 center-weighted metering •Manual focus & manual exposure •3-point LE exposure display in viewfinder •Body only

Our Low Price **\$599.95** (NKN FM2N-T)

- Canon Rebel XS Kit** ..... \$279.95
- Minolta Maxxum 400si** ..... \$299.95
- Nikon N6006** ..... \$449.95
- Canon EOS ELAN II E** ..... \$499.95
- Minolta Maxxum 600si** ..... \$529.95
- Nikon N700D** ..... \$699.95

**Speakers**



**RATED BEST BUY**

**YAMAHA**

**Yamaha NSA-636**  
**3-Way Speakers**  
 •Acoustic suspension design •8 inch woofer •Shielded •Power rating: 10-140 watts

Mr. Sug. Retail \$175.00

Our Low Price **\$99.95/pr.** (YAM NSA636)

- Yamaha NSA-C2** ..... \$69.95
- Pinnacle PN5+/Oak** ..... \$99.95
- Technics SB-CSS70** ..... \$129.95
- Technics SB-LX90-BK** ..... \$199.95
- Recoton W-440** ..... \$199.95
- Cerwin-Vega HT-12PWR** ..... \$399.95

**Turntables**



**THORENS**

**Thorens 180**  
**3-Speed Belt Drive Turntable**  
 •33, 45, 78 r.p.m. •Automatic shut-off & auto-retract •Synchronous motor •Adjustable anti-skating •External power supply •Includes Stanton cartridge

Mr. Sug. Retail \$429.95

Our Low Price **\$299.95** (THN 180)

- TEAC P-595** ..... \$89.95
- TEAC PA-400** ..... \$109.95
- Aiwa PXE850** ..... \$119.95
- Technics SL-BD22K** ..... \$149.95
- Technics SL-1200II** ..... \$449.95
- Thorens TD-280 MkIV** ..... CALL

**Phones**



**SONY**

**Sony SPP-M100**  
**2-Line Cordless Phone**  
 •Compaider Piosound™ noise reduction •Distinct rings for each line •3-way conference capability •10# speed dial •Base-to-handsset paging •1-mo. battery standby •Out-of-range alert •Black

Our Low Price **\$149.95** (SON SPPM100-BK.)

- AT&T 4336** ..... \$49.95
- PhoneMate 8200** ..... \$49.95
- Sony IT-M10** ..... \$49.95
- AT&T 1720** ..... \$79.95
- Panasonic KX-T4360-CH** ..... \$179.95
- Panasonic KX-T9500** ..... \$199.95

Get our **FREE** mail order catalogues now!



ORDER TOLL-FREE 24 HOURS, 7 DAYS A WEEK  
**800-221-8180**

**ASK ABOUT OUR EXTENDED WARRANTY CALL US TOLL FREE FOR ITEMS NOT LISTED IN THIS AD**

**TO ORDER BY MAIL:** SEND MONEY ORDER, CERTIFIED OR CASHIER'S CHECK, MASTERCARD, VISA, AMERICAN EXPRESS or DISCOVER CARD (Include Interbank No. expiration date & signature) To: **J&R MUSIC WORLD, DEPT. SR0596, 59-50 QUEENS-MIDTOWN EXPRESSWAY, MASPETH, QUEENS, NY 11378.** Personal & business checks must clear our Authorization Center before processing. Shipping, handling & insurance charge (for Continental US) is 5% of total order with a \$4.95 minimum for orders up to \$500; 4% for orders over \$500 to \$1000; 3% for orders over \$1000. For heavy/oversized items, shipments by air, or to Canada, Alaska, Hawaii, Puerto Rico or Virgin Islands please call for information. **DO NOT SEND CASH.** Sorry, no COD's. NY residents, please add sales tax. **ORDERS SUBJECT TO VERIFICATION & ACCEPTANCE. SOME QUANTITIES MAY BE LIMITED. NOT RESPONSIBLE FOR TYPOGRAPHICAL OR PICTORIAL ERRORS.** ALL MERCHANDISE SHIPPED BRAND NEW, FACTORY FRESH, AND 100% GUARANTEED. Copyright 1996 J&R Music World



# One



## GETS IT ALL!

PRICE ♦ DELIVERY ♦ SERVICE

## AUDIO

AV Receivers  
Separates  
Speakers  
CD's  
Book Shelf  
Car  
Portable  
AC3-THX  
Pro Logic  
Interconnects

## VIDEO

DSS  
Camcorders  
VCR's  
TV's  
Home Theater  
Projection  
Laser  
Videonics

— *Best in the West* —

# 1-800-540-0900

## FAX: (509) 838-4387

[onecall@iea.com](mailto:onecall@iea.com)

[www.onecall.com](http://www.onecall.com)

7 Days a Week - 7am to 6:30pm PST  
418 W. Riverside - Spokane, WA 99201



P.O.'s ACCEPTED

CIRCLE NO. 47 ON READER SERVICE CARD



# POPULAR MUSIC

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

**TORI AMOS: Boys for Pele.**

ATLANTIC 82862 (71 min).  
Performance: Pretentious  
Recording: Very good

This particular Amos got famous by tapping into a wellspring of sounds and symbols that served as an anodyne for a feminine spirit bruised but emboldened by the sheer act of survival. However, since the bracing shock of her debut, "Little Earthquakes," Tori Amos has passed from revelatory magic to crackpot self-caricature.

A tediously lengthy screed, her new "Boys for Pele" trades insight for incoherence. The shape of Amos's lyrics seems dictated more by free association than artistic vision (from *Horses*: "You showed me the meadow / And Milkwood / And Silkwood / And you would if I would / But you never would / So I chased down your posies / Your pansies in my hosies . . ."). Take away the words (please!) and you're left with a sort of New Age spa album, one of those vague drizzles of pianistic dewdrops that might carry the name of a season as its title. Bring back the words and you've got vast acres of poetasting that are almost proudly inscrutable, all but defying listeners to crack their code. Just one question: Y Kant Tori Make Sense? P.P.

**RORY BLOCK: Tornado.**

ROUNDER 3140 (46 min).  
Performance: Mostly solid  
Recording: Robust

Acoustic guitarist Rory Block follows up "When a Woman Gets the Blues" with an album that draws not only from her love of the Delta but also from her fondness for country, folk, and nearby terrain. "Tornado" blows in strong: A cover of the traditional *Mississippi Bottom Blues* has Block in full passionate voice, as electric guitarist Jeff Miranov provides incisive lead lines and drummer Jerry Marotta punches up the track with intelligent jabs. Even Paul Shaffer rises to the occasion, playing keyboards that, if not dangerous, are certainly dandy.

There's more. Among nine originals, *Pictures of You* sees past love in the kind of golden glow we all tend to give it ("I feel your heart beating in my memory / I'm in love with pictures of you"), while the solo-acoustic *Like a Shotgun* bluntly tells the real story ("You spoke to me just briefly, you were telling me goodbye: / 'Get over it! Get over it!' You were angry when I cried"). And in Andy Barnes's Celtic song of *The Last Leviathan*, Block's double-tracked chant should stir anyone who has turned blasé over saving the whales.

The problem is, strengths like these are bound to make weaknesses seem even worse in this far-reaching program of material. Accordingly, *Gone Woman Blues*, dedicated to Nicole Brown (no married name here), is a nondescript instrumental that misses its chance to be a powerful eulogy. The album ends with three progressively blander tracks, one of which, *Indian Ernie*, ruins its train theme with a saxophone. Please, Rory, no saxophones.

What's good here, though, is great. Eleven albums with Rounder and this journeywoman continues to develop as a singer, guitarist, and songwriter. K.R.



**LISA BROKOP.**

CAPITOL 33875 (34 min).  
Performance: Impressive  
Recording: Good

In the glut of new Nashville talent, Lisa Brokop has largely been overlooked — a pity, since she appears to be head and shoulders above the usual country-pop fare.

Like the young Kathy Mattea, Brokop can spew out radio hits at the ready; here the contenders are *Language of Love* and *Before He Kissed Me*, both of which draw on the girl-group sound of the Sixties, and a remake of Jennifer Warnes's *I Know a Heartache When I See One*. But also like Mattea, Brokop is blessed with a distinctive, huskily searching voice, and with a sense of quasi-spiritual song selection that burrows beneath the obvious: *At the End of the Day* celebrates a marital bond that goes beyond practicality and sexuality, and *Now That We're Not a Family* goes the other way, facing the truth in a painful divorce. Like many other women in current country music, Brokop has the potential to transcend stereotypes in a most intriguing way. Keep your eye on this gal. A.N.

**COCTEAU TWINS: Milk and Kisses.**

CAPITOL 36240 (55 min).  
Performance: Evocative  
Recording: Big

A good Cocteau Twins album is like a music box that casts an indelible spell over a room. Elizabeth Fraser's soprano voice is no less an instrument than the swirl of guitars, keyboards, and percussion into which it is cast like a glistening string of pearls. "Milk and Kisses" is a shade less vigorous and playful than the Twins' peak recording, "Heaven or Las Vegas?," but it is nonetheless a pleasing and welcome addition to their canon. Peculiar titles (*Half-Gifts* and *Calfskin Smack*, for example) hint at the Twins' creative sorcery, which aims less at sense than sensory impressionism. Particularly wondrous are the lush, joyful *Tishbite* and the quirky strangeness and charm of *Rilkean Heart*. P.P.



**GOLDEN SMOG:**

**Down by the Old Mainstream.**

RYKODISC 10325 (50 min).  
Performance: Casual  
Recording: Organic

There's a thin line between making a joke album and making an album with jokes on it. Golden Smog is on the right side. Even with its jokey title, jokey CD booklet, and jokey pseudonyms for the band members (who include Wilco frontman Jeff Tweedy, Soul Asylum second banana Dan Murphy, and a pair of Jayhawks), this relaxed country-pop session sounds exactly like something that a roomful of gifted writer/players would do while all the managers and marketers were locked out of the studio.

The band was evidently enjoying itself too much to disguise its borrowed riffs (V crosses R.E.M.'s *Losing My Religion* with

## POPULAR MUSIC

most of Neil Young's "Harvest" album, *Won't Be Coming Home* nicks its guitar hook from Blind Faith's *Presence of the Lord* or its role-model homages (*Yesterday Cry* is a Keith Richard ballad that Richard forgot to write, *Friend* wraps Bad Company's entire career into six minutes). As for relevant song topics, *Pecan Pie* is about guesstimate, while *He's a Dick*, describing a guy whose various crimes include keeping the records he borrows, sports just the inebriated-sounding vocal a song of that title calls for.

Still, there are more hooks than yuks, especially in the L.A.-country groove of *Nowhere Bound* and the swampy twists of *Walk Where He Walked*. The uncluttered Seventies-style production is another plus, as are the group harmonies and the cover of Ronnie Lane's overlooked Faces gem *Glad and Sorry*. Golden Smog may be a fake band, but its songs are for real. **B.M.**

### **TOBY KEITH: Blue Moon.**

POLYDOR 531 192 (39 min).  
**Performance: Hit and miss**  
**Recording: Good**

**T**oby Keith thinks he should have been a cowboy, but instead he's a better than average interpreter of middle-of-the-road modern country — as long as you don't require too much of him. Possessing a rough-and-tumble baritone that says he's been some places he shouldn't have (and itches to return), Keith too often peddles whitebread versions of songs that could have left a gritty trail. *The Lonely*, for example, with its Roy Orbison-style theme of spiraling darkness, never really gets out of the gate. *A Woman's Touch*, too, would benefit from a more bluesy delivery, and any neo-country rocker who trots out fake Jimmy Buffett like *Hello* deserves a one-way trip to the Bermuda Triangle. However, when handed a natural-born hit like the ballad *Does That Blue Moon Ever Shine on You* or the upbeat

*Lucky Me*, Keith knows exactly what to do and rides it for all it's worth. With time, he could be a contender. **A.N.**

### **AIMEE MANN: I'm with Stupid.**

DGC 24951 (56 min).  
**Performance: Wonderful**  
**Recording: Charmingly mid- to hi-fi**

**T**his one sneaks up on you. After playing the first two tracks of "I'm with Stupid" and hearing their uneasy balance between dirty guitars and Aimee Mann's clear voice, you may well question the critical fuss made over material that sounds so ordinary. But then comes *Sugarcoated* and you're caught, those guitars building to a simple but oh-so-effective crescendo, that voice sliding into some nicely nasty barbs: "Out of your mouth comes a stream of clichés / Now I have given you so much rope you should've been hanging for days." And then comes *You Could Make a Killing*, a fine acoustic ballad, and then *Superball*, where Mann's pop instincts are supremely catchy-as-catchy-can. And before you know it, we've got quite an album here.



Mann opens *Par for the Course* with an affecting flourish of lyrics, using phrases we've heard before to lure us into a pointed narrative: "It's par for the course, you backed the wrong horse / You put down the phone and cried for yourself / And for what you couldn't have / A plea — that won't do / Now that she serves it to you." This is the album's emotional centerpiece, Mann playing all the instruments through six minutes of utter dejection. She's at the top of her craft when she can sing a common line in the chorus — "I don't even know you anymore" — and still make us feel the hurt.

The layers applied to her previous album, "Whatever," are absent, but Mann remains a fan of attractive melodies, beautiful harmonies, and playful production touches. And good old rock-and-roll, as she closes "I'm with Stupid" with the ringing *It's Not Safe*, driven by guitarist Michael Penn and background vocalists Glenn Tilbrook and Bonzo Dog/Python/Rutle Neil Innes. Hats off to an artist who almost got eaten by the industry but lived to sing the tale. **K.R.**

### **BILL MORRISSEY: You'll Never Get to Heaven.**

PHILO 1194 (44 min).  
**Performance: A tad off the beam**  
**Recording: Good**

**B**ill Morrissey is memorable for two qualities: a baritone that sounds like it got gummed up while trolling the ocean floor, and a penchant for writing songs that peel back the curtain on carefully sequestered

lives. "You'll Never Get to Heaven" doesn't draw as much blood as his previous albums; the bruised-relationship song *When Summer's Ended* sounds like forgettable acoustic folk except for the smart-ass saxophone solo, and *Big Leg Ida* is just run-of-the-mill modern Dixieland. But Morrissey shows his stuff in *Winter Laundry*, which starts out as a list of seemingly mundane details but evolves into a moving story of an extramarital affair in a small town told from the woman's point of view. Count on Morrissey, too, to come up with a quotable line like "You'll never get to heaven / If that dog keeps howling. . . ." Maybe not, but you just might inspire some down-and-dirty blues and a title track to boot. **A.N.**

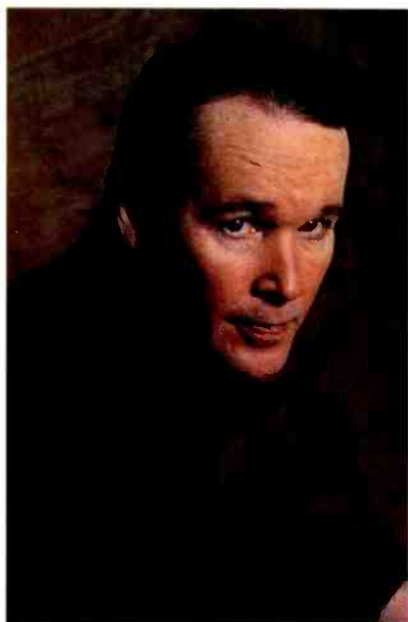
### **ELLIOTT MURPHY: Selling the Gold.**

DEJADISC 3224 (50 min).  
**Performance: Assured**  
**Recording: Clean**

**A**n American who has lived in Paris for more than a decade, Elliott Murphy remains fixated on his homeland and its mythic pull. So his excellent new album begins with *Love to America*, a jumble of impressions about the U.S. in the Nineties, delivered at a rapper's breathless gait over a loping folk-rock track with an indelible, vibey keyboard hook. Murphy is bemused but disapproving ("Pomographic paradise capped white teeth / Xanadu and Shangri-La just out of reach"), and you get the feeling he's in no hurry to move back to these badlands anytime soon. That love/hate relationship surfaces over and over in such songs as *Buddy and Peggy Sue*, a mythopoetic road story that serves up a disturbing slice of American Pie, and *Real Time*, a droll but disillusioned look at a world that has ransomed its soul to technology.



"Selling the Gold" just might be the most consistent and satisfying album of Murphy's long career. He arranges a strong set of songs with understatement, cloaking thoughtful lyrics in poised, tuneful settings. He plays acoustic guitar for texture and clear-toned leads for embellishment, while his voice — a Lou Reed by Bob Dylan urban-folk burr that shapes words with a poet's open heart and a rocker's offhand wit — is an unmistakable instrument in its own right. Despite some verbal overkill, Murphy is one of rock's most disciplined lyricists. In *A Whole New World*, he addresses the inner changes wrought by fatherhood, condensing a long story and complex emotions into a string of brief, incandescent images. *Is Fellini Really Dead?* manages to eulogize an entire generation by invoking the name of a surrealist filmmaker whose



HERB KARAS/PHILLO

**Bill Morrissey: God is in the details.**

## POPULAR MUSIC

passing signifies the end of something to Murphy — the death of the imagination, perhaps. Even the song that seems most calibrated for airplay — complete with a mushy title, *Everything I Do (Leads Me Back to You)*, worthy of Bryan Adams, as well as a celebrity vocal turn from Bruce Springsteen — sounds sincere, guileless, and unabashedly lovely. P.P.

### SYD STRAW: *War and Peace*.

CAPRICORN 42052 (59 min).

Performance: **Strong return**

Recording: **Very good**

On her first solo album since her 1990 debut, "Surprise," Syd Straw reprises some of the avant-country-rock stylings that characterized her work with the Golden Palominos. But it's her intelligent lyrics and soaring choruses that make "War and Peace" a standout — the way she plays the victim/victor personas off each other (*Time Has Done This to Me*, *Love and the Lack of It*) and finally lays out her emotions like so many dry goods in the department store of her heart. That, plus some churning guitars (CBGB's), memorable, quirky melodies (*Toughest Girl*, *Black Squirrel*), great backing from Midwest cult legends the Skeltons, and a singing voice that delivers words as intensely as secrets exploding from a long-imprisoned soul, make "War and Peace" a must-have addition to any smart CD collection. A.N.

### RICHARD THOMPSON: *you?me?us?*

CAPITOL 33704 (two CD's, 80 min).

Performance: **Typically fine**

Recording: **Likewise**

Richard Thompson is in a rut, but as ruins go, it's one of the best. For the last ten years he has used the same producer (Mitchell Froom) and the same rotating cast of players (half session aces, half folk-rock holdovers), mining a style that's eclectic and challenging, yet most often rocking and accessible. "you?me?us?," a two-CD set with an electric disc and an acoustic disc (two songs overlap), is, yawn, another excellent album. It's no surprise that the guitar work is jaw-dropping, that the songs are filled with hooks and twists, or that the lyrics look hard into romantic and spiritual yearnings. Thompson has long since proved he can do all that before breakfast.

One difference, though: The tone is considerably darker than that of his last three albums, which made token stabs at commerciality. Along with the usual looks at obsessive lovers, the catchiest songs on the electric disc (*Razor Dance*, *Business on You*) express revulsion with love itself, and the centerpiece, *Put It There Pal*, has more outright bitterness than any Thompson song since 1974's *End of the Rainbow*. Melancholia takes over on the haunting acoustic disc, where the songs are all about failed love, dead bodies, or (in the case of *The Woods of Darney*) both. *Cold Kisses*, about finding a partner's old love letters, wrings creepiness out of an innocent topic.

Think of the first disc as a temper tantrum and the second one as the good cry afterward. You need both. B.M.

### WYNONNA: *Revelations*.

CURB/MCA 11090 (50 min).

Performance: **Snoresville**

Recording: **Very good**

On her first outing since 1993's "Tell Me Why," the younger Judd lets fly with one of the most remarkable voices in popular music — and comes close to boring her audience to tears. Rarely has an album been so ironically titled, since "Revelations" finds Wynonna relying on her stock tricks — growling here, testifying there — and adding not a scintilla of anything new to her vocal repertoire. Her material, too, tends to mine one of two repetitive loads — MOR love ballads à la Dionne Warwick (*To Be Loved by You*) and quasi-Bonnie Raitt blues-rockers (*Somebody to Love You*, *Old Enough to Know Better*). By the fifth song, you don't need to call the Psychic Friends' Network to know the album's not going to get much more varied. It's all simulated yearning and sensuality, with a ghastly, seemingly endless remake of Lynyrd Skynyrd's *Free Bird* that will make you scurry for the Track Skip button on your remote control. A.N.

## Collections

### BLUES LIVE FROM MOUNTAIN STAGE.

BLUE PLATE 305 (59 min).

Performance: **Erratic**

Recording: **Good**

This latest sampler of recordings from the *Mountain Stage* radio program runs the gamut from urban to Delta Blues and from authentic legends (Charles Brown, Charlie Musselwhite) to contemporary masters (Tracy Nelson, Chris Smither) and great pretenders (Nighthawks). Too many songs seem routine, and every other guy blows a harmonica with all the emotional range of A to B. But there are standout performances, including Nelson's great, ballsy voice tenderly wrapped around Melvin London's *It Hurts Me Too*, Johnnie Johnson's rough, feel-good vocal in the Kentucky Headhunters' *That'll Work*, and Phil Wiggins's staccato harp solo in *Black Cat on the Line*. Buy this one, but pick and choose. A.N.



### SATURDAY MORNING CARTOONS' GREATEST HITS.

MCA 11348 (65 min).

Performance: **Low-concept**

Recording: **Good enough**

You might think it would be a really cute idea for a bunch of indie-darling bands to do cover versions of old TV cartoon themes. Unfortunately, you'd be right. Try

### BESSIE SMITH: THE LOST EPISODES

First, the good news: With the reissue of Columbia/Legacy's fifth volume of "Bessie Smith: The Complete Recordings" (57546), all the trailblazing Smith packages originally put together in the Seventies by STEREO REVIEW's Chris Albertson are finally on CD. Now the better news: The package comes with a



bonus disc in which Albertson interviews Ruby Smith, Bessie's niece and confidante, about their adventures on the road — most of which make the exploits of Guns 'N Roses seem like a choirboys' retreat, thus earning the reissue the industry's coveted "Parental Advisory: Explicit Lyrics" sticker. Way to go. S.S.

as it may, this compilation seldom rises above the cuteness of the idea — because a lot of those cartoon themes were forgettable, and so are too many of the bands involved here.

Not that there aren't some gems, and at least the best bands grabbed the best themes. Being a cartoon themselves, the Ramones sound right at home in *Spider-Man* (though it was already a bonus track on their own "Adios Amigos" album). Liz Phair does a bang-up job with the Banana Splits' *Tra-La-La Song*, and bringing Juliana Hatfield and Belly's Tanya Donnelly together for *Josie and the Pussycats* was a masterpiece of typecasting. Matthew Sweet's *Scooby-Doo, Where Are You?* is also a small triumph, taking the song's sentiments at absolute face value; you've never heard a grown guy get so excited about a "scooby snack."

The other tracks fall flat because the bands camp it up too much (predictable worst offenders: the Violent Femmes) or not enough (doing *Underdog*, the Butthole Surfers play it too straight for the first time in their career). The Helmet and Collective Soul tracks also raise the question of what bands with no sense of humor are doing here. As Mr. Peabody would say, back to the drawing board. B.M.

# POPULAR MUSIC



## CHARLES MINGUS:

**A Modern Jazz Symposium of Music and Poetry with Charlie Mingus.**

BETHLEHEM 40092 (58 min).

**Performance: Brilliant**  
**Recording: Good**

There seems to be a Beat renaissance of sorts at the moment. Jack Kerouac and Allen Ginsberg are popular again, William S. Burroughs is showing up on CD's, poetry readings are rampant, and a lot of things are "cool." So this reissue of "A Modern Jazz Symposium of Music and Poetry with Charlie Mingus" is perfectly timed.

The opening track, *Scenes in the City*, is a marvelous example of poetry and jazz.

Recited by Melvin Stewart, it was conceived and written by fellow actor Lonnie Elders, with some help from Langston Hughes. Stewart, who made appearances with Mingus in the mid-Fifties, described this piece as "an examination of a guy from Harlem and his relationship with jazz." Narrative and music are skillfully interwoven, and here as elsewhere Mingus shows the extent to which he, like Ellington, absorbed the individualism of his players.

*New York Sketchbook* is another example of impressionist Mingus taking jazz along unexplored paths with whimsy and bold strokes. The rest of the album is straight-ahead jazz of the highest caliber: vigorously swinging exercises in inspired improvisation by small groups featuring a front line of Clarence Shaw or Bill Hardman on trumpet, trombonist Jimmy Knepper, and saxophonist Shafi Hadi, who used to be known as Curtis Porter. The interplay between Knepper and Porter is remarkable, and the rhythm section — with Horace Parlan and

Bob Hammer alternating on piano and with jet propulsion by Mingus and drummer Dannie Richmond — is pure joy. This is almost the same ensemble that made the "Tijuana Moods" album about two months earlier: Mingus was at his creative best, and like the "Tijuana" session, the result here sounds as fresh today as it did in 1957.

If you are familiar with "A Modern Jazz Symposium" on LP, you will be happy to learn that the CD includes two previously unissued tracks, *Wouldn't You* and *Bounce*, plus an alternate take of *Slippers*. Few gems sparkle as brightly as this one. **C.A.**

## LEE MORGAN: The Complete Blue Note Lee Morgan Fifties Sessions.

MOSAIC 162 (four CD's, 258 min).

**Performance: Cracking**  
**Recording: Very good**

Just a few months out of high school when he recorded his first LP for Blue Note, Lee Morgan in 1956 was a Dizzy Gillespie disciple already well on his way to

# QUICK FIXES

## DONAL FOX AND DAVID MURRAY: Ugly Beauty.

EVIDENCE 22131 (58 min).

Fox is a young Boston-based pianist who shows a great deal of promise here, often hammering the keys to surprisingly melodic effect in a manner that recalls both Don Pullen and early Cecil Taylor. Of course, it



helps that Fox has as his duet partner a tenor saxophonist/bass clarinetist who might be the most consistently rewarding improviser today. Murray finds something achingly new to say even in 'Round Midnight. **F.D.**

## GENERIC BLONDES:

**Mean American Dream.**

GREEN MIRROR 2670 (48 min).

In which Ms. Taylor Barton contributes some interesting, slightly off-kilter pop-rockers (John Hiatt and Sam Phillips come to mind as reference points) that hubby G.E. Smith then arranges and produces (most inventively). A very cool little album. **S.S.**

## JERRY MILLER BAND: Life Is Like That.

MESSAROUND 004 (67 min).

Ex-Moby Grape Miller is a guitar hero who doesn't get nearly enough acknowledgment

as an influence (almost every California country-rocker copped his licks at some point), but here he pays tribute to his own influences — B.B. and Albert King. A first-rate modern blues set, and Miller burns throughout, particularly in the aptly titled *Grease Piece*. **S.S.**

## THE MOJO MEN:

**Sit Down . . . It's the Mojo Men.**

SUNDAZED 11032 (49 min).

Gloriously baroque mid-Sixties studio pop, some of it (including *Sit Down, I Think I Love You*) produced by Van Dyke Parks while taking a coffee break from his work with Brian Wilson. Dated, obviously, but a wonderful pop-culture time capsule. **S.S.**

## SUNNY MURRAY TRIO:

**13 Steps on Glass.**

ENJA 8094 (50 min).

From the sound of it, "13 Steps on Glass" may have been a hastily arranged European session, but even so, this is the drummer whose unfettered dialogues with Cecil Taylor and Albert Ayler virtually defined free jazz. And if nothing else, this CD shows he's no slouch when playing time. **F.D.**



## ALAN PASQUA: Dedications.

POSTCARDS 1012 (58 min).

An all-star cast, including Dave Holland, Paul Motian, Gary Bartz, and Randy and Michael Brecker, supports a somewhat obscure pianist whose undulating voicings in-

evitably evoke comparison to those of Herbie Hancock, circa *Speak Like a Child*. Despite the skill of everyone involved, this music comes fully to life only when Bartz or Michael Brecker begins to blow. Too bad they're featured on just a few tracks each — and never together. **F.D.**

## ASTOR PIAZZOLLA: Luna.

HEMISPHERE 35595 (57 min).

Recorded live in Amsterdam in June 1989, this is the last concert of the late Astor Piazzolla's New Tango Sex-Tet, and it is a treasureable souvenir of the Argentine master. Included are some of his best-known pieces — such as *Zero Hour* and *Milonga del Angel*, with their air of melancholy and big-city loneliness — and others that convey international sophistication and a rather erotic aggression. **William Livingstone**

## VAN GOGH'S DAUGHTER: Shove.

HOLLYWOOD 62022 (38 min).

There are four Daughters here: two string-wrenching guitarists who joust in the best Ron/Keith tradition, backed by a bassist and a drummer who team for an exceptionally tough kick. Not as ragged as Hole, not as Pop-Tarty as Elastica. Just more evidence that today The Women Are Smarter. A superior debut. **K.R.**

## TAPESTRY REVISITED:

**A TRIBUTE TO CAROLE KING.**

LAVA/ATLANTIC 92604 (41 min).

Maybe they meant it as a compliment, but for the most part the diverse performers who tip their hats to one of the defining singer/songwriter albums of the Seventies do it no favors. In the mouths of Blessid Union of Souls, Eternal, Curtis Stigers, Richard Marx, et al., Carole King's timeless lyrics turn simpleheaded and goopy. Not even Aretha Franklin (a gospelish *You've Got a Friend* with Bebe and Cece Winans) can save the day. **A.N.**

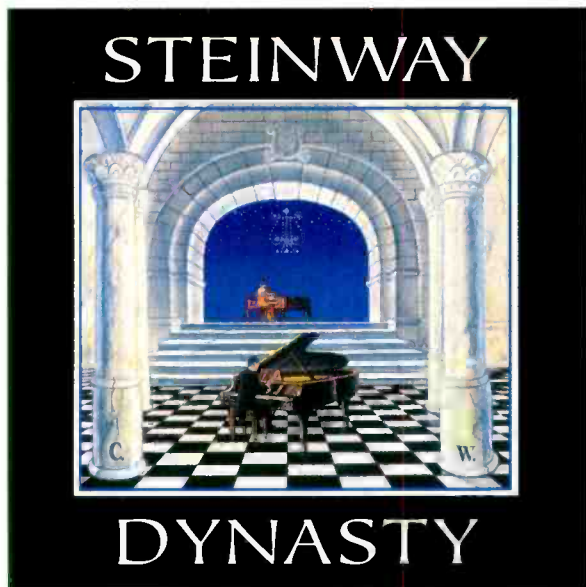


A SPECIAL CD OFFER



# A SONIC MUSEUM

For Our  
Readers Only!!!



He sits raptly in the pews of the old church while snow falls silently on the roof. Though midnight nears, the walls are painted with the hues of sunrise by light from golden chandeliers. The critic listens to the silence.

At a vast and ancient piano sits the artist. Almost imperceptibly, the maestro moves, and the stillness is gently probed by a shimmering rivulet of music. That stream becomes a brook, a river, a gulf and then a boundless concordant ocean. This is the sound that the composer Rossini said was "a nightingale cooing in a thunderstorm." The critic listens, not for an hour, not for an evening, but for many nights.

To his ears come the sounds of fourteen decades of musical history made by the instruments of one of the greatest names: Steinway. So it was that the critic, Edward Rothstein of *The New York Times*, wrote that he had visited "a sonic museum."

Now the same experience is available to you. You will hear the sounds of Steinways unheard for genera-

tions. A Steinway square from 1857 will bring to your home the gentle, crystalline sonorities beloved Victorian ladies. You may be surprised that a century-old Steinway upright has tonal richness equal to a grand.

Do, as some claim, old Steinways sound better than the new? Are German Steinways superior to American? There is no need to accept others' opinions; with this recording you may listen and decide for yourself. Ten Steinway pianos — from old to new—were recorded in the same lush space under the same hands with the same state-of-the-art, 20-bit system by a Grammy Award-winning production team.

Piano sound is greatly influenced by the player, and so an eminent

artist was engaged. Jerome Lowenthal performs often with the world's great orchestras and chairs The Juilliard School's piano department.

From his huge repertoire Mr. Lowenthal chose works that show the special qualities of each piano. The result is not a mere demonstration but a powerful musical experience, a journey through time into musical worlds both forgotten and familiar. An illustrated brochure will guide your tour.

This Compact Disc, *Steinway Dynasty*, is not available in stores. Its special price reflects the cooperation of the publisher of this magazine. To transform your listening room into a sonic museum requires only that you telephone:

**1•800•505•6140**

Your credit card will be billed \$9.95 plus \$3.00 per CD for shipping and handling, plus tax if applicable.

## A SONIC MUSEUM FOR OUR READERS ONLY!!!

If you wish, send check or money order with name and mailing address to:

**Steinway Dynasty**  
P.O. 2249  
Livonia, Michigan 48151

NAME (please print) \_\_\_\_\_

ADDRESS \_\_\_\_\_

STREET AND NUMBER

CITY

STATE

ZIP

Residents of Michigan and New Jersey should add sales tax. Outside the United States shipping charges are \$5.00. Please allow four to six weeks for delivery. Offer void after July 1, 1996. This production is independent of any pianomaker.

# POPULAR MUSIC

carving out an identity for himself as the most unself-consciously soulful of postbop trumpeters. This boxed collection of Morgan's first six Blue Notes (culminating with the masterful "Candy" from 1958, a year before he joined Art Blakey) becomes especially relevant in light of the jazz world's current preoccupation with youth. Morgan wins every competition with today's prodigies: More willing than them to go out on a limb, he was also their superior as a technician — and a decade younger than most of

them as well! Though his very best work would come in the 1960's on a series of albums beginning with "The Sidewinder" (where he first joined forces with Billy Higgins, the drummer who matched him for funky eloquence), enduring reputations have been built on far less than the teenage Morgan offers here.

Blue Note's Alfred Lion and Francis Wolff didn't just toss Morgan into the studio to sink or swim: They surrounded their emerging star with topnotch sidemen (con-

sider just the pianists featured here: Horace Silver, Wynton Kelly, Ray Bryant, Bobby Timmons, Sonny Clark) and commissioned charts by some of that era's most enterprising small-band writers, such as Benny Golson and the unsung Owen Marshall. Mosaic typically has taken similar care in preparing this vital and enjoyable retrospective, which includes two previously unissued alternate takes. (Available by mail order only from Mosaic Records, 35 Melrose Pl., Stamford, CT 06902; phone 203-327-7111.) *F.D.*

**GERRY MULLIGAN:**  
**The Gerry Mulligan Songbook.**  
 PACIFIC JAZZ 33575 (60 min).  
**Performance: Master at work**  
**Recording: Good**

Shipped just a week or so before the roosterish baritone saxophonist's death, this reissue from 1957 — a retrospective of sorts to begin with — becomes a fitting memorial to Gerry Mulligan. He and four other stellar saxmen (including Lee Konitz and Zoot Sims) blow lightly on seven of his most engaging themes, dating back as far as his *Disc Jockey Jump* for Gene Krupa and *Venus de Milo* for the Miles Davis Nonet (the arrangements are by Bill Holman, whose writing Mulligan greatly influenced). As a bonus, there are four previously unissued and highly unusual tracks from the same year that find Mulligan and a moody string ensemble, including the phantom cellist Calo Scott, playing funk-bop classics by Horace Silver, Milt Jackson, and Tadd Dameron — a bit precious, but provocative all the same. *F.D.*

**LEW TABACKIN: Live at Vartan Jazz.**  
 VARTAN JAZZ 003 (72 min).  
**Performance: Gripping**  
**Recording: Quality remote**

Rarely does one find an album as thoroughly fulfilling as this one — rarer still to find such a set recorded in live performance. For many years, Lew Tabackin has been making weighty jazz statements from within frameworks provided by the superb Toshiko Akiyoshi big band, which he has also co-led. But he seems to reach his creative zenith when working with a small group, such as the trio heard here in a Denver broadcast. With excellent support from bassist Kenny Walker and drummer Bill Goodwin, he soars freely through a program of seven familiar tunes, four of them by Thelonious Monk.

Tabackin's tenor approach is marvelously chameleonic: He delivers such tunes as Duke Ellington's *Cotton Tail* and Monk's *Ask Me Now* with vibrant intensity, treats *Blue Monk* and *Bemsha Swing* with the smoothness of Ben Webster, and evokes Coleman Hawkins as he strolls across Billy Strayhorn's *Chelsea Bridge* to (if you will pardon an oxymoron) an inspiring *Hackensack*. Though he always provides a whiff of nostalgia, Tabackin has an individual style, giving the past a contemporary edge. In the Juan Tizol composition *Pyramid* he reminds us that he is also an excellent flutist, but it is his tenor that has the most powerful bite. *C.A.*

**SONY • PANASONIC • DENON**

**UNCLE'S STEREO**

*Everything In Electronics For Less!*

**Ask About Uncle's Exclusive 5-Year Warranty.**

**aiwa**



**NXS-V70 HiFi Mini System**  
 For a full featured great sounding system with a small footprint look no further than this gem from AIWA. It's got it all: 100W, DSP, EQ, 9-Band Spectrum Analyzer, 3 Disc Changer, Dual Auto Reverse Cassette, Super Woofer 3-Way Speakers, 4-Position BBE, Super T-Bass, Full Function Remote, and more.

\$429

**Panasonic**



**CT-27SF12 27" SuperFlat™ System Monitor/Receiver**  
 This unit's SuperFlat™ picture tube has 700 lines of horizontal resolution, is 30% flatter, has a wide field of vision, reduced reflection and true color rendition. A great set at a great price from Uncle's Stereo.

\$599

(Shown with optional matching stand)

**aiwa**



**AD-S950 Cassette Deck**  
 AIWA's Top-of-the-Line deck: Dolby S-Type, & B/C Noise Reduction, 3-Head Design, 2-Motor Dual Capstan, Anti-Modulation Tape Stabilizer, Dolby HX Pro, Bias Fine Adjuster, Full Function Remote Control, and much more!

\$319

**JVC**



**RX-817VTN A/V Receiver**  
 JVC's Top-of-the-Line receiver: Dolby Pro Logic Surround, Dolby 3-Channel Logic, Digital Acoustics Processor, 105Wx3 + 25Wx2, 5 Audio/3 Video Inputs, Smart A/V Remote Control, and much more!

\$379

**SPEAKERS**

CAMBER 3.5Ti Our Favorite! . . . \$799/pr  
 NHT CALL FOR BEST PRICE!  
 BIC-VENTURI FULL LINE IN STOCK!  
 KEF ALL MODELS BEST PRICE!  
 INFINITY CALL FOR BEST PRICE!  
 JBL L7 12" Tower . . . CALL!  
 VELODYNE IN STOCK CALL!  
 PINNACLE CALL FOR BEST PRICE!  
 CELESTION NEW IMPACT CALL!  
 CALL FOR PRODUCTS NOT LISTED!

**RECEIVERS**

SONY ES CALL FOR FULL LINE!  
 YAMAHA FULL LINE CALL BEST \$5  
 ONKYO TXS727Pro . . . CALL!  
 DENON AVR2500 Best Buy . . . CALL!  
 TECHNICS SATY1010 THX . . . \$779  
 NAD FULL LINE IN STOCK BEST PRICE!  
 NAKAMICHI FULL LINE IN STOCK  
 CARVER FULL LINE IN STOCK CALL!  
 JVC RX817VTN 105Wx3 + 25Wx2 . . . CALL!  
 KENWOOD FULL LINE IN STOCK CALL!  
 CALL FOR PRODUCTS NOT LISTED!

**DAT DECKS**

PANASONIC FULL LINE IN STOCK!  
 SONY CALL FOR FULL LINE!  
 TASCAM ALL MODELS BEST PRICE!  
 SONY TCDD8 IN STOCK CALL!  
 SONY MDS302 CALL FOR BEST \$5  
 SONY DTC790 Home DAT . . . \$669  
 CALL FOR PRODUCTS NOT LISTED!

**PRO TAPES**

DIC D10 10 min. DAT	\$3.25
3M R30 30 min. Pro DAT	\$3.75
3M R60 60 min. Pro DAT	\$4.99
SONY DIC D120HQ DAT	\$5.49
SONY PDP124 Pro	\$9.99
DIC 3 Hour DAT	\$6.99
AMPEX 488 HI-8 Audio	\$9.95
AMPEX 489 A DAT	\$9.99
DENON 74 min. C.D.R.	\$9.49
SONY/3M D2	BEST PRICE!
3M/AMPEX 2" Reels	IN STOCK!
SONY 99	\$10.99
AMPEX 30 min. 3/4" UMATIC	\$10.99
SONY/3M BETA 30 SP	\$21.50

All products are new USA merchandise covered by the manufacturer's warranty or Uncle's Stereo's exclusive limited warranty and are backed by our 10 DAY MONEY BACK GUARANTEE.

**MINI SYSTEMS**

SONY MHC405 100W + 2, 5 CD Changer \$419  
 JVC MXCS50 40W, Dual Cassette, 7 CD CALL!  
 SONY MHC-605 100Wx2, 5 CD's, 4 Spkrs \$489  
 DENON D-C1 Micro Syst., 6 CD's \$399  
 DENON D700 48W, Dual Cassette, 3 CD CALL!  
 AIWA NSX-V150 NEW! 50W, 50CD . . . CALL!  
 AIWA NSX-V90 Pro Logic 5 Spkr Syst. \$519  
 CALL FOR PRODUCTS NOT LISTED!

**CONSUMER TAPES**

MAX, SONY, TDK Cassettes IN STOCK

SONY T120V VHS	\$1.89
TDK T120EHG VHS	\$2.39
BAFJ T130 VHS	\$2.39
FUJI T160 VHS	\$2.99
JVC T120 Pro VHS	\$3.99
JVC ST120 SVHS	\$6.49
SCOTCH L750 Beta	\$3.49
AMPRX/MAXELL 7" Reels	\$8.99
TDK 60 min. Mini Disc	\$9.49
SONY 74 min. Mini Disc	\$10.99

UNCLE'S STEREO 216 W. 72nd. St. New York NY 10023 Mon-Sat 10:30-7:30 Sun 11:00-5:30 Phone Hrs: Mon-Sat 10:30-Midnight Sun 11:00-5:30

Order Toll-Free **800-978-6253** Fax your order **212-721-7587**

NAKAMICHI • PIONEER • SCOTCH • BROTHER • HARMAN KARDON

# 6th AVE ELECTRONICS CITY

SINCE 1980

CALL 7 DAYS A WEEK • MON-FRI 9AM-8PM • SAT 10 AM-7PM • SUN 11AM-5PM

# AUDIO IS OUR FORTÉ

# 1-800-394-6283

## RECEIVERS

**DENON AVR-2500 A/V STEREO RECEIVER**

- 85WX3 (Left, Center & Right) • 25WX2 (Rear)
- Dolby Pro-Logic Surround
- Remote Control

**\$699** MSRP...\$999 **SAVE \$300**

**CARVER HR-742** SONIC HOLOGRAPHY RECEIVER  
**DENON DRA-365R** STEREO RECEIVER ..... \$229  
**HARMAN KARDON AVR-2511** PRO LOGIC RECEIVER CALL  
**ONKYO TX-SV424** PRO LOGIC RECEIVER 299  
**ONKYO TX-SV727** PRO LOGIC RECEIVER 549  
**SHERWOOD V-5050R** PRO LOGIC RECEIVER CALL  
**SONY STR-D965** PRO LOGIC RECEIVER 349  
**YAMAHA RXV-490** PRO LOGIC RECEIVER 299  
**YAMAHA RXV-690** PRO LOGIC RECEIVER 549

## CD CHANGERS

**ONKYO DXC-320 6-DISC CAROUSEL CD CHANGER**

- 1-Bit DAC
- 8X OS Digital Filter
- Remote Control

**\$269** MSRP...\$350 **SAVE \$81**

**OENON DCM-340** 5 CD CAROUSEL CHANGER 199  
**OENON DCM-560** 5 CD CAROUSEL CHANGER 449  
**HARMAN KARDON HD-7325** HI-END SINGLE CD 199  
**ONKYO DXC-606** 6 CD CAROUSEL CHANGER 369  
**SONY CDP-C445** 5 CD CAROUSEL CHANGER 199  
**TECHNICS SL-PD1010** 5 CD CAROUSEL CHANGER 249  
**YAMAHA CDC-655** 5 CD CAROUSEL CHANGER 249  
**YAMAHA CDC-755** 5 CD CAROUSEL CHANGER 319

## TAPE DECKS

**TEAC V-1030 3-HEAD CASSETTE DECK**

- 3-Head System
- Dolby BC & S NR
- Dolby HX Pro

**\$249** MSRP...\$350 **SAVE \$101**

**AIWA ADF-850** 3 HEAD DECK ..... 219  
**AIWA ADS-850** 3 HEAD DOLBY'S DECK ..... 299  
**OENON DRS-810** 3 HEAD DOLBY'S DECK ..... 379  
**PHILIPS DCC-900** DCC RECORDER ..... 189  
**TEAC V-2030S** 3 HEAD DOLBY'S DECK ..... 379

## SEPARATES

**FAMOUS MAKE 5 CHANNEL POWER AMP**

- 100WX2 (Front)
- 110W (Center)
- 50WX2 (Rear)
- Discrete Circuitry

**\$599** MSRP...\$850 **SAVE \$251**

**AUDIO SOURCE SS-6** PRO LOGIC PROCESSOR 279  
**HARMAN KARDON HK-620** 80W POWER AMP ..... 149  
**LUXMAN M-363** 220W POWER AMP ..... 649  
**THORENS TD-280** HI-END TURNTABLE IN STOCK  
**YAMAHA DSP-590** PRO LOGIC PROCESSOR 529

**AUDIO ALCHEMY FULL LINE CALL**

## HARMAN KARDON AVR-20 II PRO LOGIC RECEIVER

- 50 Watts X 3 (Front)
- 20 Watts X 2 (Rear)
- 120 Watts X 2 (Stereo)
- Remote Control

**\$528** **SAVE**

**CELESTION CSC • CSW • 2 PAIRS LITTLE ONE HOME THEATRE 6 PC SPEAKERS**

- High Quality Powered Sub
- 2 Front & 2 Rear Satellite Speakers • Center Channel

**\$999** **7 PIECE HOME THEATRE PACKAGE**

## BOOKSHELF SPEAKERS

**BOSE 301 SERIES III BOOKSHELF SPEAKERS**

- Handles 150W
- Direct Reflecting

**\$229** PER PAIR MSRP...\$318 **SAVE \$89**

**SPEAKER PRICES PER PAIR**

BIC V-6251	Top Rated Bookshelf	CALL
BOSE 20151I	100W Bookshelf	\$139
ADVENT BABY III	100W Bookshelf	\$139
CELESTION 100	Audioophile Speaker	\$599
CERWIN VEGA L-7B	BEST SELLER	\$169

## FLOORSTANDING CERWIN VEGA VS-150 400W SPEAKERS

- 1" Tweeter • 6 1/2" Mid • 15" Woofer

**\$579** PER PAIR MSRP...\$1099 **SAVE \$520**

**SPEAKER PRICES PER PAIR**

ADVENT LEGACY III	Top Rated Floor Sp	\$249
BIG REALTO	TOP OF LINE	IN STOCK
CELESTION 300	Audioophile Speaker	\$999
JBL LC-310	200W 3 Way 10"	\$199
KLIPSCH KG-4.5	3-Way Floor Standing	\$569

## SUBWOOFER CERWIN VEGA HT-12PWR 250W 12" HI-END POWERED SUB

- 12" Dual Voice Coil
- Passive Crossover

**\$429** EACH MSRP...\$900 **SAVE \$471**

**ATLANTIC TECHNOLOGY 262-PBM** 150W 12" Powered Sub CALL  
**AOS MS-4** 12" Powered Sub CALL  
**JBL PSW 1000** 100W 10" Powered Sub \$299  
**JBL PSW 1200** 120W 12" Powered Sub \$369  
**KLIPSCH SW-10** 100W Passive Sub \$549

## IN WALL BIC MURO-6 IN-WALL SPEAKERS

- 2-Way Design
- 6" Woofer
- 1" Tweeter

**\$149** PER PAIR MSRP...\$199 **SAVE \$50**

**SPEAKER PRICES PER PAIR**

ALTEC LANSING ITW-265	6 1/2" 2-Way In-Wall	\$249
JBL S-3	5 1/4" 2-Way In-Wall	\$169
JBL S-4	6 1/2" 2-Way In-Wall	\$229
NILES HD-650	6 1/2" 2-Way In-Wall	CALL

**VOLUME CONTROLS, SPEAKER SELECTORS IN STOCK**

## CENTER CHANNEL ATLANTIC TECHNOLOGY 153C 120W CENTER CHANNEL

- Two 3 1/2" Drivers
- 1/2" Dome Tweeter

**\$99** EACH MSRP...\$139 **SAVE \$40**

**ATLANTIC TECHNOLOGY 353-C** 3-Way THX Center CALL  
**CELESTION CSC** 3-Way Center ..... \$129  
**CERWIN VEGA HTSMC** 3-Way Center ..... \$89  
**JBL SC-305** 3-Way Center ..... \$129  
**KLIPSCH KV-2** 3-Way Center ..... \$219

## INDOOR/OUTDOOR NILES OS-10 INDOOR/OUTDOOR SPEAKERS

- 5" Polypropylene Full Range Driver
- 100% Weatherproof
- Rustproof

**\$299** PER PAIR MSRP...\$399 **IN STOCK**

**SPEAKER PRICES PER PAIR**

AOS AW-4	Two Way Indoor/Outdoor	299
ADVENT MINI	Two Way Indoor/Outdoor	\$89
BOSE 151	Two Way Indoor/Outdoor	\$238
JBL PRO-IIIW	Two Way Indoor/Outdoor	CALL

**GARDEN INDOOR/OUTDOOR SPEAKERS AVAILABLE**

## TWO PAIR ONLY \$69 KLH 403 INDOOR/OUTDOOR SPEAKER

- 3-Way Design • 4" Woofer
- 2" Cone Midrange
- 3/4" Dome Tweeter
- Wall Bracket Included

**\$69** PER PAIR MSRP...\$140 Per Pair **BUY ONE PAIR GET A SECOND PAIR FREE**

## CAR STEREO SOUNDSTREAM REFERENCE 300 75WX2 AMP

- 4 Ohms
- Bridgeable
- High Power
- High Current

**\$299** MSRP...\$399 **SAVE \$100**

## SONY CDX-71RF 6-CD CHANGER WITH FM MODULATOR

- 8X OS
- Works W/ Any Unit
- Remote

**\$369** MSRP...\$550 **SAVE \$181**

**LAGUNA** AM/FM DETACHABLE CD ..... \$199  
**BAZOOKA T-102II** 10" BASS TUBE ..... \$159  
**CERWIN VEGA** HI-END SUBWOOFERS ..... IN STOCK!  
**OENON DC-950R** AM/FM DETACH CD ..... \$369  
**SONY XRC-510** AM/FM DETACH CASS ..... \$299  
**JBL GTC-9610** 100 WATT 6X9" PAIR \$69  
**NAKAMICHI MB-7FM** ..... FASTEST 7 CD CHANGER  
**SONY CDX-5290** AM/FM DETACH CD ..... \$259  
**SONY CDX-5290** AM/FM DETACH CASS ..... \$299  
**SOUNDSTREAM REFERENCE 604** MULTI CHANNEL AMP

## MINISYSTEM

**\$300** **SAVE** **FULL LINE IN STOCK**

## BOSE LS-12 AM/FM CD LIFESTYLE SYSTEM

- Remote Works Through Walls
- Multi-Room Capable

**\$1999** MSRP.....\$2299

**AIWA NSX-V50** 40WX2 3-CD CASSETTE ..... \$329  
**AIWA NSX-V70** 3-CD DUAL CASSETTE ..... \$399  
**OENON D-600** 3-CD DUAL CASSETTE ..... \$649  
**SONY LBDT560** 100W 5 CD DUAL DECK ..... \$469  
**YAMAHA GX-5** 3-CD DUAL CASSETTE ..... \$449

## TV/VCR

**MITSUBISHI CS-3530S 35" P-I-P REMOTE**

- 181 Cable Ready

**\$1299** MSRP.....\$1699 **SAVE \$400**

**PANASONIC CT-31SF31** 31" SUPERFLAT P-I-P 1099  
**PANASONIC PV-4662** 4-HEAD HI-FI VCR+ ..... 279  
**SONY KP53S15** 53" P-I-P PROJECTION ..... 1799  
**SONY SLV-740HF** 4-HEAD HI-FI VCR+ ..... 329  
**SONY KV-32S16** 32" STEREO P-I-P ..... 799

## MULTI-SYSTEM SPECIALISTS

TELEVISIONS, VCR'S, LASERS AND PAL CAMCORDERS 110-220 VOLT • 50-60 CYCLE PAL • SECAM • MESECAM-NTSC-FORMAT

**6th AVE ELECTRONICS CITY**

### VISIT ONE OF SIXTH AVENUE ELECTRONICS SUPERSTORE LOCATIONS

- 331 Route 4 West, Paramus, NJ
- 6 DAYS • SATURDAY 10-9 • MONDAY - FRIDAY 10-9:30
- 22 Route 22 West, Springfield, NJ
- SATURDAY 10-9 • SUN 10-7 • MONDAY - FRIDAY 10-9:30
- 577 Route 10 East, Livingston, NJ
- SATURDAY 10-9 • SUN 10-7 • MONDAY - FRIDAY 10-9:30
- 545 Route 18 S., E. Brunswick, NJ
- SATURDAY 10-9 • SUN 10-7 • MONDAY - FRIDAY 10-9:30

**WE WILL BEAT ANY ADVERTISED PRICE IN THIS MAGAZINE GUARANTEED!**

- 14 DAY REFUND POLICY!
- EXTENDED WARRANTY!
- NOW AVAILABLE WITH COAST TO COAST SERVICE

**• NO RESTOCKING CHARGE! • CHARGED WHEN SHIPPED!**

**WE CHARGE YOUR ACCOUNT THE DAY YOUR ORDER IS SHIPPED NOT THE DAY YOUR ORDER WAS PLACED!**

**AUTHORIZED DEALER FOR...**

**CELESTION** **BOSE**  
**Carwin-Vega!** **PIONEER** **CARVER** **Nakamichi**  
**Sherwood** **ALTEC** **harmann/kardon** **PHILIPS** **AUDIO Alchemy**  
**AudioSource** **KLH** **LUXMAN** **APOGEE**  
**TEAC** **a/d/s/** **BIC** **ADVENT** **JBL**  
**AcousticFosgate** **SOUNDSTREAM** **KICKER**  
**PIONEER** **PREMIER** **BLAUPUNKT** **AudioControl**  
**RCA** **HITACHI** **TOSHIBA** **SONY** TAPE  
**ESOTERIC** **NILES** **AudioSource** **XLO**  
**MONSTER CABLE** **audioquest** **PANAFLEX** & MANY MORE

We Welcome VISA, MASTERCARD, AMERICAN EXPRESS, DISCOVER CARDS. ©+ Registered Trademark Dolby Laboratories Licensing Corporation. Not Responsible For Typographical Errors. Pictures are for Illustration Only. No Dealers, Proof of advertising a Must for Guaranteed Lowest Price (Must be an authorized dealer). Does Not Apply to Demo's, Clearance, or Limited Quantity Items - Must Be For Identical Model Numbers. Shipping Not Refundable. Valid Thru 6/1/96.

# The Nations Home Theater Specialist!

# The Original Sound City

Meatdown Shopping Center • Rt 23 • Kinnelon, NJ 07405

# The NEW AC3 Components In Stock!

# 1-800-542-7283

## Sound City Car Audio Super Sale

### Brand Name CD Auto Changer

- 10 Disc changer with RF modulator and remote commander
  - 1-Bit D/A with 8X OS
  - Compact remote
  - Standard antenna input/output connections
- Stock#15141



**\$349**

### Hafler MSE-88 4/2 Ch Car Amp

- 76Wch x 2 into 4 ohm
  - Gold RCA inputs w/adj sensitivity
  - Runs mono & stereo
  - MOSFET output
  - Trans-nova circuitry
  - 22W x 4 into 4 ohm
- Made In The U.S.A. Stock#2209



**\$99**

### Soundstream Reference 300 2/1 Channel Amp

- 75W x 2 into 4Ω
  - 300W x 1 bridged into 4Ω
  - Discrete Darlington transistors
  - 2 ohm stable, bridgeable and "mixed mono" capable
  - Balancing Act noise cancellation circuitry
  - Drive Delay Muting
- Stock#4474



**\$279**

### JBL GTB12 Speaker Box

- 3-Way car speaker enclosure
  - Dual 12" woofers
  - Dual midrange • Dual tweeters
  - Top ported system
  - Convenient side handles
  - Heavy duty speaker grilles
- Stock#4987



**\$269**

### Sony CDX-5290 CD Receiver

- 8X OS digital filter
  - 1-Bit pulse D/A converter
  - 18 FM +6 AM presets, BTM
  - 30W x 4 high power output
  - Front/rear preamp outs
  - Dual illumination
  - Full detachable face
- Stock#10068



**\$249**

### Hafler MSE120 6 Channel car amp

- 75W x 3 or 22W x 2
- 4-Channel amp • 100W total power output
- Carver M2080 Stock#3377
- 2-Channel amp • 40W x 2 or 60W x 1 bridged
- Advent PA450 Stock#3853
- 4-Channel amp • 50W x 4 bridgeable
- Phoenix Gold SA1.0 Stock#12062
- 2-Channel amp • 35W x 2 • 220W Dynamic power
- Sony XM4045 Stock#6618
- 4/3/2 Ch amp • 40W x 4 • 40W x 2 • 100W x 1



**\$199**

### Soundstream Granite 110.2 Stock#4753

- 2/1 Channel amp 35W x 2 or 120W x 1
- Soundstream Granite 60.2 Stock#4756
- 2/1 Channel amp 30W x 2 or 100W x 1
- Soundstream Reference 40S Stock#4776
- 3/3 Channel amp • 400W total with subwoofer ch
- Soundstream Reference 200 Stock#4775
- 2/1 Channel amp • 25W x 2 or 200W x 1 bridged
- Sony XM2025 Stock#6613
- 2/1 Channel amp • 20W x 2 or 55W x 1 bridged
- Altec Lansing ALA200 Stock#1212
- 2/1 Channel amp • 100W x 2 bridgeable to 1 ch.



**\$149**

### Phase Linear PL51000 a/d/s/ Car Subs

- 10" Granite super subwoofer • 450W peak power
- RS10 10" sub and RS12 12" Sub.....
- JBL 1000GT1 Stock#4955
- 8" Car subwoofer • 600W peak power handling
- Rockford Fosgate RFP412 Stock#3113
- 12" Punch car subwoofer • High power handling
- Soundstream SS12R Stock#4785
- 12" Deep excursion car subwoofer
- Cerwin Vega S10D Stock#10601
- 10" Dual voice coil car subwoofer



**\$49**

Authorized Dealer For:

Kenwood • Bazooka • Clarion • Pioneer • Denon

## Sound City Bargain Center Deals

### Tannoy LS3 Bookshelf Speakers

- 2-Way speaker system
  - 100W power handling
  - 120mm polypropylene cone bass/mid unit
  - 19mm fluid cooled tweeter
  - 6 Ohms • 86dB
  - FR: 60Hz • 22kHz
- Stock#6923



**\$149**

### Monitor Audio Monitor 1 Bookshelf Speaker

- 2-Way speaker system
  - Diminutive in size, yet big in sound
  - Stand or wall mounted
  - Gold dome tweeter
  - 70W Power handling
  - FR: 65Hz • 26kHz
  - 88.5dB sensitivity
  - 8 Ohm impedance
- Stock#2688



**\$329**

### MUSEATEX Melior D/A Bitstream Converter

- Anti jitter input circuit
  - 18-Bit, 8X oversampling digital anti-image filter
  - DC Coupled FET Class A output line driver
  - Autosampling rate selection
  - Floating charge power supply
- Stock#16235



**\$399**

### D/A Converters

- Audio Alchemy DTI-Pro32 Anti Jitter Filter w/32-bit DSP data enhancer
- Audio Alchemy DAC-Man Stock#16096 Lowest price outboard D/A w/built-in Tara Labs cables
- Audio Alchemy DAC in the Box Stock#16101 18-Bit ladder DAC processor optical & coax input
- Audio Alchemy DTI-Plus Stock#16100 Anti-jitter filter same specs as DTI2.0 at 1/2 price!
- Denon DA-500 Stock#3156 Orig \$499 Digital to analog converter with Alpha Processor that reproduces 16-bit digital data in 20-bit quality
- Reproduces digital data as an analog waveform



**\$299**

### JVC HR-57100U S-VHS Hi-Fi Stereo VCR

- High resolution super VHS picture
  - Hi-Fi stereo with hyper-bass
  - VCR Plus+ with multi-system cable box controller
  - Pro-style editing
- Stock#4652



**\$499**

### Brand Name Amplifier

- THX® Power Amplifier
  - 125W RMS Extended dynamic power technology
  - Adaptive soft clipping
  - Bridgeable • Dual Mono
  - THX and normal inputs
  - Certified to THX® Home Theater
- Stock#12490



**\$399**

### Brand Name DAT

- Digital Audio Tape Deck
  - Built-In D/A converter
  - Full function remote
  - Optical, analog and coax inputs
  - Random/skip/repeat
- Stock#15076



**\$579**

### Brand Name Turntable

- Semi-automatic
  - Belt drive system
  - Low mass tone arm
  - Servo controlled motor
  - Cartridge included
- Stock#4588



**\$79**

### Technics SL1200MKII DJ Turntable

- In Stock



**\$449**

## SPEAKER CLOSEOUTS

### Sonance Director 20 Center Channel

- Exclusive pivoting tweeter
  - Magnetically shielded driver
  - 1" Neodymium magnet soft dome tweeter
  - 6 1/2" Polypropylene cone woofer with rubber surround
  - FR: 70Hz • 20kHz
  - 75W power handling
  - Impedance nominal: 4Ω
- Stock#9114



**\$149**

Largest Selection of In-Wall Speakers Available

### BBE ARS Audio restoration system

- Stock#1575 **\$179**
- Terk AF1 Amplified AM/FM antenna w/ign control **CALL**
- Monitor Audio Monitor7 2-Way bookshelf speaker system Stock#2690 **\$249**
- Celestion 3MKII 2-Way bookshelf speakers w/5" woofer 75W Stock#6118 **\$139**
- Sonance SF400 2-Way bookshelf 200mm woofer 125W handling Qn-in-wall speakers 90W handling Qn S500 Stock#9191/#9188 **\$149**
- Tannoy LS5 2-Way bookshelf 200mm woofer 125W handling Stock#9572 **\$229**
- Tannoy LS7 2-Way bookshelf 200mm woofer 150W handling Stock#8074 **\$229**
- Altec Lansing 95 2-Way bookshelf speakers w/6 1/2" woofer 125W Stock#1498 **\$199**

## CLOSEOUT • DEMO

### Infinity SSW10 10" Powered home subwoofer

- Stock#2667 **\$329**
- Denon D08 AM/FM Cass CD mini system with remote Stock#1161 **\$399**
- JVC HRVP628U VHS VCR stereo hi-fi with VCR Plus+ & remote Stock#13446 **\$299**
- Grado SR60 100 rated Prestige series headphones Stock#3900 **\$69**
- JBL LXES50 Laser lens cleaner. A MUST for all CD players Stock#4873 **\$299**
- Parasound P120/20 2-Way speaker system w/8" woofer 150W power Stock#11404 **\$99**
- Brand Name CD Changer Laser lens cleaner. A MUST for all CD players Stock#5074 **\$389**
- Sony STRG1E5 100 Disc CD auto changer w/remote control stock#5805 **CALL**

### Monitor Audio MA700

- 5-CD carousel CD changer with remote control Stock#2684 **\$799**
- Monitor Audio MA1200 Honer qd floorstanding speaker system Stock#2680 **\$1199**
- Technics SLPD1010 5-D carousel CD changer with remote control Stock#4021 **\$299**
- Audio Source Amp One 5-CD carousel CD changer with remote control Stock#1080 **\$229**
- Atlantic Technology 152PBM 8" 70W powered home subwoofer Stock#1046 **\$289**
- Audio Source SS4 Dolby® Pro Logic surround sound processor Stock#1085 **\$199**
- Jamo Home Theater Complete line of Jamo THX® home speakers **CALL**
- Aiwa Hottest Models ADF50, ADCS50, NSXV50, NSXV70, NSXV90 **CALL**

Dolby® is a registered trademark of Dolby Laboratories. THX® is a registered trademark of Lucasfilm LTD

# FACTORY AUTHORIZED

ADS • Advent • Audio Control • Aiwa • AKG • Altec Lansing • Audio Quest • Acoustic Research • Audio Alchemy • Audio Source • Atlantic Technology • B&K • Bang & Olufsen • Bazooka • BBE • Beverdynamics • Bellogetti • Brother • Canon • Canton • Carver • Cerwin Vega • Celestion • Clarion • CodeAlarm • CWD • Denon • Dynamat • Grado • Hafler • Harmon/Kardon • Hitachi • Infinity • Jamo • JBL • JVC • K40 Koss • Lexicon • Mitsubishi • Monitor Audio • Monster Cable • Niles • OmniMount • Onkyo • Orion • Panasonic • Philips • Pinnacle • Pioneer • Panamax • PPI • Proscan • PS Audio • Rane • Rockford Fosgate • Runco • Samsung • Senheiser • Sherwood • Sharp • Sony • Sonance • Soundcraftsmen • Soundstream • SSI • Stewart • Tannoy • Target • Technics • Terk • Thorens • & More!

FOR INFORMATION & CUSTOMER SERVICE **201-263-6060**

WE SHIP TO CANADA WE SHIP WORLDWIDE No Credit Card Surcharges Se Habla Espanol

RETAIL HOURS Mon - Fri 10am - 9pm EST Sat: 9am - 6pm EST Sun: 11am - 5pm EST

MAIL ORDER HOURS Mon - Fri 9am - 10pm EST Sat 9am - 6pm EST Sun 10am - 5pm EST



Factory Authorized for all brands we sell • Not responsible for typographical errors • NO refunds on video or car stereo products • 14 Day defective exchange from date of receipt • All returns must be made within 14 days of receipt of merchandise & are subject to a restocking fee • Items must be in original condition and packaging • Shipping and handling not refundable • The ad and its contents supercedes all other magazine pricing

SC# SR596

CIRCLE NO. 38 ON READER SERVICE CARD



# CLASSICAL MUSIC

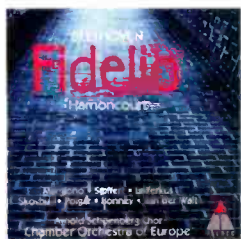
NEW RECORDINGS REVIEWED BY ROBERT ACKART,  
RICHARD FREED, DAVID HALL,  
JAMIE JAMES, GEORGE JELLINEK, AND ERIC SALZMAN

## BEETHOVEN: *Fidelio*.

Charlotte Margiono (Leonore). Peter Seiffert (Florestan), Sergei Leiferkus (Don Pizarro), Boje Skovhus (Don Fernando), Laszlo Polgar (Rocco). Barbara Bonney (Marzelline). Deon van der Walt (Jacquino). others: Arnold Schoenberg Choir; Chamber Orchestra of Europe. Nikolaus Harnoncourt cond. TELDEC 94560 (two CD's, 118 min).

**Performance:** Interesting  
**Recording:** Very good

Hearing Nikolaus Harnoncourt's version of *Fidelio* is likely to remind you that while Beethoven's opera broke paths in many ways, only fourteen years separate it from Mozart's *Magic Flute*. The Mozartean textures are transparently revealed here, and the reading is free of ponderousness, showing a sense of restraint compared with, say, the Klemperer, Fürtwängler, or Toscanini recordings. Harnoncourt chose moderate-



size voices, and though the results may not please everyone, the performance is quite effective — even allowing for his trademark unconventional tempos in some passages.

Charlotte Margiono and Peter Seiffert are an unusually youthful-sounding Leonore and Florestan. The soprano lacks heroic thrust, and even strains a bit in the climaxes, but her consistently warm-toned and attractive singing and her moments of tenderness and compassion offer compensations. Even more satisfying vocally is tenor Seiffert, who is in total command of the role's dramatic requirements. I find no major problems with the Pizarro of baritone Sergei

Leiferkus. His singing lacks nuance, possibly because of his not quite idiomatic German, though he sounds sinister enough.

Bass Laszlo Polgar's benign and smoothly sung Rocco. Barbara Bonney's pure-toned soprano Marzelline, and tenor Deon van der Walt's boyish Jacquino are other assets. Boje Skovhus, a good lyric baritone, is miscast, however; the music of Don Fernando calls for weightier, bass-baritone utterances. The chorus is impressive throughout, with two good solo Prisoners; in the

orchestra I'd like to hear more assertive horns. Excluding the *Leonore* No. 3 overture makes sense, but I question the drastic cuts in the dialogue and certain barely audible pianissimos. Nevertheless, this is a *Fidelio* I can easily live with. G.J.

## BRAHMS: *Clarinet Quintet*.

## MOZART: *Clarinet Quintet*.

Harold Wright (clarinet); Boston Symphony Chamber Players. PHILIPS 442 149 (72 min).

**Performance:** Mellow and tasteful  
**Recording:** Transparent

Harold Wright, a distinguished orchestral musician throughout his professional life (principal clarinet of the Boston Symphony for twenty-three years and of the National Symphony in Washington for several years before that), was an admired chamber-music player as well, as documented in numerous recordings over the years. These eloquent accounts of the Mozart and Brahms quintets with his long-time associates, taped three months before his death in 1993, proved to be his valedictory recording.

The listener can luxuriate in Wright's rich, caressingly mellow tone without feeling for a moment that the lambent sound is an end in itself or that the clarinet is being showcased as a soloist with mere accompaniment. The playing from all hands is unfailingly tasteful and consistently satisfying on both the emotional and intellectual levels on which these towering works define themselves. Together with Philips's transparent, superbly balanced sound, it adds up to a most persuasive package. R.F.

## Renée Adorée

Just when it seemed that mezzo-sopranos and baritones were providing all the excitement in opera, along comes the American soprano Renée Fleming. Not just a pretty face, Fleming demonstrated her opulent voice, musical intelligence, and dramatic ability on the recent PBS telecast of Verdi's *Otello* with Placido Domingo from the Metropolitan Opera.

London Records signed Fleming to an exclusive contract earlier this year, and the label has big plans for its newest star. She sings *Fiordiligi* in a new recording of Mozart's *Così Fan Tutte* under Georg Solti released in March and Donna Anna in Solti's forthcoming recording of *Don Giovanni*. With conductor Charles Mackerras she has recorded a solo disc of Mozart arias and will sing the title role in Dvorak's *Rusalka*. James Levine and the Met Orchestra will accompany her in a collection of American arias. She'll also perform and record the role of the heroine of Massenet's *Thaïs* at the Opéra de Nice



CHRISTIAN STENEBAUM / L. FALCONE

Soprano Renée Fleming

— and that's not the half of it! Among her other projects is an album of Duke Ellington numbers with the Illinois Jacquet Big Band, a "crossover" that isn't so surprising when you know that Fleming sang at jazz clubs on weekends in her college days.

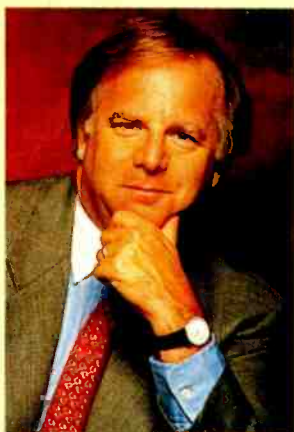
## A NEW COMPLETION OF MAHLER'S TENTH

While the opening adagio of Mahler's Tenth Symphony is one of his finest creations and has long been performed on its own, the symphony as a whole was left unfinished. The composer orchestrated the first movement and part of the third, but he left only short-score drafts of the second, fourth, and fifth. Until now all full recordings of the Tenth have used one of the two performing versions prepared by the British musicologist Deryck Cooke between 1959 and 1972, a "bare bones" 1964 edition that Eugene Ormandy recorded and a later one that has been used for all other recordings except the new one by Leonard Slatkin and the St. Louis Symphony on RCA. This live recording offers the Mahler Tenth as completed by an American, Remo Mazzetti, Jr., whose version was first heard in its entirety in Utrecht, Holland, in 1989 and first performed in the U.S. by Slatkin and the orchestra in 1995.

Mazzetti based his work not only on the two versions by Cooke but also on alternative scores prepared during the 1960's by Joseph Wheeler in England and Clinton Carpenter in the U.S. Is the Mazzetti edition a mere conflation of all that had been done before? After comparing Slatkin's recording of it with Riccardo Chailly and Kurt Sanderling's recordings of the later Cooke edition, I would say that while Cooke certainly conveys the work's structure and its deeply poignant emotional content, Mazzetti has refined and fleshed out the music in a way that, at its best, enriches the listening experience. There are a few things I still prefer in Cooke's version, chiefly the great flute solo in the final movement, where Cooke lets the solo line stand by itself, without adding any contrapuntal element beyond what is already there.

In either performing version, the

symphony amounts to a very special piece of music, and it's well worth owning a recording of it. The melodic interweavings of the opening adagio are interrupted toward the end by colossal dissonance in a manner that can only be described as terrifying. The ensuing scherzo (the first of two) represents Mahler in his objective aspect, doing wonderful things with a three-note fragment of the first movement's main theme. The shadowy, wraithlike central intermezzo, less than 4 minutes in length here, evokes echoes of his past works and paves the way for the satanic second scherzo, with yet stronger resonances



Conductor Leonard Slatkin

from works of the immediate past. The movement ends with the crack of doom, a death knell sounded on a muffled military drum that is continued, along with a persistent three-note figure, into the final movement. The music of the finale moves from the darkly funereal to the passionately lyrical, then back to the menacing drum, through the satanic aura of the previous movement and on to the "primal scream" dissonance of the first, climaxing in an agonized recollection

of the symphony's very first bars — ending at last in acceptance and a profound orchestral sigh of infinite love.

Slatkin's reading may lack the febrile intensity of some others, but that may be the best thing for the music in terms of repeated listening. The performance leaves nothing to be desired throughout in terms of structure, line, harmonic texture, and instrumental coloration, and the sound from Powell Hall is first-rate.

David Hall

### MAHLER: Symphony No. 10 (completed by Remo Mazzetti, Jr.).

St. Louis Symphony, Leonard Slatkin cond. RCA VICTOR 68190 (75 min; plus bonus CD with discussion by conductor and samples from different performing versions).

that "diplomatic" really means "having to do with original documents." That certainly fits these performances of long-forgotten music that has been restored from medieval manuscripts with amazing success. But they can also be described as diplomatic in the sense of having finesse, artfulness, and a kind of intense good will.

It is amazing that in an era (the twelfth century) when most musical expression was

anonymous, the outstanding musical personality should have been a woman ecclesiastic, a Benedictine nun whose 900th birthday is coming up in two years. "Voice of the Blood" is the latest in a series of recordings by the *Sequentia* ensemble of words and music by Hildegard of Bingen. Like its predecessors, the CD has an extraordinary



intensity, a gorgeous sound, and a serious devotion to musical expression. Hildegard was long remembered for her mystical and quite original poetic philosophy, and you can follow the Latin words with the aid of the supplied texts, translations, and notes. But in these performances, it is the music that carries the force.

*Sequentia's* director, Barbara Thornton, is no literalist, and she does not hesitate to flesh out the ancient musical notation with simple, imaginative reconstructions that reconcile the spirit of the age from which they come with accessibility in modern performance. "Voice of the Blood," organized thematically around the subject of the martyrdom of St. Ursula and performed by these exquisite women's voices with added instruments, was recorded in an old church in Cologne, the city where Ursula was martyred. The instrumental touches may not be from "original documents," but I would still call them passionately diplomatic. E.S.

### LISZT: Mazeppa; Mephisto Waltz.

### KODALY: Theatre Overture; Hary Janos, Suite.

New York Philharmonic, Kurt Masur cond. TELDEC 77547 (66 min).

Performance: Fieri  
Recording: First-rate

I tend to think of Kurt Masur as a solid middle-of-the-road baton wielder who can be counted on for solidly grounded readings of impeccable integrity, but this new CD has two of the gutsiest Liszt performances to come my way in quite some time. The *Mephisto Waltz* has drive and volatility to burn, with the kind of really diabolical touch that can keep a listener right on edge from start to finish. The New York Philharmonic's attacks and rhythmic response are razor-sharp, and Teldec's production team has gotten some of the best recorded sound I have heard from Avery Fisher Hall. As for *Mazeppa*, while this bit of fustian is not my favorite of the Liszt symphonic poems, Masur and the orchestra make it sound better than it is.

The suite from Kodaly's opera *Hary Janos* gets as spirited and witty a reading as I have ever heard. There is a marvelous zing and warmth all the way through; I'd close-off the tempo pull-up at the close of

### HILDEGARD VON BINGEN:

#### Voice of the Blood.

*Sequentia*. DEUTSCHE HARMONIA MUNDI 77346 (77 min).

Performance: Passionate

Recording: Beautiful church ambience

The music on this recording is described as performed from "diplomatic editions," a phrase that sent me running to my *Dictionary of English Etymology*. It seems

the "Viennese Musical Clock" movement. The Theatre Overture that precedes the suite was written as an afterthought for stage productions of the opera. For my taste it's overlong and not in a class with the suite, but Masur and his players give it their best shot. Everything considered, this CD is a winner. *D.H.*

**POULENC: Organ Concerto.**

**DUPRÉ: Magnificat; Symphonie-Passion. MESSIAEN: Le Banquet Céleste. BONNET: Two Organ Pieces.**

Kalevi Kiviniemi (organ); Moscow Chamber Orchestra. Constantine Orbelian cond. FINLANDIA 98033 (74 min).

**Performance: Good to excellent**  
**Recording: Demonstration quality**

Two celebrated Finnish organs are heard to fine effect on this disc. The solo works played on the big instrument in the Turku Cathedral — the *Magnificat* and *Symphonie-Passion* by Marcel Dupré, Messiaen's *Le Banquet Céleste*, and Joseph Bonnet's *Caprice Héroïque* and *Deuxième Légende* — are quite dazzling in respect to both Kalevi Kiviniemi's performance and the demonstration-class reproduction of the Turku organ. This part of the CD adds up to



a sampling of our century's French organ music that is as valuable for its variety as for its substance.

Kiviniemi, who is the director of the Lahti Organ Festival, recorded the Poulenc concerto in that city's Church of the Cross, where he serves as organist. The conducting of Constantine Orbelian, an American who leads the Moscow Chamber Orchestra in this performance, is consistently alert and well synchronized with the soloist. If the performance does not quite match the hair-raising brilliance of the old Zamkochian/Munch version on RCA, it is a satisfying account and a generous bonus with the distinguished solo pieces. *R.F.*

**PROKOFIEV: The Fiery Angel.**

Galina Gorchakova (Renata); Sergei Leiferkus (Ruprecht); Vladimir Ognovenko (Inquisitor); Konstantin Pluzhnikov (Mephistopheles); Sergei Alexashkin (Faust), others; Kirov Chorus and Orchestra. Valery Gergiev cond. PHILIPS 446 078 (159 min).

**Performance: Searing**  
**Recording: Good live sound**

It was in 1992 that America discovered Valery Gergiev: The director of the Kirov Opera brought a stunning series of productions to the Metropolitan Opera, and the most stunning of them all was Prokofiev's *The Fiery Angel*, which the company later restaged in San Francisco. This intense,

cerebral opera was not well known in this country, and the Kirov production at once established it as a major work, brimming with musical and theatrical invention. Now Philips has released a well-recorded live performance of this landmark production.

Be forewarned: *The Fiery Angel* is a demanding piece, the musical equivalent of a big novel by Dostoyevsky or Tolstoy. The libretto, written by Prokofiev himself, is an episodic account of the doomed passion of a medieval knight, Ruprecht, for Renata, a woman possessed by visions of an angel with whom she is violently in love. Baritone Sergei Leiferkus and soprano Galina Gorchakova bring these complex central roles to thrilling life.

As is usually the case when Gergiev conducts, the level of musical preparation here is very high, with even the smallest parts well cast and well sung. Bass Vladimir Ognovenko makes the role of the Inquisitor, who condemns Renata to burn at the stake, as chilling as its counterpart in Verdi's *Don Carlo*. Faust and Mephistopheles have a comic turn, with the latter eating the waiter at an inn when the service is too slow; surprisingly, a tenor, Konstantin Pluzhnikov, sings the demonic role, and bass Sergei Alexashkin portrays his human sidekick. Even aside from the memorable vocal performances, this set is well worth having for the inspired playing in the purely orchestral passages; the entr'actes are on a par with Prokofiev's greatest ballet music. *J.J.*

**RAVEL: Miroirs. DECAUX: Clairs de Lune. SCHOENBERG: Three Piano Pieces, Op. 11.**

Frederic Chiu (piano). HARMONIA MUNDI (FRANCE) 907166 (67 min).

**Performance: Underanimated**  
**Recording: Excellent**

**RAVEL: Miroirs; Gaspard de la Nuit; Le Tombeau de Couperin.**

Abdel Rahman el Bacha (piano). FORLANE 16737 (75 min).

**Performance: Characterful**  
**Recording: Very good**

Frederic Chiu's CD offers an imaginative program. The virtually unknown composer Abel Decaux (1869-1943), a pupil of Massenet, Widor, and Guilman, turns out to be an intriguing link between his slightly younger contemporaries Ravel and Schoenberg. His four *Clairs de Lune* antedate both of the other works on the disc. Chiu's performances, though, do not make nearly as persuasive a case for Ravel, Schoenberg, or Decaux as he has made in the past for Mendelssohn and Prokofiev. There is some gorgeous filigree in the two opening numbers of *Miroirs* (enhanced by Harmonia Mundi's exceptional sonics), but when I get to the third, "*Une Barque sur l'Océan*," I miss the bloom that gives the piece both its exhilaration and its poignancy — and the still more familiar "*Alborada del Gracioso*" seems deliberately underanimated. Hard to say much about the Decaux pieces, but I wonder if they were meant to sound quite so bland and static. The Schoenberg pieces come off with a good deal more character,

but less than in the hands of Daniel Barenboim (Teldec) or Maurizio Pollini (Deutsche Grammophon).

Abdel Rahman El Bacha, whose Schumann recording last year was so impressive, brings plenty of character and enlivenment to his Ravel, with all the requisite subtlety as well as the technical resources to do these splendid works full justice. His engagingly straightforward approach allows the fourteen individual pieces variously to bloom, shimmer, strut, menace, and simply delight with an apparently self-generating evocative power that neither suppresses the imagery nor overloads it. His piano is very handsomely recorded, too. *R.F.*



**SHOSTAKOVICH: String Quartets Nos. 1, 2, and 4.**

St. Petersburg Quartet. SONY 64584 (71 min).

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

The young St. Petersburg players have previously given us the Shostakovich Quartets Nos. 3, 5, and 7 on Sony, and their cycle of all fifteen will be complete by March 1997.

The First Quartet, in C Major, written between the Fifth and Sixth Symphonies, is brief, bittersweet, and decidedly Classical in format. The third and fourth movements anticipate elements of the ironically cheerful second and third movements of the Quartet No. 6. The Second Quartet, in A Major, coming just after the devastatingly tragic Eighth Symphony, is a kind of miniature music drama, comprising an overture, a recitative and romance, a waltz, and a theme with variations. The prevailing mood is intense and poignant, culminating in the eighteen variations of the finale. The Fourth Quartet, from 1949, is shorter but no less poignant. Initially elegaic, by the end it makes clear reference to the Holocaust in its tone of lamentation and ghostly evocations of Jewish dance.

The performances and recorded sound are of high excellence throughout, though the players seem more responsive to the music's Classical elements than to the passionately tragic aspects. *D.H.*

**SIBELIUS: Piano Music.**

Ralf Gothoni. ONDINE/KOCH 847 (70 min).

**Performance: Elegant**  
**Recording: Excellent**

Sibelius's piano music has never made anything like the impact of his orchestral works, and apparently the composer himself didn't take the medium all that seriously. Although he wrote more than a hundred pieces for piano, spanning his entire creative life, his motivation seldom went

# ABSOLUTE Sound Decisions

OVER THE PAST 10 YEARS, WE HAVE BEEN SELLING AND INSTALLING SOME OF THE BEST MID & HIGH END HOME THEATER SYSTEMS IN THE NEW YORK METRO AREA...NOW WE BRING OUR EXPERTISE TO THE REST OF THE COUNTRY!

SPECIALIZING IN  
DOLBY, THX, AC3 SURROUND SYSTEMS

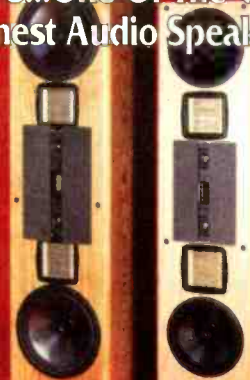
COMPLETE THX SYSTEMS FROM

**\$2599**

COMPLETE AC3 SYSTEMS FROM

**\$2999**

VMPS...One Of The World's  
Finest Audio Speakers



JAMO...The World's Finest  
THX System



AUTHORIZED DEALER FOR OVER 200 BRANDS OF  
SPEAKERS AND ELECTRONICS INCLUDING PROJECTORS  
FREE DELIVERY — FREE IN-HOME CONSULTATION  
FULL MFG'S. 5-YEAR PARTS/LABOR WARRANTY

1-800-689-7236

## CLASSICAL MUSIC

deeper than the need for pocket money. That would explain the almost embarrassing unappealing transcriptions of his own famous *Finlandia* and *Valse Triste* that conclude this recital. On the other hand, Sibelius being Sibelius, the twenty-four other pieces on the disc display considerable character.

While the three lyric pieces under the heading *Kyllikki* have no "program" relating to that figure in the *Kalevala*, they do show that the composer was fully capable of expressing himself in thoroughly pianistic (and curiously Ravelian) terms. The early barcarole, the five *Tree Pieces*, and the ten bagatelles show how effectively he could embrace a lighter style without condescension, and the five impressionistic nature sketches of Op. 114, among his last works in any form, intriguingly hint at new vistas that might have been explored.

Ralf Gothoni, the pre-eminent pianist among Sibelius's remarkable latter-day compatriots, presents them all with the fervor of a true believer and the sensitivity of an exceptional artist. If even he can't make a convincing case for the two transcriptions, the vividly recorded disc nonetheless offers full value in filling out the picture of one of the twentieth century's most fascinating musical figures. *R.F.*

### VERDI: *Rigoletto*.

Renato Bruson (Rigoletto), Andrea Rost (Gilda), Roberto Alagna (the Duke), Dimitri Kavrakos (Sparafucile), Mariana Pentcheva (Maddalena), others; Orchestra and Chorus of La Scala, Milan, Riccardo Muti cond. SONY 66314 (two CD's, 121 min).

**Performance: Unusually satisfying**  
**Recording: Good**

**R**ecorded live in May 1994, this set has much to recommend it. First, there is the greater musical and dramatic intensity that comes from hearing what was actually happening on stage rather than a pastiche put together in the studio. Second, as is usually the case when Riccardo Muti conducts, the work is presented just as Verdi wrote it, without the interpolated high notes or coloratura flourishes traditionally favored by star soloists. Third, without driving the music, Muti gives an exciting impulsion to this well-known opera that endows it with renewed life.

In the title role, baritone Renato Bruson again proves himself a highly commendable artist. Possibly because of slightly diminished vocal prowess, he emphasizes Rigoletto's paternal tenderness and personal vulnerability over the jester's saber-tongued malevolence. His scenes with Gilda are particularly affecting, and, after the initial outburst, "*Cortigiani, vil razza dannata*" is less hateful and more plaintive than we usually hear it.

Andrea Rost's soprano captures Gilda's fragility and innocence; with unaffected simplicity, she creates a very credible, genuinely pitiable ingenue. Tenor Roberto Alagna sings stylishly and makes a three-dimensional figure of the contemptible if dashing Duke, especially in his Act I duet with Gilda and in his nicely turned "*Parmi*

*veder le lagrime*." Dimitri Kavrakos employs his rich bass to evoke a suitably sinister Sparafucile, and mezzo Mariana Pentcheva is winningly seductive as Maddalena. The orchestra and chorus are in top form; the evocation of the storm in Act II is particularly notable.

Overall, I can warmly recommend this recording despite an intermittent high-pitched *zzing*, rather like that of a mosquito, over much of Alagna's singing (for instance, on Disc 2, Track 13). *R.A.*

## Collections

### AMERICAN VOICES

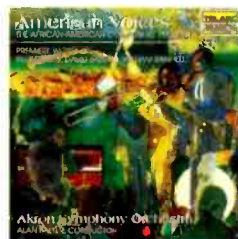
**Childs:** *The Distant Land*. Baker: *Jazz Suite for Clarinet and Symphony Orchestra*.

**Banfield:** *Symphony No. 5*.

Soloists; Akron Symphony. Alan Balter cond. TELARC 80409 (70 min).

**Performance: Dynamism and skill**  
**Recording: Attractive**

"**A**merican Voices" stems from a three-year project in which the enterprising Akron Symphony Orchestra and its dynamic clarinetist/conductor, Alan Balter, commissioned music from African-American composers. All of the pieces on this attractive disc show high levels of skill and imagination in the combination of traditional mater-



ial with the symphonic idiom, and it represents a veritable coming-of-age for African-American music and a significant breakthrough for American symphonic music.

David Baker, the best-known composer of the group, subtitled his jazz suite "Three Ethnic Dances," and they are, respectively, a jitterbug, a slow drag, and a calypso. The suite, a kind of jazz concerto, was written for Balter and incorporates a little improvisation: it is the most immediately accessible and engaging work on the disc. Billy Childs's *The Distant Land*, beautifully sung by Carmen Lundy in a blissfully nonoperatic style, is an evocation of Africa with voice and African drums set against the orchestra. Finally, William C. Banfield's *Symphony No. 6*, subtitled "Four Songs for Five American Voices," pays homage to Leonard Bernstein, Duke Ellington, Dizzy Gillespie, Miles Davis, and Sarah Vaughan in an elegant manner.

Akron, Ohio, may seem an unlikely place for all this music to come from, but in fact the recording is very much a Midwestern production. Baker, who is from Indiana, and Banfield, born in Detroit, are both on the faculty of the Indiana University School of Music. The Akron musicians are not merely at ease in these pieces; they project



**WE CARRY... ADS • ADVENT  
AIWA • NAD • BOSE • JVC  
ONKYO • JBL • HITACHI  
AUDIO ALCHEMY • B-I-C  
DENON • AR • KENWOOD  
MITSUBISHI • PANASONIC  
PIONEER • NILES • SONY  
YAMAHA • AMPRO  
CERWIN VEGA • SONANCE**



**SHERWOOD • CELESTION  
KEF • ALTEC LANSING  
HARMAN KARDON  
SHARP • TECHNICS  
RCA • TEAC • KLIPSCH  
SONY ES • PHILIPS  
TOSHIBA • VELODYNE  
AND MANY OTHER HIGH  
QUALITY MANUFACTURERS**

**HI-END AUDIO SPECIALISTS**



**ONKYO TX-SV828 THX**  
• THX Dolby® Pro Logic Receiver  
• Remote • AC3 **\$1092<sup>11</sup>**  
Compatible Suggested Price \$1499

**RECEIVERS**

DENON	AVR-2500	\$687
DENON	AVR-1200	\$416
KENWOOD	KRV-8070	\$444
NAD	AV-716	\$549
SONY	STR-D1015	\$442
TECHNICS	SA-GX490	\$233
YAMAHA	RXV-890	\$695



**TEAC W-518R**  
• Autoreverse Dual Cassette  
• Dolby® **\$88<sup>99</sup>**  
B/C NR Suggested Price \$170

**TAPE DECKS**

AIWA	ADF-850	\$222
PIONEER	CTW-504R	\$144
DENON	DRM-740	\$293
SONY	TCWR-665S	\$244
SONY	TCK-615S	\$322
YAMAHA	KX-580	\$288



**DENON DCM-340**  
• 5-Disc Carousel CD Changer • 6 Play Modes  
Suggested Price \$300

**CD CHANGERS**

DENON	DCM-460	\$296
ONKYO	DXC-606	\$369
NAD	517	\$449
SONY	CDPC-545	\$244
TECHNICS	SLPD-987	\$188
YAMAHA	CDC-555	\$195



**HARMAN KARDON EQ-8**  
• 10 Band Graphic EQ **\$166<sup>99</sup>**  
• Ultrawide Bandwidth Suggested Price \$349

**SEPARATES**

AUDIO ALCHEMY FULL LINE	CALL
B&K	AV2500 \$649
KENWOOD	KCX1 \$649
YAMAHA	DSPE580 \$529

We Carry A Large Selection Of Power Amps, Integrated Amps • Pre Amps, Tuners • THX, AC3 Processors



**JBL L-7**  
• 450W 4-Way Floor Standing Speakers  
**\$1099<sup>99</sup>**  
PRICES PER PAIR

ADVENT	HERITAGE	\$446
APOGEE	CENTURIOUS COLUMN	CALL
ALTEC LANSING	MODEL 85	\$149
CELESTION	IMPACT 25	CALL
KEF	0-50	\$545
KLIPSCH	KG 3.5	\$494



**ALTEC LANSING SW-8**  
• 100W Sub • 8-Inch Woofer • Compact  
Suggested Price \$200 **\$98<sup>99</sup>**

**SUBWOOFERS**

ATLANTIC TECHNOLOGY	222 PBM	CALL
AUDIOSOURCE	SW-4	\$344
M&K	FULL LINE	CALL
JBL	PSW-1000	\$276
KLIPSCH	SW8 II	\$436



**CERWIN VEGA HTSMC**  
• 3-Way Center Channel  
Suggested Price \$165 EACH **\$79<sup>99</sup>**

**CENTER CHANNEL**

ATLANTIC TECH	223C	CALL
BIC	V-52CLR	\$149
CELESTION	CENTER 2	\$249
KEF	90SE	\$229

**SONANCE S-3R**

• 2-Way In-Wall • 6 1/2" Woofer • 1" Tweeter  
**\$297<sup>99</sup>**  
Suggested Price \$380



**AIWA NSXV-7C**  
• 3 CD/Dual Deck Remote Mini System **\$399<sup>99</sup>**  
• Karaoke Functions Suggested Price \$549

**MINISYSTEMS**

YAMAHA	GX-5	\$444
AIWA	NSX-V50	\$316
PIONEER	CCS-304	\$499
DENON	D-600S	\$644



**SONY CDX-5090**  
• Detachable Face AM/FM CD Player  
• 8X OS • 24 AM/FMPresets Suggested Price \$350 **\$224<sup>99</sup>**

**CAR CD PLAYERS**

CLARION	.....	IN-STOCK
KENWOOD	KDC-6003	\$276
PIONEER	DEH-415	\$238
SONY	CDX-C490	\$317



**BLAUPUNKT CDC-RF6**  
• 10 CD Changer Remote • Twin DAC **\$299<sup>99</sup>**  
• Works With Any Unit Suggested Price \$430

**CAR CD CHANGERS**

KENWOOD	KDC-C603	\$288
NAKAMICHI	MB-7 7 CD MUSICBANK	CALL
PIONEER	CDX-FM67	\$344
SONY	CDX-71RF	\$364



**KENWOOD KRC-601**  
• AM/FM Stereo Cassette • 30WX4 • Dolby® **\$195<sup>99</sup>**  
B/C NR • CD Changer Controls Sugg. Price \$300

**CAR HEAD UNITS**

BLAUPUNKT	TUSCON	CALL
DENON	DCR-530	\$284
KENWOOD	KRC-501	\$222
PIONEER	KHP-4200	\$188
SONY	KXC-410	\$225

**CERWIN VEGA**

S-12  
• 250 Watt Subwoofer • Dual & Sigma Voice Coil Models Available

**FULL CAR LINE IN-STOCK**

**CAR SPEAKERS**

AOS	325IS	\$424
ALTEC LANSING	ALS-693	\$157



**ADS 460**  
• 60K4 Hi-End Amp **\$597<sup>99</sup>**  
• Built-In Cross Over • Bridgeable Suggested Price \$589

**CAR AMPLIFIERS**

HIFONICS	THOR VIII	\$366
KENWOOD	KAC-625	\$136
PIONEER	GMX-402	\$176
SONY	XM-4045	\$226

**THE BEST IN VIDEO**



**CANON ES-5000**  
• Hi-Fi Stereo Autofocus • 20X Optical Zoom Lens  
• Remote Suggested Price \$1499 **\$989<sup>99</sup>**

**CAMCORDERS**

CANON	ES-5000	CALL
HITACHI	VME-310A	\$699
JVC	CRAX700L	\$599
PANASONIC	FV10-505	\$566
PANASONIC	FV10-705	\$796
SONY	CCD-TRV3	\$696
SONY	CCDTR93	\$699



**PIONEER CLDD-504**  
• Combination Multi-CD/Laser/Karaoke Disc Player • Double Sided Play  
• Microphone • Remote Suggested Price \$660 **\$399<sup>99</sup>**

**LASER PLAYERS**

PIONEER	CLDV-760	\$595
PIONEER	CLDV-860	\$696



**PANASONIC PV-4652**  
• 4-Head HI-FI VCR Plus • Cable Ready  
• A/V Jacks • Remote Suggested Price \$299 **\$241<sup>99</sup>**

**VCRs**

HITACHI	VTF-391A	\$269
JVC	HRS-7100U	\$656
PANASONIC	PV-4651	\$239
SONY	SLV-980HF	\$494
TOSHIBA	M-671	\$279

**SPECIALTY ITEMS...**



**AT&T 9120**  
• 900MHZ • 10 Channel Phone  
**\$178<sup>99</sup>**  
Suggested Price \$249



**BELL 7458ti PLUS**  
• 3 Band & VG2 Technology Laser Front and Rear  
**\$224** AFTER MFR REBATE



**SONY KV32S16**  
• 32" P-I-P Stereo TV. • On-Screen Displays  
• Remote Suggested Price \$999 **\$717<sup>99</sup>**

**TELEVISIONS**

MITSUBISHI	CS-35405	\$1465
PANASONIC	CT-27SF12	\$522
RCA	F-32672	\$699
SONY	KV-27V15	\$523
TOSHIBA	CF-35D50	\$1096



**RCA P-60752**  
• 60" Stereo Projection • Broacast Stereo • Picture-in-Picture  
• Remote Control Suggested Price \$3299 **\$1990<sup>11</sup>**

**TV/VCR COMBOS**

SHARP	13VTG60	13" Combo \$299
SHARP	25VTG60	25" Combo \$429
RCA	T-2001S	20" Combo \$399
SONY	KV13VM20	13" Combo • CALL



**RECCOTON W-440**  
• Wireless Speaker System • Sound In Any Room In Or Out  
Suggested Price \$250 **\$177<sup>99</sup>**



**PHILIPS DCC-170**  
• Portable DCC • Recordable • Headphones  
Suggested Price \$500 **\$244<sup>99</sup>**

**HOURS:**  
Mon-Fri... 9AM-8PM  
Saturday... 10AM-7PM  
Sunday... 11am-5PM

**CUSTOMER SERVICE**  
201-912-8183

**OPEN 7 DAYS A WEEK FOR BEST PRICES CALL...**

**1-800-500-1553**

\* ALL PRODUCTS ARE COVERED BY THE MANUFACTURER'S WARRANTY OR ELECTRONICS DEPOT'S EXCLUSIVE WARRANTY.  
\*\* REGISTERED TRADE MARK DOLBY LABORATORIES LICENSING CORP. SHIPPING NOT REFUNDABLE \* CALL FOR INFORMATION.

**We Are Your ACCESSORY HEADQUARTERS**  
We Carry A Full Line Of...

- Monster Cable
- XLO • Panamax
- Straightwire
- Audio Quest
- Niles • Terk
- Bell'Ogetti

# QUICK FIXES

**BRAHMS: Piano Sonata No. 2; Seven Fantasies, Op. 116; Four Pieces, Op. 119.**

Emanuel Ax (piano). SONY 69284 (64 min). Emanuel Ax's exceptional judgment in respect to tempo is a considerable factor in making his performance of the early Sonata No. 2 so effective; the second move-



ment, so often turned into a weighty adagio, here proceeds at the sane, amiable pace of a real andante (as Brahms marked it) and shines with uncontrived elegance. The more familiar late pieces reflect the same level of thoughtfulness, insight, and

all-around conviction, and the sound is just fine. *R.F.*

**MENDELSSOHN: Elijah.**

Thomas Hampson (Elijah); Barbara Bonney (The Widow); Florence Quivar (Angel); Jerry Hadley (Obadiah); others. Atlanta Symphony Chorus and Orchestra, Robert Shaw cond. TELARC 80389 (two CD's, 132 min). As always, the choral work under Robert Shaw's direction has plenty of weight and presence in this English-language version of the oratorio. The soloists are an all-star lineup, but some of their performances lack drive and punch. Thomas Hampson's light baritone simply lacks authority, and Jerry Hadley's Obadiah struck me as whiny. The sonics are close but impressive. *D.H.*

**MOZART: Piano Concertos Nos. 18 and 19.**

Melvyn Tan (fortepiano); Philharmonia Baroque Orchestra, Nicholas McGegan cond. HARMONIA MUNDI 907138 (54 min). The case for Mozart on fortepiano has been made before, more cogently, and those of us who believe that he would have adored a big, meaty Baldwin with eighty-eight keys will never be persuaded otherwise. Still, Nicholas McGegan extracts a bright, vivacious performance from his orchestra. *J.J.*

**SCHUMANN: Frauenliebe und Leben; other songs.**

Margaret Price (soprano); Thomas Dewey (piano). FORLANE 16711 (64 min). After an unsteady opening with *Widmung*, one of six Rückert songs, Margaret Price rallies to offer exquisite vocalism in the rarely heard Six Songs, Op. 36, on poems of Robert Reinick — worthy miniatures, if not among the composer's most memorable creations. She is also a charmingly responsive interpreter of the eight folksy songs from Op. 79. Thomas Dewey is an accomplished partner, but the voice-piano balance is not always ideal. *G.J.*

**WITNESS Volume I: Spirituals and Gospels.**

Moore by Four Vocal Jazz Ensemble; Ensemble Singers and Chorus of the Plymouth Music Series of Minnesota, Philip Brunelle cond. COLLINS 14492 (69 min). The first in a series devoted to African-American music, this somewhat starchy collection of traditional black spirituals, sung in a clean-cut manner in mostly modern arrangements, also includes some highly stylized jazz performances from the Moore by Four Vocal Jazz Ensemble. Despite the seeming disparity in interpretive style, both choral and jazz selections are slightly overcooked and underspiced. *E.S.*



# You Can Count on Us.



CAMERA WORLD OF OREGON

Honest prices. Fast delivery. Courteous service.

**1-800-695-8443**

HI-FI COMPONENTS

BIG SCREEN TVs

SPEAKERS

LASER DISC

CAMCORDERS



- SONY • PIONEER • JVC
- TECHNICS • JBL • KLH
- CANON SPEAKERS
- HARMAN/KARDON
- ALTEC LANSING • AIWA
- TERK • PINNACLE
- PANASONIC PRO
- SONY PRO

**1-800-729-8940**

**GET YOUR FREE 1996 CATALOG!**

Simply call our Catalog Hot-Line and leave your name and address!



EMAIL: 72303.1734@Ccmppuserve.com • <http://www.cameraworld.com> • FAX: (503)222-7070 • TOLL (503) 227-6008

CIRCLE NO. 9 ON READER SERVICE CARD

# CLASSICAL MUSIC

the dynamism of the music with real enthusiasm and skill. *E.S.*

**PIFFARO, THE RENAISSANCE BAND: Canzoni e Danze (Wind Music from Renaissance Italy).**

DEUTSCHE GRAMMOPHON ARCHIV  
445 883 (62 min).

**Performance: Sturdy, seductive**  
**Recording: Vivid**

**W**hat is an Italian Renaissance band? How about bagpipes, hurdy-gurdies, shawns, crumhorns, and sackbuts along with flutes, lutes, recorders, cittern, dulcian, and guitar? Piffaro, a fifteen-year-old Renaissance wind band from the Renaissance city of Philadelphia here in its first major-label recording, has added the popular, outdoor instruments of street and countryside to the slightly more familiar and elegant early indoor instruments. The combination makes possible an earthier, outdoorsy, dancier sound that opens up or reinterprets a whole neglected repertoire.

The music here is from sixteenth-century Northern Italy, mostly Venice and Tuscany. Some of it is quite sophisticated, deriving from vocal music by such composers as Heinrich Isaac and Jacques Arcadelt (who were not Italian but were well known in Italy) and Orazio Vecchi. Vincenzo Ruffo, and Costanzo Festa (who were Italian). Some of it is pretty basic: sturdy, lively, captivating dance music by such stalwarts as the omnipresent Anon.

Piffaro consists of only seven players, but they play something like two dozen instruments between them, all with skill, vigor, and bite. Don't expect all of this music to be well behaved. Some of it is as seductive and elegant as a Petrarch sonnet, but a lot is the musical equivalent of a bawdy story by Boccaccio. *E.S.*

**ROYAL PHILHARMONIC ORCHESTRA: English String Music.**

Royal Philharmonic, Barry Wordsworth cond.  
TRING INTERNATIONAL/ALLEGRO IMPORTS  
TRP37 (63 min).

**Performance: Excellent**  
**Recording: Good**

**B**ritish string-music albums seem to become a dime a dozen these days, but this one is no routine affair, offering wonderfully alert and sensitive performances. The ever-delightful Warlock *Capriol* suite is the prize item, followed closely by a taut and passionate reading of Elgar's Introduction and Allegro. The Royal Philharmonic strings do equally well with more fragile

pieces: the Elgar serenade, Delius's two *Aquarelles*, the two episodes from Walton's *Henry V* film score, the meltingly lovely *Brook Green* suite of Holst, and a Purcell suite neatly put together by Albert Coates (the opening rondo has the same theme used in Britten's *Young Person's Guide to the Orchestra*).

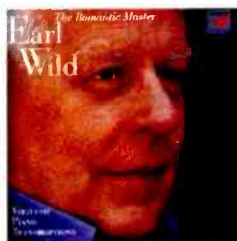
Conductor Barry Wordsworth brings real panache to the whole program, which is perfect for after-dinner listening. The sound is beautifully balanced throughout, if just a wee bit tight. Go for this one! *D.H.*

**EARL WILD: The Romantic Master.**

Earl Wild (piano). SONY 62036 (67 min).

**Performance: Unique**  
**Recording: Very good**

**E**arl Wild turned 80 last November, and Sony marked that anniversary with this CD of virtuoso piano transcriptions. It offers a fascinating baker's dozen that joyously certify Wild's pre-eminence in this genre. Among them are Rachmaninoff's piano setting of Kreisler's *Liebesleid*. Wilhelm Back-



haus's charming arrangement of the serenade from Mozart's *Don Giovanni*, Paul Pabst's paraphrase on themes from Tchaikovsky's *The Sleeping Beauty*, the famous Carl Tausig workout on the Strauss waltz *Man Lebt Nur Einmal*, and no fewer than nine transcriptions by Wild himself, including two Tchaikovsky numbers. *Rouet d'Omphale* by Saint-Saëns (successfully challenging a transcription by the composer himself, whose own performance circulated on a piano roll), songs by Fauré and Rachmaninoff, and pieces by Chopin, Handel, and Bach (the last as a tribute to Poulenc). Finally, there's a totally unexpected showstopper, "Reminiscences of *Snow White*," that incorporates five of Frank Churchill's unforgettable tunes for the Disney classic.

Eight of the selections are recorded here for the first time, and all of them can be guaranteed to bring smiles of pleasure that will not fade with repeated hearings. The recording itself is warmly realistic. *R.F.*

## Index to Advertisers May

Reader Service No.	Advertiser	Page Number
—	Absolute Soundings	102
1	Adcom	7
2	Alpine	C4
3	API/Sound Dynamics	16
—	The Basic Repertory on CD	6
—	Bose	9-39
—	Bose—Acoustic Wave	6
—	Boston Acoustics	4
—	Cambridge SoundWorks	22-23, 24
—	Camel	37
9	Camera World	104
—	Chrysler/Neon	2-3
11	Crutchfield	49
15	Definitive Technology	26-27, 28, 29
—	Electronics Depot	103
32	Eosone	19
33	Eosone	51
—	Esquire	59
—	Ford Electronics	25
—	Ford/Mustang	46-47
17	Jamo	14
16	J&R Music World	88-89
—	JBL	53
18	Jensen	40-41
20	Klipsch	13
—	Marlboro	10-11
21	Mobile Fidelity	84
—	Movado	31
—	New West	106
19	NHT	33
29	NuReality	21
47	One Call	90
—	PARA	12
27	Paradigm	C3
—	Parasound	15
—	Pioneer—Car	C2-1
—	Pioneer—Home	43
34	Folk Audio	34
—	Radio Shack	45
—	6th Avenue Electronics	97
—	Steinway Dynasty	95
38	Sound City	98
39	Toshiba	54-55
40	Uncle's Stereo	96
—	Yamaha	68-69

**COPYRIGHT © 1996 BY HACHETTE FILIPACCHI MAGAZINES, INC.** All rights reserved. Stereo Review, May 1996, Volume 61, Number 5, Stereo Review (ISSN 0039-1220) is published monthly by Hachette Filipacchi Magazines, Inc. at 1633 Broadway, New York, NY 10019; telephone (212) 767-6000. One-year subscription rate for the United States and its possessions, \$15.94; Canada, \$23.94 (includes 7% GST, GST registration number 126018209, Canadian Sales Agreement Number 99236); all other countries, \$23.94; cash orders only, payable in U.S. currency. Second-class postage paid at New York, NY 10001, and at additional mailing offices. Authorized as second-class mail by the Post Office Department, Ottawa, Canada, and for payment of postage in cash. **POSTMASTER / SUBSCRIPTION SERVICE:** Please send change-of-address forms and all subscription correspondence to Stereo Review, P.O. Box 55627, Boulder, CO 80322-5627. Please allow at least eight weeks for the change of address to become effective. Include both your old and your new address, enclosing, if possible, an address label from a recent issue. If you have a subscription problem, write to the above address or call (303) 604-1464; fax, (303) 604-7455. **PERMISSIONS:** Material in this publication may not be reproduced in any form without permission. Requests for permission should be directed to: The Editor, Stereo Review, 1633 Broadway, New York, NY 10019. **BACK ISSUES** are available. Write to ISI/Stereo Review, 30 Montgomery Street, Jersey City, NJ 07302. For each copy ordered, enclose a check or money order for \$5.95 in U.S. funds (\$7.25 for orders sent to Canada, \$12.95 for other foreign locations); add \$2 to those prices for each copy of the 1996 *Stereo Buyer's Guide* annual. For telephone credit-card orders, call (201) 451-9420. **EDITORIAL CONTRIBUTIONS** must be accompanied by return postage and will be handled with reasonable care, but the publisher assumes no responsibility for the return or safety of unsolicited manuscripts, art, or photographs.

# new west electronics

*north america's  
home theater  
specialist!*



Audio Separates • A/V • Receivers • DSS  
AC3 • THX • Laser Disc • VCRs • TVs  
Bigscreens • Subwoofers • Speakers  
Camcorders • Mobile



PIONEER • HARMAN KARDON  
CELESTION • KENWOOD • JVC  
INFINITY • AIWA • SONY • RCA • AR  
TOSHIBA • HITACHI • PREMIERE  
MONSTER CABLE • VELODYNE  
GO-VIDEO • PANAMAX • B&K  
KIMBER • AUDIO ALCHEMY  
OMNIMOUNT & MUCH MORE!



**new west electronics credit card**  
*Card holders enjoy special discounts & benefits.  
Call 1-800-733-1366 for application & details.*

**Great Prices - Excellent Service**

# 800-488-8877

**All Prices Include Federal Express Delivery**

*Please ask about our Return & Exchange policies*

All Times PST: M-F 6:30A to 6:30P • SAT 7:00A to 6:00P SUN 8:00A to 5:00P

*COD's & PO's Welcome!*



A Division of Clarity Electronics LTD.

4120 Meridian • Bellingham WA 98226 • Fax (306)734-3314

CIRCLE NO. 22 ON READER SERVICE CARD

Looking for more info?

<http://www.newest.com>

*It's new west on the net!*

# LASER DISC

CONNECTION

## ADVERTISERS!

Reach proven mail order buyers! They turn to us when they are looking for purchasing information and advice. Advertise your products and services in a low-cost environment that sells. Millions of your prime prospects can be found in the industry leading titles of

Hachette Filipacchi Magazines, Inc.

To place your ad in Stereo Review's "LASER DISC Connection" simply call Toll-Free and reserve your space today!

**1-800-445-6066**

(9am - 5pm EST)

or Fax: 1-212-767-5624

**APOLLO 13**  
25% Off!

**NOW on LaserDisc**

KEEL GIBSON  
**BRAVEHEART**

**Best Picture Nominees**

**IL POSTINO**  
**THE POSTMAN**

and 20% off Other Top **LaserDisc** titles...

Waiting To Exhale • Money Train  
The Bridges Of Madison County  
How To Make An American Quilt  
To Die For • Now And Then  
Ace Ventura • When Nature Calls  
Seven • A Walk In The Clouds  
Assassins • Virtuosity • Pulp Fiction  
The Usual Suspects • Waterworld  
Under Siege 2 • Dangerous Minds

Mention *this Ad* and get a 20% discount off the Suggested Retail Price on the Titles listed above, (Offer expires 7/31/1996)

Call for our **FREE** Monthly Laserdisc Catalog! Hundreds of *New* and *Recent* Releases. All, *at least*, 15% OFF S.R.P.!

PLUS...



**Delivery Only \$3.75 per Order in Continental U.S.** (1 or 100 discs - you pay only \$3.75!) Orders can include "Pre-orders & Back-orders!" U.S. & Canadian destinations *only*. Some titles not available for Canadian shipment. No "walk-ins."

Every Laserdisc title available at up to **40% OFF!**



Laserdisc Fan Club, Inc.  
1925 E Dominguez St  
Long Beach, CA 90810

**(800) 801-DISC(3472)**

(mention Source Code: S56)

LASERDISC FAN CLUB FAX (310) 952-3000

Open Monday - Saturday

Call **TODAY** for your **FREE** Laserdisc Catalog. Visit our **Web Site**: <http://www.lvd.com>

# CD STORAGE CONNECTION

**CD/VHS CASE**  
5 Feet Tall Holds 500 CD's

**\$159<sup>95</sup>**



- ▶ Furniture Quality Oak Construction
- ▶ Fully Adjustable Shelves
- ▶ Hand Rubbed Danish Oil Finish
- ▶ Immediate Delivery in Oak or Black
- ▶ Free Color Photos

We offer a complete line of products: 300 glass door case, 250 shelf unit & much more in oak and black

30 Day Unconditional Money Back Guarantee

**1-800-878-7458**



Visa/MC/Discover



Hv Enterprises • 14040 Mead St • Longmont CO 80504

## BILLY BAGS<sup>®</sup>

AUDIO/VIDEO FURNITURE DESIGN

"We will even design a piece to your exact specifications!"

AUDIO RACKS ▶



◀ MEDIA RACK



PRO AMP STAND ▶



◀ COMPONENT CENTERS



CD PLUS STORAGE RACKS ▶

Call us today for your local dealer and a copy of our detailed *Newsletter* with product photos and specifications...

4147 TRANSPORT STREET • VENTURA, CA 93003  
(805) 644-2185 • FAX (805) 644-0434

## DIGITAL HOLLYWOOD ENTERTAINMENT

Available Soon = **Laserdisc**



**800-994-DISC (3472)**

**FAX 714-963-0827**

**CALL FOR A FREE CATALOG TODAY!**

**20% OFF ALL Laserdiscs**

DIGITAL HOLLYWOOD ENTERTAINMENT  
10171 BIRCHWOOD DR.  
HUNTINGTON BEACH • CA 92646  
714-963-3059 • FAX: 714-963-0827

## The STEREO REVIEW CD STORAGE CONNECTION

puts manufacturers of CD storage units in touch with the ideal audience... CD purchasers unsurpassed in size, buying activity & the need for storage of their ever-growing CD collections! For advertising information call:

**1-800-445-6066**

(Monday-Friday, 9-5 EST)

or Fax 212-767-5624

## Storage Solutions



CD, Audio and Video Storage  
Call or write for a free color brochure

**1-800-858-9005**

AGM Woodworking  
870 Capitollio Way #5  
San Luis Obispo, Ca. 93401  
(805) 344-8668



- ▶ Fully Assembled!
- ▶ 100% Solid Oak!
- ▶ 30 Day Money Back Guarantee!
- ▶ Made in U.S.A.
- ▶ Smoked Glass Doors
- ▶ Adjustable Shelves
- ▶ No Hidden Costs
- ▶ Just One Low Price!



America's best disc, tape and component storage system  
Free mailorder brochure

Per Madsen Design (415) 822-4883  
P.O. Box 882464, San Francisco, CA 94188

## Stereo Review

# CLASSIFIED

For Advertising Information Call 1-800-445-6066, 9am-5pm EST

**PLEASE NOTE:** It is impossible for us to verify all of the claims of advertisers, including product availability and existence of warranties. To confirm that an advertiser is authorized to sell a product, we suggest you contact the manufacturer directly. Please review our *Tips for Mail Order Purchasers* in this section.

**AUTHORIZED**

## MODULAR STORAGE CABINETS

Design your own entertainment center. This modular grouping accommodates a large rear projection TV & A/V equipment and up to 1,600 CDs or 360 videos, lasers, LPs, liquor, photos, etc. All for only \$1,394. Let your imagination run wild.



Open Wide & Say Ahhh!

This Cabinet holds 800 CDs

or 180 videos

Caddy Optional

The Look of Leather  
**CAN-AM**  
The Strength of Steel

800-387-9790 or 905-475-6622 <http://www.io.org/~canam>

## Straight Talk...

### "One of America's Finest Audio/Video Stores"

-Audio Mfg. C.E.O.

#### AUTHORIZED DEALER

We stock 106 brands of Audio/Video and Car Stereo, only a few stores in America can make this statement and virtually all of us are located in college towns adjacent to hi-tech Universities.



486,000+

University of Kansas graduates, students and friends of 36 years have valued Kief's information, multi-million dollar inventory and in stock selection of virtually all award winning units.

#### AUTHORIZED DEALER 106 BRANDS

Please Visit Kief's New 18,000 sq.ft. Speciality Store  
For additional information...

**AUDIO/VIDEO**  
**913-842-1811**

# CD STORAGE+



Model A300 (Shown in Solid Brown Oak)

**SORICÉ SYSTEMS Include...**  
Video, Cassette, LP, Laserdisc and Component Storage Units.

- ❖ Our A300 Model shown stores 300 CD's.
- ❖ Impeccably crafted in these Premium Solid Hardwoods: Oak, Walnut, Teak or Cherry.
- ❖ Adjustable Shelves store any combination of CD's, Videos & Cassettes - all in One cabinet.
- ❖ Adjustable Solid Brass Bookends keep Discs & Tapes upright and in place.
- ❖ Cabinets can be stacked, wall mounted or left free standing.
- ❖ Optional Wood or Glass Doors are available.
- ❖ Enclosed back provides dust protection.
- ❖ Compact size: 39 1/2" H x 23 1/2" W x 7 1/4" D. Cabinet comes assembled.

**SORICÉ**

PO Box 747-21, Nutley, NJ 07110  
Credit Cards, Checks and Money Orders accepted.  
30 Day Money Back Guarantee and a Full One Year Warranty on all Models.

For FREE Color Literature & Prices on our Full Line of Quality Products

Call: 1-800-432-8005

Fax: 1-201-667-8688

OUR 20TH YEAR! CALL 1(800) 826-0520. ★ NAD ★ SONY ES ★ ONKYO ★ CARVER ★ HARMAN KARDON ★ KEF ★ GRADO ★ LEXICON ★ ATLANTIC TECHNOLOGY ★ PSB ★ AUDIO-CONTROL ★ MONSTER CABLE ★ NILES AUDIO ★ SONY DSS ★ THORENS ★ PROAC ★ PAN-AMAX ★ CWD ★ CELESTION JAMO ★ ALTEC LANSING ★ SANUS SYSTEMS ★ RECOTON ★ STAX ★ OMNI MOUNT ★ TARGET ★ SOUND-STREAM ★ SOUND ANCHORS ★ KICKER ★ MTX ★ CLARION ★ ROCKFORD FOSGATE ★ SOUND SELLER, BOX 224, 2808 CAHILL, MARINETTE, WI 54143-0224.

STEREO WORLD IS YOUR DISCOUNT SOUND SOURCE DEALS ON: SONY, PYLE, DENON, CLARION, JVC, HIFONICS, POLK, PIONEER, SCOSCHE EFX, ORION, KITS, BASSBOXES, AND MUCH MORE! CALL OR WRITE FOR FREE SALES FLYER. FREE UPS! OUR 8TH YEAR. VISA/MC. COD. P.O. BOX 596, MONROE, NY 10950. (914) 782-6044.







**LOUDSPEAKERS**

**Parts Express**  
1996 CATALOG

TOLL FREE ORDERING AND TECHNICAL ASSISTANCE  
24 HOURS A DAY  
ALL PRODUCTS BY THIS CATALOG STOCKED  
SEMI-ANNUAL FOR RESELLERS  
CALL 8 AM - 8 PM ET  
WEEKDAYS  
CREDIT - 1 PM ET  
SATURDAYS  
30 DAY MONEY BACK GUARANTEE  
APPLY 15% DISCOUNT  
ON ALL NEW PRODUCTS  
SAME DAY SHIPPING

CALL TOLL FREE  
1-800-338-0531

UP TO 10 POUNDS SHIPPED TO YOU  
VIA UPS 2ND DAY AIR FOR \$7.95!

**ROTTEN FOAM?**

- Simply Speakers - Factory Authorized Service - All Brands JBL, Bose, Advent, EPI, CV, AR, Infinity & More!
- Worldwide Service - Re-coning & Re-foaming.
- Huge selection of D.I.Y. Foam Kits - We Ship Daily!
- Foam Rot Preventative Kits.

**CALL TOLL FREE TODAY!**

1-800-767-4041 = SIMPLY SPEAKERS. MC/VISA/NOVUS/AMEX. 11203 49TH STREET N., CLEARWATER, FL 34622. E-MAIL: Simplsprk@AOL.COM. D.I.Y. KITS INCLUDE: ILLUSTRATED INSTRUCTIONS, ADHESIVE & TECHNICAL SUPPORT. BEST PRICES / SERVICE / WARRANTY—GUARANTEED!!

**D.I.Y. NEW FOAM KITS**

FOR TECHNOS AND TECH DON'T KNOWS.

**NEW-FOAM**  
CALL TOLL FREE

Speaker Repair & Replacement Parts  
Nationwide Service Since 1979

1-800-NEW-FOAM = 1-800-639-3626 NATIONWIDE SPEAKER REPAIR, PARTS, AND ACCESSORIES. Call us with your speaker problems. VISA/MC/AMEX/DISC.

ONLY THE

**Ohm**  
BRAND

Speaker Service, Upgrades and Trades. Ohm Acoustics, Corp. 241 Taaffe Pl. Brooklyn, NY 11205. 1 (800) 783-1553, Fax (718) 857-2472, email: OhmSpeaker@AOL.com WWWOhmSpeaker.com

**Repair Foam Rot Yourself!**

- Save hundreds of dollars w/orig. kit!
- Kits to fit any speaker - Advent, AR, JBL, Bose, Inlin., EV, etc.
- Inc. surrounds, adhesive & instructions
- MC/VISA/Discover - No CODs
- Call last for Best Price
- Order by phone 24 hrs. 704-697-9001
- or call Toll Free **800-747-3692**



**STAPP**  
AUDIO TECHNOLOGIES

STATE OF THE ART CROSSOVER NETWORKS. UPGRADE ANY SPEAKER. SOFTWARE AVAILABLE. FREE DESIGN GUIDE. ALLSPR TECHNOLOGIES, INC., 2844 CHARMONT DR. APOPKA, FL 32703-5972. (407) 786-0623.

**CABLE TV**

**Cable Descramblers**  
We'll beat anyone's price!

1 Year Warranty 100% Money Back Free Catalog  
Filters \* Converters \* Accessories

**ORION**  
Electronics 1-800-379-3976

**CABLE TV**

**CABLE T.V. CONVERTERS & DESCRAMBLERS**



**TKA ELECTRONICS**

7914 W. Dodge Rd. #334  
Omaha, NE 68114

- \* 13 MONTH WARRANTY IN WRITING \*
- \* FRIENDLY SERVICE \* 30 DAY TRIAL PERIOD \*

FOR A FREE CATALOG OR TO PLACE YOUR ORDER CALL:

**1-800-729-1776**

CABLE T.V. CONVERTERS & ACCESSORIES. Fair Prices, Quality Service, & 14 years Experience Gives Us The ADVANTAGE. CALL 1-800-952-3916 Visa/MC/Amex/Disc/COD. ADVANTAGE ELECTRONICS, INC., 1125 Riverwood Dr., Burnsville, MN 55337. MEMBER OF NCCA.

**CABLE TV DESCRAMBLERS**



Best Buys  
Best Service  
Full Warranty

**800-835-2330**

CABLE TV DESCRAMBLERS—We beat all prices...get cable direct! All Boxes Guaranteed 2 years!! 24 Hour delivery! CABLE DIRECT SOURCE: 1-800-540-3868; Ext. 41.

CABLE DEPOT IS NOW SELLING CONVERTERS/DESCRAMBLERS DIRECT TO THE PUBLIC AT WHOLESALE PRICES! 30-DAY TRIAL QUANTITY DISCOUNTS! 1-800-884-3473.

We have the best converters & descramblers. 30 days's moneyback guarantee. One year warranty. Dealers welcomed. Call Fox Electronics. 1-800-888-5535.

REVOLUTIONARY TECHNOLOGY. Does all Boxes - For Free Catalog Please Call Mega Electronics 1-800/676-6342.

**NU-TEK ELECTRONICS**  
Leading the way to excellence

**Cable TV Converters & DESCRAMBLERS**



- ✓ 30 DAY MONEY BACK GUARANTEE
- ✓ ONE YEAR WARRANTY

FREE CATALOG

**1-800-228-7404**

CABLE T.V. CONVERTERS & DESCRAMBLERS: Replacements for most models. 30 Day Trial—1 Year Warranty! Dealer Inquiries Invited. Visa/MC/Disc/Amex/COD FOR QUALITY, PRICE & SERVICE CALL: 1-800-259-1187. Eagle Electronics Inc., #1, 1301 Railhead Blvd., Naples, FL 33963. No Florida Sales.

WE'LL BEAT ANY PRICE ON CABLE CONVERTERS & DESCRAMBLERS. SAVE ON CABLE RENTAL & CONNECTION CHARGES. VISA/MC/DISCOVER/COD. QUALITY 1(800)-72-BOXES.

CABLE DESCRAMBLERS/CONVERTERS. BUY DIRECT—ROCK BOTTOM PRICES! # 1 IN CUSTOMER SERVICE & LOW PRICES. ALL MAJOR BRANDS, MONEY-BACK GUARANTEE. THE CABLE OUTLET: 1-800-203-7077.

**SATELLITE TV**

**NEW 18" Dish**

MORE Programming Choices!  
Save 30-60% on Programming!  
Compare to Cable and other 18" Dishes!

Small Dish  
Big Programming

Call Now! **800-500-9264**  
**Skyvision**  
1070 Frontier Dr. Fergus Falls, MN 56537

**WANTED TO BUY**

LP's & CD's BOUGHT & SOLD: Classical, Rock, Jazz, Audiophile, Etc. PRINCETON RECORD EXCHANGE, 20 Tulane St., Princeton, NJ 08542. (609) 921-0881.

CASH for USED AUDIO & VIDEO EQUIP. BUYING and SELLING by PHONE. CALL for HIGHEST QUOTE. (215) 886-1650 Ext. SR. Since 1984. The Stereo Trading Outlet, 320 Old York Road, Jenkintown, PA 19046.

**MISCELLANEOUS**

TERMPAPER assistance. 19,278 papers available! 306-page catalog—rush—\$2.00. Research, 11322 Idaho, #2065X, Los Angeles, 90025. TOLL FREE HOTLINE: 800-351-0222. (or 310-477-8226).

**Classified Advertisers**

Millions of your prime prospects can be found in the industry leading titles of **Hachette Filipacchi Magazines, Inc.**

To place a classified ad, simply call toll-free and reserve your space today!

**1-800-445-6066**  
(9am - 5pm EST)

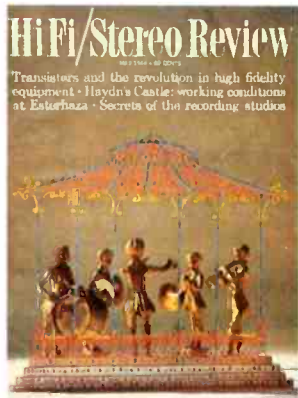
In Canada : 1-212-767-5750

Copies of articles from this publication are now available from UMI Article Clearinghouse.

**U-M-I**

800-521-0600 toll-free  
313-761-4700 collect from Alaska and Michigan  
800-343-5299 toll-free from Canada

# TIME DELAY



## 30 YEARS AGO

Plus ça change: In his May 1966 editorial, William Anderson reflected wily on the just-bestowed Grammy awards. "Roger Miller's *King of the Road* is a fine song," he observed, "but six awards? . . . and, whatever you think of their music, *no* awards to the influential Beatles or to the irrepressible Bob Dylan?"

Technical editor Larry Klein gave some "Straight Talk on Transistors," discussing the 1966 solid state of the art, and harpsichordist/contributor Igor Kipnis offered a guide to Pre-Baroque music "for jaded



Empire speaker, 1966

tastes" in "The Renaissance on Records." Among new products were Garrard's SP20 four-speed manual turntable (\$37.50), Sherwood's S-3300 FM tuner with all silicon transistors (\$167.50), and Empire's 8400 Convertible Grenadier speaker (\$205), with a low-frequency hyperbolic horn, a midrange direct radiator, and an ultrasonic dome tweeter. Hirsch-Houck Laboratories tested the Acoustic Research AR-4x speaker (\$51) and declared, "We know of no competitively priced speaker that can compare with it."

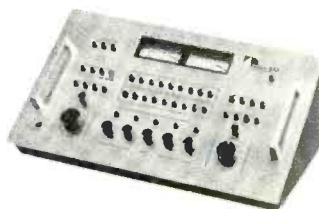
Reviewing the ultra-patriotic "Ballads of the Green Berets" by S. Sgt. Barry Sadler, Gene Lees dismissed the album as "corny," adding that "nobody has the right to be corny about anything as painful as Vietnam."



## 20 YEARS AGO

In a May 1976 feature, Bell Telephone engineer Daniel Shanefield examined the theory and practice behind the

increasingly popular outboard equalizer. Chris Albertson profiled vibraphonist Gary Burton, while Penelope Ross chatted with future Folgers Coffee singer Phoebe Snow. New products included the Technics RS-671US cassette deck and the Nakamichi Model 610 preamplifier, billed as the company's first purely electronic product. And Julian Hirsch examined Health's Modulus audio components, a massive kit system including an AM/FM tuner and stereo/quad preamp in a single unit. In addition to having "almost total versatility and top-grade



performance," Hirsch observed, "[the system] should set new standards as a living-room conversation piece!"

In Best of the Month, David Hall endorsed a Connoisseur Society SQ-quad disc of Brahms's complete *Hungarian Dances* for piano four hands, as played by Michel Beroff and Jean-Philippe Collard, and Peter Reilly was wowed by Bette Midler's "Songs for the New Depression." Elsewhere, Reilly described "Radio-Activity" by Kraftwerk as "Germany's answer to the perpetual boredom machine."

"Introducing the Staff" saw Charles Rodrigues. STEREO REVIEW cartoonist since our first issue in 1958, revealing the source of his inspiration: "The truth is, I get my ideas from Theresa, the Audio Trade Muse. My previous Muse, Thalia, didn't know from decibels, IC's, or MOSFET front ends."

Plus a strange obsession with Willard Scott: Reviewing "Station to Station," Noel Coppage wrote that David Bowie "seems to have about the same relation to a song that a TV weatherman has to the forecast."



## 10 YEARS AGO

Car stereo was the focus of the May 1986 issue, as Gordon Sell offered "Tips on Buying Hi-Fi Equipment for Your Car," Daniel Sweeney answered the question "What's New in Car Stereo?," and Julian Hirsch and Christopher Greenleaf road-and-lab-tested Sony's CDX-A10 DiscJockey, a ten-CD changer. Alanna Nash elected Loudon Wainwright III's "I'm Alright" as Best of the Month, while Robert Ackart hailed Jessye Norman's performance of Offenbach's *La Belle Hélène* on Angel. And Roy Hemming profiled conductor Charles Dutoit, who told him, "I *hate* the brown international sound."



Grace Jones, 1986

But not at my house, please: Confronting "Island Life" by supermodel Grace Jones, Mark Peel wrote, "aside from Jones's exotic looks, one could quickly coach a New Jersey housewife to do her breathy chanteuse or camp dominatrix act."

—Steve Simels

# "THIS SYSTEM EMBARRASSES MANY HOME THEATER SPEAKER COMBOS COSTING SEVERAL TIMES ITS PRICE"

- Cory Greenberg, Page Theater Technology, Volume 2, No. 7



**7** Product of the Year Awards in the past year

**16** Critic's Choice Awards in the past year

**70** Awards since 1990

**\$1,576\***

gets you this stunning

home theater system consisting of:

MiniMk3, CC-300, ADP-150, and PS-1000†.

Spectacular performance from Paradigm...

the number one choice for critical listeners!



Atom, CC-50, Micro, PDR-10†

\$796\*



Titan, CC-150, ADP-100, PDR-10†

\$1,085\*



9seMk3, CC-300, ADP-150, PS-1000†

\$1,996\*



Esprit/DP, CC-450, ADP-150, PS-1200†

\$2,746\*

# Paradigm

ENGINEERED FOR BETTER SOUND

Paradigm's advanced R&D and superior component technology yields the ultimate in home theater sound. Visit your nearest **AUTHORIZED PARADIGM DEALER** and listen to any of these sensational systems today!

For more information on other fine Paradigm speakers visit your nearest **AUTHORIZED PARADIGM DEALER** or write:  
**AUDIOSTREAM**, MPO Box 2410 Niagara Falls, NY 14302 (905) 632-0180  
 In Canada: **PARADIGM**, 101 Hanlan Rd. Woodbridge, ON L4L 3P5 (905) 850-2889  
 CIRCLE NO. 27 ON READER SERVICE CARD

\*Manufacturer's FMV retail price.

†All systems shown include a powered subwoofer.

It looks like  
a speaker.

like a

It sounds  
revolution.

First, a history lesson. Conventional speakers are highly inefficient because only 30% of the magnetic field is focused on the voice coils. Decades-old design and the limitations of a ferrite-based magnet combine to give you what you've been getting: Midband and high frequency distortion. Distortion breeds discontent, the seeds of revolution. DDDrive (code for Dual gap Direct Drive) uses an injection-molded magnet placed around the voice coils to focus 80% of the magnetic field on the coils. This

new magnetic geometry creates a wider bandwidth for a seamless transition from woofer to tweeter. Seamless sound means virtually no distortion, virtually pure sound. And that wider bandwidth improves stereo imaging when you put DDDrive speakers where your old speakers are now. Sounds like what you'd expect from a revolution.

**DDDrive**



Precision molding suspends densely packed neodymium magnetic particles in high temperature resin to become an integral part of the dual gap structure. The result is higher efficiency, more focused magnetic energy and greater electrical control over the voice coil movement. Therefore, higher cone clamping.

© 1996 Alpine Electronics of America, Inc. © 1996 Alpine Electronics of Canada, Inc. Discover the future of Mobile Multimedia. For more information on the new DDDrive speakers or the name of an authorized dealer specialist near you, call 800-ALPINE or check out our web site at <http://www.alpine1.com>.

**ALPINE**

Car Audio and Navigation Systems

CIRCLE NO. 2 ON READER SERVICE CARD