

THE WORLD'S #1 A/V MAGAZINE

Stereo Review

**UPDATE ON
A/V
RECEIVERS**

**FIRST LOOK AT
DVD**

**NEW
FOR THE
ROAD**

TEST REPORTS

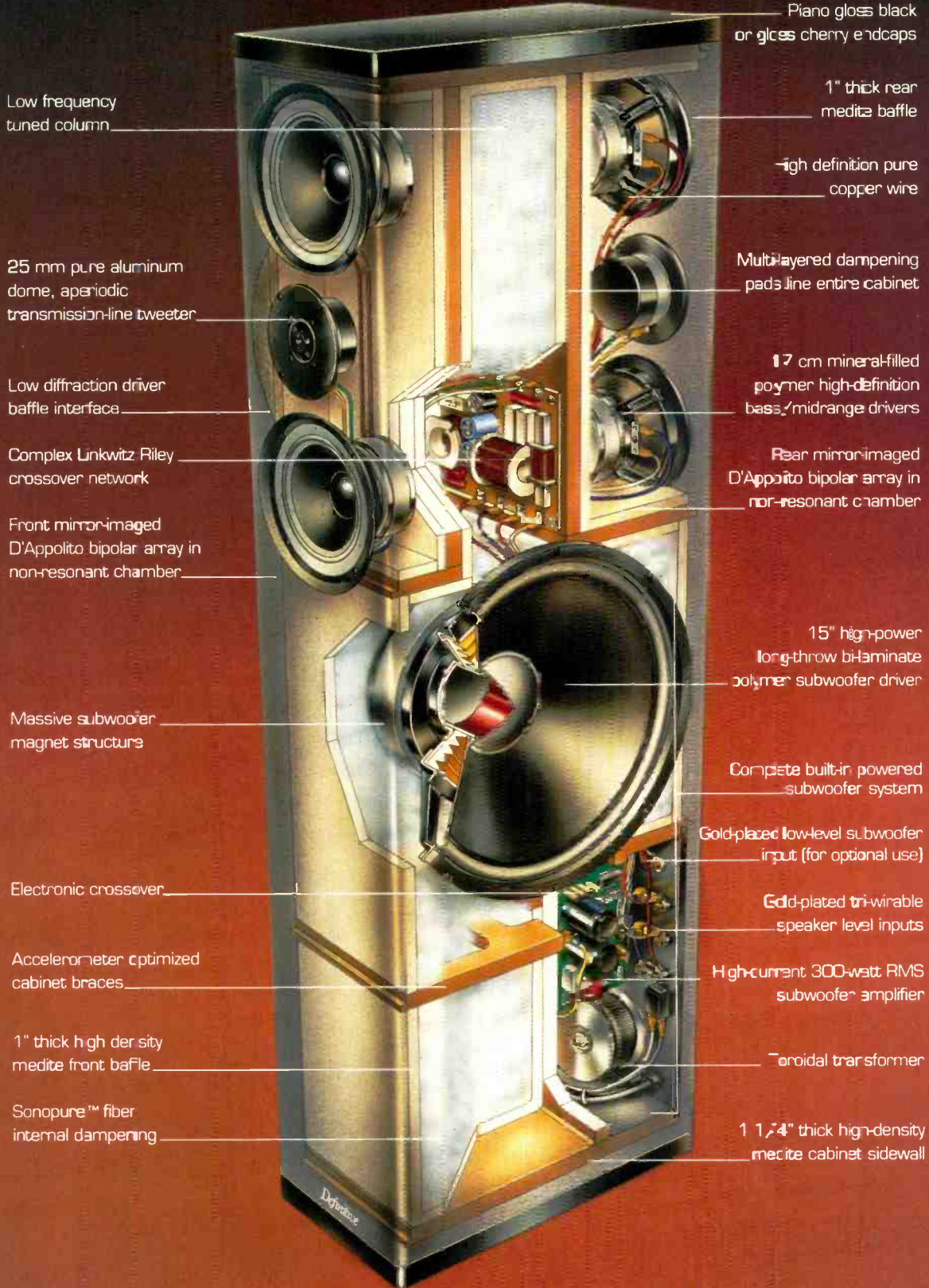
Wharfedale
Speaker, Nakamichi
A/V Preamp,
Martin-Logan Speaker,
and more!



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Inside Definitive's Revolutionary BP2000



Low frequency tuned column

25 mm pure aluminum dome, aperiodic transmission-line tweeter

Low diffraction driver baffle interface

Complex Linkwitz Riley crossover network

Front mirror-imaged D'Appolito bipolar array in non-resonant chamber

Massive subwoofer magnet structure

Electronic crossover

Accelerometer optimized cabinet braces

1" thick high density mellite front baffle

Sonopure™ fiber internal damping

Piano gloss black or glass cherry endcaps

1" thick rear mellite baffle

High definition pure copper wire

Multi-layered dampening pads line entire cabinet

17 cm mineral-filled polymer high-definition bass/midrange drivers

Rear mirror-imaged D'Appolito bipolar array in non-resonant chamber

15" high-power long-throw bi-laminate polymer subwoofer driver

Complete built-in powered subwoofer system

Gold-plated low-level subwoofer input (for optional use)

Gold-plated tri-wirable speaker level inputs

High-current 300-watt RMS subwoofer amplifier

Toroidal transformer

1 1/4" thick high-density mellite cabinet sidewall

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

—Beent Butlerworth, *Home Theater Technology*

Julian Hirsch Says, "...I Would Choose These Speakers for Myself."

BP2000 is "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..."

—Julian Hirsch, *Stereo Review*

"This slammin' system will probably kill any other you've ever heard or seen."

—Brent Butterworth, *Home Theater*

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The experts agree: Definitive's BP2000s are an amazing achievement! We have literally reinvented the loudspeaker and 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.

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

CIRCLE NO. 15 ON READER SERVICE CARD

See our dealer list on page 32

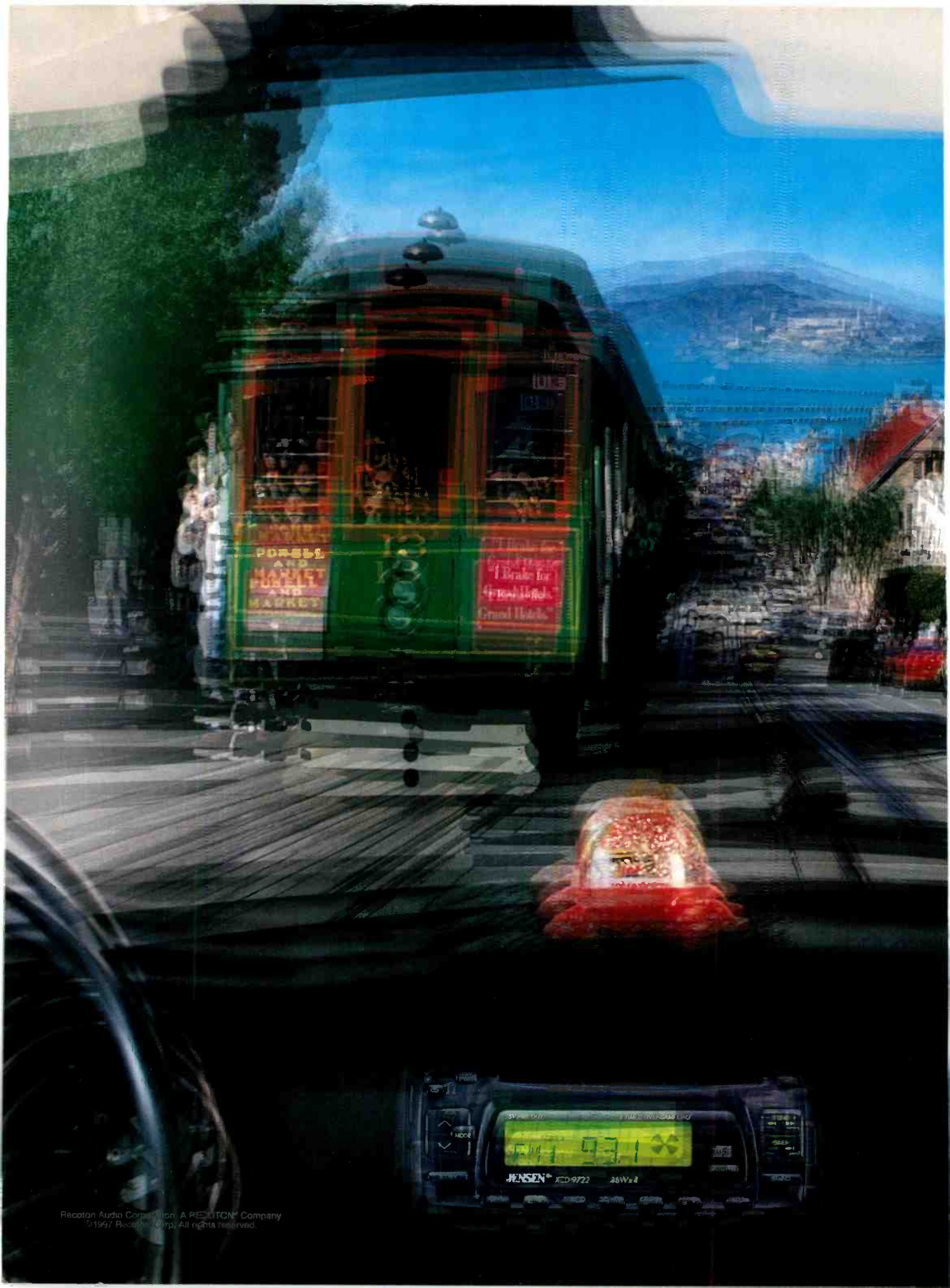
The Ultimate Home Theater

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.

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BULLETIN

BY BOB ANKOSKO & WILLIAM LIVINGSTONE

BUY DVD AND GET . . .

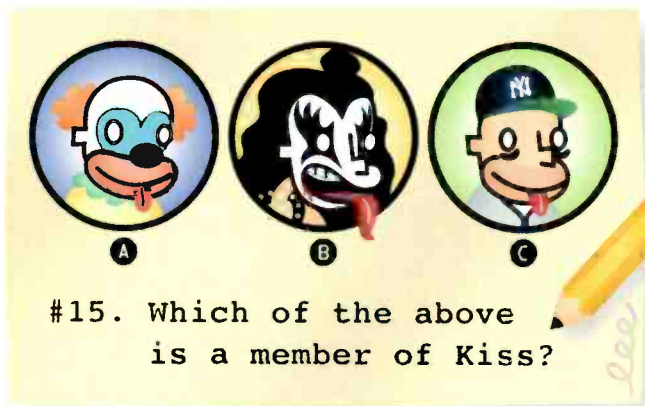
Now that a handful of DVD players are finally available — at least in some parts of the country — manufacturers have come up with a variety of enticements to help jumpstart the new format (see "First Look at DVD" on page 68). Panasonic is offering rebates of \$25 and \$50 to purchasers of its DVD-A100 and DVD-A300 players, respectively. Buyers of Toshiba's SD-2006 and SD-3006 players get a mail-in \$25 coupon toward the purchase of any DVD title distributed by Warner Home Video; buyers of the more expensive SD-3006 player also get a free copy of the "Video Essentials" test and calibration disc developed by video guru Joe Kane. Sony is bundling *In the Line of Fire* and three other DVD titles with its DVP-S7000 player.

IT'S THEIR BIRTHDAY!

Sansui is celebrating its 50th anniversary in the home-audio industry with a new management team in place and a new line of forty-one products. . . . The Winter Consumer Electronics Show held in Las Vegas this past January marked the show's thirtieth anniversary. The first CES, in New York in 1967, drew 100 exhibitors and was attended by 17,000 people. The 1997 show had 1,857 exhibitors and an attendance of 95,000. . . . This year marks the 200th anniversary of the births of Franz Schubert (see article on page 81) and Gaetano Donizetti. Also observed in 1997 are the 150th anniversary of the death of Felix Mendelssohn and the 100th anniversary of the death of Johannes Brahms.

A/V DIGEST

NBC predicts that within eighteen months it may have a nationwide prime-time schedule in high-definition TV. On February 2, NBC became the first network to



ARE YOU "1997'S ULTIMATE MUSIC GEEK"?

If you think so, hurry and get ready for the Rhino Musical Aptitude Test (RMAT) on Sunday, April 27. Billed as "the most intense, challenging, difficult, and fun music-trivia contest ever," RMAT will determine the trivia expert who "stands head and pocket-protector above everyone else," and that person will be crowned "1997's Ultimate Music Geek." Although Rhino Records promises that RMAT will be a barrel of laughs, it will also be tough, with 300 multiple-choice questions covering all genres of music (except classical). The test will be held at Tower Records in New York (the Lincoln Center store at 66th Street and Broadway) and Los Angeles (8801 Sunset Boulevard) as well as live on the Internet (register by April 17 at www.rhino.com). It will begin at 3 p.m. Eastern time (12 noon Pacific) and last one hour. A top scorer will be declared for each location — New York, L.A., the Internet — and the one with the highest score will be the grand-prize winner of a trip for two to London, New York, Memphis, Cleveland, New Orleans, and L.A. on a tour of musical attractions. Each of the two runners-up will win a custom Rock-Ola jukebox filled with 100 CD's from the Rhino catalog. For more information, visit Tower Records or the Rhino Web site.

broadcast in HDTV when it transmitted a digital TV signal for *Meet the Press*. NBC was the first network to broadcast TV in color and in stereo. . . . "AudioFile," a computer program for cataloging collections of music and video, is available in Doubleware's software-in-a-book series for \$39.95 (plus \$3.95 shipping). It's designed for PC's running Windows 3.1 or Windows 95. For information call 1-800-871-3136.

FAST FACTS

The Consumer Electronics Manufacturers Association (CEMA) reports that 15 million American households now have home theaters and that U.S. factory sales of home-theater products reached \$8.3 billion, which is up 4 percent over 1995. Subwoofers, with an annual sales increase of 30 percent, were the hottest home-theater category. . . . A CEMA survey shows that 62 percent

of multimedia PC users play music CD's in their CD-ROM drives, up from 18 percent in 1994. . . . Alanis Morissette's "Jagged Little Pill," the best-selling debut by a female artist, has now reached 15 million copies, according to the Recording Industry Association of America. The best-selling album by a female country artist, Shania Twain's "The Woman in Me," has logged 9 million.

FOR AWESOME ABS

Atlantic's "Workout" is an exercise CD of dance music by artists like Tori Amos, the Bartons, and the Bucketheads. Included is an instruction leaflet prepared by the David Barton Gym. . . . *New York City Ballet Workout* (Quill Books, \$22) by that company's director, Peter Martins, offers a list of recommended recordings of ballet music ranging from Bach and Tchaikovsky to Barber and Glass. . . . Laserlight's ten CD's of "Power Classics" contain familiar classical pieces suitable for exercise. . . . *Mademoiselle* magazine advises exercise-conscious young women to "pump up with punk rock," specifically with the Offspring's CD "Ixnay on the Hombre," which "challenges your muscles, not your mind."

"CLUB VERBOTEN"

DCC Compact Classics has released a four-CD boxed set "tracing the impact of gay and lesbian culture on the mainstream popular music" of the twentieth century. "Club Verboten" includes songs and performances by everyone from Noel Coward, Cole Porter, Billy Strayhorn, and Leonard Bernstein to Judy Garland, Marlene Dietrich, Sister Sledge, and Gloria Gaynor. The fourth disc offers works by such classical composers as Tchaikovsky, Britten, Menotti, Copland, and Saint-Saëns. □



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Home Theater Made Easy

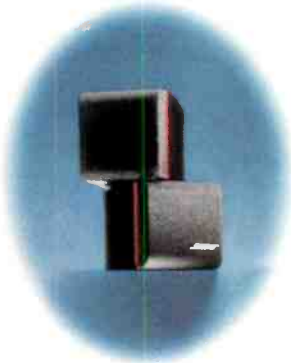
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CIRCLE NO. 31 ON READER SERVICE CARD

DVD
VIDEO

Stereo Review

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May 1997

Cover: The Yamaha RX-V2092, Kenwood 1080VR, and Marantz SR880 are three of the new multichannel A/V receivers with onboard Dolby Digital surround-sound decoding. See page 60 for details on these and other current and upcoming A/V receivers.

Photograph by Ralph Masullo

BULLETIN	6
LETTERS	12
NEW PRODUCTS	15
TIME DELAY	26
AUDIO Q&A	30
SIGNALS	36
TECHNICAL TALK	38
POPULAR MUSIC	90
CLASSICAL MUSIC	98
THE HIGH END	112

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41 Equipment Test Reports

Nakamichi CA-1 Dolby Digital A/V preamplifier, page 41
Audio Control Bijou Home THX equalizer, page 44
Wharfedale Diamond 7.2 speaker, page 50
Martin-Logan Aeries *i* speaker, page 52

54 User's Report

Marantz Classics tube components: Model 7 preamplifier, Model 8B stereo power amplifier, and Model 9 mono power amplifier
BY COREY GREENBERG

60 A/V Receivers

High-tech surround options for every budget
BY DANIEL KUMIN

66 Systems

The father of a sound invention
BY REBECCA DAY

68 First Look at DVD

DVD is here at last! A hands-on evaluation of three of the new players, from Sony, Panasonic, and Pioneer
BY DAVID RANADA

75 New for the Road

Car stereo gear shifts into overdrive for spring
BY JOE PALENCHAR

81 Timeless Schubert

A bicentennial tribute
BY WILLIAM LIVINGSTONE

87 Best Recordings of the Month

Mary Black's "Shine," Mozart's *Idomeneo* from the Metropolitan Opera, Matt Keating's "Killjoy," and Beethoven piano sonatas from Russell Sherman



▲ Page 50



▲ Page 60



▲ Page 75



▼ Page 68



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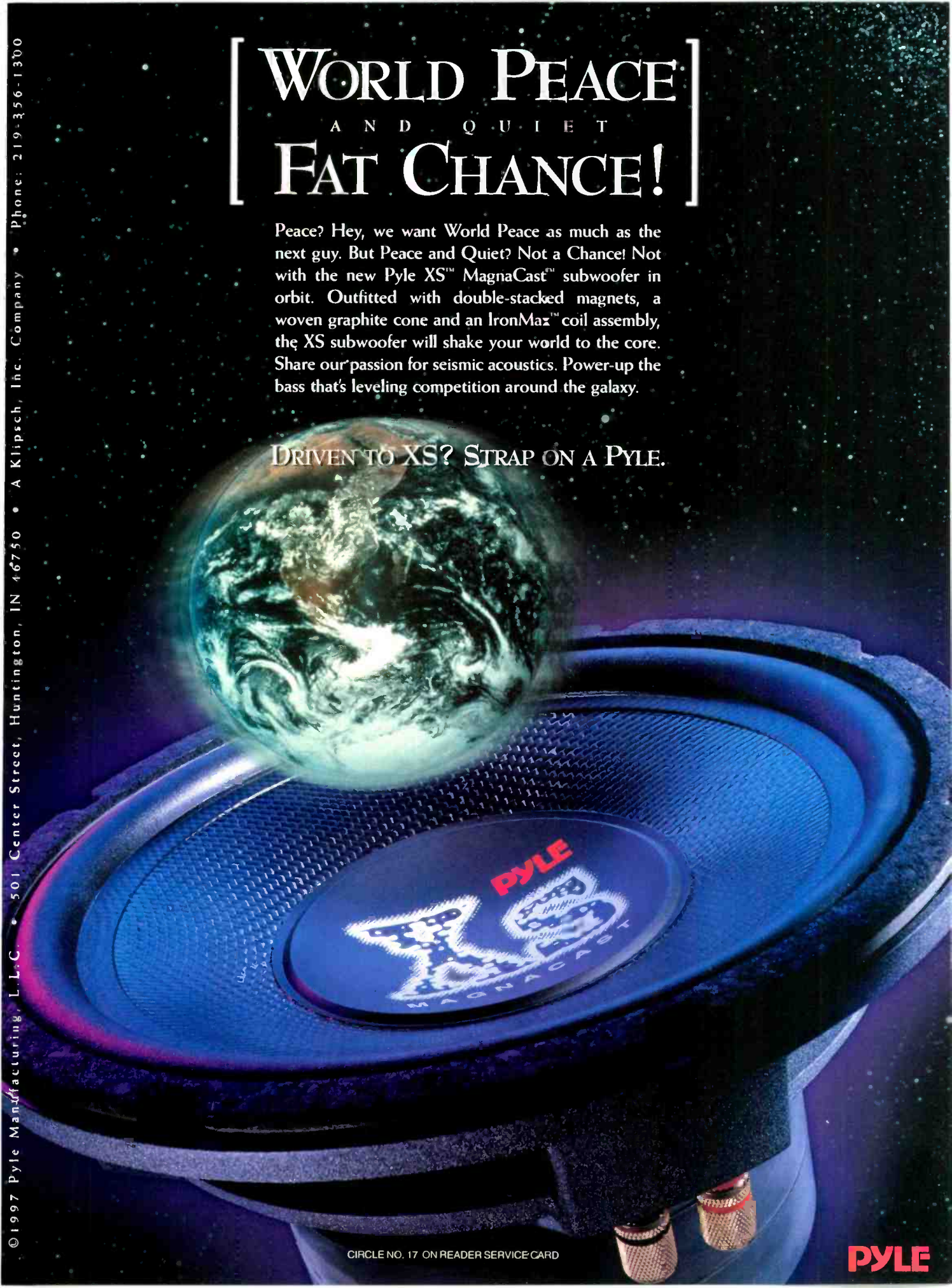
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PYLE

LETTERS

MiniDisc Mavens

As a recent purchaser of a Sony Minidisc deck ("Format Fisticuffs," March), I can say that I have been thrilled by nearly every aspect of its performance, even though dealers tend not to know anything more than the basic functions of the system. The discount store where I bought the outfit had no instruction manual for me to peruse before buying (and wouldn't open a sealed carton to let me look at one). I was interested in the advanced editing functions but couldn't find out anything about them until I took the plunge, bought the thing, and tested it myself.

I plan to record small classical ensembles using a small professional mixer and stereo microphone. Post-performance editing is a snap, deleting unwanted segments and making very tight edits. In addition, the Toslink optical inputs and outputs enable me to link to most consumer DAT machines. The onboard sampling-rate converter is handy, too.

I hope this format sticks around for awhile. It really suits my needs, I just wish it had been easier to find out about it.

BOB BARNETT
Pasadena, MD

My store has been a dealer for MD components ever since they first entered the market. We have several units set up, from the very basic to the very advanced Sony ES recorder, and customers are consistently impressed with the sound — even some of our audiophile customers who don't like digital.

While the first-generation MD recorders were not that good, the later machines are excellent, much better than a cassette deck in terms of sound quality, performance, and usability. For portable or car use, I would much rather have MD's than CD's, which are too delicate and may skip in those environments.

GEOFFREY G. GARWOOD
Atlantic Stereo
Costa Mesa, CA

AM Interference

In March "Audio Q&A" reader Norman McNelis outlined a problem he has with AM interference from a nearby radio station. I was reminded of something that happened about sixty years ago, when WLW-AM in Cincinnati received permission from the FCC to increase its broadcast power from 50,000 watts to 100,000 watts as an experiment. It was rumored, but never admitted by the station, that they "accidentally" pushed the signal to 500,000 watts. In homes as much as a mile from the transmitter all the light bulbs stayed on 24 hours a day, and cars passing within 2,000 feet of it not only found all their lights turned on but a remarkable increase in spark-plug action. An iron deer in a yard half a mile away emitted *Amos and Andy* very audibly

at 6 p.m. every day. People with amalgam dental fillings received weather reports on them. The FCC hurriedly rescinded permission for the "experiment," and WLW has prospered ever since on 50,000 watts. True story!

Tell Norman to move!
BILL WAGNER
Sherman Oaks, CA

Optical In/Out

I have a five-disc carousel CD player with an optical digital output. I've been trying to find a receiver from the same manufacturer that can accept this input but have had no success. It seems strange that the company would make one component with such a feature, yet make another that won't accept it. Do any receivers accept optical digital inputs? Does it really make a difference compared with conventional hookups?

RICHARD CHIN
San Diego, CA

Most receivers and A/V integrated amps and preamps with Dolby Digital processors can also accept digital input from a CD player, and some have optical connections. Optical connections can help to reduce background noise caused by ground loops and other electrical interference, especially with signals from videodisc players.

Dolby Digital Setup

For the January issue, Daniel Kumin tested three Dolby Digital (AC-3) decoders, including the one I have, the Onkyo ED-901. He's right in saying that if you don't have a Dolby Digital test disc, setting up this component can drive you nuts. Where can I buy the test disc?

JORGE FIGUEROA
Bayamon, PR

Unfortunately, the Dolby Labs test discs are not available to the general public. It is possible that the level-setting signals for Dolby Digital components will be licensed to other companies to put on commercial test discs, but we don't know of any plans to do this.

Conspicuous Consumption

First, I would like to thank you for giving permission to the National Library Service for the Blind to record STEREO REVIEW. I receive and use these recordings.

I usually enjoy the "Systems" feature. It is fascinating to learn how someone with a great deal of money and imagination puts together a music system that couldn't be bought "off the shelf" at any price. I was outraged, however, when I read in January's "Systems," titled "Floating Heaven," that the elaborate music system built into a house boat, which must have cost many tens of thousands of dollars, was ordered and paid for by a physician. If ever we

needed proof that some kind of health-care reform is necessary, this article offered it!

TIMOTHY HENDEL
Huntsville, AL

From the Old Finnish

I'd like to correct the mistranslation of the word *kokko* in the review of Värttinä's album of that title in March "Best of the Month." It does not mean "eagle" as stated but "bonfire." Thank you nevertheless for including Finnish music in your reviews.

PASI SIVKONEN
Chicago, IL

Värttinä is using the old sense of kokko, taken from the Kalevala, the Finnish national epic, where it means "eagle." The modern sense is "midsummer bonfire," but all of the album's lyrics are in the Kalevala style, celebrating what band member Kari Reiman calls the beauty of the old language.

Copy Rights and Wrongs

I seem to remember a reference in one of your issues to the law pertaining to making copies of recordings. The writer suggested that one may make a copy for strictly personal use, such as making a cassette from a CD you've bought. Can you clarify this? I don't want to break the law that protects musicians and such from piracy of their work, but I would like to hear cassette recordings that have a resemblance to high fidelity.

EDWARD E. COLES
Anaheim, CA

The "fair use" provision of the copyright law has been interpreted by the courts as allowing individuals to make any number of copies for personal use of recordings they have purchased: for instance, dubbing a CD onto cassette for playback in a car or portable system, dubbing songs for a compilation tape for private parties, or making copies for a vacation house. Fair use does not cover copies made for sale or trade, and it also might not cover copies made as gifts to friends or family members.

Correction

In March "New Products," the item on Platinum Audio's tower speaker was based on out-of-date information. The speaker shown on page 15 has been renamed the Studio-3, its finish is now black woodgrain vinyl, and the price has been cut to \$1,695 a pair. □

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.

“...by a wide and clearly audible margin, the Micro90t is the best small-satellite home theater speaker system I have ever reviewed.”

—David Ranada, *Stereo Review*, February 1997

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The experts at *Stereo Review* listen to literally hundreds of home theater speakers each year. So it stands to reason that the Micro90t must be pretty special to warrant such praise.

The reason for this enthusiasm? Good old-fashioned engineering know-how.

Take the Micro90 satellites, for example. They feature a die-cast aluminum housing of incredible strength and rigidity. So the drivers' energy is projected as pure, clean acoustic output instead of being wasted as cabinet vibration. The result: a satellite that can fit in the palm of your hand, and still fill a room with astonishing sound.

Its anodized aluminum tweeter with AMD handles lots of power, yet reproduces highs with virtually zero distortion. And its swivel-mount pedestals make for simple shelf or wall mounting. The Micro90 powered subwoofer, with its clean 75-watt amp and 8-inch DCD™ bass unit, produces ample amounts of deep, tight, powerful bass.

Add the tonally matched Micro90 center channel and either direct or diffuse-field surrounds and you've got a system that beats all other satellite home theaters "by a wide and clearly audible margin." You can test-listen the Micro90t at your local Boston dealer. But rest assured, you won't be the first to listen with a critical ear.



This Micro90t home theater system includes: Two Micro90 satellites, sonically matched center channel, powered subwoofer, and a pair of VRS Micro diffuse-field surrounds (available separately).

BostonAcoustics

300 Jubilee Drive, Peabody, MA 01960 (508) 538-5000. www.bostonacoustics.com/boston
Dolby is a registered trademark of Dolby Laboratories, Inc. THX is a registered trademark of Lucasfilm Ltd.
Lynnfield VR and DCD are trademarks of Boston Acoustics, Inc.

Turn it on and you're in a different world.

Turn it up and you make kindling.



A truly great amplifier preserves all the delicacy and nuance of music. Yet still has the power to grab you by the lapels and give you a good shake. That's our 125 watt per channel, THX-certified HCA-1000A. Its circuitry was designed by John Curl, whose legendary components have transported more music lovers than most airlines. And like our seven other stereo and multichannel amplifiers, it's fully direct coupled for the purest possible sound, and incorporates the largest power supply in its class. In fact every Parasound amplifier, from \$250 to \$2,250, will inspire your imagination. But please be careful, and keep that far away place safe and sound for your next visit.



PARASOUND

© 1996 Parasound Products, Inc. (415) 397-7100 • In Canada, call (604) 988-2966. THX is a registered trademark of Lucasfilm, Ltd.

NEW PRODUCTS



AKG ▲

The K 290 Surround headphones from AKG (10 ounces without cord) have two angled transducers in each earpiece for four channels of surround sound and a phantom center channel; an adaptor allows hearing conventional stereo. The 20-foot cable can be connected to a multichannel

amp's speaker outputs or via the optional K 290 Surround Switchbox in order to toggle between headphone and speaker listening. Price: \$267; switchbox, \$185. AKG, Dept. SR, Harman Pro North America, 1449 Donelson Pike, Nashville, TN 37217.

• Circle 120 on reader service card



▲ PIONEER

Pioneer's PD-R04 is said to be the only consumer CD recorder priced under \$1,000. The write-once format allows for recording up to 74 minutes of audio onto a blank CD-R disc. Features include automatic synchro recording from digital sources with automatic

level control; automatic and manual track renumbering, record/pause, and record mute; optical digital connectors; and a headphone output with volume control. Price: \$999. Pioneer, Dept. SR, 2265 E. 220th St., Long Beach, CA 90810-1639.

CINEPRO ▼

Claimed to be the world's most powerful six-channel amplifier, the Cinepro 3k6 is rated for up to 350 watts per channel continuous into 8 ohms. Any two channels can be bridged to deliver 1,000 watts into 8 ohms. The 3k6 also has balanced XLR and unbalanced

RCA inputs and a separate front-panel level control for each channel. Price: \$2,995 plus \$49 shipping in the U.S. direct from Cinepro, Dept. SR, 1030 Vicente St., San Francisco, CA 94116; phone, 1-800-395-1222.

• Circle 121 on reader service card



B-I-C AMERICA ▼

Now at the head of the B-I-C America Venturi line of rear-vented subwoofers is the powered V1200R, with a downward-firing 12-inch woofer and a 170-watt amplifier. The rated low-end limit is 25 Hz. Controls for output level and the low-pass crossover (variable from 40 to 180 Hz with

an 18-dB-per-octave rolloff) are on the front panel. The sub has an automatic turn-on circuit. Dimensions are 14½ x 18½ x 22½ inches, and the finish is black laminate. Price: \$549. B-I-C America, Dept. SR, 458 Second Ave., Tiffin, OH 44883.

• Circle 122 on reader service card



NEW PRODUCTS



◀ ROCKFORD FOSGATE

Four new RF car amplifiers from Rockford Fosgate feature embossed gray sheet-metal chassis covers and anodized red heat sinks. The stereo RF 2.3 (\$100) and 2.6x (\$165) are rated for 15 and 30 watts per channel, respectively, or 60 and 120 watts in bridged mono, the four-channel RF 4.6x (\$265) for 30 watts each or 120 watts x 2, and the five-channel RF 5.3x (\$460, not shown) for 30 watts x 4 plus 110 watts to one channel, all into 4 ohms. Rockford Fosgate, Dept. SR, 546 S. Rockford Dr., Tempe, AZ 85281.

• Circle 123 on reader service card



▲ CARVER RESEARCH

The Lightstar Reference 2.0 stereo power amplifier from Carver Research is said to offer higher performance than the original Lightstar Reference at a lower price. Claimed to be able to drive any speaker load, no matter how difficult or reactive, the Model 2.0 is rated for 300 watts per channel continuous into 8

ohms, 600 watts into 4 ohms, or 1,200 watts into 2 ohms, with up to twice as much on transients. The high-gain signal-to-noise ratio is given as 100 dB. Dimensions are 19 x 6¼ x 16½ inches, weight 43 pounds. Price: \$2,495. Carver Research, P.O. Box 1237, Lynnwood, WA 98046.

• Circle 124 on reader service card

A/D/S/ ▶

The A/D/S/ MV60/t tower speaker has three 8-inch woofers, one of which is vented, and a 1-inch dome tweeter. The vertical driver array and specialized crossovers are said to optimize vertical and horizontal dispersion for home-theater use. Frequency response is given as 30 Hz to 20 kHz ±3 dB, impedance as 4 ohms, and maximum recommended amplifier power as 200 watts. The 46 x 10 x 13½-inch cabinet is finished in black oak or cherry wood veneer. Price: \$2,200 a pair. A/D/S/, Dept. SR, One Progress Way, Wilmington, MA 01887.

• Circle 125 on reader service card



JVC ▼

The KD-MK88 from JVC is said to be the smallest 12-disc car CD changer, only 10¾ x 3 x 6¾ inches. Controlled by compatible JVC head units, the changer accepts JVC's XC-M120 magazine and features an antivibration/shock mechanism that enables it to be mounted horizontally or

vertically almost anywhere in a car. It is also available as the KD-MK88RF with a wireless remote and an RF modulator for playback through any FM radio. Prices: KD-MK88, \$310; KD-MK88RF, \$380. JVC, Dept. SR, 41 Slater Dr., Elmwood Park, NJ 07407.

• Circle 126 on reader service card



CAMBRIDGE SOUNDWORKS ▶

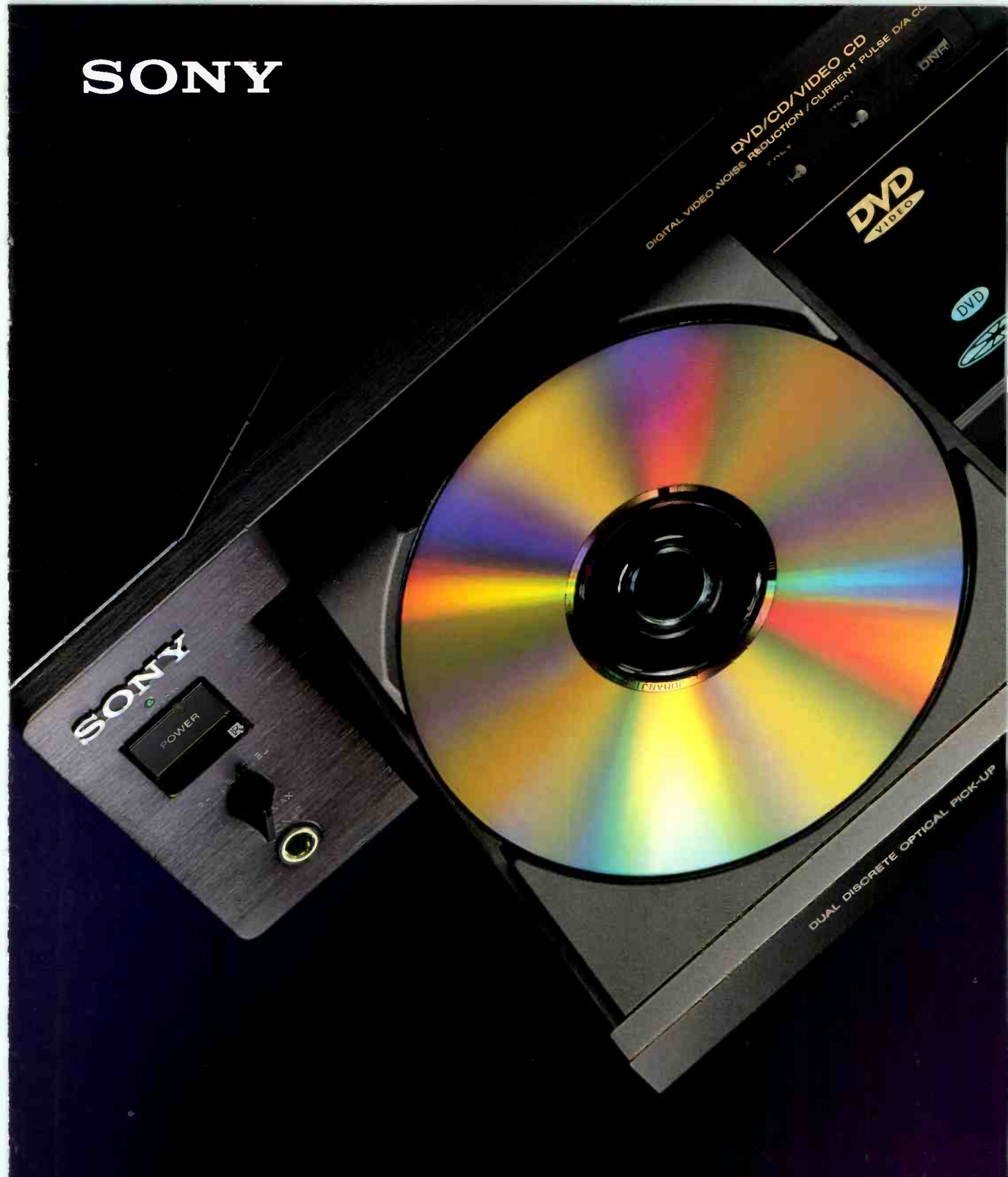
MovieWorks, a home-theater speaker system from Cambridge SoundWorks, includes a pair of shielded two-way main speakers (5¼ x 8¼ x 4¼ inches) finished in dark charcoal Nextel; smaller dipole surrounds; a two-way, three-driver center speaker (14 x 7¾ x 4¼ inches); and a powered

subwoofer (15½ x 26¾ x 11 inches) with a 12-inch driver and a 140-watt amplifier. Price: \$1,300. Available factory-direct and in select stores. Cambridge SoundWorks, Dept. SR, 311 Needham St., Newton, MA 02164; phone, 1-800-367-4434.

• Circle 127 on reader service card



SONY



THE DISC IS ONLY THE BEGINNING

By creating the Compact Disc standard—as well as virtually every innovation in home, car and portable player design—the history of CD has been virtually written by one company: Sony.



THE HISTORY OF CD IS THE FUTURE OF DVD

From the beginning, our Compact Disc strategy was based upon a fully integrated approach to CD technology. Now Sony is poised to lead the most significant advancement of all—the extension of CD into the new DVD format.

Identical to CD in shape and size, but with a much greater storage capacity—DVD has been specifically designed to serve as the foundation for an entirely new generation of products.

And as you would expect, Sony is committed to delivering nothing less than the ultimate DVD experience.

A New Type of Digital Media

As the original CD created a revolution in audio, DVD is destined to set new standards for both home video and multimedia.

- ▶ Nearly 133 minutes of full-motion video on a single-sided disc
- ▶ Picture quality that approaches the "D-1" (CCIR-601) studio production standard
- ▶ Over 500 lines of horizontal picture resolution
- ▶ Choice of PCM stereo sound or Dolby Digital (AC-3) multi-channel surround sound
- ▶ Supports letterbox, pan and scan or 16 x 9 formats
- ▶ Features up to 8 language soundtracks and 32 subtitles

DVD will also support other new creative applications in the future:

- ▶ The ability to view scenes shot at multiple camera angles
- ▶ Dual layer, single-sided discs that provide more than 12 times the capacity of current CDs
- ▶ Recordable, rewriteable and high definition media

Looks Can Be Deceiving

Nearly every aspect of CD has been redefined or reinvented to achieve DVD's remarkable increase in data capacity and density. These include smaller pit dimensions, a more closely-spaced track (finer "track pitch") and a shorter wavelength laser.

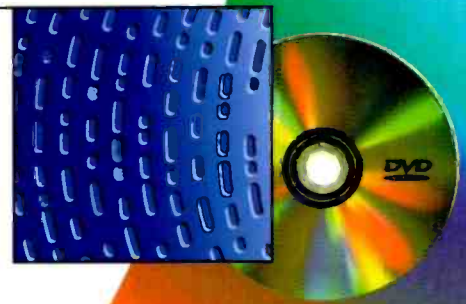
What's Familiar:

- ▶ Like CD, DVD is 120 mm (4.72 inches) in diameter and 1.2 mm thick
- ▶ Like CD, DVD offers instant random access that no tape format can match
- ▶ Like CD, DVD is highly durable and tolerant of dirt, dust and fingerprints



What's New:

- ▶ DVD can hold 4.7 gigabytes of data per layer (compared to 680 megabytes of data on a CD)
- ▶ For even greater storage capacity, DVD offers dual-layer and double-sided disc options
- ▶ Each DVD disc is composed of two 0.6 mm substrates that have been bonded together to improve rigidity



Clearly, DVD poses new challenges for optical disc technology. Yet one player has been specifically designed to deliver the maximum performance possible from both DVD and CD.

INTRODUCING THE SONY DVP-S7000 REFERENCE STANDARD CD/DVD PLAYER

VIDEO:

SONY MPEG-2 DECODER LSI assures accurate MPEG-2 decompression.

10-BIT VIDEO DIGITAL-TO-ANALOG CONVERTER minimizes digital artifacts for video that's closer to the original master.

SMOOTH SCAN™ PICTURE SEARCH with 32-bit RISC microprocessor, for superior picture quality in High Speed, Slow Motion and Frame-by-Frame mode.

DIGITAL VIDEO EQUALIZATION with custom memory settings.

DIGITAL VIDEO NOISE REDUCTION

COMPONENT VIDEO OUTPUT insures the highest image quality with compatible video monitors and projectors.



CONVENIENCE:

MULTIPLE PLAYBACK MODES include Freeze Frame, Frame Advance, Slow Motion (at 1/10 and 1/5 speeds) and Smooth Scan (at 2X, 10X and 30X speeds), in either direction.

ON-SCREEN DISPLAY MENUS simplify player operation.

A/V CALENDAR DISPLAY confirms DVD chapter and CD track selections.

BIT-RATE METER monitors average video bit-rate level.



THE SONY DVP-S7000 INCORPORATES EXCLUSIVE TECHNOLOGY AND FEATURES THAT PROVIDE DEFINITIVE DVD AND CD PERFORMANCE. BUT WHAT ELSE WOULD YOU EXPECT FROM THE COMPANY THAT DEMONSTRATED THE FIRST PROTOTYPE DVD PLAYER.

AUDIO:

CURRENT PULSE D/A CONVERSION low distortion current-source converter, for greater precision and immunity from voltage fluctuations.

FULL FEED FORWARD DIGITAL FILTER reduces requantization noise by using 3-stage 8x oversampling, 45-bit internal processing and 20-bit outputs.

DOLBY DIGITAL (AC-3) COMPATIBILITY with Sony's SDP-EP9ES 24-Bit decoder (optional) that features exclusive digital cinema soundfields and bass redirection functions.

DYNAMIC RANGE CONTROL for adjusting audio dynamic range level.



COAXIAL OR OPTICAL DIGITAL AUDIO OUTPUTS for use with DSP components and outboard D/A converters.



CONSTRUCTION:



DUAL DISCRETE™ OPTICAL PICKUP with separate laser diodes assures compatibility with DVD, CD, Video CD and CD-R. Also eliminates lens switching and reduces laser wear.

ALUMINUM FRONT PANEL/ANTI-RESONANCE TOP PLATE resist air-borne vibration.

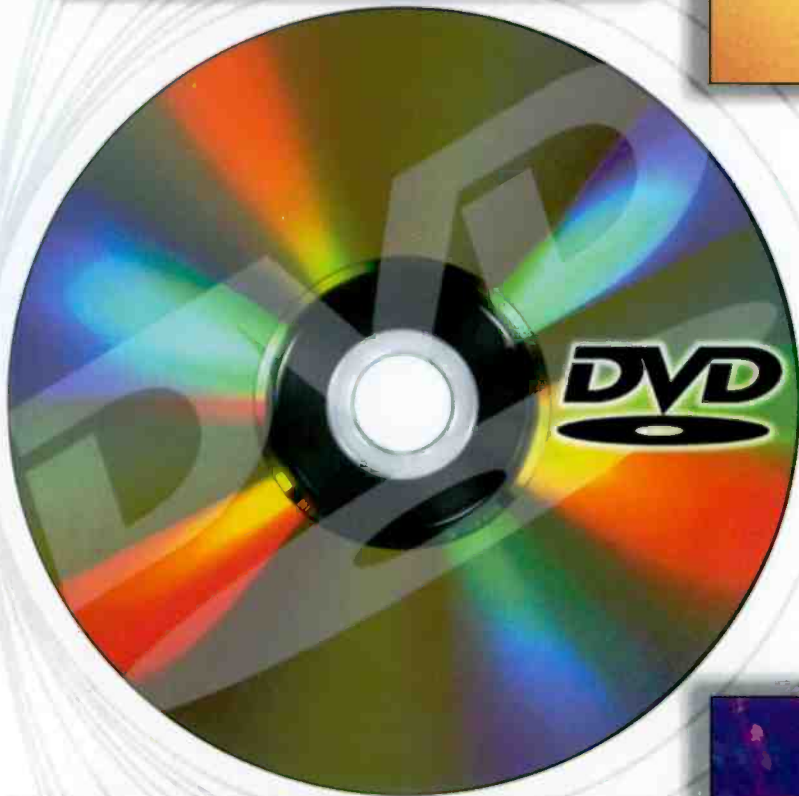
BULK MOLDING COMPOUND CHASSIS suppresses mechanical vibration.

LOW-RESONANCE HONEYCOMB CONSTRUCTION WITH OFF-CENTER ISOLATING FEET

IN THE LINE OF FIRE



FLY AWAY HOME



**A TOTAL
SYSTEM
APPROACH**



SESAME STREET'S 25TH BIRTHDAY



TONY BENNETT UNPLUGGED

At Sony, our approach to DVD extends beyond hardware, to include practically every division of our corporation.

During the coming year, Columbia TriStar Home Video will offer an extensive range of its best titles on DVD. These releases will include blockbusters such as "Jumanji," "In the Line of Fire" and "Legends of the Fall;" classics such as "Close Encounters of the Third Kind- The Special Edition" and "Taxi Driver;" as well as recent hits such as "Fly Away Home" and "Matilda."

Additionally, Columbia Home Video will release the full-length DVD version of the MTV performance "Tony Bennett Unplugged: The Video." And Sony Music Video will introduce titles like "Street Fighter II-The Animated Movie," "Odyssey Into the Mind's Eye" and "Beavis and Butt-Head's The Final Judgment." And Sony Wonder is offering "Sesame Street's 25th Birthday: A Musical Celebration!"

But that's not all. Sony has also established DVD authoring centers in Japan, as well as at Sony Picture's Culver City Studios.

The new Sony Pictures DVD Authoring Center is fully engineered to maximize production efficiency. It features individual stations for MPEG video compression—multiplexing—subtitling—and Dolby Digital encoding— as well as for quality control assurance and telecine film transfer.

And when it comes to mastering and replication, Sony Disc Manufacturing's reputation for quality and service is second to none. Since establishing the world's first CD mass production facility in 1982, the total output from our 11 CD plants worldwide has reached 4 billion discs!

Already, DVD manufacturing is underway in Japan and is scheduled to begin at our DADC facility in Terre Haute, Indiana. Both facilities provide fully integrated DVD production, utilizing the latest Sony Solo-Line Replicator.



THE SONY DVD COMMITMENT



ALTHOUGH THE DVD STANDARD IS SUPPORTED BY MANY COMPANIES, MUCH OF THE TECHNOLOGY WAS ORIGINALLY DEVELOPED BY SONY, INCLUDING THE FORMAT'S MODULATION, ERROR CORRECTION AND DISC BONDING TECHNOLOGIES. SONY IS ALSO RECOGNIZED AS ONE OF THE "EXPERTS" INVOLVED IN THE VIDEO DIGITAL PICTURE EXPERTS GROUP THAT DEVELOPED DVD'S MPEG COMPRESSION.

IN DVD AS WITH CD, SONY'S COMMITMENT IS COMPLETE. IT UNDERSCORES WHY THE DVP-S7000 IS DESTINED TO BECOME THE BENCHMARK IN TOTAL CD/DVD PERFORMANCE. AND IT'S YET ANOTHER EXAMPLE OF HOW SONY IS DEFINING THE DIGITAL FUTURE™.

SONY

Sony Electronics Inc.
1 Sony Drive
Park Ridge, NJ 07656
<http://www.sony.com/dvd>

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digital
kids
DREAM
Digital Dream Kids

NEW PRODUCTS

▼ MARANTZ

The Marantz SR-880 A/V receiver boasts onboard Dolby Digital and Dolby Pro Logic decoding. Rated for 110 watts across the front and 60 watts to each surround speaker, it provides Dolby Digital inputs for RF signals from laserdiscs as well as optical or coaxial signals from other

sources. There are an additional four audio inputs, five video inputs, and multiroom outputs. The SR-880 comes with the RC2000 universal home-theater remote control. Price: \$1,500. Marantz, Dept. SR, 440 Medinah Rd., Roselle, IL 60172.

• Circle 128 on reader service card



▲ NHT

NHT's NewWave speaker system mates a magnetically shielded satellite suitable for the main, center, or surround channels with a compact powered subwoofer. Each satellite has a 3½-inch midrange driver and a ¾-inch soft-dome tweeter in a 7¾-inch-tall molded ABS plastic case. The subwoofer combines an 8-inch woofer and a 50-watt

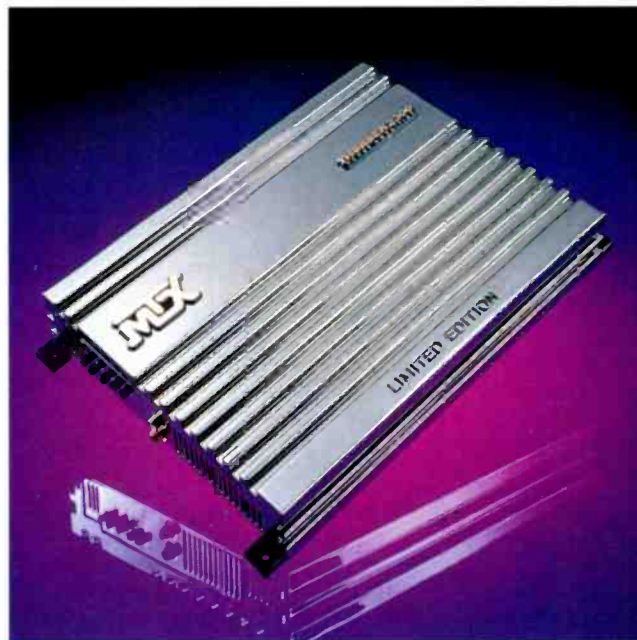
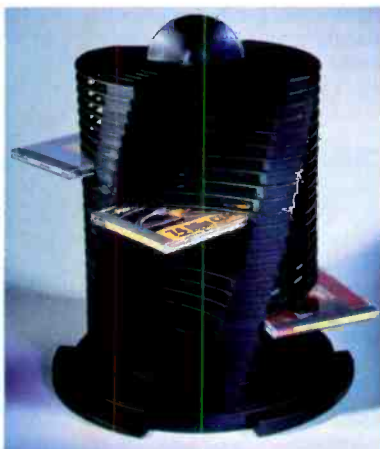
amplifier in an 11 x 11 x 13-inch (W x H x D) cabinet; the low-frequency limit is given as 45 Hz. Price: five satellites and subwoofer, \$750; two satellites and subwoofer, \$495; three satellites only, \$255. NHT, Dept. SR, 535 Getty Court, Benicia, CA 94510.

• Circle 129 on reader service card

▼ MEMOREX

The Vortex CD holder is part of a new line of Memorex audio and multimedia accessories from Memtek. It stores up to 100 CD's or CD-ROM's in a rotating tower, either in a straight column or twisted into a spiral as shown below. The Vortex, 14⅝ inches in diameter and 17⅝ inches tall, is made of black, high-impact plastic. Price: \$40. Memtek Products, Dept. SR, 10100 Pioneer Blvd., Suite 110, Santa Fe Springs, CA 90670.

• Circle 130 on reader service card



▲ MTX

The limited-edition Model 2300LE stereo car amplifier from MTX features a chrome finish and 24-karat gold-plated logos. Rated to deliver 150 watts per channel into 4 ohms with 0.05 percent distortion, the amplifier also has a built-in 12-dB-per-octave crossover, which

can be set for high- or low-pass action and is continuously variable from 50 to 200 Hz, and an equalization circuit that provides up to an 18-dB boost at 40 Hz. Price: \$1,100. MTX, Dept. SR, 4545 E. Baseline Rd., Phoenix, AZ 85044.

• Circle 131 on reader service card

▼ TANDBERG

Measuring just 4⅜ x 4¾ x 6 inches (W x H x D), the Tandberg Troll is an integrated stereo amplifier rated to deliver 25 watts per channel into 8 ohms. A low-order feedback-loop circuit, a nonmagnetic enclosure, and short signal paths are said to contribute to sonic clarity and detail. Controls include a power switch with an indicator light, a source selector (CD, tuner, video, tape), and a volume control; input jacks and speaker terminals are gold-plated. Price: \$699 in black, \$749 in maple. Tandberg, Jason Scott Distributing, Dept. SR, 8816 Patton Rd., Wyndmoor, PA 19038.

• Circle 132 on reader service card



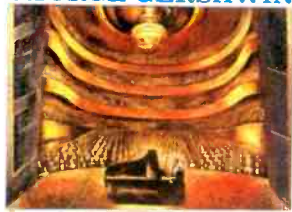
TIME DELAY

30 YEARS AGO

Hi Fi/Stereo Review

SPECIAL REPORT ON STEREO RECEIVERS 1967
FIRST REVIEWS: THREE NEW RECORD LABELS

THE GREAT AMERICAN COMPOSERS SERIES
GEORGE GERSHWIN



Prognostications: "Audio Basics" columnist Hans Fantel wrote in May 1967 that the FCC's ruling to restrict program duplication between AM and FM stations "may well result in increased availability of mature musical fare on FM channels." Julian Hirsch, in his buying guide to receivers, concluded, "Many of the receivers on the market today offer brilliant performance; tomorrow they may well be fantastic." And in the eighth installment of our Great American Composers series, Edward Jablonski recalled an anecdote in which George Gershwin wondered if

his music would still be heard a hundred years hence. "It will," quipped a friend, "if you're around to play it, George."

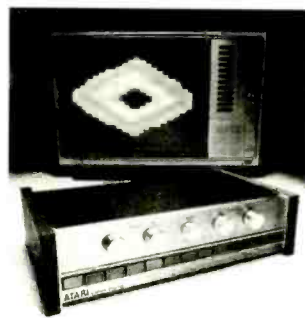
New products included the Superex SW-1 headphones (\$19.95) and the Euphonics TSW-3 Sound-Off (\$22.95), a remote-control "commercial killer" for muting TV audio. Hirsch-Houck Laboratories tested the first solid-state power amp from Marantz, the Model 15 (\$395): "Judging from its measured performance, it surpasses any vacuum-tube or transistor amplifier we know of."

James Goodfriend heralded Charles Mackerras's Angel recording of Handel's *Messiah* as not only a Best of the Month disc but also "the outstanding presentation of that masterpiece in the whole of my listening experience." And Rex Reed, in a review of the Beach Boys' "Pet Sounds," deemed *I Just Wasn't Made for These Times* to be "the most exciting single piece of modern music I've heard lately."

20 YEARS AGO

The "tremendous growth" in CB radio prompted a May 1977 feature on solutions to radio-frequency interference in audio systems. And if grounding, shielding, or filtering didn't work, you could always try to locate and approach the radio operator — "in a courteous and reasonable way."

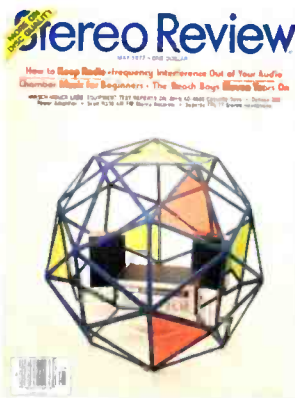
Among new products was Garrard's first direct-drive turntable, the DD75 (\$230). Also making its debut was Atari's



Atari Video Music, 1977

Video Music module (\$180), which produced "a variety of abstract colors, shapes, and patterns on the screen of a television set, altering the display according to the rhythmic content of music played through an audio system."

The Beach Boys appeared again, this time in a feature by Steve Simels, "Eleven Years On," referring to the time since he saw the group at his very first rock concert. "Despite the attrition of years," he wrote, "... the Beach Boys are *still* fueling the fantasies of adolescents *and* of those of us long



beyond them." Noel Coppage, however, got little mileage from Television's "Marquee Moon": "The punk posing sounds a lot like the Fifties recycled, and it is starting to seem as dull to me as pictures of Ike playing golf did back then."

10 YEARS AGO

In May 1987 test reports, Julian Hirsch reviewed Denon's top-of-the-line DCD-3300 CD player (\$1,600) and Magnum Dynalab's FT 101

analog FM tuner (\$629). And in "Strategies for Equipment Shopping," an audio salesman advised, "It's not especially significant if I tell you, 'I own this myself' — not only do we all hear differently, but you can bet I paid a lot less for the item than you would."

Praised in Best of the Month were XTC for "Skylarking" and Riccardo Muti with La Scala forces for their version of Verdi's *La Forza del Destino*



on Angel. But then there were the Beastie Boys, whose debut nauseated Mark Peel: "If I were trying to earn a living as a musician, 'Licensed to Ill' would make me think seriously about smashing my instrument and never playing another note."

Taking over from William Livingstone as editor in chief, Louise Boundas pledged that STEREO REVIEW would continue to report on technological advances and provide guidance on buying and enjoying equipment — all in plain English. "As the technology changes and as our readers' needs change, the magazine will change," she wrote. "But its objectives will not. That's a promise."

— Ken Richardson



Superex headphones, 1967



The Beastie Boys, 1987

SONY®



Are you ready for the evolution of CD?

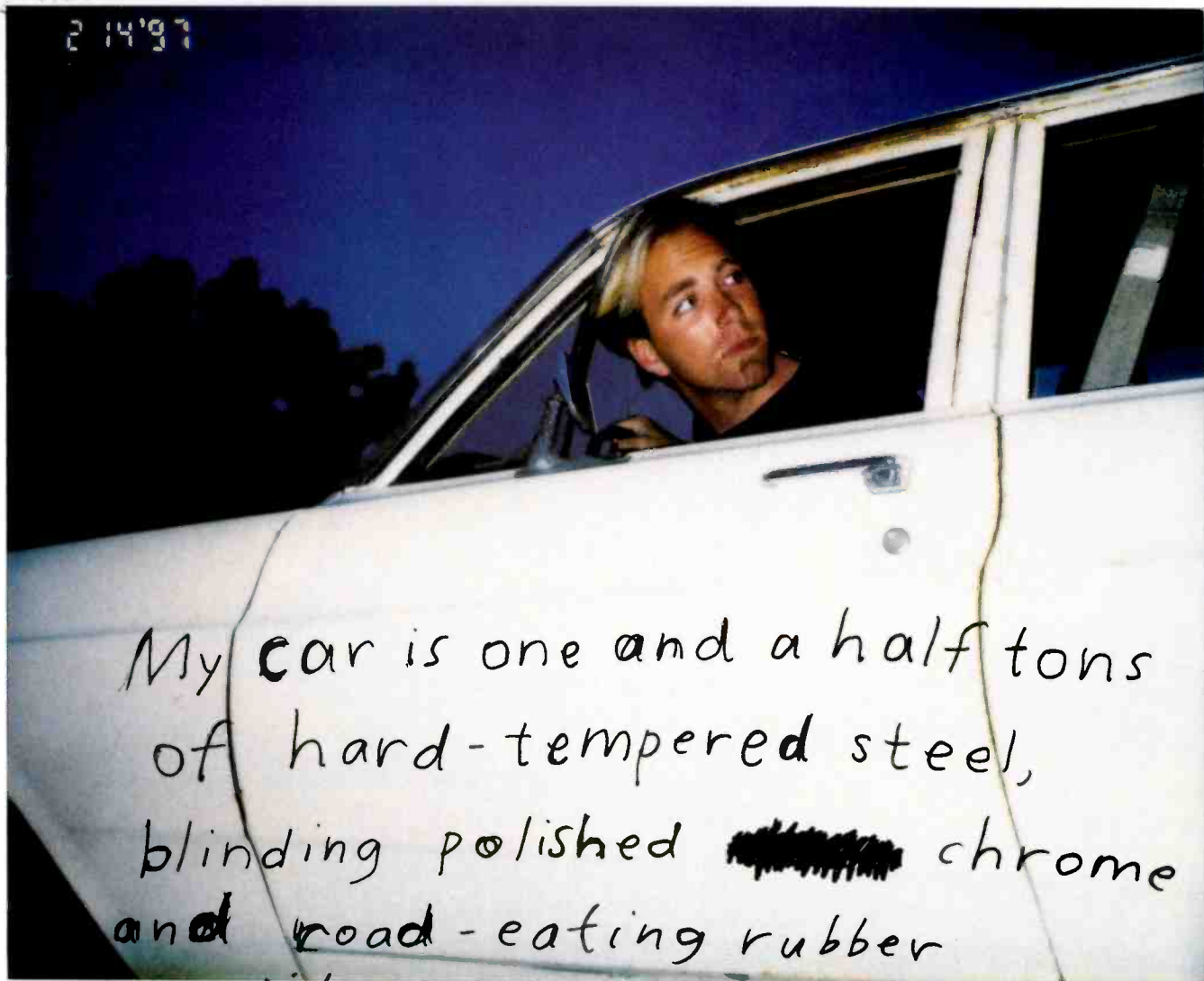
Identical to the CD in shape and size—
but with a much greater storage capacity—
DVD is destined to set new standards in video and multimedia.

To tell you more about it, *Video*, *Stereo Review* and *Audio* have joined with Sony and leading A/V dealers to conduct a series of informative seminars. Ken Pohlmann, contributing editor, will review the fundamentals of DVD technology. He will also demonstrate some of the remarkable capabilities of this exciting new format.

To learn the exact time and location for this free seminar, simply call 1-888-434-7669. And soon you'll be able to experience the excitement of DVD for yourself.

<u>Date</u>	<u>Location</u>	<u>Dealer</u>
April 22	New York	J&R Music World
April 23	Baltimore/Wash.	Bryn Mawr Stereo & Video
April 28	Chicago	United Audio
April 29	San Jose	Fry's Electronics
April 30	San Diego	Dow Stereo
May 5	Seattle	Magnolia HiFi
May 6	Denver	Soundtrack
May 7	Minneapolis	Audio King
May 12	Boston	Tweeter etc.
May 13	Atlanta	HiFi Buys
May 14	Miami/Ft. Lauderdale	Sound Advice
May 20	Columbus, OH	Stereo Visions
May 21	Grand Rapids, MI	Classic Stereo

VIDEO StereoReview AUDIO



My car is one and a half tons
of hard-tempered steel,
blinding polished ~~chrome~~ chrome
and road-eating rubber
undiluted by crappy paper speakers.

Most speaker cones are made from paper. Paper is the material used for speeding tickets. Paper does not rock.

Pioneer foam IMPP (injection-molded polypropylene) technology produces speaker cones from perfectly blended, advanced materials to create just the right cone for each frequency or music type.

Plus, they're more durable, remain unaffected by temperature or moisture, and can reproduce bass for long periods of time without wear. Bass, we might add, you can feel in your spleen.

They've got better linearity, less distortion and higher internal loss (a good thing - look it up).

Paper is also used for kitty litter coupons. Just thought you'd like to know.



 **PIONEER**
The Art of Entertainment



www.pioneerelectronics.com

Let Us Entertain You!



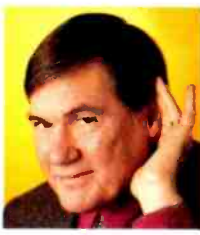
Photo created and produced by Media Group Marketing, Inc. ©

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!



AUDIO Q & A

IAN G. MASTERS

Adding Inputs

Q I want to add a Dolby Digital processor or a DVD player with Dolby Digital outputs to my system, but my Pro Logic receiver has no main inputs. Would it be feasible to have the required inputs added?

MARK LEBLANC
Pelham, NH

A A qualified technician could make such a modification, although it would be major surgery. (One company offering this service is MSB Technology, 14251 Pescadero Rd., La Honda, CA 94020; telephone 415-747-0400; www.msbttech.com.) Unless you are very experienced in such matters, I would definitely caution against doing the modification yourself. In addition to the possible danger of electrical shock from opening the chassis, you would probably void your receiver's warranty.

It would be simpler to add three external channels of amplification for the center and surround speakers and use the receiver in stereo mode to drive the main left/right speakers. If the decoder you use provides both Dolby Digital and Pro Logic decoding, it should work fine without additional modification.

Tower Receiver

Q I am looking for ways to conserve space in my stereo system, and I've thought of turning my receiver on end like my tower-style computer. Can I do this, or does the receiver have to remain flat?

R. GARTON, JR.
Nashville, TN

A It might look a bit odd, but there's no electrical reason not to stand your receiver on end. Because it was designed to sit horizontally, however, it might be wise to experiment to see which end it should sit on. If the heavy power supply ends up on top, the receiver might tend to topple over.

My only other concern with the vertical arrangement would be about heat. The amplifier section of any stereo system can generate quite a bit of heat, and that has to be able to dissipate freely. If it does so by way of metal fins on the back of the receiver, it probably doesn't matter how you orient the cabinet, but if it is meant to escape from vents in the top, the flow might not be as free with the receiver placed on end. I'd run it horizontally for awhile to see how much heat it generates, then tip it up and see if roughly the same amount of heat is escaping. Make sure that nothing blocks the vents, and if you detect any audible misbe-

havior, I'd suggest letting the receiver cool down and abandoning the tower approach.

Avoiding Cassette Warpage

Q Open-reel tapes are usually stored vertically like books, rather than lying flat, to avoid warpage. I gather that's recommended for videocassettes as well, either upright like books or on their spines. How about audio cassettes? Any special way they should be stored?

CHRIS HAGEL
Glen Cove, NY

A Audio cassettes are prey to the same forces as the other tapes you mention and, like them, should be stored with the reels vertical rather than horizontal. As with videocassettes, it doesn't matter whether they rest on their long or short sides; shelves and drawers are equally acceptable.

How the tape is wound is important, as it is with both videotape and open-reel. A smooth, even wind will help avert tape deformation, especially if the tapes will be stored for long periods without being played. Usually, simply fast-winding a tape is not a good idea. Instead, audio tapes should be wound to the end of the first side, flipped over, and run through the recorder at playing speed until they are back at the beginning. You can't do that with a videotape, unfortunately, so it's a good idea *not* to rewind your videocassettes after playing them (unless you're taking them back to the video store, of course).

Full-Range All Around

Q I'm planning to buy all new speakers to go with my new receiver, and I have heard that, if you can afford the cost and space, the ideal is to purchase six full-range speakers rather than the conventional sort of surround system. Will my music and movies really sound better with a complete set of full-range speakers?

JIM LINSKOTT, SR.
Jefferson, WI

A First, if they really are full-range, you will only need five; a subwoofer is useful if the other speakers of the system are deficient in bass, but if they produce enough low-frequency energy, the extra bass speaker would be superfluous. If you have acoustic problems in your listening room, even full-range speakers might need some help, but in that case a subwoofer would be required, not another full-range speaker.

Theoretically, since the new Dolby Digital surround system produces full-range signals for all channels, it would seem to be a

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 Westport; Stereo Shop; Hartford.
 DC & Washington Suburbs- Myer-Emco.
 DE- Sound Studio; Newark; Wilmington.
 FL- Absolute Sound; Winter Park; Audio Advisors; West Palm Beach;
 Audio Center; Deerfield Beach; Audio Video Store; Tallahassee;
 The Audiohaus; Vero Beach; Cooper for Stereo; Clearwater;
 Hoy Stereo; Jacksonville; Palm Audio; Destin; Sound Components;
 Coral Gables; South West; Cassville; Sound Insight; Ft. Pierce;
 StereoPlus; Daytona Beach; Stuart A/V; Stuart.
 GA- Laser Disc Enterprises; Atlanta; Merit TV; Columbus;
 Stereo Connections; Valdosta; Stereo Festival; Atlanta.
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 IA- Audio King; Cedar Rapids; Des Moines; Archer Audio Video;
 FL Dodge; Audio Video Logic; Des Moines; Audio Visions; Sioux City;
 Camera Corner; Davenport.
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 LA- Allerman Audio; New Orleans; Metairie; Lake Charles Music; Lake
 Charles; Mike's Audio; Baton Rouge; Wright's Sound Gallery; Shreveport.
 MA- Cookin'; Chestnut Hill; Saugus; Goodwinds Audio; Boston;
 Shrewsbury; Nantucket Sound; Hyannis; Northampton Audio;
 Northampton; Pittsfield Radio; Westfield.
 MD- Gramophone; Baltimore; Elkport City; Myer-Emco.; Gaithersburg,
 Belairville; Rockville; Sight & Sounds; Eastern Soundscapes; Baltimore.
 ME- Cookin'; Portland.
 MI- Pacer's; Detroit; Troy; Classical Jazz; Haddon; Classic Stereo; Kalamazoo;
 Grand Rapids; Sand North; Iron Mt.; Stereo Center FRAV; Flint;
 Court St. Listening Room; Midland; Saginaw.
 MN- Audio King; Minneapolis & Suburbs; Rochester, St. Cloud;
 Audio Designs; Winona.
 MO- Independence A/V; Independence; Reference Audio; Sedalia;
 Sound Central; St. Louis.
 MS- Ideal Acoustics; Starkville; McCalland TV; Hattiesburg;
 Players A/V; Ridgeland.
 MT- Aspen Sound; Missoula, Kalispell; Avitel; Bozeman;
 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.
 NE- Custom Electronics; Omaha, Lincoln.
 NH- Cookin'; Nashua, Manchester; Newington, Salem, S. Nashua.
 NJ- Hal's Stereo; Trenton; Monmouth Stereo; Shrewsbury; Sound Waves;
 Northfield; Woodbridge Stereo; West Caldwell; Woodbridge.
 NH- Ultimate Elect.; Albuquerque; Sound Ideas; Albuquerque.
 NH- Ultimate Elect.; Las Vegas; Upper Ear; Las Vegas.
 NY- Audio Breakthrough; Bantock; Audio Pen; Lake Grove;
 Audio Expressions; Newburgh; Clark Music; Albany, Syracuse;
 Stereo Exchange; Manhattan; Hart Elect.; Vastak; Innovative Audio;
 Brooklyn; Listening Room; Scarsdale; Rowe Camera; Rochester;
 Speaker Shop; Amherst.
 OH- Audio Craft; Akron, Cleveland, Mayfield Hts., Westlake; Audio Etc.;
 Dayton; Classic Stereo; Lima; Ohio Valley Audio; Cincinnati; Paragon
 Sound; Toledo; Stereo Visions; Columbus; Threshold Audio; Heath.
 OK- Audio Dimensions; Oklahoma City; Ultimate Electronics; Tulsa;
 Photo World; Bartlesville.
 OR- Bradford's HiFi; Eugene; Chelsea A/V; Portland, Beaverton;
 Kelly's Home Ctr.; Salem; Magnolia HiFi; Portland, Beaverton,
 Clackamas; Stereo Plant; Bend.
 PA- Audio Junction; Pittsburgh; Gary's Elect.; State College;
 GNT Stereo; Lancaster; Hart Elect.; Blakey; Hi Fi House;
 Abington, Broomall, Camp Hill, Harrisburg; Listening Post;
 Pittsburgh; Palmer Audio; Allentown; Pro Audio; Bloomsburg;
 Stereo Shoppe; Selinsgrove; Williamsport; Thershold Audio; Natrona
 Heights; The Stereoshop; Greensburg.
 RI- Stereo Discount Ctr.; Providence.
 SC- Audio Junction; 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; Sound Room; Johnson City.
 TX- Home Entertainment; Dallas, Houston, Plano; Audio Tech; Temple,
 Waco; Audio Video; College Station; Brock A/V; Beaumont;
 Bunkley's Sound Systems; Abilene; Bijan's; San Antonio; High Fidelity;
 Austin; Krystal Clear; Dallas; Marvin Electronics; Ft. Worth; Sound
 Quest; El Paso; Sound Systems; Amarillo; Sound Towne; Texarkana.
 UT- Alpine Elect; Provo; AudioWorks; Salt Lake City; Crazy Bob's; St. George;
 Stokes Bros.; Logan; Ultimate Elect.; Layton, Murray, Orem, Salt Lake City.
 VA- Myer-Emco.; Falls Church; Tyson's Corner; Fairfax; Audio Connection;
 Virginia Beach; Audiophonics; Roanoke; Home Media Store; Richmond.
 WA- Magnolia HiFi; Seattle & Suburbs; Tacoma, Silverdale, Spokane;
 Aspen Sound; Spokane; Pacific Sight & Sound; Wenatchee;
 Tin Ear; Kennewick.
 W. VA- Sound Post; Princeton.
 WI- Audio Emporium; Milwaukee; Absolute Sound & Vision; Sheboygan;
 Hi Fi Heaven; Appleton, Green Bay; Sound World; Wausau.
 Puerto Rico- Precision Audio; Rio Piedras.
 Canada & U.S. Sound- Calgary, Edmonton, Kelowna, Vancouver &
 Suburbs, Victoria; Advance Electronics; Winnipeg; Bay Bloor Radio;
 Toronto; Canadian Sound; Brampton Ont.; Digital Dynamics;
 Clearbrook; Kebecon; Montreal; Kipton's; New Market Ont.;
 Peak Audio; Halifax; Sound Room; Vancouver; StereoLand;
 Windsor; Target Hi Fi; London; Trable Claf; Ottawa.
 Mexico- Concel Grupo Voluam; Mexico City.

good idea to provide speakers that can reproduce everything in the decoder's output. But in reality, subwoofers usually do a very good job of filling in any weakness in the low frequencies, thus allowing somewhat smaller speakers to be used for the directional material. More important is that the various speakers should be very similar tonally. Using identical speakers for all except the subwoofer channel would accomplish that, although they don't necessarily have to be full-size, full-range boxes. If you do use conventional forward-radiating speakers for the surround channels, be sure to position them so that their output is *not* directed toward the listeners' ears. Wall-mountable dipole speakers are preferred by many because their front/back driver configuration creates a diffuse sound field.

VHS Soundtracks vs. CD's

Q I have noticed that the soundtracks of VHS movies sometimes sound better than compact discs played through my two-channel stereo system. Why does the sound seem fuller and in some instances more transparent?
 THOMAS J. SWIFT
 Lockport, NY

A I've certainly noticed differences, but I'm not sure they're improvements. Many movie soundtracks are equalized to be much brighter than we would expect for music listening, and that often comes through on the home video version of a movie. Remember that the audio tracks were mixed originally for playing in a theater through speakers mounted behind the screen; a little extra presence can improve intelligibility in such an environment. There are lots of examples of songs recorded as movie themes that are also released on CD, and comparing the CD mix with the soundtrack version can tell you a lot about the differing requirements of movie theaters and home stereo systems. I suspect that what you're hearing is the result of that theatrical equalization, and if you like it that's fine. In many cases, however, I have found that the CD version is more neutral.

Taming LP Surface Noise

Q When I copy my LP's to cassette, the surface noise is extremely high and annoying, especially between songs. I've upgraded much of my equipment and would replace my cartridge and turntable if that would help. I clean the LP's with alcohol before playing them, but the noise remains. How can I get rid of it?
 ALEX BERNUY
 Lima, Peru

A You may never eliminate all of it, but there are ways to tame such sonic intrusions. Upgrading your turntable and cartridge might well pay dividends in terms of such things as speed stability, frequency response, and tracking ability, but it is unlikely to have much effect on noise. Here are some of my tricks:

Get the surface as clean as possible. If the disc has been properly maintained, a dry

brushing may be all that's necessary. Really dirty discs can be cleaned with a proprietary fluid or distilled water. Never use alcohol.

Play the record wet. Put a few drops of distilled water on the track (or tracks) you want to record, and then spread it by letting the disc revolve under the bristles of your cleaning brush. The downside is that many records must always be played wet thereafter, but if your main purpose is to get one good last pass for transfer to tape, that may be an acceptable sacrifice.

Tape the record in mono. This cancels out much of the noise that is random in phase, so it can make unlistenable discs acceptable. Mono records almost always benefit from this, but even some noisy stereo recordings might be preferable in quiet mono. Simply switching your receiver to mono mode won't be sufficient, however, as that switch comes after the tape-monitor circuitry. You'll have to use back-to-back Y-connectors to combine the receiver's stereo tape outputs to mono and then feed it to both inputs on your cassette deck.

Tweak it electronically. In vinyl's heyday, various devices — click-and-pop machines, autocorrelators, and the like — were available to clean up noisy records, and you might still find one on the secondhand market. They're tricky to set up and use, however, and sometimes make things sound worse. You could put a graphic equalizer in the circuit between the receiver and the tape deck's inputs (some receivers let you do this with the flick of a switch, but others require re-connecting). Since the most obtrusive noise is in the upper frequencies, and since many LP's have relatively little music there, some judicious attenuation of the treble may remove noise without seriously compromising the music you want to record.

220-Volt Operation

Q My power amplifier can be switched to operate at either 120 or 220 volts, and someone told me I would benefit from using the higher voltage. Would this improve my system's performance?
 DEAN ROSSI
 Reno, NV

A Probably not. The line voltage is basically irrelevant, at least as far as the amplifier's audio circuitry is concerned. The power supply contains a transformer that converts the voltage coming in to whatever the amp needs. Some models have taps for different voltages so that they can be used in different parts of the world with the flick of a switch, but what comes out of the secondary coil of the transformer is the same in all cases. And even if there were some benefit in using the higher voltage, it would hardly be enough to warrant running a separate 220-volt line from your power panel to your stereo system.

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

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It's a digital world whether you are buying a can of peas, trading shares in IBM, or undergoing heart surgery — the supermarket scanners, stock exchanges, and biomedical equipment are all digital. In your home, the PC is digital, as are your CD player, your small-dish satellite receiver, and, in the near future, your HDTV. Without question, digital technology is engulfing the world faster than a cold and flu season. Indeed, digital technology's evolution is very much like biological evolution. No matter what the obstacle, its progress will not be denied. Some way, somehow, like life itself, technology steadily evolves. But unlike biological evolution, technological evolution is ever-accelerating. The question is, how can we slowly evolving humans keep up?

One of the few remaining analog technologies is commercial broadcast radio. That's why radio reception has its good days and its bad days, and why your car radio sounds better at some stoplights than at others. Although digital audio broadcasting still hasn't walked upright in the U.S., hundreds of commercial radio broadcasters have deftly gone digital using the fastest-evolving technology of our era, the World Wide Web. By appropriately encoding and serving up their broadcast audio signals, stations can send audio streaming digitally over the Web. Anyone with a computer, a modem, and Web access (or with a WebTV box hooked up to a TV) can log on and listen.

Webcasting heralds a new era in audio distribution. Just a couple of years ago, you could download an audio file from a Web page, but you had to wait a half hour before you could listen to a 3-minute piece. With streaming audio, you begin to hear playback almost as soon as the file hits your computer. Because the file is compressed, playback can continue without interruption even at low data-delivery rates. Streaming audio overcomes the limitations of bandwidth. Whereas CD playback enjoys a data pipeline cruising along at 1.4 million bits per second, a computer modem might accommodate only 28.8 thousand bits per second, or even less at peak traffic times.

In order to achieve continuous playback, streaming audio must use massive data reduction, which can have a negative

impact on sound quality. Early streaming audio sounded pretty raw, but the newer versions of the software give much better results; although software companies are stretching the truth when they claim "near CD quality," the sound is indeed quite listenable. Several companies provide the software needed to encode audio signals at the server and decode them at the receiver. Progressive Networks Inc. (www.realaudio.com) is the best known; its RealAudio streaming software was among the first on the Web, it is probably the most common across the Web, and the recent 3.0 version sounds very good. But other companies, such as Liquid Audio Inc. (www.liquidaudio.com) and Xing Technology Corporation (www.xingtech.com), are competing for their shares of

**Early streaming audio
"Webcasts" sounded
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listenable results.**

the market. You can log onto their Web sites and download free decoder software; in fact, you can download trial *encoder* software and start streaming your own files. (First check with a good cyber-lawyer about copyright issues.) We're sure to see the advent of special-interest "Webstations" whose listeners are too scattered for conventional broadcasting but can be reached collectively via the Web. An All-Bruckner channel, anyone?

Webcasting changes all the rules. Whereas broadcast signals are limited to a small coverage area immediately surrounding the transmitter, Webcast signals travel worldwide. KING-FM in Seattle (www.king.org) was the first radio station to Webcast live classical music, and it is still the best. Whereas only FCC-licensed stations can broadcast signals, anyone can Webcast them. Thanks to a bunch of energetic grad students, you can listen to live concerts from the University of Miami's School of Music (www.music.miami.edu).

Many big-time companies now routinely use streaming audio to promote their wares. For example, Elektra (www.elektra.com) and other big record labels are heavily into streaming audio. The Web is a techno-democracy, however, and even small-time record labels can build Web pages that look as cool as those of megalabels. In fact, with the Web, indie bands don't even need record labels (or pressing plants, or distributors, or record stores). You'll find tons of labels and bands at the Internet Underground Music Archive (www.iuma.com).

Be sure to check out the streaming video on the Web, too. Microsoft has announced NetShow (www.microsoft.com/netshow), a free application for its Windows NT operating system. Progressive Networks also offers streaming video, with more than sixty sites online. Streaming video looks a lot worse than streaming audio sounds, but the arrival of high-bandwidth cable modems in a year or two will change that. Soon, high-quality multimedia streams will be everywhere.

For now, streaming media are limited to unicast technology, in which dedicated bandwidth is needed for each listener; for example, ten users require ten separate streams from the server. But new multicasting technology that will enable streams to be directed to countless listeners is imminent. In addition, streaming media will soon go wireless. Corporations are scrambling to develop wireless data-delivery systems such as the Local Multipoint Distribution System (LMDS) and the Multichannel Multipoint Distribution Service (MMDS). When established, these systems will allow wireless transmission of high-bandwidth Internet data through clusters of low-power antennas. You'll be able to wirelessly log onto the Internet and click onto streaming radio and video stations, choosing from a world of Webstations both commercial and private. Finally, while the various streaming systems are presently incompatible, a new Real Time Streaming Protocol (RTSP) promises to bring standardization. Overnight, all networked computers could become universal global media receivers.

Like a living organism, the Web is spreading around the world, linking information providers (servers) and end users (clients) and blurring distinctions between the two. It is an unstoppable force, an unimaginably powerful and beneficial force, a force that will redistribute and create wealth, and a force that will obliterate anyone or anything that is not logged on. Sound intriguing? Or scary? Are you just a little worried that evolution is leaving you behind? Then know that the Audio Engineering Society is hosting an internet audio conference in Seattle, June 13-15. Check out its Web site (internetaudio.aes.org), and I'll see you in Seattle, walking upright. □

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TECHNICAL TALK

JULIAN HIRSCH

Speaker Power Ratings

In recent months I have received letters from several readers who were confused by some of the technical terms commonly used in the audio world. The level of confusion ranged from incomplete and imprecise interpretation of terms to total misconceptions. Even worse, in my view, is the widespread use of such terms in advertising without meaningful and understandable definitions. In this context, "meaningful" implies conveying useful information to the prospective buyer of a component.

Perhaps the most common examples concern the power ratings of loudspeakers. One letter refers to some speakers the reader bought that carry on their rear panels a warning reading, "Maximum Amplifier Power 150w into 8 ohms," while the instruction manual for the same speakers stipulates, "Power Handling: 25w - 120w Continuous into 8 ohms on unclipped program." My correspondent asks, "Which is correct?" To that question one might reasonably add, "What does *either* rating mean?" Actually, it would not be facetious or even misleading for the writer of such a warning to reply (with apologies to Lewis Carroll), "Exactly what I intend it to mean, no more and no less!"

Let's take a closer look at the situation I've cited (which is not unusual by any means). Most home loudspeakers are designed for proper and safe operation when installed in a room of more or less typical size, shape, and furnishings and driven by an amplifier capable of generating a reasonable sound level in the listening area. The manufacturer's "recommended amplifier power level" is normally a very rough ball-park figure, *not* a suggested operating level.

For one thing, the amount of power that any speaker can absorb for any significant time is a function of the frequency and duration of the applied signal. Many good hi-fi speakers can handle surprisingly large input levels, on the order of a couple of hundred watts or so, for a few seconds at frequencies above a few hundred hertz. Even if the speaker's output is distorted (as it is likely to be under such grueling conditions), the drivers will probably survive such treatment without permanent damage.

Of course, avoiding damage to the

speaker is not the only criterion for determining an appropriate power level. Although the ability to withstand a high input may be necessary for system survival, a very high input level will not necessarily provide satisfactory sound quality. Most people, I am sure, would prefer to set the volume for an acceptable combination of loudness, distortion, and noise. Everyone has his own criteria for acceptable volume and distortion levels, which obviously depend on the listening environment, the program content, and personal taste as well as the ultimate capabilities of the speaker.

What about the risk of damaging or destroying a speaker driver by excessive power input? Given the ready availability of very powerful amplifiers, even in low-budget receivers, this is a real possibility that must be considered. I have damaged

**The sound of a damaged
woofer cannot be
confused with even the
most avant-garde music.**

a few speakers in my time, not only during testing, but on occasion even from over-enthusiastic listening levels. The specific risks are also a function of the driver's operating frequency range, which is probably the reason for the wide variation in power-level recommendations that puzzled my correspondent.

The higher frequencies, handled by the tweeter, do not require a large cone excursion. Normally there is no visible (or palpable) movement from a typical dome or small cone tweeter, and the risk of damaging a tweeter is minimal if the driving amplifier's output is not unreasonably high. If the crossover system is properly designed to keep excessive midrange and bass levels out of the tweeter's delicate voice coil, a tweeter burnout is unlikely. On the other hand, should a serious overload occur, a tweeter's voice coil can burn out almost instantaneously. There is a maxim (with at least a kernel of truth) to the effect that the tweeter's voice coil will

usually fail in time to protect the fuse.

A woofer, on the other hand, has a relatively rugged voice coil and cone structure, and it is not easy to damage its moving system in normal operation. When damage does occur, it is likely to take the form of a physically torn or damaged cone assembly, and anyone in the room when that occurs will have little difficulty in diagnosing the problem!

Returning to the reader's question concerning the two different "power ratings" of his speakers, it may be easier now to appreciate how the two ratings, confusing though they may be, were derived. The manual for the speakers specifies a power input between 25 and 120 watts on *unclipped* programs. If the signal waveform is clipped (distorted) in the amplifier, which is a common result of an excessive drive level, a large amount of harmonic distortion can be generated. Depending on circumstances, this distortion can cover a wide frequency range, and perhaps damage a tweeter even if the audible distortion is largely confined to the lower frequencies. The onset of waveform clipping can be quite sudden, so that damage to one or more drivers in the speaker system can occur in an instant. By the time you hear the distortion, the damage has probably been done.

My correspondent also poses to me an almost unanswerable question: "How much power [in watts] is adequate for this system [without clipping]?" That is tantamount to asking, "How high is 'up'?" I'm afraid clairvoyance has never been one of my strong suits, so I must sadly decline to answer. I can, however, assure you of one thing: If you blow a speaker, you'll know it! As I stated earlier, tweeter voice coils make excellent fast-acting fuses, and the sound of a damaged woofer cone or voice coil cannot be confused with even the most avant-garde music.

Even long experience may not prevent such accidents. It has been many years since I unwittingly demolished a speaker, but I can assure you that it is an unforgettable experience. It happened to a pair of large, expensive multiway speakers that I had rashly connected to an amplifier rated (with impressive conservatism) at 500 watts per channel. Through a careless mishap (my fault, I am chagrined to say), the amplifier delivered its conservatively rated power in an ear-numbing blast, wiping out all the drivers except the woofers in a couple of seconds. This experience has made me wary of using ultrapowerful amplifiers for speaker testing, and I suggest similar caution in choosing (and using) components of your music system.

To my correspondent, I suggest that he not worry unduly about demolishing his speakers. Just connect them correctly, use an amplifier whose power is reasonable, don't run it at ear-shattering levels, and enjoy the music. □

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**V.TV, April/May, 1996*

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Nakamichi CA-1 Dolby Digital A/V Preamplifier

DAVID RANADA • TECHNICAL EDITOR

Lately we've been testing some rather complex A/V equipment. One piece required reading two thick manuals for a complete understanding of its operation, and another had so many programmable options that you'd need training in complexity theory to figure all of them out. So it was a big relief to come across an A/V component that was about as simple to hook up and adjust as any preamp providing Dolby Digital (AC-3) decoding could be, the Nakamichi CA-1.

Doing Dolby Digital "by the book" is the main reason for the CA-1's simplicity. It seems to contain no features not specifically required by Dolby Labs for AC-3 playback at the time of the CA-1's introduction (the mandated feature set for an AC-3 product is something of a moving target). And everything else is done as per Dolby Labs recommendations, with few programmable options.

For example, all preamps containing AC-3 decoders must supply bass-management functions to divert the lowest frequencies away from the speakers that can't handle them and into speakers that can, usually a subwoofer. This is performed by an array of high-pass

and low-pass crossover filters that are activated according to the abilities of your home-theater speaker system. Unlike some other Dolby Digital devices we have tested recently, the CA-1 offers only one crossover frequency (80 Hz) and it is the same for both high-pass and low-pass filters, all of which have 12-dB-per-octave slopes. While an 80-Hz crossover is slightly too low for optimum performance with some middling and low-end home-theater speaker systems, if you perform speaker balancing well, using suitable test tones and a sound-level meter, you should not have any major problems. On the other hand, an 80-Hz crossover point is ideal for more refined (and expensive) home-theater speakers, many of which are designed for an 80-Hz crossover point. That includes all Home THX speakers (although a THX-certi-

fied subwoofer's crossover filter should ideally roll off at 24 dB per octave).

The CA-1's no-frills approach extends to other areas of its operation. It has only two surround modes, for example, and both of them are supplied without embellishment: Dolby Digital and Dolby Pro Logic, both decoded digitally by the same integrated circuit. And, unlike other recent units that also incorporate multiple digital inputs, the CA-1 offers no automatic switching between them and their analog counterparts. You must use the Digital Input button at the lower left corner of the front panel (or the corresponding button on the remote) to turn on a digital input.

The CA-1's three digital inputs on the rear panel are assigned to a CD player (coaxial connector), a laserdisc player (both coaxial and Toslink optical connectors), and an input labeled for either a DVD player or a satellite decoder box (also both coaxial and optical). The laserdisc coaxial digital input and the two DVD/satellite digital inputs will all accept Dolby Digital signals, but the laserdisc input must be fed from the output of an RF AC-3 demodulator (such as Nakamichi's own \$450 DE-1). If you want to record any of these three sources (CD, laserdisc, DVD/satellite) through the CA-1's recorder outputs, or if you want sound from these sources to be fed to a second room from the CA-1's line-level remote output, you must also hook up that source's analog output to the CA-1's corresponding analog input.

Rear-panel analog audio connec-

DIMENSIONS: 17 inches wide, 13½ inches deep, 4 inches high

WEIGHT: 15 pounds

PRICE: \$2,300

MANUFACTURER: Nakamichi America, Dept. SR, 955 Francisco St., Torrance, CA 90502; telephone, 310-538-8150

TEST REPORTS

tions include line-level stereo RCA jacks for the CD player, a tuner, an auxiliary audio-only source, and two audio tape decks. There is a stereo line-level output for feeding a remote location as well as the six main audio outputs for feeding the front left/center/right, surround left/right, and subwoofer power amplifiers. A/V connections include the laserdisc player, the DVD/DBS unit, one VCR, and one TV/auxiliary source. All video hook-ups can use either composite- or S-video connectors, including the single monitor and remote-room video outputs. As usual with such composite/S-video facilities, there is no crossing over of video format: Composite-video signals emerge only from the composite-video monitor output, and S-video signals emerge only from the S-video monitor output.

In addition to these connectors, the rear panel has facilities for hooking up a remote wired infrared sensor for multiroom operation, for operating certain Nakamichi cassette decks and CD players using the CA-1's remote, and for switching on a Nakamichi PA-1 multichannel amplifier. The power cord is of the detachable three-prong variety, and the single switched AC convenience outlet also accepts three-prong power cords (a rare ability).



You get two remote-control handsets with the CA-1. The larger main remote control handles all system functions (including a couple that are not accessible from the CA-1's front panel) as well as being able to memorize control codes for an audio tape deck, a VCR, a CD player, a laserdisc player, an AM/FM tuner, and a television. The smaller "sub" remote control

is designed to control the CA-1 from a second room via an infrared sensor, but it can also be used in the main listening room if you only need its stripped-down set of control functions (input selection, volume, muting, and power).

The no-frills philosophy seems to have spread into the electronic circuitry as well, for on the test bench the CA-1 was a very "clean" performer. It had good to excellent measurements in all our tests, including tests of Dolby Digital operation that we conducted using our recently acquired set of computer-generated AC-3 test signals. Those signals also told us that the pre-amp's switchable Dolby Digital dynamic-range peak-limit function merely limited the signal at a level of -12 dBFS (that is, Dolby Digital signals between 0 and -12 dBFS came out at -12 dBFS).

In an engineering white paper, Nakamichi takes particular pride in the CA-1's volume control, normally a rather humble device. In a multichannel home-theater system, however, the volume control acquires a great deal of importance as it must raise and lower all channels without upsetting their relative balances by more than a fraction of a decibel so as to preserve the imaging of multichannel sound ef-

MEASUREMENTS

DOLBY PRO LOGIC PERFORMANCE

All data for analog input signals, all settings for "large" speakers, output volume at setting of 89. (dBFS = decibels referred to digital full scale)

FREQUENCY RESPONSE

front 20 Hz to 20 kHz +0.1, -0.32 dB
center 20 Hz to 20 kHz +0.1, -0.35 dB
surround 20 Hz to 7 kHz +0, -3 dB

NOISE (A-wtd)

front -69.1 dB
center -69.1 dB
surround -71.5 dB

DISTORTION (THD+N, 1 kHz)

front 0.06%
center 0.07%
surround 0.05%

SURROUND-DECODER INPUT-OVERLOAD MARGINS

left, right (re 2 V) +7.5 dB
center (re 1.4 V) +10.5 dB
surround (re 1.4 V) +10.5 dB

SURROUND-CHANNEL NOISE-REDUCTION

CALIBRATION ERROR
re Dolby level (251 mV/-15 dBFS) +2 dB

CHANNEL SEPARATION

(100 Hz to 7 kHz, worst case)
center out, left front driven >56 dB

DOLBY DIGITAL PERFORMANCE

All measurements taken with computer-generated AC-3 test signals and all outputs set for "large" speakers. Except for separation, results are for the left front channel but are representative of the performance of all five main channels. (dBFS = decibels referred to digital full scale)

REFERENCE OUTPUT LEVEL (1 kHz)

-20-dBFS input, volume at 78 200 mV

FREQUENCY RESPONSE

20 Hz to 20 kHz +0.12, -0.11 dB

DISTORTION (THD+N)

20 Hz to 20 kHz <0.028%

NOISE (re reference output, A-wtd) -72.6 dB

EXCESS NOISE (with signal)
16-bit (EN16) +2.7 dB

LINEARITY ERROR

at -90 dBFS +0.2 dB

CHANNEL SEPARATION

(1 kHz, 0-dBFS, worst case)
right front out, center driven >81 dB

STEREO PERFORMANCE, DIGITAL INPUTS

(dBFS = decibels referred to digital full scale)

REFERENCE OUTPUT LEVEL (1 kHz)

-20 dBFS, volume at 78 200 mV

FREQUENCY RESPONSE

normal 20 Hz to 20 kHz ± 0.12 dB
de-emphasis on 20 Hz to 20 kHz +0.19, -0.12 dB

DISTORTION (THD+N)

1 kHz at -20 dBFS 0.03%

NOISE (re reference output, A-wtd)

normal -72.5 dB
de-emphasis on -73.7 dB

EXCESS NOISE (without/with signal)

16-bit (EN16) +3.6/+3.5 dB
20-bit (EN20) +18.9/+18.9 dB

LINEARITY ERROR

at -90 dBFS +0.2 dB

STEREO PERFORMANCE, ANALOG INPUTS

OUTPUT AT CLIPPING (1 kHz) >8.6 V

SENSITIVITY
(for 0.5-V output, max volume) 134.6 mV

DISTORTION (1 kHz, THD+N, max volume)
0.5-V input, 2-V output 0.003%

INPUT OVERLOAD LEVEL 11.5 V

NOISE (A-wtd, re 0.5-V output) -85.3 dB

FREQUENCY RESPONSE

20 Hz to 20 kHz +0, -0.26 dB

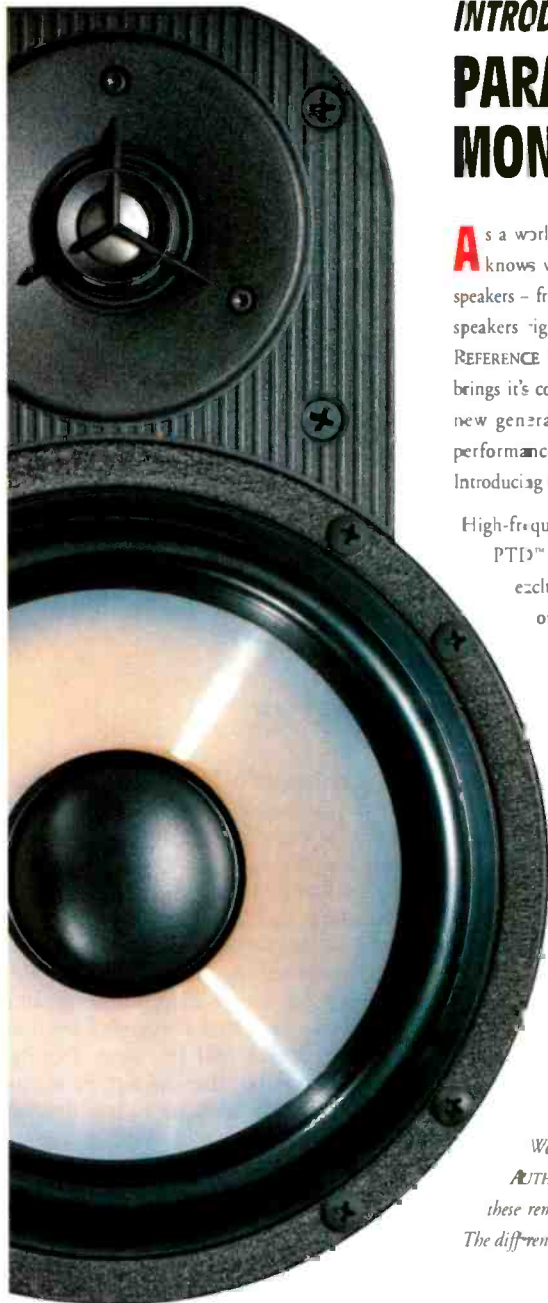
ASTONISHING!

facts. This the CA-1 did exceptionally well, with very accurate 0.5-dB changes for each volume setting from 100 down to 30 and outstanding (better than 0.2 dB) tracking of interchannel balance over the control range most likely to be used. Even the individual channel-balance controls were dead-on accurate. They, too, operate with very precise 0.5-dB steps, gradations that are much superior to the typical 1-dB steps.

These characteristics all contributed to very clean and smooth sound. Background noise levels and distortion were low in all operating modes, and there were no untoward clicks or pops when I operated any of the controls or changed the volume. With every signal I fed it, the CA-1 proved to be virtually transparent sonically within the limitations of the signal itself — Dolby Pro Logic signals, even when they are decoded as well as they were in this case, can't hold a candle to Dolby Digital signals.

The CA-1 also proved to be the easiest Dolby Digital component to set up that I have yet tested. Its full array of front-panel bass-management control buttons and indicator lights (clustered near the numerical volume readout) allowed me to select the proper filter configurations quickly without having to turn on a TV monitor to see the helpful — but, thank goodness, not mandatory — on-screen display. Nor did I have to slog laboriously through the kind of tiresome on-screen menu system "featured" by many other home-theater components. I didn't even have to read the manual to make these adjustments, though that's something I wouldn't recommend you do at home. Only speaker-level balancing had to be conducted using the large remote control, because it's always best to set speaker balances with a sound-level meter at the listening position.

The only problem I could find with the CA-1, and it's truly piddling, was that its default mode for Dolby Digital dynamic range has the peak-limiter turned on. This is simple enough to undo by pushing a button on the main remote control. But considering how nice the preamp sounds and how easy it is to operate, it's surprising that its designers chose to restrain the spectacular effect of its Dolby Digital decoding. Then again, maybe they wanted to impress us primarily with the CA-1's solid, smooth, and quiet operation and didn't want to blow our socks off... at least not at first. □



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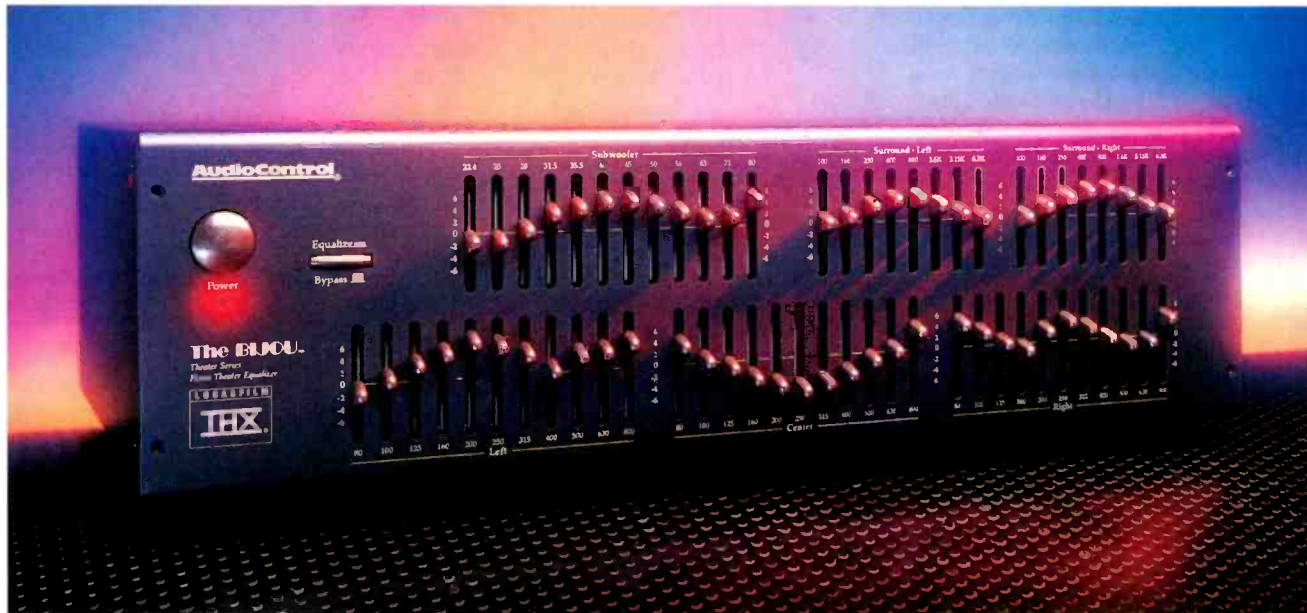
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DOCK P. LEUNG

Audio Control Bijou Home THX Equalizer

DAVID RANADA • TECHNICAL EDITOR

Like other products bearing the THX logo, Audio Control's Bijou seven-channel home-theater equalizer has many design features required for certification by Lucasfilm's THX division. These features make the Bijou extremely useful and adept at its intended purpose: flattening the frequency response at the listening position(s) in a full Home THX system, which would include a six-piece THX loudspeaker setup (three identical front speakers, two surrounds and a subwoofer) as well as a THX controller/power-amplifier combination or a THX receiver. At the same time, the THX features also limit the Bijou's usefulness with non-THX equipment.

The THX design requirements primarily affect the equalization facilities for the three front channels and the subwoofer. In comparison to other home-theater equalizers we have tested, the Bijou's eleven identical slider controls for each of the three front channels span only a limited range: from 80 to 800 Hz in one-third-octave intervals (the eleven bands are centered at 80, 100, 125, 160, 200, 250, 315, 400, 500, 630, and 800 Hz). There are no controls for frequencies

higher than 800 Hz because the frequency response of Home THX speakers is already relatively flat, so controls are needed only in the frequency region that is most influenced by room acoustics and speaker-placement effects — below 800 Hz at worst, and with many setups only below 400 Hz. If you have a non-THX home-theater speaker system that diverges from flat response above 800 Hz, then, the Bijou will not be able to flatten it. Its usefulness will also be rather limited in matching the sound of a center speaker to wildly different front left/right speakers (a complete Home THX loudspeaker system has sonically identical front speakers). The Bijou's close (one-third-octave) spacing of the front-channel frequency bands likewise reflects the kinds of narrow-band

corrections that are typically needed in the 80- to 800-Hz range.

The Bijou provides even narrower adjustment bands for subwoofer signals, since in the low-bass region response anomalies span even tighter ranges. Subwoofer control spacing is at one-sixth-octave intervals between 22.4 and 80 Hz (twelve bands centered at 22.4, 25, 28, 31.5, 35.5, 40, 45, 50, 56, 63, 71, and 80 Hz). The Bijou can handle stereo subwoofer signals, although each subwoofer slider control serves both channels, forcing identical equalization on them. But in any speaker/room/listening-position setup that is not precisely symmetrical, it's highly unlikely that stereo subwoofers will have the same equalization requirements. In fact, using the Bijou with asymmetrically placed stereo subwoofers stands a good chance of producing a less flat bass response than would careful equalization of a single subwoofer.

For each of the two surround channels, the Bijou provides an eight-band bank of slider controls with comparatively wide two-thirds-octave spacing from 100 to 400 Hz (100, 160, 250, 400 Hz) and even wider one-octave spacing above 400 Hz (800 Hz and 1.6, 3.15, and 6.3 kHz). These relatively coarse adjustment ranges, which limit the degree of response flatness that can be achieved from surround speakers, do not indicate that Audio Control has ignored the ability of Dolby Digital (AC-3) soundtracks to put out surround-channel signals equivalent in quality to the front-channel sig-

DIMENSIONS: 4¾ inches high, 17 inches wide, 11 inches deep

WEIGHT: 12 pounds

PRICE: \$995

MANUFACTURER: Audio Control, Dept. SR, 22410 70th Ave. W., Mountlake Terrace, WA 98043; telephone, 206-775-8461; <http://www.audiocontrol.com>

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nals. Nor are they a comment on the equalizability of most surround speakers. Instead, the coarser adjustment ranges for the surrounds reflect the predominant importance of getting the front-channel signals "right" and the subsidiary dramatic role played by most surround-channel signals.

The bottom controls of the main channels and the top subwoofer control are all centered at 80 Hz, the standard THX-speaker crossover frequency. So the extent to which a non-THX speaker system can be equalized to flat room response in its crossover region depends, among other things, on how far its crossover frequency is from 80 Hz. Too great a divergence in frequency and you probably won't get enough control where it is needed.

The Bijou has no crossover or other bass-management facilities of its own. The frequency response of each bank of controls is flat outside the range covered by the sliders. Above 80 Hz even the response of the subwoofer outputs are flat all the way up to 20 kHz. Appropriate bass management has to be supplied elsewhere in the system, which must therefore contain not only a low-pass subwoofer-crossover filter, preferably at 80 Hz, but also 80-Hz high-pass filtering on all the other channels. These facilities are strict requirements for THX controller/preamps and THX receivers, but they may not be available at all on non-THX equipment (especially the high-pass filtering).

On the test bench, the Bijou performed admirably well, with the control bands producing an average of 5.7 dB of maximum boost or cut at their designated frequencies. With all controls centered, response through each channel was as flat as we can measure from 20 Hz to 20 kHz. Noise levels were extremely low: -94 dB, A-weighted, referred to a 200-millivolt output. Referred to the standard CD player output level of 2 volts, that translates to -114 dB, which is quieter than any CD or laserdisc program material. Distortion and overload levels were also very good. You are unlikely to overdrive the Bijou with any THX equipment, though you might want to take special care not to overload the subwoofer input with non-THX Dolby Digital equipment.

The Bijou's rear panel provides multipin DB-25 connectors for quick connection of comparably equipped THX equipment. But hooking it up with standard RCA cables was also

easy, especially using the diagrams in the manual as a guide.

However, Audio Control's manual severely understates the difficulty of obtaining the equalized flat response the Bijou was designed to produce. You, or your dealer/installer, need additional equipment: a pink-noise source, a flat-response microphone on a stand, and an instrumentation-grade spectrum analyzer. You get all three (except the mike stand) in one instrument with Audio Control's \$995 SA-3050A, which is recommended in the Bijou manual. The Radio Shack sound-level meter we often recommend for other purposes will not suffice here because of its variable low-frequency response and because there is no test CD containing suitable narrow-band low-frequency signals. Furthermore, for best results, you might have to move the speakers (especially the subwoofer), and possibly even the prime listening position(s), if your present positionings prove unequalizable.

Finally, in addition to proper instruments and placement flexibility, you must have a great deal of time. Equipped with a multikilobuck laboratory-grade spectrum analyzer and a similarly costly calibrated microphone, and playing pink-noise signals through a system that was full-bore THX from preamp/controller to loudspeakers, it took me a full hour to flatten the response of the front left channel and the single subwoofer operating together. And that was under ideal conditions (low room noise, no interruptions, and wearing ear plugs so that I wasn't driven crazy by the test tone) — and for only one speaker! Even though the Bijou's "constant-Q" controls interact much less than other equalizer designs, there were still some band-to-band interactions requiring repeated adjustments.

Fortunately, our listening room is symmetrical enough that the front right speaker received very similar equalization, though its bass "splice" with our asymmetrically placed subwoofer was slightly less than optimal. The center channel also produced a less-than-ideal splice with the subwoofer. Lucasfilm's THX division recommends that bass blend should be optimized for the center channel, with the other speakers falling as close as the equalization facilities will allow. But that is surely too cinema-centric for those of us who listen mostly to music.

And this hour-long process didn't include the "spatial averaging" technique that both Audio Control and Lucasfilm strongly recommend, which would have involved averaging the response measurements from several microphone positions around the listening area for each speaker. Obviously a very tedious process, it would also have meant some degree of compromise in response flatness compared with what I was able to obtain with the front left and right speakers and a single microphone position.

And how flat was the equalized response? Nearly pancake smooth! Before equalization, the front left/subwoofer response below 800 Hz varied over a ± 4 -dB range (an 8-dB spread), which is actually quite good for an unequalized room response. But after treatment with the Bijou, the response varied only ± 1.5 dB (a 3-dB spread) from 25 Hz to 800 Hz. That is extremely flat room response by anybody's standard; most recording studios and movie-sound dubbing stages don't come anywhere near this degree of flatness. There was a noticeable improvement in sound quality as well, with the various dips and bumps around the 80-Hz subwoofer crossover frequency considerably smoothed out to produce far more consistently firm, nonboomy bass. I heard the difference most easily with pipe-organ music. (Before-and-after comparisons are eased by a front-panel bypass switch.) Even the limited adjustment facilities provided for the surround channels improved their sound at the main listening position, especially in high frequencies from Dolby Digital soundtracks. (Surround equalization should be performed in Dolby Pro Logic mode, *without* THX processing turned on and with each surround playing separately.)

Even though I didn't have the patience or time to complete a rigorous THX-approved equalization procedure, my experience with the Bijou proved to me that it does have all the necessary facilities to get many home-theater sound systems, particularly THX systems, working at their best. Its equalization performance will probably not be bettered until digitally processed speaker/room correction is on the market (for years it has always been "just around the corner"), or at least until some time-saving automated equalization-setting procedure with the Bijou as its basis is introduced (hint, hint, Audio Control). □

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TEST REPORTS



JOCK P. LEUNG

Wharfedale Diamond 7.2 Loudspeaker

JULIAN HIRSCH • HIRSCH-HOUCK LABORATORIES

The Wharfedale name, a part of the audio scene for more than sixty-five years, has long been associated with high-quality loudspeakers. During much of that time, Wharfedale speakers were designed by Gilbert Briggs, the company's founder. Briggs was a pioneer in the high-fidelity industry, and his speakers earned a well-deserved reputation for fine performance.

Briggs was one of the few audio personalities to attempt (with reasonable success) a public A/B comparison between live and reproduced music. I was fortunate enough to attend the event, which was held at New York's Carnegie Hall in the 1950's. The Wharfedale speakers did a surprisingly good job in this rather ambitious undertaking, although there was no difficulty in hearing the difference between live and recorded sound in those relatively primitive times.

The art and science of loudspeaker design have progressed considerably since then, and one of the best examples of that progress that I have seen (and heard) lately is Wharfedale's new Diamond 7.2 speaker. The Diamond series has a long and honorable history. The first Diamond model was de-

veloped in 1982 as a compact and affordable alternative to Wharfedale's full-size speakers. Over the years, the British company says, it has sold some 16 million (!) Diamond speakers throughout the world.

Today's seventh-generation Diamond line consists of three models. The Models 7.1 and 7.2 are compact bookshelf (or stand-mounted) speakers that have nearly identical molded-plastic enclosures. Although both models use a 1-inch tweeter and a 5¼-inch woofer, the drivers are different; the woofer in the Diamond 7.2 has a heavier magnet and a mineral-loaded polypropylene cone for greater rigidity, and the tweeter is made of a different material. The Model 7.3 has the

DIMENSIONS: 11¾ inches high, 7¾ inches wide, 9½ inches deep

WEIGHT: 9½ pounds

FINISH: black woodgrain, black molded plastic on front and rear

PRICE: \$350 a pair

MANUFACTURER: Wharfedale, distributed by M. Rothman & Co., Dept. SR, 50 Williams Dr., Ramsey, NJ 07446; telephone, 1-800-227-7491

same driver complement as the 7.2 in a taller, floor-standing enclosure.

The Diamond 7.2 has a simple, black woodgrain-finish cabinet with a black front plate covered by a plain black cloth grille. The only visible ornamentation is the manufacturer's name and the model number in gold script at the bottom of the front panel. On the rear of the cabinet are the speaker's bass port and a pair of binding posts, which are designed to be used with stripped wire ends or large lugs. Removing small plastic inserts from the binding posts, however, enables them to accommodate single banana plugs or similar connectors (their spacing is too wide for dual banana plugs).

The front speaker panel and the cabinet's rear panel are molded from a blend of ground rock and copolymer, called "Audio Stealth," that is said to be acoustically dead. The two panels are tightly clamped together by long screws, making the enclosure extremely rigid.

Unlike many other vented systems (especially in its price range), the Diamond 7.2 has a symmetrically shaped bass vent, with identical flares at both ends. Wharfedale claims that this results in greater bass output with less distortion and wind noise.

The Diamond 7.2's tweeter has a synthetic-silk soft dome, with a voice-coil former behind it that prevents a stray finger from poking in or otherwise damaging the delicate dome. The polypropylene woofer cone has a butyl rubber surround.

The crossover design is described only as "simple but high grade." As we discovered, it meets the desirable goal of being undetectable in both measurements and listening. The crossover frequency is not stated in the system specifications, and nothing in our measurements offered any clues. This information is, of course, irrelevant to the user of the speaker, but the crossover's "invisibility" serves to underscore the skill that went into the speaker's design.

For listening and most measurements, we placed the Wharfedale Diamond 7.2 speakers on 26-inch stands, about 8 feet apart and 3 feet in front of the wall behind them. We measured the room response, one speaker at a time, with the microphone about 12 feet in front of the left speaker.

The smoothed and averaged room response was excellent, with a ± 5 -dB variation over the range of 50 Hz to 15

kHz. The horizontal directivity, measured 1 foot from the tweeter at an angle of ± 45 degrees off the tweeter's axis, showed an overall output variation of about 5 dB up to 7 kHz, increasing to 12 dB at 15 kHz.

We measured the woofer response separately at the cone and port, combining the two with corrections for the different areas of the two sources. The combined response was ± 3 dB from 45 to 500 Hz.

System impedance measured a maximum of about 12 ohms at 30 and 90 Hz. It was approximately 4 ohms from 150 Hz to 1.5 kHz, rising to 8 to 9 ohms between 3 and 20 kHz. The rated impedance should probably be 4 or 6 ohms, not 8 ohms, but considering the modest driving power likely to be used with a speaker of this size, price, and sensitivity (our measurements confirmed its 89-dB sensitivity rating), there is no risk of damage in any practical installation.

A quasi-anechoic response measurement at 1 meter with the MLS program of the Audio Precision System One showed an overall variation of ± 3 dB between 300 Hz and 20 kHz, aside from a notch of about 7 dB at 9 kHz. Measurements at distances of 2 and 3 meters yielded very similar results, with minor differences in the depth of the 9-kHz notch. Although we have no good explanation for this notch, it is obvious that a very narrow notch at such a high frequency as 9 kHz (even if it *is* real and not a measurement artifact) is unlikely to be heard by most people.

As is always the case with loudspeakers, the ultimate evaluation, and the only truly meaningful one, is in the listening process. We did a moderate amount of listening before the measurement phase of the test, and considerably more afterward, and were immediately struck by the smoothness and "all there" quality of the Diamond 7.2's sound. Listening to these remarkable little speakers, we found it difficult to credit our ears (and eyes). Not only did they have an impressively flat and smooth *measured* response, but they sounded as good as the measurement graphs look.

Although not unique, that is an unusual quality among the speakers we have tested over the years. But when you add to this usable bass extending to the 40-Hz region (from a cone less than 5 inches in diameter!), you have defined one of today's "best buys" in high-quality, low-cost speakers. □



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JOCK P. LEUNG

Martin-Logan Aerius *i* Loudspeaker

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The Martin-Logan brand name is associated almost exclusively with high-quality electrostatic loudspeakers, ranging in size and price from a compact center-channel speaker at \$1,750 to a large, full-range model at almost \$10,000 a pair. The most affordable full-range Martin-Logan speaker (an earlier version of which we reviewed about four years ago) is the Aerius, whose name has now been changed to Aerius *i* in recognition of the improvements that have been made since the original version was introduced. Despite the upgrade, its price remains unchanged.

The Aerius *i* is relatively compact

by any standards, and especially so for full-range electrostatic speakers, which typically require a large surface area for good bass response. Since Martin-Logan could not work a miracle or

DIMENSIONS: 55 inches high, 10½ inches wide, 12½ inches deep

WEIGHT: 55 pounds

FINISH: black or oak wood trim, glossy black perforated metal grille

PRICE: \$1,995 a pair (black); \$2,095 (oak)

MANUFACTURER: Martin-Logan, Dept. SR, 2001 Delaware St., Lawrence, KS 66046; telephone 913-749-133

suspend the laws of physics, the Aerius *i* was designed to generate bass frequencies (roughly between 450 and 40 Hz) with a conventional 8-inch woofer in a sealed compartment at the bottom. The bass section's considerable weight also provides stability for the larger (but much lighter) electrostatic panel, which it supports physically as well as acoustically.

Viewed from the front, the Aerius *i* resembles a moderately tall tower speaker in size and appearance. Its entire black front panel, made of perforated metal, has a slight convex curvature. Between its two layers of high-grade steel, coated with a proprietary dielectric compound, is a transparent plastic membrane only 0.0005 inch thick. This diaphragm moves microscopically in response to variations in the signal voltage applied between the perforated stationary elements, or "stators," in the system. The diaphragm's motion generates a sound wave that propagates into the room through the perforations in the steel stators.

The instruction manual for the Aerius *i* is well worth reading for its educational value; the material on the history and design principles of electrostatic speakers is superb. The major advantage of a full-range electrostatic speaker is that its moving mass is extremely low compared to the combined mass of the voice coil and suspension of a dynamic speaker. That low moving mass allows it to generate (and radiate) the full audio frequency range from a single element, without the complication of blending the outputs of two or more drivers having different acoustic and electrical properties and operating frequency ranges.

There is also, as often happens in comparisons between different technologies, a down side to the electrostatic speaker. Its maximum acoustic output level is typically less than that of a dynamic speaker of comparable size. Generating a comparable sound level, especially at low audio frequencies, requires a substantially greater radiating surface area, which typically results in a higher price as well as greater size. Martin-Logan's practical solution to this problem is to use a hybrid design combining an electrostatic mid/high-frequency radiator with a conventional cone driver for the bass, such as the 8-inch cone in the bottom enclosure of the Aerius *i*.

The Aerius *i* is a dipole radiator, generating a figure-8 horizontal pattern. It should be placed a few feet in

front of a wall, and, since the spacing can affect the bass performance, Martin-Logan suggests some experimentation to find the optimal placement. We settled on a 3-foot distance from the wall behind the speakers, which were about 8 feet apart.

The averaged room response of the pair of speakers measured ± 6 dB from 60 Hz to 10 kHz, with an additional 5-dB drop from 10 to 20 kHz. That is fairly typical of the overall room re-

sulting in distortion or even damage to the amplifier.

The impedance rating of the Aeries *i*, though nominally 4 ohms, is also specified as 1.7 ohms at 20 kHz. Our measurements showed a typical impedance of around 5 ohms over much of the audio range, with a peak of 32 ohms at 45 Hz and a minimum of 1.8 ohms at 20 kHz! Fortunately, there is little recorded energy at frequencies above 10 kHz and virtually none at 20

acter from a conventional cone-driver speaker. For one thing, its perceived sound level is largely independent of the listening position. The subjective volume level and overall sound quality are virtually the same whether you are 1 foot or 10 feet from the speaker, or even behind it! This quality may or may not appeal to you, but I consider it a major advantage of the design.

The distinctively spacious sound of a full-range electrostatic speaker may be an acquired taste. I had my initial experience with a Quad electrostatic about thirty-five years ago, and I was permanently "hooked"! Fortunately, today's technology has made possible more reliable, and less visually obtrusive, electrostatic reproducers. Still, for many (if not most) people, the size and price of a full-range electrostatic may disqualify it from consideration.

Whatever the pros and cons of dynamic and electrostatic speaker designs may be, however, there can be no doubt that a good electrostatic speaker is one of the finest generators of musical sound in a home-size environment. The hybrid design of the Aeries *i* retains the essential qualities of an electrostatic, making it one of the best examples of an affordable and practical electrostatic speaker that we have ever had the pleasure of using and testing. □

The Martin-Logan Aeries *i*'s subjective volume and sound quality are virtually the same whether you are 1 foot or 10 feet from the speaker.

sponse we have measured from other good speakers under the same conditions. A similar measurement at 1 meter from a single Aeries *i* speaker produced a response variation of only ± 5 dB from 40 Hz to 20 kHz, essentially the manufacturer's rating.

Our quasi-anechoic (MLS) response measurements at distances of 1, 2, and 3 meters showed an overall response of better than ± 5 dB from 500 Hz to 20 kHz except for a broad notch between 6 and 10 kHz with a depth of 6 to 15 dB. Since this notch did not appear in conventional (nondigital) response measurements, nor were there any audible signs of its presence, I'm sure it was an artifact of the digital measurement. The speaker's virtually full-range dipolar radiation pattern interacted with the geometry of our room in ways that make the computer-generated quasi-anechoic results hard to interpret.

We measured the woofer performance conventionally, with close microphone spacing. Its frequency response was within ± 2.5 dB from 500 to 45 Hz, rolling off at lower frequencies at 12 dB per octave.

The Aeries *i* had good horizontal dispersion. Over a ± 45 -degree angle off its forward axis, the response between 1 and 20 kHz showed only a 5-dB variation from its on-axis output.

One of the most unusual properties of this speaker is its electrical impedance characteristic. Conventional dynamic speakers typically have an impedance in the range of 4 to 16 ohms, although a few speakers may go down to the region of 2 ohms. An unusually low impedance can cause difficulties with some amplifiers, sometimes re-

kHz and higher. In addition, the speaker is fairly efficient, with a measured sensitivity of 89 dB (rated 87 dB). At any rate, we played it at levels well above our normal maximum without mishap or signs of distress from the amplifier or the speakers.

Normally, one of the most important criteria in choosing a speaker (sometimes the *only* one) is how it sounds to the listener. A full-range electrostatic speaker, and for most practical purposes the Aeries *i* can be considered as such, has a very different sound char-



"Vern, there's a metermaid here to see you. . ."

USER'S REPORT



Model 7 preamplifier



Model 8B stereo amplifier



Model 9 mono amplifier

Marantz Classics

COREY GREENBERG

The whole world, but especially the world of hi-fi, is going through one final, brilliant burst of retro madness before the new millennium arrives and we all have to wear silver space suits and use only highly polished sporks at what used to be called dinner but as of Jan. 1, 2000, will be officially known as Microsoft Eat.

Now, in hi-fi terms, retro madness means "back-to-the-1950's." Back to American hi-fi's golden age, when our best and brightest stuck smoking pipes in their smiling craws and kicked audio butt the world over with their hand-crafted tube amplifiers, Maytag-sized horn speakers, and just about everything else you could plug in and make sound with. It was a time

of greatness, when hi-fi had the kind of hands-on, get-down-on-your-knees-and-bias-your-amp kind of manliness that's now found only in power tools and Ultimate Fighting.

Maybe that's why there's been such a resurgence in interest over the past few years in retro hi-fi. And now Marantz, one of the true titans of hi-fi's golden age, has commissioned reissues of its three most revered and sought-after vintage tube classics: the Model 7 preamplifier, the Model 8B stereo amplifier, and the Model 9 mono amplifier.

At suggested retail prices of \$3,800 each for the Models 7 and 8B, and \$8,400 for a pair of the Model 9 monoblocks, the Marantz Classics are nearly exact recreations of the original designs, right down to the smallest cosmetic details. They even duplicated the features that no longer make any sense in a modern hi-fi rig, like the Model 7 preamp's microphone (!) inputs and alternate "Columbia" phono-EQ setting, meant to compensate for the slightly different playback curve that early Columbia LP's required. There's even a third phono-EQ setting for when you want to haul out that stack of Mills Brothers 78's and hear them as they were intended to sound!

The point is, Marantz could've left those archaic circuits out, and no one except hairy-eared collector geeks would've raised a yeckle, but they didn't. These Classics duplicate the originals in every way, aside from a few safety-related improvements like a detachable AC power cord and much higher-quality input/output connectors than those that were fitted to the originals. But most important, the new Marantz Classics cost less than half of what pristine examples of the originals command on the hairy-eared-collector market.

As Marantz has been out of the tube game for several decades, the company made a wise choice in commissioning high-end tube audio manufacturer Valve Amplification Components to produce the Classics. VAC's Kevin Hayes is the closest thing the high end has to a tube Renaissance man, and his knowledge and reverence for the original Marantz designs is evident in the Rich Little job he did on the Marantz Classics.

These reissues not only *look* identical to the originals down to the last screwhead, but when you pop the hood you see just how far VAC was willing to go to insure the Classics' in-

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USER'S REPORT

tegrity. While some reissues of vintage tube gear in recent years hid shoddy workmanship and altogether different circuitry inside a vintage-style chassis, the Marantz Classics feature the same audio circuits and point-to-point wiring as the originals. VAC even went to the same parts vendors used by Marantz in the 1950's and 1960's for the transformers, carbon-composition resistors, and power-supply capacitors.

Only in a few cases where the original parts were no longer available were substitutions made, such as the premium film-type signal capacitors instead of the old-style paper-and-wax caps. In any case, the substitution parts measure and sound better than the originals, so you'd have to have thickets of hair growing out of your ears to complain about these bows to the modern age.

The Marantz Model 7 is an all-tube stereo preamplifier (actually, the vintage-correct front panel says "Marantz Stereo Console") with a sextet of specially selected 12AX7 preamp tubes handling all signal amplification. Nine sets of inputs and three sets of outputs are provided, and the main preamp outputs also have adjustable level controls on the rear panel so that you can match the Model 7's output level to any power amplifier, old or new. A mode control is included to let you switch between stereo, reverse stereo, left channel only, right channel only, and mono. Several different low-cut and high-cut filter settings are available as well as a defeatable tone-control section.

In addition to the two moving-magnet phono inputs, there are four line-level inputs labeled FM-AM, FM multiplex, TV, and auxiliary. Despite the names, all four inputs can be considered interchangeable aux-type inputs suitable for any line-level source from a CD player to a tape deck to a hi-fi VCR. The Model 7 also has two more types of inputs that were included for historical accuracy but won't be of much use to you: the aforementioned microphone inputs, which are simply high-gain unbalanced RCA inputs, and tape-head inputs, which were used back in the olden days if your big honkin' open-reel tape deck didn't have its own playback electronics. I guess if you've got a pair of old Astatic crystal dispatcher mikes and an old Uher open-reel job, and you want to make some really, really awful-sounding home recordings, then you might find some use for these extracurricular

inputs, especially if you've always wished your voice sounded like Howlin' Wolf. For the rest of us, Marantz ships the Model 7 with shorting "dummy" plugs in these inputs to guard against noise pickup.

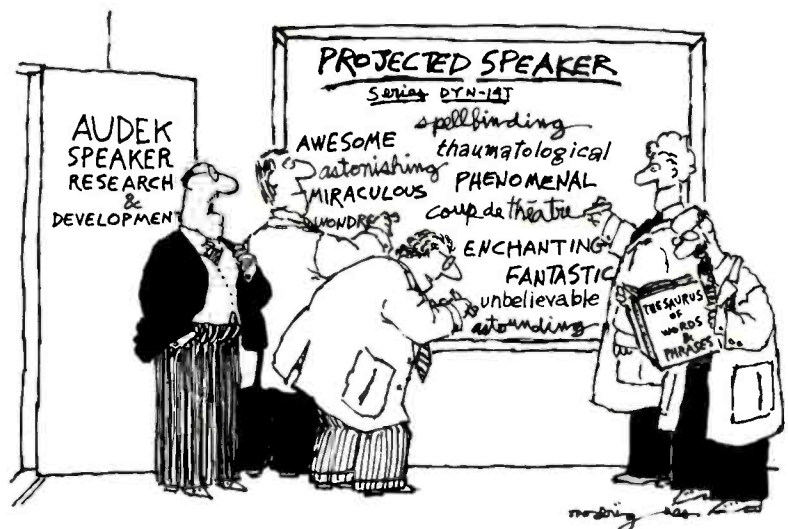
The Model 8B is a stereo tube power amplifier with a push-pull dual EL34 output section rated at 35 watts per channel. A pair each of 6BH6 and 6GC7 preamp tubes complete the tube complement, along with a solid-state diode rectifier. True to its vintage-correctness, the Model 8B features the same gorgeous old-style bronze-tone finish as the original Marantz amps, and VAC did a hell of a job duplicating the original finish — the reissue amp looks like it stepped right off a collector's shelf.

An on-board bias meter and test circuit make biasing the Model 8B's output tubes an easy task, even for valve virgins — I sure wish my old Dynacos had such an easy-to-use bias scheme. Because a tube amplifier's output transformer must be matched to the nominal impedance of the loudspeaker, the Model 8B has separate speaker binding posts for 4-, 8-, and 16-ohm speakers. An easily removable perforated tube cage is included to keep lesser cats from toasting their noses on the hot-running tubes when the Model 8B is operating, but I'm happy to report that my two genius cats kept a safe distance at all times, sitting just close enough to the amplifier to steal the considerable heat that those tubes throw off. Maybe they learned their lesson watching Daddy singe his fingers and jump around the room all those times he biased his old tube

amps without a handy bias meter like the 8B's.

The Model 9 is a mono tube power amp with a quartet of EL34 output tubes operating in push-pull configuration for an output rating of 70 watts. With a much larger power supply and a more refined audio circuit overall, the Model 9 offers more than just a power upgrade from the Model 8B. Front-panel level controls are included in case you want to bypass your preamplifier and plug a CD player or other line-level source straight into a pair of Model 9's. In normal operation, these level controls are turned all the way up to effectively remove them from the circuit path. In addition to the attractive, vintage-styled front-panel bias meter and test circuit, the Model 9 also has provisions for testing and adjusting the circuit's AC balance.

Like the Model 8B, the Model 9 has speaker binding posts for 4-, 8-, and 16-ohm speakers. Unlike the 8B, however, the Model 9's output connectors, as well as its RCA input jack, are located on the *front* of the amp, behind a removable decorative panel. Hey, don't look at *me*. That's how they did it back then. The Model 9's owner's manual explains that while most interconnects and speaker cables in the olden days were thin enough to fit behind the decorative panel, many modern cables won't fit unless you leave the panels off. My Kimber cables certainly didn't fit, and I imagine that if you have anything more serious than 18-gauge zip cord, and you really *should* if you own amps as nice as these Marantz Classics, the panels won't fit for you, either.



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USER'S REPORT

The Model 9 has three features not found in the Model 8B. An infrasonic "low" filter, activated by a front-panel switch, rolls off the amplifier's bass response below 20 Hz in case your system passes enough low-frequency rumble to swamp the Model 9's power reserves and cause distortion. A phase switch, also on the front panel, flips the absolute polarity of the audio signal at the output terminals. But the most interesting switch is the triode mode switch on the amplifier's back panel. By flipping this switch, you can change the way the four EL34 output pentodes are connected to the circuit, configuring them as a pseudo-triode output stage rated at a little over half the Model 9's normal power rating.

Why would you do this? Well, hardcore tube nuts swear that triode circuits sound better than pentodes because they're simpler. That may be so, but that only applies to true triodes — pentodes like the Model 9's EL34 output tubes can be connected as pseudo-triodes by tying their screen grids to their anodes, but it's not quite a true triode, and my listening comparisons actually favored the sound of the Model 9's normal, 70-watt mode of operation. The sound was cleaner and more open in the highs than the sound of the amps in triode mode.

Now, the other two Classics are certainly fine-looking specimens of retro madness, but just between you and me, I think the Model 9 wins this beauty contest hands down. With its brushed gold-tone front panel and big round bias meter, the Model 9 really adds a touch of elegance to any living room, even mine.

At this point, you might be asking yourself why Marantz, a thoroughly modern company right in the thick of current trends like home theater and big-screen TV's, would go to all this trouble and expense just to reissue long-discontinued designs that are nearly 50 years old and surely inferior in terms of measured performance to its latest \$500 A/V receiver?

I know I asked myself that question when I first heard about the Classics reissue project. I used to run vintage tube amps in my own hi-fi rig, but while they sounded plenty warm and enjoyable, even this obsessive audio nut got tired of all the futzing and babying and tube rolling. I also grew to desire a more strictly neutral presentation, especially when I began reviewing hi-fi gear professionally. I felt, and still feel, an obligation to as-

semble as neutral and accurate a system as possible so that I can judge a review component's own colorations without clouding them with those of my system. So now I use good solid-state amps, which are far more accurate and revealing of component subtleties upstream.

But I'll tell you what — all it took was one lazy afternoon spent listening to music with the Marantz Classics to remind me just how much sheer fun good tubes can be to listen to. And make no mistake, these Marantz reissues are really, really good tubes. Yes, they sound a tad old-fashioned compared with the best modern tube gear, but I think that's why they're so soothing and relaxing to listen to. Heard through these Classics, everything sounds just that much warmer, that much smoother than usual. I'd never call the Marantz reissues "accurate," but they certainly cast the kind of golden glow over the sound that can transcend the whole issue of what is and isn't neutral, lulling you into forgetting everything but how much you're enjoying the music.

At first, I substituted just the Model 7 preamp for my usual solid-state preamp so that I could get a handle on its sound before I hooked up the Classic tube amps. The system became warmer on top and more forward in the midrange — classic old-style tube sound. But it was only when I hooked up both the Model 7 and the Model 8B amplifier that I fully appreciated the Marantz Classics. In the context of my neutral, solid-state system, the tube preamp alone sounded out of place and a bit dated. Same with the amps. But when I hooked them both up, the sound became so thick and juicy and, well, *tubey*, that I just let myself get lost in it.

If you've ever dreamed of owning these Marantz vintage components but could never imagine ponying up the dough for what these babies command on the collectors' market, the Marantz Classic reissues offer you as close to a second chance as you're going to get. Whether you choose the wonderfully musical Model 8B or the more powerful and refined Model 9 amplifiers, partner them with the Model 7 preamplifier and you'll have a system that looks and sounds as golden as your fondest memories.

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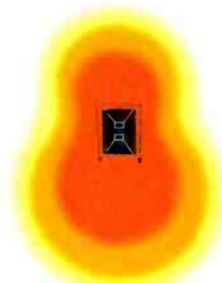
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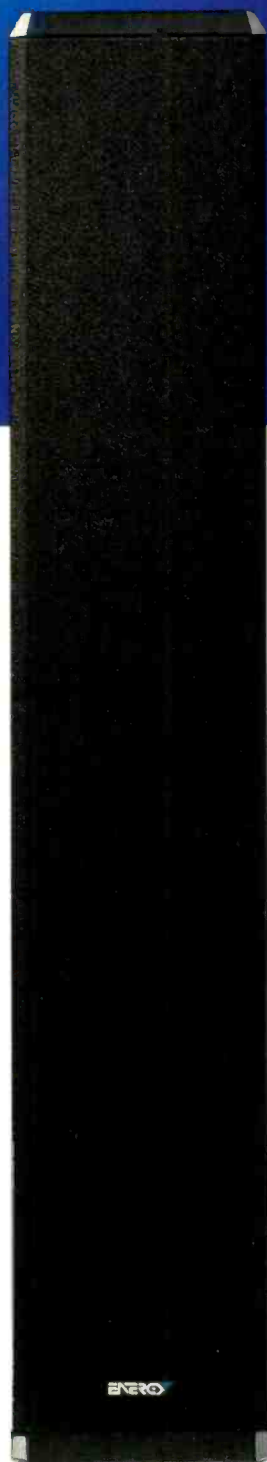
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A/V RECEIVERS

HIGH-TECH SURROUND OPTIONS

by Daniel Kumin

If you're in the market for an audio/video receiver, you've picked an excellent time to go shopping. Technology's inexorable march and the inevitable market pressures of the home-theater boom have combined to raise both performance and value to giddy-ing new heights. Of course, from year to year the same can usually be said of just about anything electronic, from foot massagers to Unix workstations, but never mind: This year's crop of A/V receivers truly is the best yet. Power and features have reached all-time highs, while the broad-market debut of discrete-channel digital surround technology — specifically, Dolby Digital (DD) — has engendered a new breed of A/V receiver (see "Digital Developments" on page 65).

The term A/V receiver may mean different things to different people, so let's begin by finding some common ground. A conventional stereo receiver combines three familiar audio components: an AM/FM tuner, a preamplifier to provide signal switching and controls such as volume and tone, and a two-channel power amplifier to perform the grunt work of making the audio signals strong enough to drive speakers.

An A/V receiver is fundamentally

the same but also incorporates a surround-sound processor, inputs/outputs and switching facilities for video components, and two or three additional powered channels. The surround processor's job is to extract four (or more) playback channels from specially encoded recordings. Today the universal surround-decoding standard is Dolby Pro Logic (DPL). The DPL system adds a dedicated channel for a center speaker to the original Dolby Surround system, which relies on a "phantom" center channel to supplement the front left and right channels and the single mono surround channel.

Dolby Digital takes things further, providing 5.1 *discrete* channels: five full-range channels (front left, center, and right and stereo surrounds) and one dedicated low-frequency-effects channel (the ".1" in 5.1) to handle deep bass. Since much of the requisite circuitry is already on board, many A/V receivers also offer additional surround settings for use with regular music CD's and non-Dolby-encoded TV programs. The effectiveness of such ambience-enhancement modes is largely a matter of taste. Although some are pleasingly subtle, many tend to produce exaggerated reverberation.

Even though all A/V receivers have

a left and right surround output, the surround channel in a Dolby Surround recording is actually monaural, which means identical signals are sent to both "rear" speakers. Many standard A/V receivers thus employ a single surround channel that simply feeds two outputs, but THX-certified models that "stereo-ize" the surround signal — a process THX-originator Lucasfilm calls decorrelation — are required to have an amp channel for each surround output, as are all the new 5.1-channel DD receivers.

Nowadays, the majority of A/V receivers apportion equal power to all three front channels because the center channel is every bit as important as the left and right channels — especially for playing movie soundtracks, which rely on the center channel for a great deal of music and effects as well as dialogue. Surround-channel wattage varies from as little as one-fourth the front-channel ratings to equal power. Some manufacturers feel they can get away with less power in the surround channels because many surround speakers are smaller and more limited in power handling than their front counterparts. (On the other hand, if the surrounds are smaller than the front speakers, they are also likely to be





Several companies now have moderately priced "5.1-channel-ready" receivers like Onkyo's TX-SV444 (\$430). It has inputs for an outboard Dolby Digital decoder and delivers 60 watts each to the three front speakers, 20 watts apiece to the surrounds.



Sherwood's Newcastle R-945 receiver (\$1,295) will decode Dolby Pro Logic as well as 5.1-channel Dolby Digital and DTS Digital Surround soundtracks when it hits stores later this year. It delivers 100 watts to each of its five channels.



The AmfiTheater 1 receiver (\$500), sold under the AmFi by Mondial brand that has been established by Mondial Designs, features an RDS-capable FM tuner and delivers 75 watts to each of the three front speakers and 30 watts to each surround.

somewhat less sensitive, so this reasoning may not be valid.)

Ready for 5.1

One of the leading trends in A/V receivers this year is the "5.1-channel-ready" design, featuring a discrete-six-channel input (or set of inputs) to accept the six output channels from an outboard Dolby Digital decoder as well as fully discrete amplification for the surround channels. When a 5.1-channel-ready receiver is fed a DD signal from an outboard decoder, it amplifies the front and surround channels and simply passes the low-frequency signal through, usually to a powered subwoofer.

The beauty of 5.1-channel-ready

models is that you can buy your A/V centerpiece now and add a decoder for Dolby Digital (or another 5.1-channel format) later. Among the many new DD-ready receivers hitting the stores are a number of reasonably priced models. Onkyo's TX-SV444 (\$430), rated to deliver 60 watts each to the three front speakers and 20 watts apiece to the surrounds, has a multi-channel-input grouping with six RCA jacks for hookup to an outboard Dolby Digital decoder. (Other Onkyo receivers sport a convenient multipin DB-25 input connector that makes hookup to an outboard decoder a simple one-cable affair.) To name but a few of its many features, the TX-SV444 incorporates Lucasfilm's Cinema Re-EQ

mode, which "corrects" the tonal balance of movie soundtracks for playback in a home setting, and it uses an oversized power supply and high-current discrete-transistor outputs to bolster power-amp performance.

The SA-AX710 (\$400) and SA-AX910 (\$500) from Technics break ground as the lowest-price 5.1-channel-ready receivers on the market. In addition to having sets of six RCA inputs for use with an outboard Dolby Digital decoder, both are rated to deliver 100 watts into each of five channels (maximum power at 1 kHz) and employ the company's unique Class H+ power-amp design, which uses two power-supply "rail" voltages, one of them dedicated to supplying high power as needed. The key differences between the two models are the SA-AX910's on-screen display capability and its front-panel A/V input. Technics will complete its budget DD package early this summer when the SH-AC300 decoder arrives in stores. For the remarkably low price of \$300, the outboard device will offer a Cinema Re-EQ mode, independent level controls for each channel, and three sets of optical and coaxial digital inputs.

Onboard Digital Surround

Meanwhile, the population of A/V receivers featuring both Dolby Pro Logic and Dolby Digital decoding onboard is rising — and prices are falling. At \$800, the Kenwood Model 1080VR is a full \$400 less than its predecessor, the KR-V990D, which was the least expensive DD receiver on the market when it came out a year ago. Rated to deliver 120 watts across the front and 60 watts to each surround speaker, the 1080VR has five surround modes for music and a tuner that receives RDS (Radio Data System) text messages over the FM band. For an additional \$400, Kenwood offers the Model 1090VR, which delivers 150 watts to each of its five channels and offers a host of extra features, including dual-room/dual-source capability. Though Dolby Digital (and digital-domain Pro Logic) decoding is onboard in both units, an outboard RF demodulator (such as Kenwood's DEM-999) is required to play DD-encoded laserdiscs, which carry an RF-modulated DD signal. Of course, the 1080VR and 1090VR accept the Dolby Digital-encoded audio signals carried on DVD discs directly. For \$500, Kenwood also offers the DD-ready Model 1070VR, which has six-chan-

nel RCA inputs for an outboard DD decoder.

As a bonus, the Model 1080VR is equipped with Kenwood's new ergonomically correct FutureSet remote control (also available separately as a \$50 accessory), which features backlit keys, macro programming capability, and the ability to "download" control codes for new components over the phone (codes for most current audio and video gear is preprogrammed into it). You call an 800 number, specify the brand and model number of the component, hold the remote up to the phone, and you're done!

Denon has expanded its Dolby Digital receiver lineup with the \$1,200 AVR-3200, which is \$600 less than last year's entry-level DD model, the AVR-3600. The new model is rated to deliver 70 watts to each of its five outputs — plenty of power for most real-world systems — and is built around a custom Dolby Digital processor designed to minimize noise and distortion. Somewhat unusually, the AVR-3200 also has a six-channel External Decoder input for adding a second, outboard 5.1-channel digital processor — perhaps a DTS decoder? — at a later date. Other highlights include a full-system learning remote and an icon-based on-screen display system with the ability to link and memorize inputs and operating modes. For those interested in upgrading to Dolby Digital in stages, Denon has two new DD-ready models with six-channel RCA inputs for an outboard decoder, the AVR-2400 (\$699) and AVR-1400 (\$549).

To headline its upscale Newcastle line, Sherwood is offering the R-925 (\$995), its first Dolby Digital receiver. In addition to producing a rated 100 watts for each of its five channels, the R-925 has three five-channel DSP surround modes implemented by a Motorola DSP56009 signal-processing "engine" that performs digital-domain decoding for both Dolby Digital and Pro Logic. The chip's considerable computational configurability will permit Sherwood to introduce the R-945 (\$1,295) later this year, which will also perform 5.1-channel decoding in the DTS format. The company's new receiver lineup also includes the R-725 (\$799), a 5.1-channel-ready receiver with a multichannel set of RCA inputs.

One of Pioneer's two new Dolby Digital receivers dips below the \$1,000 mark, too, yet still manages to



One of two new Dolby Digital receivers from Pioneer, the VSX-D6065 (\$970) delivers 100 watts to each of its five channels and employs a Pioneer chip that performs Dolby Digital and Pro Logic decoding and provides five ambience modes for music.



The SR-880 (\$1,500, also shown on page 61) is the first receiver from Marantz with onboard Dolby Digital decoding. It delivers 110 watts across the front and 60 watts to each surround speaker and has a full set of preamp outputs.



At \$800, Kenwood's 1080VR (also shown on page 61) is the least expensive Dolby Digital receiver available. It has an RDS-capable FM tuner and delivers 120 watts each to the three front speakers and 60 watts to each surround speaker.



Denon has expanded its Dolby Digital receiver lineup with the AVR-3200 (\$1,200), featuring a custom surround processor, an External Decoder input for a second, outboard 5.1-channel processor, and five amplifier channels rated at 70 watts each.



The RX-V2092 (\$1,599, also shown on page 61) is Yamaha's first receiver with onboard Dolby Digital decoding. It offers thirteen surround modes and pumps out 100 watts each to five speakers plus 25 watts each to a pair of front-effects speakers.

front-effects speakers. The RX-V2092 also boasts audio *and* video multiroom outputs, with fully independent source selection, and it even comes with a small remote handset for use in the second room. Pre-out/main-in jacks are provided for all channels, aiding future system expansion. A strikingly designed, back-lit main remote handset with abundant macro capabilities and controls for subwoofer level and A/B speaker switching is included.

The latest A/V paragon from Marantz is the SR-880 (\$1,500), the company's first receiver to bring Dolby Digital and digital-domain Pro Logic decoding onboard. Rated to deliver 110 watts across the front and 60 watts to each surround, it features a full set of preamp outputs for system expansion and line-level multiroom jacks for delivering independent audio to a second room. The SR-880 comes with Marantz's very cool RC-2000 controller, an unusually adaptable and powerful LCD-screen remote with multiple command "pages," automatic backlighting, and extensive macro command capabilities.

Harman Kardon, another long-standing name on the domestic hi-fi scene, is offering its first receiver with resident Dolby Digital decoding, the AVR-75 (\$1,599). With high-current discrete-channel outputs, its power rating is 90 watts to each of its five channels. Highlights include an on-screen menu system and a learning remote control that is preprogrammed to operate Harman Kardon components.

A couple of other notable brand names have cleared the A/V horizon this year. Sansui, a classic hi-fi maker of the Sixties and Seventies, is back with a new lineup following some years of sporadic absence from these shores. Sansui's Dolby Pro Logic-based RZ-5200AV (\$499) is rated to deliver 55 watts per channel across the front and 17 watts to each surround, and it provides four ambience settings for noncoded music programs.

Toshiba, a major force on the video side of home theater, has plunged into the audio world with the XB-2000 Dolby Digital receiver (\$1,899), a 100 watts x 5 design featuring multiroom audio facilities and an icon-based, on-screen control system. The on-screen display is navigated with the cursor keys on a remote handset that contains (or is capable of learning) the control codes for most brands of equipment.

B&K Components, the small upstate New York company known for its



Rated to deliver 100 watts into each of five channels, the Technics SA-AX710 receiver (\$400) has a multichannel RCA-input grouping for use with the SH-AC300 outboard Dolby Digital decoder (bottom, \$300), which is slated to hit stores this summer.

deliver 100 watts all around via discrete output stages. The VSX-D606S (\$970) employs a Pioneer-designed chip that handles both Dolby Digital and digital-domain Pro Logic surround decoding as well as providing five DSP ambience modes. It also includes Pioneer's Heads Up remote-control system, which lets users operate Pioneer or other-brand components with the cursor keys on the remote control and the illuminated display on the receiver's front panel. Pioneer's other new Dolby Digital receiver, the VSX-D906S (\$1,210), boasts an improved amp section and an icon-based graphical on-screen programming/control system that can display CD titles when it's connected to a Pioneer PD-F1000 100-disc CD changer.

While there are more popularly priced Dolby Digital receivers to choose from than ever before, there's still plenty of 5.1-channel action in the flagship-receiver department. Yamaha's new top-of-the-line RX-V2092 (\$1,599), the company's first receiver with onboard DD decoding, uses two Yamaha-designed ASIC's (application-specific IC's): One handles Dolby Digital decoding, and the other adapts Yamaha's Tri-Field processing to the DD environment in an attempt to yield an even more cinematic aural experience. The TriField effect relies on enhanced sound fields developed for an extra pair of front surround channels. Consequently, the RX-V2092 powers seven channels, with 100 watts to five speakers and 25 watts each to a pair of

high-value preamps, power amps, and other separates, is expected to unveil the first-ever American-made A/V receiver sometime this summer. Dubbed the AVR5.1, it was conceived and designed at the firm's Buffalo facility, where it will be manufactured. For the tidy sum of \$2,200 you get a five-year parts-and-labor warranty, five 105-watt channels, and onboard decoding for Dolby Pro Logic (in the digital domain) and two 5.1-channel formats, Dolby Digital and DTS. The surround processing is done by two Motorola 56009-series 24-bit chips (B&K prides itself on being a Motorola "beta" site for audio development).

Designed to be easily upgradable in both software and hardware, the AVR5.1 features the same custom-program system used in B&K's A/V preamps, which lets you create up to twenty user presets combining source selection, surround mode, and settings for master volume, channel balance, and surround delay. The receiver requires an RF demodulator to decode the Dolby Digital soundtracks on laserdiscs; B&K plans to offer its own DT-1 outboard demodulator for \$100 to \$200.

Another American firm, Mondial Designs, known for its high-end Aragon and Acurus brands of separate-



Sansui is making a comeback with a revamped lineup that includes the Dolby Pro Logic-based RZ-5200AV (\$499), a no-frills receiver with four ambience modes that delivers 55 watts to each front speaker and 17 watts to each surround.

component audio gear, is also entering the A/V-receiver fray (though in this case the unit is manufactured offshore). The company is kicking off its new AmFi (American Fidelity) by Mondial brand with a \$500 Pro Logic-based receiver called the AmfiTheater 1. Rated power output is 75 watts across the front and 30 watts to each surround. The receiver has a dual-wound power transformer and, in the name of enhanced separation and dynamic control, uses separate storage capacitors to segregate the power supplies for the front channels from those for the surround-channel outputs. The FM section of the AmfiTheater 1 is equipped to decode RDS text messages and post them in its large, luminescent front-panel display window. It

even has a self-setting (courtesy of RDS) clock-timer that can be used to program the receiver to turn on or off automatically.

Believe it or not, we've only scratched the surface of the A/V receiver options you can find out there. Serious gear hunters owe themselves a solid afternoon or two (or three, or four) of comparison shopping just to get acquainted with the many choices available. If you're the type of person who looks forward to such expeditions, so much the better. If, on the other hand, you're a bit intimidated by the whole process, rest assured that the excellent performance/value quotient of today's A/V receivers makes it hard to go wrong. □

THE DIGITAL DEVELOPMENTS

Dolby Digital's advantages over Dolby Pro Logic should be generally well known by now. They include fully independent, discrete surround channels, full-range response in all five main channels (including the surrounds), superior dynamic range, absolute separation between all channels, and a sixth, dedicated low-frequency-effects channel. Most movies released in the new DVD format — the first began trickling into stores in March — will carry a 5.1-channel Dolby Digital soundtrack. More than 125 laserdiscs already have DD soundtracks.

The encoded 5.1-channel signal from a DVD player makes its way to a Dolby Digital A/V receiver (or outboard processor) by way of a standard digital output. But to take advantage of the DD soundtrack contained on a laserdisc, you need an RF demodulator, which is built into most (but not all) A/V receivers.

Though Dolby Digital appears destined to become the de facto standard for multichannel sound — at least for movies — it's not the only 5.1-channel game in town. Digital Theater Systems (DTS), which competes with Dolby in commercial-cinema multichannel sound, is licensing its DTS Digital Surround system to a growing number of companies that make home A/V gear, mostly smaller, high-end outfits. Two A/V receivers — from B&K and Sherwood — that feature DTS decoding are scheduled for release this summer. A couple of dozen DTS-encoded music CD's and a dozen or so DTS movie laserdiscs (which do *not* include a stereo digital audio track) should now be available. It's unclear whether any of the DVD titles scheduled for release this year will carry a DTS soundtrack.

The DTS format uses a bit rate that's nearly four times higher than

that used by Dolby Digital, and that may explain why some audiophiles believe that DTS offers slightly more refined sound quality. The higher bit rate is also the reason a DTS soundtrack cannot cohabitate with a stereo digital soundtrack on a laserdisc the way DD does.

While the price of admission into the 5.1-channel digital surround game has dropped dramatically in just the past year, it probably will not continue to fall as quickly in the future because substantial digital processing is required to decode a 5.1-channel soundtrack. Having a receiver with Dolby Digital onboard can make setup and calibration considerably simpler. But it's by no means a prerequisite to great home-theater sound. The new breed of "5.1-channel-ready" receivers, able to work alongside the growing array of affordable outboard decoders, offer an equally attractive alternative. — D.K.

The Father of A Sound Invention

Like most audio/video buffs, Paul Reime had a difficult time fitting his array of speakers, electronics, CD's, and tapes into his entertainment room so that it looked good without compromising performance. Unlike most, he had the engineering smarts to do something about it.

An electrical engineer by vocation and a woodworker by hobby, Reime served as assistant project engineer on the New Orleans Superdome and designed jet engines for the military during his thirty-six-year career. Now retired, he is tackling projects close to home in Belleville, Illinois. There is evidence of his precision craftsmanship throughout his wood-and-brick ranch, including a two-story add-on tower that houses his drawing board and workshop. It was here that he developed the Stereo System Cabinet with Loudspeaker Door Assembly, for which he holds a U.S. patent.

It is no ordinary cabinet. There's not a speaker or a wire to be seen, yet the 41½ x 23-inch oak armoire (6 feet wide when the doors are open) conceals two front satellite speakers, a four-driver center-channel speaker, a subwoofer with a 12-inch dual-voice-coil driver, and a 27-inch TV. Sure, there are some entertainment armoires on the market that claim to do much the same thing; the trick is that Reime's invention does it without affecting the home theater experience. As he explains, "The TV is at eye level, the front-channel satellite speakers are at ear level, the center-channel speaker is as close as possible to ear level, and the subwoofer is at floor level but completely decoupled from the A/V cabinet. All of these positions are especially important for producing good home theater."

The cabinet accomplishes its mission on a much tighter budget than the premium-priced, assembled storage

units found in many furniture stores. Reime doesn't put a price on his labor of love, but he will say that materials for the cabinet rang up "a couple of hundred dollars."

Look at the closed cabinet and you see an attractive medium-oak armoire with light-colored fabric speaker grilles that help create a pleasing overall appearance. Reime can even listen to the audio system with the cabinet doors closed if he wants background music for meals in the adjacent dining room. The system is at its optimum, though, with the doors opened to their 6-foot span to create a realistic soundstage for both stereo listening and home theater.

Reime's cabinet owes much of its user-friendliness to the focal point of his invention, a 1-inch-thick, door-length hinge mechanism. The cleverly designed assembly swings on pins at the top and bottom of each main door and folds in such a way as to



PHOTOS BY ANNE MAHERS, "WIZARD OF OZ" COURTESY MGM/UA

enable the front satellite speakers — located on shelves behind the fabric grilles — to point forward whether the doors are open or closed. All it took was a strip of double-stick tape to hold each Optimus PRO LX5 speaker to its 8-inch-deep shelf. Speaker wires run along the side of the hinge assembly and back to the rear of the cabinet. Power cords and interconnects are neatly bundled in the rear of the cabinet with twist ties, and all power cords are fed from a pair of six-outlet surge protectors.

The center-channel speaker enclosure, which Reime constructed of 3/4-inch plywood, houses a quartet of Radio Shack Model 40-1234 shielded 5-inch speakers. The unvented enclosure is covered by a polyester curtain fabric that he auditioned for sonic transparency. "When you put a fabric up to the light," he says, "the more you see, the better off you are in choosing a material for a speaker grille."

The subwoofer "section" of the cabinet is simply a cavity around which the cabinet is built. "The subwoofer sits on the floor so that no vibration is transferred from the subwoofer to the cabinet," Reime notes. He installed an Eminence SW40128 12-inch dual-voice-coil woofer in a 1-inch-thick plywood enclosure and ported it to the floor. "I get good, natural, tight bass," he says.

The surround speakers are Optimus PRO 77 5-inch two-ways whose placement is dictated by the size of the entertainment area and the location of the sofa. One speaker is mounted against the fireplace and points out toward the listening position. Its twin sits on a buffet and directs sound to the center of the listening space.

Reime's modest ensemble of A/V electronics is consistent with his basic but solid foundation. Still, there's no skimping on power from his Technics SA-GX690 Dolby Pro Logic receiver, which delivers 100 watts each to the front left, front right, center, and surround channels; the subwoofer is powered by the receiver's front left and right channels. After scrutinizing various 27-inch stereo TV's, Reime settled on the Sony Trinitron KV-27S25. He also tapped Sony for his system's CDP-C400 five-disc carousel CD changer and TC-FX410R cassette deck. Hitachi's VT-F391A VHS Hi-Fi VCR rolls the videotape.

Fitting audio into home decor is nothing new for Reime. This cabinet is the sixth in a line of progressive de-



signs, each of which improved on the former until the engineer came up with the space-saving hinge-door brainstorm. Now that he has solved the problem of speaker positioning,

Behind each of the A/V cabinet's main doors is an Optimus PRO LX5 satellite speaker resting on a shelf.



Reime is contemplating the next advancement: space for a larger TV. "The only thing I'd change would be to make the TV opening big enough for a 35-inch set," he says, although the 27-inch TV suits the 10-foot distance to the sofa just fine.

Take a walk around Reime's home and you'll find that the electrical wizard was way ahead of his time. Forty-five years ago, during the construction phase of his house, he ran speaker wire through the walls and installed Jensen speakers between the studs. There are also three pairs of speakers that connect to various exterior locations for outdoor listening. "The outdoor speakers are on wheels, and when I want to listen to them in a particular spot I roll them out to the nearest receptacle," he says. "Because I ran speaker wire throughout the house, I can tap off it just about anywhere."

—Rebecca Day



FIRST LOOK AT DVD

“All right, Mr. DeMille,
I’m ready for my close-up.”

BY DAVID RANADA

They’re here! DVD players, that is. This last disc-based A/V-program distribution medium of the decade — indeed, of the millennium — and possibly the last mechanical-carrier medium in history, has been eagerly awaited by audiophiles and videophiles alike. Audiophiles have had their appetites whetted by the stunning multichannel performance of laserdiscs with Dolby Digital soundtracks; we already know how good DVD can sound since it, too, carries Dolby Digital audio. And what about video quality? Is it really as good as it’s cracked up to be? To answer this and other questions that have tantalized us for months, we rounded up three of the first DVD/CD players and gave each of them a thorough workout using some of the first DVD recordings.

“ROUND UP THE USUAL SUSPECTS”

Very shortly we’ll be seeing DVD players from almost every major consumer-electronics manufacturer, including some Taiwanese and Korean companies that you wouldn’t expect to produce leading-edge products. We chose to compare three of the first players we could get hold of, and all of them turned out to be from familiar manufacturers: Panasonic’s top model, the DVD-A300 (\$750); one of Pioneer’s laserdisc/DVD combi-players,

the DVL-700 (\$999); and Sony’s top initial DVD offering, the DVP-S7000 (\$1,000). While each player has an enormous array of features, so many that I couldn’t possibly discuss them all here (see the abbreviated comparison chart on page 71), each one also has a particular claim to fame: The Panasonic includes full Dolby Digital decoding with digital-to-analog (D/A) converted outputs, the Sony can supply component-video outputs (theoretically the purest video-signal system), and the Pioneer can play laserdiscs as well as DVD’s.

One of the interesting things about Sony’s DVP-S7000 is that its list price is precisely the same as that of Sony’s first CD player, the classic CDP-101 of more than a decade ago. Nothing illustrates better the strides digital signal processing (DSP) technology has made in the intervening years than the additional capabilities included for the same price in the DVP-S7000 — nothing, that is, except the stunning video and audio performance that those capabilities, and those in the Panasonic and Pioneer players, make possible.

“HERE’S LOOKING AT YOU, KID!”

It takes only a few *seconds* of comparative viewing to notice that DVD’s image quality is superior not only to VHS and all other consumer analog-videotape media, but also to both of

the previous best consumer video media: live-broadcast TV and laserdisc. The DVD image is sharper and has less smearing of small color details, lower noise (graininess), and far greater stability than even a laserdisc image. In comparison with DVD, even the best VHS image is almost laughably poor in quality.

While these differences are quite noticeable with typical composite-video connections, they are like night and day using S-video hookups (component-video connections seem to be only slightly better than S-video). DVD’s video superiority is so striking that after only a short exposure to it you won’t be satisfied with anything less, not even laserdisc. As the Munchkins might put it, it won’t be long before the laserdisc is “positively, absolutely, undeniably, and reliably *dead*.” As for me, I’m waiting for the inevitable sell-off of laserdisc titles at blow-out prices to add to my collection.

When it comes to differences between DVD players things are much less black-and-white. There are known or calculable performance standards and limitations on video signals, and in any DVD comparison they will pose the following two questions:

1) Should a player be downgraded if its out-of-the box performance deviates from theoretical perfection in parameters that can be exactly corrected by adjustments of a monitor’s brightness, color, contrast, and tint controls? This is analogous to slight differences in audio-component output levels, which can easily throw off any audio comparison but which can also be easily corrected by adjusting a volume control.

2) Should Player A be downgraded if its output looks inferior to Player B’s because Player B deviates from theoretical perfection in ways that produce pictures that are more immediately appealing? This is already a common phenomenon in TV sales: Screens set to produce images with high contrast look “brighter” and are easier to sell even though increased contrast produces inaccurate images and can shorten picture-tube life. Let’s hope that the intense competition among DVD-player makers doesn’t lead them to produce deliberately goosed video signals simply in order to sell more players or to garner better reviews.

Those two factors make it extremely difficult to do a completely fair DVD-player comparison. Question 2 can be

FIRST LOOK



Pioneer's DVL-700 combination DVD/laserdisc player (\$999)

dealt with by a combination of lab measurements and viewing tests. The lab data should tell us if what we are seeing is a result of actual performance superiority or of signal manipulation. Unfortunately, at press time there did not exist a complete set of video test signals on DVD that would not only enable us to do such tests but also to calibrate players and monitors to compensate for the kind of deviations mentioned in Question 1.

There are quite a few other subsidiary requirements for fair DVD-player comparisons, whether by a reviewer or a shopper.

- Unless the use of trick features (still frames, slow motion, etc.) is paramount in your viewing habits, make comparisons using full-motion normal playback. That is not only more representative of normal viewing, but it can reveal differences that are only apparent when the image is moving. On the other hand, very active images make it difficult to see some characteristics, such as resolution (detail).

- Make sure the hookup to the monitor is as close to identical as possible for each player. The video cables should not only be the same length but preferably physically identical as well. And it's clear that you should compare apples with apples. Don't compare the S-video output of one player with the composite-video output of another unless that has some relevance to your purchasing decision.

- Use two copies of the same DVD,

synchronize the players *exactly*, and switch between them instantaneously (this is why you need two copies). A synchronization difference of a couple of movie frames can bias a judgment. Make sure that the switching device does not itself introduce video artifacts.

- Use a variety of recordings (video and film originals, full-screen and letterboxed), as there seem to be some phenomena caused by interactions between the DVD video-encoding system and the decoding system in the



Sony's top first-generation DVD player, the DVP-S7000 (\$1,000)

players that vary from one type of recording to another.

- The video and audio quality of the recording itself may vary widely in quality. Be forewarned.

- Try, as much as is possible, to make the switching double-blind so that neither the viewer nor the person throwing the switches knows which player's output is being viewed.

After much tedious and exasperating experimentation, in which I tried to follow these guidelines, I concluded

that the Panasonic looked very slightly sharper than the Sony and Pioneer players on letterboxed movies. The sharpness differences were far less apparent with full-screen material or material originating from video sources (not film). The Pioneer produced an obvious "contouring" effect at one particular "fade-in" effect on Pioneer's own demo disc, an effect that was not nearly as apparent with the other players. Playback of a continuous-gray-scale test pattern revealed linearity errors in the Pioneer's video D/A converters that could be responsible for this effect.

In one brief passage of a preproduction DVD of *Jumanji*, I thought I could see the results of Sony's 10-bit video D/A conversion, but this was only after I was told by Sony where and how to look for the differences. Finally, at one point during *Twister* Bill Paxton's striped jacket produced far less of a moiré effect with the Sony player than it did with either of the other two.

The fact that I had to hunt for critical passages, amounting to maybe 20 seconds out of 8 hours of program material, indicates just how close in video performance these three players are. Most of the time in normal movie playback they looked identical. So unless you're a stickler for ultimate video performance — and you have a video playback chain that could verifiably deliver it (the resolution of our lab-quality monitor's component-video input was sorely tested by the Sony's better than 480-line performance) — you should also consider other, equally important areas of DVD-player performance to make a rational purchasing decision.

"IT'S GOING TO BE A BUMPY NIGHT"

Cueing ability is one such area. After all, if you want to get to "Frankly, my dear, I don't give a damn" or "Beam



Panasonic's top DVD player, the DVD-A300 (\$750)

FEATURES CHECKLIST

me up, Scotty," and the recording isn't conveniently marked with a "chapter" designator at those classic moments, you're going to be in for frantic remote-control handwork that could ultimately prove frustrating, depending on the player. (Chapters are the DVD equivalent of CD tracks.)

With any DVD player, however, don't expect the kind of fluid back-and-forth cueing possible with some laserdisc jog/shuttle controls or similar devices on multihead VCR's. The MPEG-2 video-encoding system used to store images on a DVD is decidedly not "time-symmetrical." It has a preferred direction of movement — forward, and at normal playback speed to boot. Doing anything else with a DVD risks a slight decline in picture quality or a loss of smooth operation.

Fast-scanning with all of the players did not show a portion of every frame with everything sped up, as with a VCR. Instead, it resembled fast scan on a laserdisc player: The player rapidly jumps from one frame to another one "nearby." Depending on the player and where you are on the disc, that jump can mean a continuity break of a fraction of a second or 10 seconds or more, producing a rather bumpy effect. If your classic scene is shorter than the jump interval, the most reliable cueing strategy is to stop scanning *before* you get there and play into the scene at normal speed. Because of a DVD player's continual overshooting in fast scan you might never actually zero in on "and your little dog, too" with the scan controls.

Of the players examined here, the Sony DVP-S7000 is the only one likely to avoid continual overshooting. It had the widest array of bidirectional cueing and fast/slow-motion effects of any of the three players, and they operated with the smallest jumps. I found cueing up with the other two players very frustrating at times. Neither the Panasonic nor the Pioneer offered frame stepping in reverse (it's that time-asymmetry effect again, Spock), which complicated making comparisons of still frames. The Pioneer also had the very annoying habit, when in pause mode, of going back to the first chapter on the disc when I pressed the "cue up to the beginning of the present chapter" button. It did perform this operation correctly during CD playback, and the Sony and Panasonic did it right in both CD and DVD playback. I also found that Pioneer still hasn't straightened out the

	PANASONIC DVD-A300	PIONEER DVL-700	SONY DVP-S7000
PLAYBACK CAPABILITIES			
DVD's	✓	✓	✓
DVD's with 96-kHz/24-bit audio	✓	✓	
CD's (audio only)	✓	✓	✓
Laserdiscs		✓	
CD-Video 12-cm discs (rare)	✓	✓	✓
CD-single 8-cm discs (rare)	✓	✓	✓
Video CD 12- or 8-cm discs (rare)	✓		✓
CD-R (recordable) discs		✓	✓
VIDEO OUTPUTS			
Composite-video	✓	✓	✓
S-video	✓	✓	✓
Component-video			✓
AUDIO OUTPUTS			
Stereo (two-channel)	✓	✓	✓
Multichannel analog	✓		
Coaxial digital (PCM/AC-3)		✓	✓
Optical digital (PCM/AC-3)	✓	✓	✓
AUDIO FEATURES			
Dynamic-range control (DVD audio)		✓	✓
Karaoke microphone input	✓		
GENERAL CONTROL FEATURES			
Picture-parameter adjustment			✓
On-screen setup menu	✓	✓	✓
Menu-language selection	✓	✓	✓
DVD-SPECIFIC FEATURES			
Fast-scan forward	✓	✓	✓
Fast-scan backward	✓	✓	✓
Double-speed fast-scan forward			✓
Double-speed fast-scan backward			✓
Slow motion forward	✓	✓	✓
Slow motion backward	✓	✓	✓
Frame step forward	✓	✓	✓
Frame step backward			✓
Resume playback from stop point	✓	✓	✓
Playback from memorized point		✓	
Cueing by title	✓	✓	✓
Cueing by chapter	✓	✓	✓
Cueing by time	✓	✓	✓
Title repeat	✓	✓	✓
Chapter repeat	✓	✓	✓
A-B repeat	✓	✓	✓
Random playback			✓
Programmed playback	✓	✓	✓
On-screen DVD bit-rate meter			✓
Digital video noise reduction			✓
Parental program lockout	✓	✓	✓
Macrovision copy protection	✓	✓	✓

long-standing numerical keypad "syntax" confusions on its laserdisc players. To get to tracks/chapters numbered greater than 10, you sometimes have to push a +10 button, but at other times you can enter the track/chapter number directly. Both the Sony and Panasonic remotes use only the direct-entry control syntax.

Sony's superior disc-navigating performance is mostly the result of its having used a special-purpose video signal-processing chip to interpolate between recorded video frames during trick-feature operation. Its highly successful employment here means that we might be seeing similar devices incorporated into second-generation players from other manufacturers — at least I hope so.

"IF I ONLY HAD A BRAIN"

I really shouldn't question the wisdom behind what had to be some very hasty engineering decisions made by the designers of these players, who had to do a tremendous amount of work to get them out so soon after the DVD specification was finalized. Yet two of these three players have a least one questionable "feature" that, one way or another, you'll end up paying for. And both concern audio.

The Panasonic DVD-A300 has fully decoded and *D/A-converted* multi-channel Dolby Digital (AC-3) outputs for left/center/right front channels, left/right surrounds, and a subwoofer. Both the Pioneer and Sony players' analog audio outputs are stereo only (or AC-3 mixed down to a Pro Logic-decodable two channels). Panasonic's manual says that the decoded outputs can be connected to an A/V amplifier or receiver with multichannel input connections. If you already have either an outboard Dolby Digital decoder or a receiver that has built-in decoding, Panasonic's DVD-A100 (\$600) comes without multiple onboard audio D/A converters.

The system amplifier/receiver is really the best location for Dolby Digital decoding and multichannel D/A conversion because it is likely to have far better setup and adjustment facilities than any DVD player with multichannel analog outputs. The DVD-A300's bass-management facilities, for example, don't allow for bass redirection based on speaker size, and it has no adjustments for Dolby Digital cross-over frequency, center and surround speaker delays, interchannel balances,

NOW PLAYING: WHAT'S ON DVD VIDEO

If you think finding DVD titles will be as easy as picking up the latest videocassette or laserdisc at your local video store, think again.

While a number of DVD *players* are out there, only Warner Home Video, Columbia TriStar Home Video, and a handful of secondary software companies have



SPACE JAM

released movies or music programs in the new format. And only major-market retailers are likely to carry the discs, at least initially.

For its March 24 launch, Warner began testing about forty titles in select retail stores in New York, Los Angeles, Chicago, Dallas, San Francisco, Seattle, and

Washington, D.C. Warner will also distribute DVD's from sister companies New Line Home Video, HBO Video, and Warner Reprise, as well as from MGM/UA Home Video, with which it has a long-term distribution agreement. Columbia is releasing DVD's to all markets, but the selection for its April 29 launch is limited to four titles.

Warner first sounded the DVD bell more than two years ago and has since tried to convince its studio counterparts that the format could invigorate home-video sales as consumers replace their tapes with the superior DVD's. As cable and telephone companies threaten to beam movies into the home, and as the video rental market flattens out more and more every year, DVD is seen as securing the future of video into the next century.

Warren Lieberfarb, president of Warner Home Video, certainly sees it that way. "This is a bit about writing an insurance policy for the future of packaged media," he said during a panel discussion at the Winter Consumer Electronics Show a few months ago, "while at the same time creating a format that gives consumers a real motive to buy the best hits of the past."

Other DVD proponents agree that the format will in time play an important role

AVAILABLE NOW

Batman (Warner)
 Battles of the World (Learning Co.)
 Birdcage, The* (MGM/UA)
 Blade Runner — The Director's Cut (Warner)
 Bodyguard, The (Warner)
 Bonnie and Clyde (Warner)
 Bridges of Madison County, The (Warner)
 Clapton, Eric: Unplugged (Warner Reprise)
 Color Purple, The (Warner)
 Dumb & Dumber (New Line)
 Eraser (Warner)
 Exorcist, The (Warner)
 Fugitive, The (Warner)
 Genius of Edison, The (Learning Co.)
 Get Shorty* (MGM/UA)
 Glimmer Man, The (Warner)
 Goldeneye* (MGM/UA)
 GoodFellas (Warner)
 Interview with the Vampire (Warner)
 JFK — Special-Edition Director's Cut (Warner)
 Lethal Weapon (Warner)
 Madonna: The Girlie Show Down Under (Warner Reprise)
 Mask, The (New Line)
 Michael Collins (Warner)
 Midnight Cowboy** (MGM/UA)
 Mortal Combat (New Line)
 Player, The (New Line)
 Poltergeist* (Warner)
 Raging Bull** (MGM/UA)
 Rain Man* (MGM/UA)
 R.E.M.: Road Movie (Warner Reprise)
 Road Warrior, The (Warner)
 Rocky** (MGM/UA)
 Rumble in the Bronx (New Line)
 Seven (New Line)

Singin' in the Rain (MGM/UA)
 Space Jam (Warner)
 Species* (MGM/UA)
 Streetcar Named Desire, A — Director's Cut (Warner)
 Time to Kill, A (Warner)
 Twister (Warner)
 Unforgiven (Warner)
 Wizard of Oz, The (MGM/UA)
 Woodstock (Warner Reprise)

APRIL

Canine Caper (Simitar)
 Dude Gang (Simitar)
 Evita — Documentary (Simitar)
 Fearless Hyena (Simitar)
 Fly Away Home (Columbia TriStar)
 Great American Train Ride, The (Simitar)
 In the Line of Fire (Columbia TriStar)
 Jumanji (Columbia TriStar)
 Legends of the Fall (Columbia TriStar)
 Long Knives (Simitar)
 National Parks, The (Simitar)
 Odyssey into the Mind's Eye (Sony Music)
 Sex Crimes (Simitar)
 Thinking Big (Simitar)
 Tornado Run (Simitar)

MAY

Arrival, The (LIVE)
 Beavis & Butt-head's Final Judgment (Sony Music)
 Bennett, Tony: Unplugged (Sony Music)
 Cuthroat Island (LIVE)
 Mars Attacks! (Warner)
 Red Sun (United American)
 Sesame Street's 25th Birthday (Sony Music)
 Sleepers (Warner)
 Stargate (LIVE)

* Will contain both pan-and-scan and 16:9 widescreen versions

** Will contain both pan-and-scan and 1:85 widescreen versions

in the industry. "For the next year, DVD is going to be a lot of work for very little money," says the MGM/UA president, Richard Cohen. "We're doing everything we can to drive the hardware, and the format is so superior that it will eventually become a large business. DVD can do for video what CD did for the music business."

But as loud as Warner and Columbia have been, the home video arms of other major Hollywood studios have been silent. At press time, 20th Century Fox Home Entertainment and Disney's Buena Vista Home Video were reported close to making an announcement on releasing DVD movies, but Paramount Home Video was still taking a wait-and-see approach.

Andrew Kairey, executive vice president of Universal Studios Home Video, says his studio is ready to go, but the lack of copyright legislation is holding it back. Stalled in Congress last fall, legislation to protect against DVD piracy has yet to be reintroduced this term. And "the biggest issue," according to Kairey, is that Hollywood is squabbling with the computer community, which does not endorse copyright protection. However, he believes DVD can still launch successfully because the format is compatible with CD's. "It's not 100% dependent on video."

Despite the limited software support, both hardware and software companies



SEVEN

are predicting first-year sales of DVD players to be anywhere from 500,000 units to as many as 2.8 million. Info-Tech, a researcher based in Woodstock, New York, goes out on the limb even further by predicting that DVD player penetration will reach 80 million by the year 2005 — and that some 600 DVD titles will be available *this* year.

Based on the titles available at launch and that are scheduled for release in coming months, Hollywood will have a lot of catching up to do to make that last prediction come true. The list below adds up to 130 announced DVD titles. The suggested retail price that is cited most often is \$25, with some TriStar DVD's ranging from \$25 to \$27. Prices go as low as \$15 to \$20 (Similar) and as high as \$30 (PolyGram).

— Eileen Fitzpatrick



GONE WITH THE WIND

Street Fighter II (Sony Music)
Where the Red Fern Grows (United American)

JUNE

Bad Boys (Columbia TriStar)
Desperado (Columbia TriStar)
Matilda (Columbia TriStar)
Michael (Warner)
Reservoir Dogs (LIVE)
Substitute, The (LIVE)
Taxi Driver (Columbia TriStar)
Total Recall (LIVE)
Turbulence (HBO)

SPRING

American in Paris, An (MGM/UA)
Best Years of Our Lives, The (HBO)
Casablanca (MGM/UA)
Dead Man Walking (PolyGram)
Digital Library (Learning Co.)
Doctor Zhivago (MGM/UA)
 Fargo (PolyGram)
Fish Called Wanda, A (MGM/UA)
For a Few Dollars More (MGM/UA)
Four Weddings and a Funeral (PolyGram)
Ghost in the Shell (PolyGram)
Gone with the Wind (MGM/UA)
Invasion of the Body Snatchers — 1978 (MGM/UA)
Lord of the Dance (PolyGram)
Magnificent Seven, The (MGM/UA)
Moonstruck (MGM/UA)
Pink Floyd: The Wall (MGM/UA)
Portrait of a Lady (PolyGram)
Rob Roy (MGM/UA)
Short Cinema (PolyGram)
Some Like It Hot (MGM/UA)
Speechless (MGM/UA)

That's Entertainment (MGM/UA)
Three Tenors, The (PolyGram)
U2: Live from Sydney (PolyGram)
Usual Suspects, The (PolyGram)

JULY

Doors, The (LIVE)
Madonna: Truth or Dare (LIVE)
Red Heat (LIVE)

AUGUST

Basic Instinct (LIVE)
Dirty Dancing (LIVE)
Dracula, Bram Stoker's (Columbia TriStar)
First Knight (Columbia TriStar)
League of Their Own, A (Columbia TriStar)
My Fellow Americans (Warner)
Terminator 2 (LIVE)

FALL

Cable Guy, The (Columbia TriStar)
Craft, The (Columbia TriStar)
Little Women — 1994 (Columbia TriStar)
Sense and Sensibility — 1995 (Columbia TriStar)

BY END OF YEAR

Ben-Hur (MGM/UA)
Black Stallion, The (MGM/UA)
Blown Away (MGM/UA)
Cliffhanger (Columbia TriStar)
Close Encounters of the Third Kind (Columbia TriStar)
Ghostbusters (Columbia TriStar)
Glory (Columbia TriStar)
Last Action Hero, The (Columbia TriStar)
Net, The (Columbia TriStar)
Philadelphia (Columbia TriStar)
Sleepless in Seattle (Columbia TriStar)

dynamic compression during late-night viewing, or the contribution of the Dolby Digital LFE (low-frequency effects) signal. All these important features are typically found in amplifiers and receivers containing Dolby Digital decoding. To take advantage of such adjustments you'd have to use the *digital* output of the Panasonic player. Unfortunately, the DVD-A300 is the only one of these three players that does *not* offer both coaxial and optical SPDIF digital audio connections. And Panasonic doesn't include an accessory optical cable, which is likely to be overpriced when you find one sold separately.

Previous Pioneer laserdisc players that had Dolby Digital capability supplied it in the form of a special RF (radio-frequency) signal, which had to be converted in an external RF-demodulator circuit to a standard AC-3 signal that in turn was fed to an AC-3 decoder. I would have thought that since Pioneer makes the demodulator chip used in many brands of RF demodulators it would have built that chip into the DVL-700. Uh-uh! The digital output labeled PCM/AC-3 on the DVL-700's rear panel feeds signals only from standard digital CD and laserdisc soundtracks and AC-3 signals from DVD's. To play back laserdisc Dolby Digital soundtracks with the DVL-700, you still have to hook it up to an *outboard* AC-3 RF demodulator, all of which are also overpriced. The saving grace here is that many of those who would be interested in the DVL-700 are people with large laserdisc collections who probably also already have an AC-3-capable laserdisc player together with an RF demodulator. Although they won't need to buy another demodulator to use the DVL-700, they won't reduce their home-theater system's component count, either.

"WILLKOMMEN, BIENVENU, WELCOME"

Since I was getting not a little tired of watching three demo discs and the preproduction copy of *Jumanji*, nothing was more welcome than the receipt, at the last possible moment for use in this article, of final-release pressings of three DVD movies from Warner: *Eraser*, *Space Jam*, and *Twister*. Aside from furnishing some real-world signals for more realistic player comparisons, these discs enabled me to check some of the interactive fea-

FIRST LOOK

tures that are incorporated into the DVD system. (Both *Eraser* and *Twister*, by the way, are double-sided DVD's, with a letterboxed version on one side and a pan-and-scan standard 4:3 version on the other.)

All three recordings interact with the players much like a computer program interacts with its computer. Each provides an on-screen menu for navigating around its various chapters and for selecting among its possible special features. The menu graphics are carried as data contained on the disc, so the menu's contents are customized to the program material. For example, with *Twister* the interactive menu can take you to freeze-frame production notes and the theatrical trailer. You can also jump to specific scenes using a scene-access menu. There are many more cue-marked scenes (34) than are displayed in the scene-access menu (9), however, and the additional scenes must be cued with the player's own cueing facilities.

These DVD movies also enabled me to confirm that the multisubtitle, multilanguage capabilities of all three players operated correctly. *Space Jam*, for example, has both subtitles and language overdubbing that are selectable among French, Spanish, and English. The players differed somewhat in the ease of selecting subtitles and languages during playback.

The manuals for the Panasonic and Sony players offered a glimpse of the intentionally global nature of the DVD medium, showing the full range of possible subtitle languages by listing their DVD codes. The list runs from Afar through Esperanto, Greenlandic, Kinyarwanda, Urdu, and Wolof to Zulu. While Ebonics does not have a language code, Latin does — Hollywood can't afford to lose that vast Vatican City audience.

DVD packaging is nifty. A DVD box is, at 7½ inches, taller than a CD jewel box, but it's the same width so as not to require deeper shelving. A cardboard title card wraps around the box, providing continuous front-to-back graphics while also serving as the front cover of the DVD container. The disc is retained by a push-to-release center-hole clip that is easier to use than its CD equivalent.

“HOUSTON, WE HAVE A PROBLEM”

Don't think that the DVD's superb sound and picture quality will become

a source for a virtually free home library of videotape copies — you won't be able to simply rent a DVD and copy it on your VCR. The DVD system contains several technical safeguards to prevent copying of DVD contents, and besides, you'd lose the Dolby Digital multichannel soundtrack even if you could make a copy of the video. (Wrangling among the hardware manufacturers, movie studios, record companies, and computer industry over the inclusion of copy-prevention technologies was partly responsible for the long delay in getting DVD players and discs to market.) I was able to verify the operation of at least one aspect of copy prevention with the three Warner DVD movies.

These “protected” DVD titles all turned on the Macrovision copy-prevention circuitry built into each player. Note that the discs themselves do not contain the Macrovision copy-prevention signals but merely data instructing the player to turn on its own Macrovision circuits. The “flavor” of Macrovision protection I observed is known as “pseudo-sync pulse generation,” the type of Macrovision commonly used to protect prerecorded videocassettes. This technique causes, among other things, the automatic video-gain control in a VCR to misjudge the brightness of the image, resulting in a cyclic brightening and darkening of the picture on playback. The pseudo-sync pulses were generated on all video outputs of all three players, including the Y (luminance) signal portion of all the S-video outputs and the Y component of the Sony player's component-video outputs.

Certain VCR models are known to be immune to Macrovision pseudo-sync pulses when copying Macrovision-protected prerecorded VHS tapes, but I was not able to obtain one of these units to see how it reacted to *player-generated* pseudo-sync pulses. What I was able to observe when feeding a DVD signal through a Macrovision-vulnerable VCR on its way to a monitor was that the VCR reacted badly to the Macrovision pulses (producing occasional picture jumping as well as some brightening/darkening effects) even though I wasn't recording the video. This means that DVD users must avoid hookups that send DVD video signals through a VCR simply to get them onto a TV screen. That hookup scenario is the normal

one if you don't have a TV with direct video inputs and must use the VCR's RF (Channel 3 or 4) output to watch tapes. But if your monitor doesn't have direct video inputs (and preferably at least one S-video connection), you should replace it anyway with a newer model that does have them in order to see all that DVD has to offer in picture quality.

There is another flavor of built-in DVD-player Macrovision protection — color-stripping — that DVD's are said to be able to activate and to which no home VCR is immune. But I could not detect its presence with conventional test equipment when playing any of the Warner titles (these specific discs may not carry the necessary turn-on codes), nor did I see any color-stripping effects with my attempted VCR copying (the picture having already been pretty well screwed up by the pseudo-sync pulses).

Color-stripping is adaptive: Its virulence can be varied during playback by codes on the disc. This is to prevent visible side effects during normal direct viewing. Perhaps Warner didn't have time to do the necessary coding on these early releases. Color-stripping's compatibility with normal playback over typical home hookups is still an open question. Here's where that Latin capability comes in handy: *Caveat emptor*.

“WE'RE NOT IN KANSAS ANYMORE”

Aside from compatibility issues, which may not even arise if Hollywood refrains from using color-stripping, there is very little else the buyer need beware of with the DVD system. There's little risk in buying into the system now. You don't even have to buy any DVD's yet — you can simply use a DVD player to play audio CD's (or laserdiscs in the case of the Pioneer player) until you decide to invest in a complete Dolby Digital home-theater system.

Like Dorothy's house in *The Wizard of Oz*, the DVD system has been up in the air for a while. Now it has finally come down to earth, dropping us into a Technicolor, Oz-like world of visual and sonic marvels, thanks to the digital wizardry of MPEG-2 video coding and Dolby Digital audio coding. But, unlike Oz, DVD is real. Was it worth the wait? The answer — DVD-subtitle style — is a definite *oui, si, da, ja, hai*, and *yes!* □

NEW FOR THE ROAD

BY JOSEPH PALENCHAR

SUMMER'S just around the corner. Are you ready? More to the point, is your car stereo system ready for those weekend jaunts? Is the cassette deck or CD player functioning properly? How about the tuner? Do the speakers sound okay, or are they just squeaking by? Does the system play loud enough when you're cruising the highway, or does the music take a back seat to wind and road noise? Whether you're contemplating a complete system overhaul or just sizing up a new in-dash CD player, today there are more auto-sound options to choose from than ever before.

Among the many new products hitting store shelves this spring are several car stereo firsts, including a *SI-disc* CD changer, a powered subwoofer with a high-efficiency Class D amplifier, in-dash CD and cassette players with "self-hiding" faceplates, CD players with pro-style balanced outputs that prevent electrical-system noise from corrupting the audio signal, and a dual-format CD/cassette receiver that's designed for the squarish radio location in the dashboards of millions of Chrysler and GM vehicles. If you're on a tight budget, or if you lease your vehicle and want to upgrade the sound system without having to replace all of the factory-installed gear, auto-sound companies are also serving up a smorgasbord of add-on components. Included are power amps that can be

CAR STEREO SHIFTS INTO OVERDRIVE FOR SPRING

connected to factory head units without special adaptors.

Now let's take a closer look at these and other noteworthy car audio products, most of which were previewed

at the Winter Consumer Electronics Show in Las Vegas this past January. Unless otherwise noted, all are slated to reach store shelves this spring, and prices are "manufacturer's suggested retail," which tends to be higher than actual selling prices.

Hassle-Free Upgrades

Getting factory-installed and store-bought car stereo equipment to work together can be as challenging as getting Dennis Rodman to behave on the court. To simplify the process, JBL, Infinity, Rockford Fosgate, and Xtant have introduced "universal" power amplifiers designed to work with any factory-installed head unit, including those with so-called differential float-



Pioneer's DEH-P85DHR CD receiver (\$530) for GM and Chrysler cars supplements the Radio Data System (RDS) with an ID Logic database of every AM and FM station in the U.S. It also features the company's Detachable Face Alarm+ security system.

NEW FOR THE ROAD

ing-ground outputs used in many premium factory systems. JBL introduced its first universal amps last year, but this year the company is taking factory integration a step farther. Its five new GT series models feature a built-in source switcher so that you can toggle between a factory head unit and an after-market CD changer, slave CD player, or mobile TV (more on those later). The GT amplifiers range in price from \$549 for the four-channel GTQ360 to \$199 for the two-channel GTS100x, which are rated to deliver 60 and 35 watts per channel into 4 ohms, respectively.

Infinity is offering five universal power amps at prices starting at \$319 for the two-channel Model 52a, which is rated to deliver 50 watts a side into 4 ohms. Rockford Fosgate's four new RF series amplifiers are designed to work with a variety of factory head units. The lineup includes the two-channel RF 2.3 (\$100), rated for 15 watts per channel into 4 ohms, and the top-of-the-line RF 5.3x (\$459), rated to deliver 30 watts x 4 plus 110 watts

to a fifth channel, all into 4 ohms. Xtant has two new universal power amps, including the 302a (\$549), which is rated to deliver 75 watts x 2 into 4 ohms.

Although tube-type powered subwoofers have been prescribed for years to treat bass anemia in factory autosound systems, Sony's cylindrical XS-TL1 powered sub (\$350) is unique. It employs a super-efficient Class D switching amplifier that is said to convert most of its input power into usable output power rather than dissipating a big chunk of it as heat. As a result, the 100-watt amp runs so cool that it doesn't need a heatsink, and it can deliver as much wattage to the speaker as a conventional Class AB amplifier two to three times its size while consuming far less power. Measuring 16 inches long and 8 inches in diameter, the XS-TL1 accepts either line-level or speaker-level inputs and has a 6¾-inch woofer, EQ and level controls, and an adjustable low-pass filter.

In still another twist on factory-system integration, Audiovox's GC-600 CD/cassette receiver is designed to fit seamlessly into the dash of GM and Chrysler vehicles, and its volume and on/off functions can be operated from the audio controls mounted in the steering wheels of some 1996 and 1997 Chevrolets and Pontiacs. It's the only after-market head unit that can be

controlled from factory steering-wheel controls. Audiovox's FD-100 cassette receiver, introduced in 1995, is also one of a kind in that it can be linked to the audio-control cluster mounted in the dash of some Ford Taurus and Mercury Sable models. Both head units are sold only through car dealers, whose prices vary widely.

SoundGate, a new company based in Sheridan, Wyoming, has introduced a unique \$100 accessory that enables certain Sony head units to be operated by the dashboard audio controls in the Ford Taurus and Mercury Sable or the back-seat controls in Nissan Quests and certain vans and sport utility vehicles from Ford and Mercury. Dubbed the FRDSW1, the palm-size device plugs into the joystick input found on some Sony head units and into the wiring for the car's audio-control cluster. SoundGate says that a device to link several Sony head units to steering-wheel controls in GM, Chrysler, and Acura vehicles is in the works.

The Source

Convenience features abound in the crop of source components now hitting store shelves. Alpine has expanded its selection of in-dash CD changers from one to four. The new models — three of which fit into a standard DIN-size dash opening — put a three-disc, magazine-loaded CD changer and an AM/FM tuner at your fingertips. The 3DE-7985 (\$500) and 3DA-7987 (\$680) are preamp-only units, the 3DE-7886 (\$530) has a built-in amplifier rated to deliver 35 watts to each of its four channels, and the 3DA-W880 (\$1,000) combines the CD changer, a cassette deck, a digital sound-field processor, a seven-band digital equalizer, and the same power amp as the 3DE-7886 in a double-DIN-size chassis.

Rockford Fosgate ups the disc count to five with its RFX-8620 changer, due on dealer shelves this spring (price unavailable at press time), which can be controlled by any Rockford cassette or CD head unit with changer controls. Unlike the in-dash five-disc changer discontinued recently by Denon, the Rockford unit is only 7¼ inches deep (compared with the Denon changer's 10½-inch depth), so it should fit in most DIN-size dash openings.

For easier and safer operation, a number of companies have introduced head units with hinged faceplates that conceal disc and cassette slots when closed. The "flip-down" design frees



Denon's DCT-1000R CD tuner (\$999) features balanced outputs and has a scrolling display for messages broadcast by RDS-equipped radio stations. It also has a detachable front panel and controls for an outboard CD changer.



Panasonic's CQ-DP895 CD receiver (\$550), rated for 50 watts each to four channels, also has 2-volt pre-outs to feed an external amp, a subwoofer output, and a wireless remote control. A removable flip-down face covers the CD slot.

up space for larger, more visible control-panel displays and bigger buttons. Panasonic, Kenwood, Audiovox, and Eclipse are introducing their first flip-down models, while Clarion, JVC, and Sony are expanding their selection of such units.

In addition to a flip-down faceplate with a large, super-bright multicolor display, Panasonic's CQ-DP895 CD receiver (\$550) boasts an amplifier rated to deliver a generous 50 watts into each of four channels, making it the most powerful standard-size head unit on the market, according to the company.

But when it comes to "movable" faceplates, Kenwood has one-upped the competition with the MASK anti-theft technology featured in its new line of in-dash CD and cassette players. Turn off the ignition, and a pair of motorized arms flip the faceplate 180 degrees, concealing the entire unit behind a blank panel. The "self-hiding" panel is available on four cassette players, ranging in price from \$330 to \$450, and four CD players, ranging from \$380 to \$550.

Never having to repeat a song or handle a disc while driving from Maine to Florida is the convenience promised by Pioneer's 51-disc CD Server (\$650), car stereo's first true megachanger. Designed for trunk-mounting, the 11 3/4 x 9 1/2 x 8-inch changer can be controlled by a number of Pioneer cassette and CD head units, and there's a "swap-slot" on top for loading and unloading single discs. A Disc List feature lets you assign labels to the discs in the changer's 50-disc magazine so that you can locate CD's by scrolling through the titles in the display of the head unit connected to the changer.

For another \$250, Pioneer's optional Voice Commander kit lets you find a disc without taking your eyes off the road. As you scroll through the disc list, the Commander announces each title you recorded in memory. Better yet, just say the title, and a voice-recognition feature lets the changer find it for you.

To help you find your favorite music on the FM band, a growing number of head units are outfitted with Radio Data System (RDS) technology. RDS radios display the call letters and program formats of FM stations that broadcast an inaudible RDS data signal. They can also search for RDS stations by music format and automatically interrupt cassette or CD play-



The Audiovox GC-600 CD/cassette receiver for GM and Chrysler cars, said to be the only after-market head unit compatible with factory steering-wheel controls (Chevrolet and Pontiac only), includes controls for an outboard CD changer.

Alpine's CVA-1000 monitor/receiver (\$1,300), with an AM/FM tuner and a color LCD panel that folds out of the DIN-size dash unit, can control the company's SEA-8081 security system, its NVA-N751A navigation system, and assorted Alpine CD changers and outboard digital processors.



Any of Rockford Fosgate's head units with changer controls can operate its RFX-8620 five-disc CD changer (price unavailable at press time), which is sized to fit most DIN-size dashboard openings. A flip-down faceplate conceals the CD mechanism.

With Clarion's VDH9300 VHS Hi-Fi videotape player (\$450), small enough to fit in a console or under a seat, backseat passengers can while away a long trip by watching movies.



NEW FOR THE ROAD

back so that you can hear traffic or emergency reports broadcast by a local RDS station. Kenwood and Clarion are introducing their first RDS-equipped head units, while Pioneer and Denon are expanding their selection. Unlike first-generation RDS radios, some of the new models display *scrolling* emergency or promotional messages if broadcast by a station. Head units with scrolling capability include Denon's DCT-1000R CD tuner (\$999) and Kenwood's KDCPS-907 CD receiver (\$599).

RDS isn't perfect. It doesn't operate in the AM band, and although the numbers are growing, only about 700 of the nation's 5,000 FM stations are equipped to broadcast an RDS signal. In a half-dozen of its new RDS head units, Pioneer fills in the gaps with an ID Logic read-only database containing the frequencies, call letters, and formats of every AM and FM station in the country. In addition to being able to search for non-RDS stations by format, the DEH-P85DHR (\$530) CD receiver is one of four new Pioneer heads that's designed to fit in GM and Chrysler dashboards. It's also one of many new Pioneer components featuring DFS (Detachable Face Security) Alarm+, an upgraded version of a feature unveiled last year that lets you

turn a car stereo into a full-fledged security system.

Another component that unites autotone and car security is Alpine's CVA-1000 monitor/receiver (\$1,300), which can be used to control the company's SEA-8081 security system (\$800), its new NVA-N751A navigation system (\$1,800), and assorted Alpine CD changers and outboard digital signal processors. The standard DIN-size in-dash unit is equipped with an AM/FM tuner, a four-channel amplifier, and a motorized 5½-inch LCD screen that folds out of the dash to display audio and security settings and navigation maps.

In deference to the still expanding ranks of bass enthusiasts, more car stereo companies are offering head units equipped with nonfading, line-level subwoofer outputs and accompanying front-panel level controls. Eclipse and Panasonic displayed their first head units with subwoofer outputs, and Alpine and Pioneer significantly expanded their entries in this category.

Serious audiophiles will appreciate the market debut of CD players with balanced line-level outputs: Denon's DCT-1000R CD tuner mentioned earlier (\$999), Rockford's RFX-8140 CD tuner (\$849), and Kenwood's KDCPS907 CD receiver (\$599). When special cables are used to connect the head's balanced outputs to an amplifier or signal processor with balanced inputs, alternator whine and other distracting electrical-system noise is canceled in all but the most extreme interference conditions.

Attacking system noise from another angle, a growing number of head

units are equipped with preamp outputs that deliver 2 volts or more instead of the usual 0.75 to 1.4 volts, the idea being that feeding a more robust signal to an outboard power amp helps prevent noise from being induced into the audio signal, resulting in a higher signal-to-noise ratio. JVC's new KD-GS929 CD receiver (\$380) and KSR-RT626 cassette receiver (\$300) have 4-volt pre-outs. Seven of Panasonic's new CD receivers have 2-volt pre-outs; an eighth model has 4-volt pre-outs. In Rockford Fosgate's newly expanded line, all the source units are equipped with pre-outs that deliver at least 2.4 volts, and the top-end RFX-8140 CD tuner is capable of delivering a whopping 8.5 volts.

Of course, these so-called high-output heads only produce those higher voltages when the music is cranked up and the music is *loud*. To maximize the noise-reducing benefits of higher-voltage preamp outputs — without making listeners endure excessive sound levels — Audio Control has developed the Master Volume Control (\$249), a 4½ x 10 x 1¼-inch box that you install just prior to the inputs of an outboard power amp; it has a remote level control that can be mounted on the dash. Putting a "signal valve" upstream lets you keep head volume turned up so that the output voltage is as high as possible while the signal travels to the amplifier.

Other notable source units include Clarion's VDH9300 VHS Hi-Fi videocassette player (\$450), which is small enough to fit in a console compartment and under some seats, and Jensen's first two GM/Chrysler-fit CD re-

JBL's GT series "universal" power amps, designed to work with any factory head unit, range from the 35-watt stereo GTS100x (\$199) to the 60-watt, four-channel GTQ360 (\$549).



Cerwin-Vega's Stealth Series-3 subwoofers, designed for small box or bandpass enclosures, include the S-12.8 (\$160) with a 12-inch driver and 8-ohm operation rated down to 30 Hz.



ceivers, priced at \$429 and \$499. And Blaupunkt offers the only head units with programmable tuner timers that automatically tune in your favorite radio programs even if you're listening to a tape or CD. Four models are available, at prices ranging from \$250 for a cassette receiver to \$400 for the top-of-the-line CD receiver, and all four of them have controls for an external CD changer.

Power to Spare

The watt wars are escalating to a new extreme with SoundStream's launch of the ultimate weapon: the \$2,000 Tarantula mono subwoofer amplifier, rated to deliver 2,000 watts into 1, 2, or 4 ohms. Competitors in sound-pressure-level contests will appreciate the optional \$99 AirBass wireless remote system, which lets you boost subwoofer output by up to 24 dB while standing outside the car.

In its \$17,000 XES Reference system, Sony seeks to advance the cause of musicality without resorting to brute force. The company trumpets the XES-M50 two-channel amplifier at the heart of the system as the first car amp that does not use negative-feedback circuitry. Sony maintains that while negative feedback can limit distortion in less expensive power amps, high-quality amps suffer because the feedback process creates its own distortion. The XES-M50 is rated to deliver 50 watts per channel into 4 ohms, or 200 watts into 1 ohm.

For simpler, real-world installations, a number of companies are offering their first five-, six-, and seven-channel power amplifiers. Infinity's five-channel Kappa 255a (\$919), due in stores this spring, stands out as the first autosound amplifier to combine Class A/B and Class D amplification in a single chassis. The A/B section is designed to deliver 50 watts each into 4 ohms to four satellites, while the Class D channel pumps 200 watts into the subwoofer. The Infinity amplifier's internal crossover can also be reconfigured for triamplified operation, with separate amplifier channels dedicated to the system's tweeters, woofers, and a subwoofer.

Quadamplified operation is possible with the seven-channel SoundStream Da Vinci (\$2,499), rated to de-



The 150-watt Class D switching amplifier in Sony's XS-TL1 powered subwoofer (\$350), 16 inches long and 8 inches in diameter, is said to be so cool-running that it doesn't need a heatsink.

liver 50 watts each to two tweeters and two midranges, 100 watts each to two woofers, and 200 watts to a subwoofer, for a total 4-ohm output of 600 watts.

Rockford Fosgate intends to satisfy demand for simplified, single-amplifier sound systems with the debut of its first five- and six-channel models: the previously mentioned RF 5.3x (\$459) and the six-channel Punch 360.6 (\$699), which is rated to deliver 30 watts per channel into 4 ohms. Both amplifiers are designed to work with any factory head unit.



The Precision Power DAC-348 D/A converter (\$999) features optical and coaxial digital inputs, a 24-bit processor, two 20-bit converters, and a Class A analog output stage.

Processor Preview

Like ice cream, signal processors come in a variety of flavors. Some perform sophisticated equalization and crossover functions; others replicate the ambience of different listening environments, sometimes to dramatic effect. The scoop on KEF's Model 3006 surround processor (\$750), scheduled to reach stores this summer, is that it's the first 5.1-channel DTS Digital Surround decoder for the car. Depending on the recording artist's intent, DTS-encoded discs can direct ambience signals to a pair of rear speakers and vocals to a center speaker, put you in the middle of the audience during a live performance, or generate gee-whiz sound effects within a 360-degree sound field. But caution is in order: Only two dozen or so DTS-encoded CD's are available, mostly from the small HDS label, and you'll need a car CD player or changer with a digital output to deliver DTS signals to the processor.

Precision Power has another mission in mind for its first parametric equalizer: reproducing music as accurately as possible by flattening frequency-response peaks and dips. For each of its ten bands, the trunk-mounted PMQ-210 (\$899) provides continuously variable controls for center frequency, boost/cut level, and "Q;" or the range of frequencies affected by the other controls. The PMQ-210 is said to be compatible with all factory CD or cassette head units except those with differential outputs. Another processor aimed at serious enthusiasts is the company's PowerClass DAC-348 outboard digital-to-analog converter, featuring a 24-bit processor, two 20-bit converters, and a Class A analog stage. The \$999 device has two digital inputs.

Resistance to noise is one of the promises of SoundStream's first balanced-input active crossover, which operates as a two- or three-way network. The Balanced X.O (\$379) can be used in conjunction with either of the company's two balanced-line drivers, which convert a source unit's unbalanced outputs to balanced ones.

Speakers for Everyone

Ask any car audio installer or teenage couple: Car inte-

NEW FOR THE ROAD

riors are smaller than ever. Too many trunks and hatches won't accommodate subwoofer enclosures without sacrificing unacceptable amounts of storage space. Many speaker-mounting locations are too shallow to make room for speakers that generate acceptable bass levels. As a result, autosound suppliers have cooked up an assortment of new speaker designs that can do more in less space.

Kenwood's recipe includes two subwoofers intended for small sealed enclosures. The 10-inch KFC-WS252 (\$150) is rated to handle 150 watts continuous and is optimized for 0.4- to 0.8-cubic-foot boxes. The 12-inch KFC-WS302 (\$170) is rated to handle 250 watts and is designed for boxes between 0.6 and 1 cubic foot in size. Cerwin-Vega's Stealth Series-3 subwoofers have 8-, 10-, 12-, or 15-inch drivers that are designed specifically for mounting in small sealed boxes and bandpass enclosures, and each model is available in 4-, 8-, and 12-ohm versions. Prices range from \$130 for the S-8 to \$190 for the S-15, rated to handle 150 and 250 watts continuous, respectively. Mounting depths vary from 3 $\frac{3}{8}$ to 5 $\frac{7}{8}$ inches.

Precision Power's assortment of small-enclosure subwoofers is growing with the introduction of four PowerClass models, all eschewing tradi-



Infinity's Kappa UniPlane speakers, including the 80F 8-inch woofer (left, \$370 a pair), the 42F 4-inch two-way (center, \$249 a pair), and the 62F 6-inch two-way (right, \$320 a pair), have mounting depths ranging from less than 2 inches to a mere $\frac{3}{4}$ inch. A fourth model, the 6-inch 60F woofer (\$270 a pair), is not shown.

tional cones for rigid flat-piston diaphragms said to boost accuracy as well as efficiency. Prices start at \$199 for the 8-inch PC8, which is rated to handle 200 watts rms and is optimized for a 0.5-cubic-foot box.

Infinity claims the shallowest mounting depths of any speaker of equal diameter for its four new Kappa UniPlane speakers. The pancake-like speakers feature inverted cones that slice mounting depths to $\frac{3}{4}$ inch for the Model 42F 4-inch two-way (\$249 a pair) and less than 2 inches for the Model 80F 8-inch woofer (\$370 a pair). Tweeters in the two-way models are mounted in the center of the woof-

er cone's apex; the coincident design is said to improve off-axis response and help raise the soundstage even when the speakers are mounted low in the doors.

Boston Acoustics and Clarion came up with different solutions to the challenge of delivering a convincing stereo image in a car. Boston Acoustics' new 6 $\frac{1}{2}$ -inch RM6 speaker (\$249 a pair) and 6 x 9-inch RM9 coaxial speaker use fabric-dome tweeters mounted off-center, which is said to improve frequency response by minimizing high-frequency diffraction. The new X² speakers from Clarion feature pivoting tweeters. Prices range from \$100 for a pair of SRM251 1-inch silk-dome solo tweeters to \$250 for a pair of SRF6981 6 x 9-inch coaxials to \$450 for the SRS1691 two-way component set with two tweeters and two 6 $\frac{1}{2}$ -inch woofers.

AuraSound has included swiveling tweeters in four of its seven new Force Series two- and three-way speakers, and bass cultists will get a kick out of the latest version of the company's trademark "bass-enhancement" system, the Bass Shaker Plus (\$329). This year's model adds a diminutive, high-efficiency Class D amplifier rated at 100 watts rms. When mounted to a car's floor, the Shaker vibrates the car's interior so that you can feel the bass without exposing your ears to damaging sound-pressure levels. How's that for virtual reality? □

SoundStream's Da Vinci power amp (\$2,499, shown with the BLT4 balanced-line converter) is rated to deliver a total of 600 watts into 4 ohms: 50 watts each to two tweeters and two midranges, 100 each to two woofers, and 200 watts to a subwoofer. The AirBass wireless subwoofer volume control (not shown) is a \$99 option.



Franz Schubert, born in Vienna on January 31, 1797, was classical music's greatest melodist. This year musicians, critics, and audiences join in celebrating the bicentennial year of this little-understood man whose music continues to touch listeners with its unique depth and intimacy.

Of the great composers who worked in Vienna, Schubert was the only one who was actually born there, and he had the shortest lifespan. Mozart died tragically young at thirty-six; when Schubert died, he was only thirty-one. But in that short lifetime he composed a large body of music in all major forms, and in all except opera he produced enduring masterpieces.

Schubert's great symphonies, piano pieces, chamber music, and songs are moving works that appeal directly to



TIMELESS SCHUBERT

A Bicentennial Tribute By William Livingstone

the senses, and they are easily accessible to the general public. The big melody from the "Unfinished" Symphony is so widely recognized that it has been called the greatest tune ever written, and a couple of his songs, *Serenade (Ständchen)* and *Ave Maria*, are as well known as pop standards.

A strong element of love suffuses the Schubert bicentennial observances in Europe and North America. From New York to Los Angeles exhibits of Schubert photographs and documents have been mounted in concert halls, and soloists, chamber ensembles, and symphony orchestras are programming more of his music this season. On his actual two-hundredth birthday in January, both the Cleveland Orchestra and the New York Philharmonic, for example, performed the "Great C Major" Symphony (No. 9).

The Schubert Institute (U.K.) has set up a World Wide Web site (<http://dialspace.dial.pipex.com/ramorris>) to keep track of the major anniversary events, such as the Schubertiade in March at the 92nd St. Y in New York, the last in a ten-year series of short annual Schubert festivals. Other bicentennial observances include concert performances of his rarely heard operas, *Alfonso and Estrella* and *Fierrabras*. The flutist Paula Robison, the pianist Garrick Ohlsson, and the violinist Itzhak Perlman are among the many instrumentalists playing Schubert solos or chamber music. The baritone Thomas Hampson is observing the bicentennial with his first performances in Europe and America of Schubert's great song cycle *Winterreise (Winter Journey)*, which EMI is recording for release this year.

Also due from EMI are bicentennial sets of great Schubert lieder (song) recordings from the past. In addition to several Masses, Sony Classical is releasing some of his chamber music and symphonies on original instruments, and BMG Classics will issue a complete set of the symphonies conducted by Colin Davis. New this month from London Records is a CD of the String Quartet No. 15 and "Notturno," a single movement in E-flat Major for piano trio, played by the Takacs Quartet with pianist Andreas Haefliger. A Schubert lieder recital by the soprano Renée Fleming was scheduled for March release on London, and Teldec has a similar recent lieder CD by Barbara Bonney that is quite impressive.

Among the smaller labels, Nimbus has released a CD of lieder recordings



DRAWING BY MORITZ VON SCHWIND

Schubert (at keyboard) is flanked by his friend Josef von Spaun (left) and the baritone Michael Vogl at a private concert of his music, a Schubertiade.

by the baritone Heinrich Schlusnus, made between 1927 and 1941, and re-released the Brandis Quartet's recordings of Schubert's late chamber music for strings, three CD's for the price of two in a gold-embossed box. And Essex Entertainment has reissued Vox Boxes of rare Schubert chamber music, the Masses, and the piano sonatas played by Walter Klien. This year Denon will release its thirteenth and final CD of Schubert's complete solo piano music performed with authority, grace, and affection by Michel Dalberto.

To mark the bicentennial, Hyperion embarked (in 1987!) on an epic project to record *all* of Schubert's more than six hundred songs with the pianist Graham Johnson accompanying many distinguished singers. "A Voyage of Discovery," a specially priced sampler from the first twenty-seven CD's in the Hyperion Schubert Edition is now available. Among the two dozen singers represented are Elly Ameling, Arleen Augér, Janet Baker, Thomas Hampson, Christoph Prégardien, and Peter Schreier.

This year's Schubert celebrations do not approach the magnitude of the me-

dia circus that was staged in 1991 to observe the two hundredth anniversary of the death of Mozart. Compared with Schubert, Mozart was a tabloid celebrity. The public knew how he shot pool and hung out in palaces with kings, power brokers, and spin doctors because they had seen *Amadeus*, a fictionalized Hollywood movie that won eight Oscars.

Even today Schubert remains an enigma. The son of a poor schoolmaster, he lived most of his life near the poverty level. He got some musical training at the austere Catholic seminary where he was educated, and while working at ill-paying teaching jobs, he began to compose prolifically. At the age of seventeen he wrote *Gretchen am Spinnrade* (*Gretchen at the Spinning Wheel*), the song that is recognized as his first masterpiece and the first great German Romantic *Lied* (or art song). The following year, in addition to instrumental works, he wrote 144 songs.

Suffering from poverty, loneliness, and depression, in 1818 he gave up teaching, quarreled with his dictatorial father, and went to live with one or another of his male friends, who encouraged him to become a free-lance

musician. These friends were a close-knit group of artists and writers who adored Schubert and put on private concerts of his music in their homes, events called Schubertiades.

Schubert never married or had a love affair with a woman. Whatever happiness he knew in his often drab life came from the act of composing and from the society of his men friends. He partied with them, took vacation trips with them, shared rooms with them, and enjoyed playing his music with them.

Although some of his songs and piano pieces were published and performed in his lifetime, he was poorly paid for them, and his operas were unsuccessful. He never heard a professional performance of any of his symphonies, and many of his greatest works, such as the "Trout" Quintet, the "Unfinished" Symphony (No. 8), and the Piano Sonata in B-flat Major (D. 960), were not published until after his death.

In 1822, when he was only twenty-five, Schubert contracted syphilis, which caused him physical and emotional pain for the few years that remained to him. In 1824, while working on his most melancholy composition, the Quartet No. 14 ("Death and

the Maiden”), he wrote to a friend that he considered himself the unhappiest man on earth. “Imagine a man who can never be healthy again . . . a man whose brightest hopes have vanished, someone for whom love and friendship now offer nothing but pain. Every night when I go to sleep, I hope never to wake up again.”

In his last year Schubert apparently drew on his suffering to create works that have a celestial beauty, among them the three sublime piano sonatas that were published posthumously, the String Quintet in C (often called the greatest piece of chamber music ever written), and *Winterreise*. At his brother's home on November 19, 1828, he died miserably at the age of thirty-one.

For more than a century fictionalized biographies presented Schubert as a jolly, plump, nearsighted, happy-go-lucky fellow who was too shy to pursue girls. It was a view that in no way reflected the intensity and emotional substance of his music, and modern scholars have dismissed it as sentimental and trivializing.

Although many musicologists are still conservative and reluctant to examine the private lives of great composers, the noted biographer Maynard Solomon has scrutinized the diaries and letters of Schubert's friends, and in 1989 he published his conclusions that Schubert's friends were a group of homosexuals forced by a hostile society to keep their private lives secret and that Schubert himself was gay.

Many laymen had long ago reached the same conclusion, but a few scholars have wished to preserve a sanitized image of the world's greatest melodist. Critics, however, have described Solomon's evidence as “incontrovertible,” his arguments as “well reasoned,” and his conclusions as “compelling” and “convincing.” The subject was debated for a few years in academic circles, centering mostly on whether Schubert's sexual orientation could be seen or heard in his music, but there was little reaction from the general public.

Discussions of Schubert's personal life have not changed the public's affection for him or its love for his very sensuous music. In a panel discussion that preceded the New York Philharmonic's week-long celebration of Schubert's birthday in January, the point was made that every era reinterprets Schubert in its own way. Kurt Masur, the orchestra's music director, was asked whether his views of this composer have changed over the seven

decades of his life. He answered “Not at all. I learned the ‘Unfinished’ Symphony when I was about twelve. It penetrated to the central core of my feelings, and it still does the same thing today.”

I feel the same way, and Schubert has been an unfailing artistic companion throughout my life. I was about fourteen when I first heard the potent melodies of the “Unfinished” Symphony on a neighbor's recording, and it helped to draw me to the orchestral classics. Such Schubert songs as *Erlkönig* (*The Elf King*) and *Der Hirt auf dem Felsen* (*The Shepherd on the Rock*) taught me to appreciate lieder, and the “Trout” Quintet was an easy introduction to chamber music.

My love affair with Schubert's music was fueled by performances and recordings by pianists like Clifford Curzon from England and Jorge Bolet from Cuba and by such great German lieder singers as Dietrich Fischer-Dieskau, Irmgard Seefried, Fritz Wunderlich, and Christa Ludwig, by the

Belgian soprano Suzanne Danco, and by Elly Ameling from Holland.

Most of their recordings are no longer available, but the continuing vitality of Schubert's music is proved by the emergence of a new generation of wonderful interpreters like the Fontenay Trio, the Emerson Quartet, and the pianists Krystian Zimerman, Andras Schiff, Imogen Cooper, and Radu Lupu. And there are many singers today — Kathleen Battle, Cheryl Studer, Mitsuko Shirai, Thomas Hampson, Bryn Terfel, Bo Skovhus, and Wolfgang Holzmair, to name a few — who can recreate the intense desire and joy of love in Schubert's music as well as his darker, melancholy sense of life.

Through performances of his works by today's finest musicians, Schubert continues to increase the amount of beauty in the world and the amount of love. His life was short, but his art has proved to be very, very long. □

FAVORITE SCHUBERT CD'S

Some of the following recordings of Schubert masterpieces are reissues of older performances, while others are brand-new. All have given me pleasure, and all are currently available in stores. — W.L.

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“Trout” Quintet.
Clifford Curzon (piano); members of the
Vienna Octet.
**String Quartet No. 14 (“Death and
the Maiden”).**
Vienna Philharmonic String Quartet.
LONDON 417 459.

String Quintet in C Major.
Heinrich Schiff (cello); Alban Berg Quartet.
EMI 47018.

Piano Trios; Notturmo.
Fontenay Trio. TELDEC 94558 (two CD's).

Die Schöne Müllerin; Three Lieder.
Fritz Wunderlich (tenor); Hubert
Giesen (piano). DEUTSCHE GRAMMOPHON
447 452.

Winterreise.
Dietrich Fischer-Dieskau (baritone);
Jörg Demus (piano). DEUTSCHE
GRAMMOPHON 447 421.

Schwanengesang; Seven Lieder.
Wolfgang Holzmair (baritone);
Imogen Cooper (piano). PHILIPS
442 460.

Lieder.
Mitsuko Shirai (mezzo-soprano); Hartmut
Höll (piano). CAPRICCIO 10 171.

Lieder.
Barbara Bonney (soprano); Sharon Kam
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BEST OF THE MONTH

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



A Charmer by Mary Black

Irish singer Mary Black has long snuggled between traditional folk and contemporary music but never as effectively as she does on her new record, "Shine." Producer Larry Klein, who helped former wife Joni Mitchell refine her post-folkie sound, guides Black through a stunning repertoire of songs about the importance of a nurturing, sus-

taining love relationship, and how the spirit suffers a kind of death when that lifeline is denied.

Black takes to these songs like she was born to sing them and as if every experience of her life prepared her for their arrival. The album shows her at a new level of musicianship as Klein, through his use of sparse but pointed instrumental

touches, moves her to a more vivid and sophisticated sound. In the atmospheric *Almost Gone* and in two very Joni-like songs, *Nobody Lives Without Love* and *By the Hour*, where Klein gets close to the Mitchell approach of acoustic guitar and noticeably naked, high-strung bass, he coaxes Black into delivering perhaps her finest-nuanced performances. Those who lament the loss of her more ethnic Irish material will find her telegraphing her national pride in the occasional pennywhistle dancing beneath a galloping rhythm (*One and Only*) and in her beautiful regional pronunciation ("look" for "luck" in the exquisitely painful *I Misunderstood*).

"Shine" is an album that not only pleases on first listen but, like a richly drawn novel, delights and surprises on many repeated visits. *Alanna Nash*

MARY BLACK: Shine.

Shine: One and Only; Almost Gone: Nobody Lives Without Love; I Misunderstood: Trespass Shoes; I Will Be There: What Does It Matter; Beautiful: Late Night Radio; By the Hour. CURB 1341 (51 min).

The Met's Splendid New *Idomeneo*

Mozart's *Idomeneo* (1781) was an opera too advanced for its time. Refusing to be constrained by an old-fashioned libretto, Mozart strove, above all, for theatrical realism and dramatic continuity. He could not entirely avoid the *da capo* arias demanded by convention (and his star singers), but he often replaced them with meaningful and effective accompanied recitatives. Furthermore, he took pains to link the various "numbers" into a seamless whole. *Idomeneo* represented music drama in an evolutionary stage, and we are left wondering how far Mozart might have progressed in this direction had the opera's indifferent reception not discouraged him.

Conductor James Levine clearly views *Idomeneo* as a music drama, and for his new Deutsche Grammophon recording he assembled a splendid cast to realize his vision. His is a "modern" view of the work in the sense that appoggiaturas are not stressed and embellishments are sparingly used. Choral and orchestral effects, on the other hand, are fully exploited to enhance the dramatic action, which concerns the return from the Trojan War of *Idomeneo*, the King of Crete. On the way he encounters a storm at sea and vows, in exchange for his safety, to sacrifice the first person he meets on land. Unfortunately, that person is his son, *Idamante*.

BEST OF THE MONTH

At this stage of his career, Plácido Domingo seems perfectly cast in the title role, the embodiment of weary wisdom and paternal grief. Vocally, too, the tenor is in fine shape, and he delivers the shorter and less ornate version of the taxing "Fuor del mar" aria excitingly. When the role of Idamante is given to a mezzo-soprano (as opposed to the alternate version Mozart later created for a more assertive tenor), the character is somewhat softened. Cecilia Bartoli's portrayal is tender and touching, admirably pointed in her recitatives.

Others who have recorded Ilia (a Trojan princess in love with Idamante) may have brought fuller tones to her two wonderful arias than the soprano Heidi Grant Murphy does in the present set, but she creates a convincing figure of girlish vulnerability supported by pure and accurate singing. In contrast, Carol Vaness dominates all of Elettra's scenes the way she has done at the Met. In her tempestuous final aria, "D'Oreste, d'Atene," she paints such a vivid picture of hysterical frenzy that it would be unseemly to ask for firmly centered tones.

The sometimes troublesome music of Arbace (low tenor/high baritone) is so magnificently voiced by the baritone Thomas Hampson that this relatively minor character takes on a principal role.

The so-called supporting roles support the total edifice in the manner of majestic Greek columns: Frank Lopardo contributes a firmly intoned High Priest, and Bryn Terfel delivers the brief message of the subterranean Voice with majesty and eloquence. There have been other successful recordings of *Idomeneo*, but nothing like this one for uniform excellence.

George Jellinek

MOZART: *Idomeneo*.

Plácido Domingo (*Idomeneo*), Cecilia Bartoli (*Idamante*), Heidi Grant Murphy (*Ilia*), Carol Vaness (*Elettra*), Thomas Hampson (*Arbace*), Frank Lopardo (*High Priest*), Bryn Terfel (*Voice*), others: Metropolitan Opera Chorus and Orchestra, James Levine cond. DEUTSCHE GRAMMOPHON 447 737 (three CD's, 176 min).

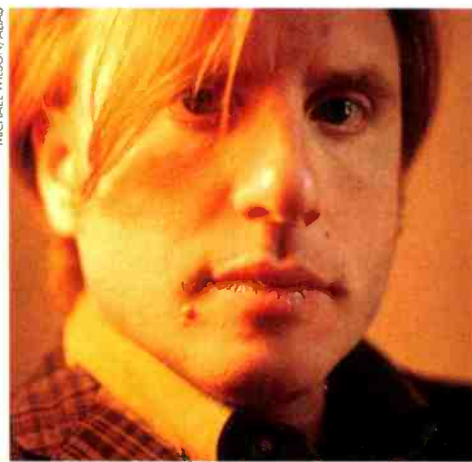
Keating: Pop "Killjoy" Is Here

If you yearn for honest songs that make the passage from artist to audience without contrivance or modification, Matt Keating is a cult hero worth cultivating. Most impressive are his endlessly inventive turns of phrase, which rival Elvis Costello's in their compulsive cleverness, and his ability to sound like a slightly skewed pop band almost all by himself. Take the title track of "Killjoy," a vengeful power-pop romp that unfurls with disarming panache amid sentiments such as "The past it feels like sewage, and the present takes a bite / And the future smells like kerosene all ready to ignite." *Don't Go the Road Alone* is a more austere variation on the same feel-bad theme, with the focus on Keating's emotionally unvarnished voice. Lurking beneath every song is the sneaking suspicion that things are bound not to work out.

If you are curmudgeonly in temperament — which is to say, merely realistic about matters — then you're likely to find a kindred spirit in Keating, whose combination of acute insight and minor-key pop is irresistible. "Killjoy," his fourth record on Alias, tastes of real life: dreams, disappointments, sober reflections, and the sometimes black sense of humor it takes to get through it all. He gets to the heart of the matter in the heartbroken, plainspoken mix of philosophy and confession in *The Fruit You Can't Eat*, a song that is electrifying in its candor: "You wanted a man of substance / You got one with substance abuse."

Now that you know "Killjoy" is the antithesis of escapism — snagging itself on the thorns of self-reproach and a distaste

MICHAEL WILSON/ALIAS



Matt Keating: irresistible curmudgeon

for life's shabby status quo — it's possible to savor the album for its artistry. *Just to Feel Something* is built around grand, distorted guitar hooks as Keating lays bare the lengths to which people will go just to, in fact, feel something. *By the Way* rises from an offhand mumble to a distracted howl and back as a relationship unravels. In the final song, the singer confesses to a paramour that he is *Happy Again*. But as low-key music from some cocktail lounge of the mind dribbles around him, Keating makes sure to attach a caveat: "I can't even pretend that happiness won't come to an end."

If that sensibility resonates with something inside you, "Killjoy" will become a close companion. File it in the vicinity of Big Star's "Sister Lovers," John Lennon's "Plastic Ono Band," and Neil Young's "Tonight's the Night." Parke Puterbaugh

MATT KEATING: *Killjoy*.

Killjoy: *Don't Go the Road Alone*; *Bowery Heights*; *The Fruit You Can't Eat*; *Emily*; *You and Me and This T.V.*; *Just to Feel Something*; *By the Way*; *A Roundabout Way to Get Wise*; *While We Fiddle*; *The L Word*; *Happy Again*. ALIAS 093 (44 min).

Beethoven Piano Sonatas from Russell Sherman

Russell Sherman is something of a Renaissance man, not only second to none as a profoundly perceptive keyboard virtuoso but also deeply versed in the humanities (his collection of essays published in 1996 by Farrar Straus Giroux, *Piano Pieces*, makes for thoroughly stimulating read-



ROBERT CAHEN/DC

Tenor Plácido Domingo as King of Crete

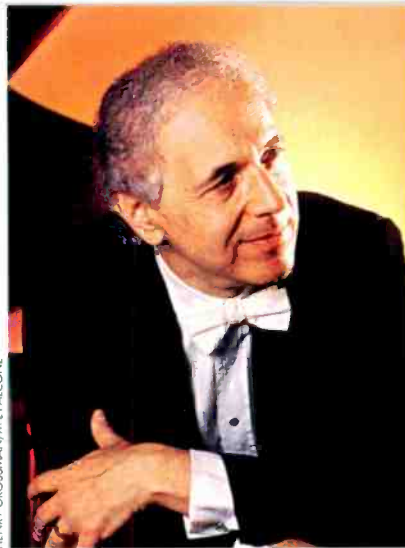
ing). Though his recording career goes back to 1955, his discography has been fairly sparse. Even so, it has covered the ground from Beethoven, Brahms, and Chopin to several modern composers. And now we have Volume I of a Beethoven sonata cycle on Gunther Schuller's GM Recordings label, with Schuller himself exercising meticulous care as producer. Rather than issuing the sonatas in chronological order, Schuller and Sherman have opted to mix works from different periods in the same set, much as one would do for a recital program.

The composer's very first piano sonata ripples along for the most part with aptly Classic poise, but Sherman is not bashful about spicing the performance with judicious rubato, as in the final movement. He captures beautifully the charming waywardness of the opening of the Sonata No. 9 as well as the darker aspects of its middle movement. The Sonata No. 16 presents an interesting contrast in performance style compared with the EMI recording by Stephen Kovacevich, who treats the final movement as a nice, steady amble. Sherman, however, does not hesitate to let Beethoven pause briefly here and there to glance at a bird or flower.

The "Waldstein" Sonata (No. 21), that perennial test piece for would-be virtuosos, is handled here in very even-tempered fashion at the outset. Clarity of texture takes precedence over bravura showmanship. The suspense Sherman creates in the transition from the slow movement to the finale is positively uncanny, and in the finale he builds slowly toward the kind of thanksgiving hymn that Beethoven was to bring to orchestral realization in the "Pastoral" Symphony.

I am among those who contend that there is no such thing as a definitive interpretation of the three late sonatas, of which this set offers the first and third, Nos. 30 and 32. Each performer must seek out an individual vision of Beethoven's intentions within the general parameters of the notes he set down. In Sherman's performance the improvisatory start of No. 30 is a joy of organic flexibility. The compressed fury of the *prestissimo* movement is less evident than I have heard it in other readings, but an ecstatic high is reached in the marvelous aria-and-variations finale. Those who expect a granitic first movement in No. 32 may be a shade disappointed, but I have seldom heard a clearer and more telling explica-

HENRY GROSSMAN/MI FALCONE



Pianist Russell Sherman

tion of its inner textures. The great set of concluding variations makes a fitting climax for this first installment of Sherman's Beethoven cycle. You won't hear the famous trills done more effectively.

The recorded sound is very fine, if a mite distant. The annotations by Sherman and the producer's note by Schuller are insightful and illuminating. I look forward to the rest of the series. *David Hall*

BEETHOVEN: Piano Sonatas Nos. 1, 9, 16, 21, 30, and 32.

Russell Sherman (piano). GM RECORDINGS 2050 (two CD's, 134 min).

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"Anthology" is the first comprehensive overview of his band with Danny Kalb, Steve Katz, Andy Kulberg, and Roy Blumenfeld, and the 1968 "Adventures" appears on domestic CD for the first time.

THE MILES DAVIS QUARTET:

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DCC COMPACT CLASSICS 1106. DCC gives its "24 Karat Gold" treatment to classic mono sides from June 1955, with the trumpeter joined by pianist Red Garland, bassist Oscar Pettiford, and drummer Philly Joe Jones. Among the tracks are *I Didn't*, *A Night in Tunisia*, and *Green Haze*.

PETE SHELLEY: Homosapien.

RAZOR & TIE 2126. After leading the Buzzcocks through their initial punk-pop heyday, Shelley adopted the synth-pop stylings of New Wave for this 1982 solo album, featuring the title club hit. The reissue adds five tracks from his 1983 follow-up LP, "XL-1," including *Telephone Operator*.



T. REX: The Slider. POLYGRAM CHRONICLES

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The first installment in Polygram's remasters of later material by Marc Bolan's Seventies band. These three albums, originally released in the wake of *Bang a Gong (Get It On)* fame, are supplemented by non-LP singles and B-sides.

ROCK 'N' ROLL LEGENDS.

READER'S DIGEST MUSIC 211 (three CD's; mail-order only, 1-888-RD-MUSIC).

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Juilliard String Quartet. SONY 62705. First in a series of reissues commemorating the Juilliard's 50th anniversary. "Sonically the results are very fine, and musically the set compares well with the finest" (May 1983).

BEETHOVEN: Sonatas for Cello and Piano.

Antonio Janigro (cello); Jörg Demus (piano). VANGUARD 56/77 (two CD's). "They bring fine momentum and tension to Op. 102, No. 2, in particular" (April 1966).

HAYDN: The Creation.

Helen Donath, Robert Tear, José van Dam; Philharmonia Chorus and Orchestra, Rafael Frühbeck de Burgos cond. EMI 69343 (two CD's). "... Frühbeck paces the music in a loving, relaxed manner" (March 1979).

LECUONA: The Ultimate Collection.

Ernesto Lecuona (piano). RCA VICTOR 68671 (two CD's). The Cuban composer performs favorites like *Malagueña* and *Siboney*, plus ten previously unreleased selections, all recorded between 1927 and 1954.



POPULAR MUSIC

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

AEROSMITH: Nine Lives.

COLUMBIA 67547 (63 min; enhanced CD).

Performance: Get your saddles

Recording: Mean

There's a Great Rock Moment on "Nine Lives," Aerosmith's studio album No. 12, and it comes early. Barely thirty seconds into the opening title track, the band locks into high gear and Steven Tyler lets loose with a thrilling "Well, well, well..." Enjoy those shivers: Ten years after "Permanent Vacation" and nearly twenty-five years after their debut, Boston's Finest are back on Columbia and playing like dirty white boys again.

Don't be alarmed by the presence of Journey/Silverchair producer Kevin Shirley and the usual committee of song doctors. "Nine Lives" spits like an angry stray. For every ballad there are two blitzkriegs, like the charging blues of *Something's Gotta Give* and the relentless thrash of *Crash*, which ends with the guys reveling in the knowledge that they can still Pound It Out. Riffs and melodies are well-fed, Joe Perry grabs attention with some hit-and-run guitar solos, and the ballads — well, their choruses are nice and muscular, and I don't even mind that Desmond Child and the band sort of co-op *Dream On* for *Hole in My Soul*. I do mind the overlong *Fallen Angels* and the pseudo-exotic *Taste of India*, where Tyler-Perry unsuccessfully try to do Page-Plant.

Aerosmith has always been best at doing Jagger-Richards, and overall the new album beats the pants off any studio Stones in recent memory. Or, as Tyler wails, "Nine lives / It ain't over / Nine lives / Live for ten." I'd give 'em twenty.

Give 'em credit, too, for coming up with the most entertaining and user-friendly enhanced CD I've seen in a long time. You can be a virtual member of Aerosmith by playing guitar or drum parts along with selected tracks via your computer keyboard. And the ECD challenges you to play well if you want to negotiate nine levels of paintings, solve six levels of a puzzle, and record

your parts without getting hooted at. With such cool multimedia and music, how can you go wrong? *K.R.*

BRUCE COCKBURN:

The Charity of Night.

RYKODISC 10366 (68 min).

Performance: Brave

Recording: Clean

Works of conscience don't often connect as works of commerce in this flighty decade. Bruce Cockburn, however, refuses to shrink from sketching reality-based portraits of a world gone wrong. Yet his work is more than just reportage, as it encompasses nimble folk-jazz settings, an illuminating use of language, and the ability to integrate the personal and the political.

"The Charity of Night" lays out its central metaphor in the opening *Night Train*, where a locomotive rhythm is the sound of evil as an inexorable, uncontained force. The rigorous strumming of acoustic guitars,

the rustling of brushes on a snare drum, and the slithering of a bass evoke the momentum of a harrowing shadow world of political repression and intrigue, expressed in this powerful image: "The ultimate forgetfulness of violence / Sweeps the landscape like the headlight of a train." And he writes from experience. Take these lyrics from *The Mines of Mozambique*, inspired when he went on a fact-finding mission to investigate civilian deaths and injuries from land mines planted during wartime: "Rusted husks of blown-up trucks / Line the roadway north of town / Like passing through a sculpture gallery / War is the artist, but he's sleeping now." Cockburn also turns his eye inward on songs like *Pacing the Cage* and *The Coming Rains*, avoiding the hard-core folkie's fate of unrelieved topicality.

Rob Wasserman's bass and Gary Burton's vibes contribute to the understated eloquence of more impressionistic numbers like the mesmerizing instrumental *Mistress of Storms*. Cockburn's dusky baritone and unique guitar stylings — folk in complexion and jazz in elocution, with a hint of rock dynamics — serve his songs well. The only problem with "The Charity of Night," his twenty-fourth release, is that it tends to make most anything you play after it sound trite by comparison. *P.P.*

THE DEAD RECKONERS:

A Night of Reckoning.

DEAD RECKONING 0007 (45 min).

Performance: Not your average country

Recording: Dead-on

Two years ago, several of Nashville's best, if overlooked, solo acts — singer/songwriters Kieran Kane and Kevin Welch, singer/guitarist Mike Henderson, fiddler Tammy Rogers, and drummer/songwriter Harry Stinson — joined forces to found the Dead Reckoning label. They bet the farm that there are enough fans of original, acoustic music to support a label operating outside of Music City's formula. And how.

"A Night of Reckoning," following solo albums from all except Stinson, amounts

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bands are shown in live performance footage. For subscription information, call the Bi-coastal Interactive Group at 703-968-3313 or visit BIG's Web site at www.bigzines.com. *K.R.*

Check It Out!
KENNY YOUNG & THE EGGPLANTS
 EVEN ONE IS QUITE A FEW

REVIEW
 BRAID INFO GET IT

Kenny Young & The Eggplants — Punks & Ppos!
 How did a little ol' New-Country Island banders by Jenny Beak?

What can I say to shed light on these guys from Brooklyn, New York who sing about hard-headed things like talking priss, sportswear-bogging cheese jumps, haircuts that create world peace, and having to deal with a family full of lawyers? Somehow, it just seems... well... right that Kenny Young and the Eggplants perform an acoustic cover of David's "Incontrollable Urge" on their new album. Prant man, guitarist, and solo songwriter for the group, Kenny Young criss the title of the eggplants' first CD, even one is quite a few. From Baltimore Meese's reaction to an

page 1 of 2 next page >

By Steinar with Steve Savage Eggplant
 The Pinks Song
 Kicks 'n' Lip smacker
 Ketchup Got a Sourer
 The Cancer Song
 Incontrollable Urge
 Kenny & Lawyer
 Fishcakes and Spaghetti
 The Fish Song
 The Sleep Song
 PLAY ALL TRACKS

BI-COASTAL INTERACTIVE GROUP



COLUMBIA

Aerosmith, pumped, rocks

to a sampler of their considerable wares. Recreating in the studio the atmosphere of their package tours, they take turns showcasing their songs, backed by their confederates. There's a terrific vibrancy about this project, not so much in sheer energy but in the spirit of the musicianship and in the way the songs are arranged and performed in the balance of craft and spontaneity.

In the roots-rocker *I Desire Fire*, Kane (formerly of the O'Kanes) forcefully describes what he likes in a woman, as Henderson laces the track with frenetic, spooky electric guitar. Welch's *Waiting for the Assassin* is a creepy-good, cryptic story. And the album closes with a reprise of the O'Kanes' *When We're Gone. Long Gone*, a thought-provoking and hymnlike appraisal of what really matters in the way a life is lived. It's a moving finish to a quietly remarkable record. **A.N.**

JOHN FAHEY: City of Refuge.

TIM/KERR 644 830 127 (65 min).

Performance: Eccentric
Recording: Fine for a motel room

For people who are looking to the outer limits for the next set of sounds, John Fahey's approach to guitar — melding a basic blues vocabulary with a subtext of industrial noise — qualifies as avant-garde. Sure, he's been around for decades, but so have Esquivel and Martin Denny, whose "space-age bachelor-pad music" got discovered by bored Gen X'ers cultivating their finely tuned sense of irony. Now, it's Fahey's turn, maybe.

"City of Refuge," like its creator, is fully odd. It was recorded in the motel room where Fahey had been living after a decade that included bouts with homelessness, chronic-fatigue syndrome, and alcoholism. A charitable view of this instrumental album would hold that it sounds like an updated, urban-industrial version of a rural black levee-camp moan. Indeed, there are times when the steely angularity of Fahey's playing evokes both the futility of being and the will to persevere. In moments like these, you can understand why he is revered as one of the pre-eminent guitarist/visionaries of the past thirty years.

But moments like these are rare, as the album tends to indulge in scraping, detuning, and formless delving into the heart of late-twentieth-century darkness. The high

or low point, depending on your perspective, is *On the Death and Disembowelment of the New Age*, a twenty-minute sound collage that rivals Lou Reed's "Metal Machine Music" as an exercise in noise for noise's sake. Like much of "City of Refuge," it is a kind of *Eraserhead* for the ears. **P.P.**

MARVIN GAYE: The Vulnerable Sessions.

MOTOWN 530 786 (29 min).

Performance: Ballads reinvented
Recording: Satisfactory

The character of "The Vulnerable Sessions," an album of ballads, should come as no surprise to Marvin Gaye's most loyal fans. Three of the seven songs — *Why Did I Choose You*, *I Won't Cry Anymore*, and *The Shadow of Your Smile* — appeared on "Romantically Yours" in 1986, two years after his death. His preferred vocal tracks were only recently discovered in the Motown vaults, however, and alternate versions of some songs are included here as well.

Gaye began recording this material in 1967, four years before his brilliant, politically charged concept album, "What's Going On." He would toy with the "Vulnerable" songs for nearly a decade in an effort to complete what he considered to be his favorite album. And though his original intent was to emulate the classic crooning of Frank Sinatra, the alternate versions reaffirm his affinity for rhythm and blues. The earlier interpretations, though sweet and fluid, are often straight, following the melodic line. In the later readings, he commonly avoids the melody altogether, weaving intricate melismatic patterns in the style of soulful R&B.

The only drawback to this collection is that it contains merely a half-hour of music. In the end, Gaye's treasured "Vulnerable" album remains unfinished, but it bears witness to his artistry. **P.G.**

RICHARD GOLDMAN: Girls N' Cows.

GADFLY 225 (41 min).
P.O. Box 5231, Burlington, VT 05402.

Performance: Neat
Recording: Good low-fi

Satire being the thing that closes on Saturday night, it's good that satirical singer/songwriter Richard Goldman also writes fetching melodies and genuinely affecting, perceptive lyrics. Otherwise, we'd have to make do with a debut album that's merely hysterically funny. The songs on "Girls N' Cows," recorded on the cheap — that is, in a bedroom with a drum machine, which somehow adds to the charm — address all sorts of issues, including marriage ("The only good years that we had were the tires on the car") and celebrity ("Zsa Zsa Gabor / Nobody knows what she's famous for"). Elsewhere, Goldman feels bad for a none-too-bright gal pal in *All of Her Girlfriends Are Braindead*. Stylistically, the tunes range from "Revolver"-era Beatles (the gorgeous folk-rock of *The Prettiest Girl at the Funeral*, which should be a hit for somebody) to fake-country (*No Cows Allowed*). The bottom line: This is a thoroughly endearing album, and Goldman's a real find. **S.S.**

THE GUESS WHO: The Ultimate Collection.

RCA 67300 (three CD's, 221 min).

Performance: Mostly fun
Recording: Good to excellent

The Guess Who is a guilty pleasure for me, but I'm sure I'm not the only one. In any case, I think these guys have gotten a raw deal historically. If they had been English rather than Canadian, they would have been megastars. Not only that, but you

Shock The Sushi!

In the tradition of theatrical troupes influenced by rock/pop culture — the Flying Karamazov Brothers, Blue Man Group, those *Stomp* guys — come the Tokyo Shock Boys. Besides toying with swords, dry ice, firecrackers, and a live



scorpion, the foursome do dangerous and hilarious things with milk, a cactus, a vacuum cleaner, and various parts of the body. Their synth-driven guerrilla / Godzilla vaudeville show, which has landed Off-Broadway, also features



the Shock Boy Dance (think mutant Y.M.C.A.) and other chances for audience participation (think twice).

Definitely in the category of Must Be Seen to Be Believed, the Tokyo Shock Boys make the Kodo Drummers of Japan look like a coffee klatch. **K.R.**



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SNAPPY

Drummer breaks arm, new drummer turns ballad into rocker, and the rest is *That Thing You Do!*, the movie written and directed by Tom Hanks. If you missed the theatrical run of his delightful story about a fictional one-hit Sixties group called

the Wonders, it's now on Fox Video, and it still rings funny and true as it follows this Everyband from choosing a name to cracking the Top Ten. There are fine performances by an ensemble cast of newcomers plus

Liv Tyler as the

Girlfriend, and it's all held together by what the Manager (Hanks) calls that "snappy" title tune — in fact, written by Adam Schlesinger of Fountains of Wayne and, as you read this, either the winner or a loser for Best Original Song at the Academy Awards. But there's nothing failed about Hanks's giddy first time behind the camera. *K.R.*



know something — they may actually have been a major band!

Okay, I'm kidding — though after listening to "The Ultimate Collection," a very well-assembled boxed set of their, er, oeuvre. I think maybe I'm not. The problem is that even in an era when it was cool to be eclectic (late Sixties, early Seventies), the Guess Who just ranged too far across the stylistic map, which confused casual listeners. The band dished out psychedelic pop (*No Time*), jazzy pop (*Undun*), lounge pop (*These Eyes*), heavy metal pop (*American Woman*), and country-rock pop (*New Mother Nature*). Wait a minute, I'm detecting a theme here. Good lord, they played pop!

That established, it should be noted that all the hits are here, gorgeously remastered, along with some interesting alternate takes, rehearsals, demos, etc., plus a judicious selection of album tracks (dirty little secret: despite a rep as a singles machine, the Guess Who was an album band at heart). This means we get a generous helping of the more, shall we say, conceptual work, including material from the criminally out-of-print "Rockin'." For all of these goodies, this sort-of fan gives thanks. One caveat: The liner notes are appallingly illiterate and singularly uninformative. *S.S.*

MARK HUMMEL: Heart of Chicago.

TONE-COOL 1158 (56 min).

Performance: Heart in the right place, too
Recording: A bit muffled

On his sixth record, harmonica virtuoso Mark Hummel pays tribute to the Chicago masters, among them Little Walter, James Cotton, and Sonny Boy Williamson. A jump blues specialist, he gets especially raw here, backed by Walter guitarist Dave Myers and former Muddy Waters drummer Willie "Big Eyes" Smith and bassist Bob Stroger. Hummel blows his harp with a deft combination of attack, phrasing, and tone, often breaking into "talking" solos, chordal assaults, and hand vibratos. He makes *Rockin' at the Riverside* swing more than rock and, in the slow burn of *I Want Your Love*, taps into a listener's most private desires. The interplay of harmonica, guitar, and rolling piano is impressive, reaching moments of glory in *Out on a Limb* and *Love Shock*. That precision breaks down in *Step Back Baby*, and the "peaches" and "shake your tree" clichés of *Peaches Tree* wear thin by this month's telling. But that comes far into the program, and by then you're just too intoxicated to leave. *A.N.*

FREEDY JOHNSTON: Never Home.

ELEKTRA 61920 (40 min).

Performance: Promise delivered
Recording: Good and garagy

Hoboken singer/writer Freedy Johnston's three previous albums earned him stacks of critical raves but didn't make much of a commercial splash. And I'd maintain there were reasons for that: With a few exceptions, his material was stronger on words than on tunes, and for every shimmering number there were several that were merely well-crafted.

That's not the case on "Never Home," where Johnston's songwriting finally becomes flat-out irresistible. His approach hasn't changed much: He still favors a folkish acoustic-guitar base with touches of mid-Sixties garage rock. But the hooks here are killers, and *Western Sky* and *You Get Me Lost* are classic-model pop ballads. Working with an old-school producer (Neil Young/James Taylor associate Danny Kortchmar) was a smart move; the sound is

punchy, and Johnston's rough-edged voice seems more flexible.

If his tunes have gotten catchier, the emotional depth in his lyrics hasn't suffered a bit: *You Get Me Lost* and *One More Thing to Break*, respectively, look at the hopeful beginning and cranky end of a love affair. And he doesn't confine himself to familiar romantic topics. *On the Way Out* is a rocker about a criminal on the run, and *He Wasn't Murdered* appears to be a surreal take on the circumstances surrounding the death of Kurt Cobain. If it is, then the line "He wasn't murdered by love or loneliness" ranks as the month's best pun. *B.M.*

THE OFFSPRING:

Ixnay on the Hombre.

COLUMBIA 67810 (42 min).

Performance: Tasty
Recording: Crystal-clear

The punk-rock revival seems to have passed: Green Day's last album was a relative flop, as were recent solid efforts by Bad Religion and Social Distortion. Making its major-label debut after the 1994 independent hit "Smash," the Offspring is taking no chances: "Ixnay on the Hombre" is a thoroughly commercial album complete with two power ballads, but it's also more tuneful and more fun than any of the discs referred to above.

In fact, the album's got some great jokes, including a cheesy mambo "intermission" and a Jane's Addiction takeoff, *Me & My Old Lady*, in which singer Dexter Holland does a hilariously accurate Perry Farrell imitation. The two ballads aren't really punk, but they're not bad, sporting big hooks and harmonies while taking convincing looks at teen anxiety (*Amazed*) and grown-up heartbreak (*Gone Away*). The straight-ahead punk tracks are no slouch either, with proudly silly standouts in *Cool to Hate* and *Moi*. And in a semi-serious vein, *Change the World* apes an arena-guitar sound to send up rock stars' political pretensions.

The Offspring may get knocked for being a bubblegum punk band, but there's no real shame in that. Somebody had to pick up the dumb-fun torch now that the Ramones are gone. *B.M.*

The Offspring: tuneful punk, and some great jokes to boot



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SILVERCHAIR: Freak Show.
Epic 67905 (50 min; enhanced CD).

Performance: Mega-whiny
Recording: Generic

They're young, they're cute, and they sound like an imitation of Bush imitating Nirvana. In terms of originality and believability, Silverchair is the REO Speedwagon of alternative rock. That's fine if you like guilty pleasures (the band's hit debut, "Frogstomp," was a passable one), but now the guys throw self-pity into the mix. "Freak Show," nothing less than a concept album about how awful it feels to become rock stars, doesn't exactly make the heart bleed.

Angst can be fine if you're a good lyricist, but singer/guitarist Daniel Johns's words are more like a tantrum, and his being 17 is no excuse for such howlers as "No more maybes, your baby's got rabies;" "Me and shame are the same;" and "The only book I own is called *How to Lose*" (try the Buck-a-Book, pal). The music is — surprise — a slick and metallized version of Nirvana/Bush's sound. The one departure is — surprise — a ballad with strings (*Cemetery*), which resembles Bush's *Bonedriven*, which resembled Nirvana's *All Apologies*.

The freak-show idea is overplayed in the CD Extra material, where circus tents hold the usual assortment of videoclips and interviews. But fans should be disappointed to find that not one of the half-dozen clips includes a complete song. And in the interviews, Silverchair whines about bad re-

views — odd behavior for a group that claims to hate being rock stars. *B.M.*

U2: Pop.
ISLAND 524 334 (60 min).
Performance: Still epic
Recording: Likewise

Try as it may to become a different band, U2 is still U2, and that's not a bad thing to be. For all the lounge-lizard irony that Bono displays onstage and in press conferences, he's still as earnest as he's been since Day One. For all the samples and gadgetry the band uses nowadays, it's still the mix of Bono's voice and the Edge's snaky guitar that gives "Pop" its kick. And for all the postmodern trappings U2 affects, its status as rock's last great arena band is intact.

Discounting the willful left turn of 1993's "Zooropa," this is the logical follow-up to 1991's "Achtung Baby," and though the peaks of "Pop" don't quite match *One* or *Mysterious Ways*, the new set is more consistently rewarding. Once again, the major departures occur early: The opening *Discothèque* (which, in case nobody's noticed, sounds a lot like the Rolling Stones' *Undercover of the Night*) and the edgy *Mofo* both make creative use of sampling exotica. But from there the album settles into a more traditional U2 sound. It wouldn't be hard to imagine the semiacoustic *Staring at the Sun* on the band's first few albums, and even a techno-driven track like *Miami* has the moody feel of its earlier ballads.

The real surprise is the amount of subtlety on display. The grandiose *Last Night on Earth* is the sort of number Bono might have overused in the past, but here his vocal is tempered and affecting. And the countryish *If God Will Send His Angels* opens with an almost a *cappella* vocal that sounds like the latest of his homages to Elvis Presley. This time, he's got the heart to pull it off. *B.M.*

CHRIS WHITLEY: Terra Incognita.
WORK 67507 (46 min; enhanced CD).

Performance: Atmospheric
Recording: Scrub-brush good

Chris Whitley's 1991 debut, "Living with the Law," laid out a mythic landscape of America that signaled the arrival of a ferociously talented visionary. Nothing he has done since comes near it. Still, "Terra Incognita" maps an intriguing journey, a mystery voyage through the emotional Milky Way of a failed romance, where Whitley is a kind of astronaut more afraid of coming down than floating in his own cosmic ruin.

Where "Living with the Law" focused on his clear, hypnotic guitar chords, and "Din of Ecstasy" counted on violent distortion, the new album does both, to the accompaniment of his rusted-out vocals. More successful with lyric and melody than with Hendrix-like jazzy fuzz-tones, he nonetheless sets up a fascinating texture of swirling, often atonal guitars against which to place his provocative lyrics ("She got engine in her eyes / She got a throttle that she cannot

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John Sunier,
Audio Magazine April 1996



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POPULAR MUSIC

disguise"). But his conceit is too thin to sustain an entire album — and in fact, he's lucky to be able to successfully manage two five-minute songs (*Clear Blue Sky*, *Aerial*).

If, halfway through, you're feeling more than a little lost in space, that's a good time to check out the multimedia of this enhanced CD. The layout is sort of Sixties psychedelic, with tulips that open wide and close, a giant green vegetable minding its own business, and a cow (click it for portions of *Weightless*). There are also interview snippets, where an affable Whitley intelligently describes the origin of his music. But the real surprise is his deep, sonorous speaking voice, as different from his high, thin vocals as, well, cows from tulips. *A.N.*



CHICK COREA AND FRIENDS:

Remembering Bud Powell.

STRETCH/CONCORD 9012 (74 min).

Performance: This Bud's for you

Recording: Excellent

Bud Powell continues to inspire pianists of all ages, as well as tributes of every form imaginable. But Chick Corea's "Remembering Bud Powell" goes well beyond

the usual homage: it has all the earmarks of a true labor of love, a project to which Corea devoted much time and energy.

A far cry from the plugged-in sounds of his Seventies band Return to Forever, this is an acoustic session for which Corea has surrounded himself and drummer Roy Haynes with some of today's most accomplished young players: trumpeter Wallace Roney, saxophonists Kenny Garrett and Joshua Redman, and bassist Christian McBride. Haynes brings first-hand experience with Powell, and Roney's Miles Davis-inspired playing brings to mind a 1947 Savoy date on which Powell and Davis made a rare joint appearance. "Remembering," however, is not an attempt at recreating the pianist's music. Rather, Corea says, he set out to probe Powell's "intent."

I don't know how you determine someone's intent — as Corea admits, Powell had a variety of approaches to each composition — but I can tell you that the end result here is a superbly executed session. *C.A.*

CHARLIE HADEN AND PAT METHENY:

Beyond the Missouri Sky (Short Stories).

VERVE 537 130 (70 min).

Performance: Breathing as one

Recording: Intimate

The many traits shared by bassist Charlie Haden and guitarist Pat Metheny — beginning with the unlikely combination of instrumental virtuosity and a homespun lyrical bent — make them ideal partners. Metheny here occasionally overdoes the or-

chestral and string-section effects he can achieve by use of electronics, and a few of the thirteen pieces drift by pleasantly but aimlessly. Overall, however, the duets on flavorful themes by Henry Mancini, Roy Acuff, Jim Webb, Ennio Morricone, and Haden and Metheny themselves are mesmerizing in their intimacy. *F.D.*

CONRAD HERWIG:

The Latin Side of John Coltrane.

ASTOR PLACE 4003 (70 min).

Performance: Sharing the chant

Recording: Excellent

Here's a concept album that works beautifully, though I would have given odds on its chances. John Coltrane's modal vamps suggested the influence of Latin music, even if that was very indirect. And today, the saxophonists and pianists in most Latin bands have memorized their Coltrane and McCoy Tyner. None of which would ensure the success of "The Latin Side of John Coltrane" — and certainly not if trombonist Conrad Herwig and co-arranger Paul Holdersbaum had approached it as an album of Trane favorites with Latin percussion underneath soloists just running the changes.

What they've given us instead are soaring big-band arrangements of those Coltrane pieces that most lend themselves to an idiosyncratic Latin treatment, by virtue of their open-ended construction (*India*, for example). These savvy versions locate the unsung chant as the element that the great saxophonist and the Afro-Cuban drum

QUICK FIXES

HOWARD ALDEN: Take Your Pick.

CONCORD 4743 (62 min).

Alden's signature as a guitarist is a seventh string that lends a pianolike richness to his chords and risks making an actual piano redundant. No such problem here: The pianist is Renee Rosnes, whose fleet counterpoint is the perfect touch. And Alden plays with a new rhythmic aggressiveness. Copyright alert: *After All*, credited to David Foster, Al Jarreau, and Jay Graydon, is actually a Billy Strayhorn ballad from 1941. *F.D.*

THE BURNS SISTERS: In This World.

PHILO 1198 (48 min).

Producer Garry Tallent gives Annie, Marie, and Jeannie Burns free rein to mix their original folk, country, and Celtic in songs personal, social, and politic. From the joyful celebration *Dance Upon This Earth* to the mournful death meditation *My Father's Blue Eyes*, the sisters know how to get to the heart of the matter. And to yours. *A.N.*

STEVE KOLANDER: Pieces of a Puzzle.

RIVER NORTH 1204 (38 min).

Kolander continues to develop as a writer, trying to meld country, blues, jazz, and roots rock into a definable style. Despite being

shepherded by Buddy Cannon, the man behind Shania Twain and Billy Ray Cyrus, he routinely falls between stylistic cracks, probably where his musical sensibility feels most at home. Keep an eye on him. *A.N.*

JUNIOR MANCE: Jubilation.

SACKVILLE 2046 (66 min).

On this live set recorded at Toronto's Montreal Bistro in 1994, the pianist's gospel edge still crops up, his wonderful blues base is very much in evidence, and the *trill* is not gone. Mance beautifully builds up *Autumn Leaves*, romps through *Atlanta Blues*, and becomes ever so lyrical in *Lover Man*. He deserves more attention than he gets. *C.A.*

MEXICO 70: Imperial Comet Hour.

BIG POP 0120 (49 min).

P.O. Box 12870, Philadelphia, PA 19108.

Mexico 70 seems driven in its pursuit of the perfect pop song, and it comes close in *Little Tears* and *It'll Never Happen Again*. Like the best pop albums, "Imperial Comet Hour" insinuates itself into your memory until it feels like it's been attached with Velcro. They don't call 'em hooks for nothing. *P.P.*

TONIO K.: Amerika.

GADFLY 226 (38 min).

P.O. Box 5231, Burlington, VT 05402.

Aptly subtitled "Cars, Guitars, and Teenage Violence," Tonio's second LP makes its CD debut, and while it's not as brilliant as his first, "Life in the Foodchain," longtime read-

ers may rest easy: I still consider it, like its predecessor, to be the greatest album ever recorded. Most gut-wrenching cut: *Say Good-bye*, his prescient. Otis Redding-derived farewell to our appalling century. *S.S.*

VERUCA SALT: Eight Arms to Hold You.

OUTPOST 30001 (51 min).

For its second full-length record, the band teams up with metal producer Bob Rock, who arrives with all the arena trappings — big guitar, big distortion, big dumb drum. Fortunately, he hasn't messed with the singing and songwriting, and the harmonies remain the drawing point. *B.M.*



ISLANDS.

PUTUMAYO WORLD MUSIC 129 (45 min).

The ten tracks are from Cape Verde, Martinique, Puerto Rico, Cuba, Madagascar, Tahiti, Hawaii, and Tortola. Their exotic rhythms and languages give your mind and spirit a lift while taking you on a brief round-the-world vacation. *William Livingstone*

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CABARET: ACROSS A SMALL ROOM

Cabaret is about intimacy. It's about the most direct connection between performer and audience. It's also about telling a story, but the truly great singers, following in the tradition of Billie Holiday and Frank Sinatra, are great musicians as well. It isn't about belting to fill a Broadway theater or screaming to be heard over a big band. Most musical-comedy stars and Fifties pop legends would be out of place in the small rooms that line New York's Restaurant Row, West 46th Street.

Although it's a style unto itself, cabaret borrows heavily: It uses the best songs introduced on Broadway as a starting point, and many of its best singers are heavily influenced by jazz. As Holiday and Sinatra proved, if you can make a lyric sound spontaneous, you can make the performer-audience relationship even more immediate. Jazz, with its emphasis on spontaneity, is a natural bedfellow.

Two prominent talents on New York's cabaret scene, Ann Hampton Callaway and Martha Lorin, have come out with distinctive tributes to Ella Fitzgerald, displaying their love for the great Lady as well as showcasing their own considerable talents. They share a deep, sultry sound, and while they've been inspired by Fitzgerald's formidable swing, their capacity for lyric interpretation is more in tune with traditional cabaret goals. Lorin's set, "A Celebration of Ella" (Cabaret Jazz 5021; 20 Maple St., Garden City, NY 11530), was recorded with Paul Smith, among the most virtuosic of Fitzgerald's pianists. It's a very personal, one-to-one recital, with Lorin doing full justice to material that is derived largely from Ella's imposing "Songbook" series.

Callaway's accountant may consider her theme for TV's *The Nanny* to be her finest work, but most fans prefer her slow, blues-tinged ballads. Then again, no one's going to complain that she doesn't do a brilliant job on her set of uptempo and scat numbers, "To Ella with Love" (After 9/Touchwood 2006; 1650 Broadway, Suite 1210, New York, NY 10019). Likewise, though Callaway is always most convincing when accompanied by her own piano, she only adds to her scope here by trading in that low-budget style for an ambitious full-orchestra canvas, an all-star rhythm section led by pianist Cyrus Chestnut, and solos by guest trumpeter Wynton Marsalis.

Singing pianists like Callaway, Barbara Carroll, and Shirley Horn, the current-day queen of the genre, are cabaret's bread and butter. Whereas many singers were intro-

duced in dance bands, Carroll got her break in Rodgers and Hammerstein's 1953 Broadway show *Me and Juliet*. In the decades since, she has established a reputation as the show world's premier pianist/entertainer, a position roughly analogous to what George Shearing has achieved on the boundaries of jazz and pop. On "All in Fun — The Music of Jerome Kern" (After 9/Touchwood 2007) she takes the composer's idiosyncratic harmonic structures into baroque territory. What Shearing did quite famously with *Pick Yourself Up*, she now does with *I Won't Dance* (which also quotes Irving Berlin's *The Piccolino* and Sonny

songs, including near-definitive readings of Ivan Lins's *Love Dance* and *The Island*. While those are Lins's best-known efforts, "Loving You" also contains a pair of "other" songs by alleged one-hit writers, Erroll (Misty) Garner's *Dreamy* and Artie (*Here's to Life*) Butler's title cut. This is mood music of the most intelligent and sensual kind.

Claire Martin and Christy Baron are much more surface-oriented, but their surfaces are so attractive that this is hardly a complaint. Both have a sound that's slick and commercial in the least pejorative sense of those terms. Their backup groups are well-oiled and, though acoustic, have a kind of sheen that would gain them entry to fusion as well as straight-ahead jazz radio stations. Baron seems to be looking for an R&B audience in addition to the standards crowd, and her album, "I Thought About You" (Chesky 152), includes the most overdone songs in both the jazz and black-pop genres, such as *Body and Soul* and *Ain't No Sunshine*. The standards on Martin's "The Waiting Game" (Honest/Linn 5018; 33 Music Square W., Suite 100, Nashville, TN 37203) are a little farther off the beaten path, such as *You Hit the Spot*, a mostly straight-ahead reading of Betty Carter's *Tight* (which proves that this great song can work without its composer's mannerisms), and a valiant attempt to claim Joni Mitchell's *Be Cool* as witty jazz à la Dave Frishberg. Most of Martin's work is about motion rather than emotion, but her most appealing track shows her injecting a note of coy personality (and a Mayfair accent) into Thomas Dolby's *The Key to Your Ferrari*.

Those who (wrongly) consider Ella Fitzgerald a foreign influence in the realm where Bobby Short reigns as king may be even more surprised to find a cabaret star whose primary inspiration is Aretha Franklin. Baby Jane Dexter comes out of a tradition of large-sounding saloon mamas like Bessie Smith, Sophie Tucker, and Ethel Merman, and on "Big, Bad & Blue — Live!" (Quannacut 9602; distributed by Original Cast), her vision of cabaret isn't so much Cole Porter as folk, blues, and quasi-Nashville. Yet, for all her power, she stays true to cabaret's ideal of intimacy, not just in comparatively quiet ballads like her winning version of *Something to Live For* but even in her characteristic barrel-voiced admonishments of do-wrong dudes and an unkind, unjust world. Dexter's idiosyncrasies offer further proof that cabaret isn't just a music museum, exhuming a closed canon of long-dead show-tunesmiths. It's a living, breathing art form.

—Will Friedwald

Shirley Horn



LARRY BUSACCA/VERVE

Claire Martin



HONEST

Ann Hampton Callaway



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Baby Jane Dexter



JANICE L. SIGARMAN

Rollins's *St. Thomas*). Carroll's one-note singing is less engaging on record than in person, but her keyboard charisma, most often backed here by an appropriately sentimental string section, is dazzlingly entertaining.

As both player and singer, Shirley Horn strives for soulfulness rather than dazzle. She is certainly the opposite of the fast and frantic Fitzgerald, and she comes off much better in clubs than in concert venues because the saloon atmosphere suits her relaxed, informal style. On "Loving You" (Verve 537 022), George Mesterhazy's tastefully applied synthesized string lines don't hurt. Nor does the album's choice of

masters have in common. It helps, too, that Herwig, the most prominently featured soloist, doesn't overflow in what would be a vain attempt to replicate Coltrane's intensity. He proves to be a rewarding soloist in his own right, a trombonist who combines passion of statement and smoothness of production in an arresting manner. Of the other soloists, pianists Richie Bierach, Eddie Palmieri, Danilo Perez, and Edward Simon most catch the ear — especially Bierach, whose angled, percussive choruses in *A Love Supreme* nicely capture the flavor of Tynes's on the original recording without coming across as imitative in any way. *F.D.*

EARL HINES: IN NEW ORLEANS.

CHIAROSCURO 200 (71 min).

Performance: More varieties

Recording: Crisp

Pianist Earl Hines didn't change with the times; rather, it seems, they changed with him. Take the solo recordings made in New Orleans in 1977 and now reissued with five previously unreleased tracks from the session. In a style that had been uniquely his own for more than half a century, the venerable player weaves and bops his way through twelve tunes, most of them jazz standards. Of course, only the melodies are familiar; what he does with them is as close to wholly original as anything can get. Even when he injects stride and ragtime passages, he avoids sounding dated. Perhaps we lose our perception of time because Hines gives us so much to absorb, each performance an onslaught of ideas and skillfully interwoven patterns. It's almost numbing, but in a delightful way, and the beauty is that we can listen to it over and over, discovering something new each time. *C.A.*

GEORGE SHEARING: Favorite Things.

TELARC 83398 (58 min).

Performance: Yes, yes, yes

Recording: Worthy

On "Favorite Things," an album of solo performances, pianist George Shearing treats us to an hour of shifting moods that range from the very somber, almost funeral opening of *Not You Again* to an airy *Summer Song*. But airy is as light as it gets, for this is mostly a soul-searching trek through tunes that have caught his fancy over the years. Artie Shaw's *Moonway*, a song that Shearing recorded in 1942 on his second British Decca date, gets a complete makeover here, with an effective touch of Beethoven's famous lunar probe. You will also hear Scarlatti, Brahms, and a bit of bop. An absorbing album from start to finish. *C.A.*

Collection

DREAM SESSION — THE ALL-STARS PLAY MILES DAVIS CLASSICS.

MILESTONE 9264 (66 min).

Performance: Pleasant dreams

Recording: Very good

Producers Hitoshi Mizuno and Todd Barkan have assembled two groups of top-notch musicians for this "Dream Session," a Miles Davis tribute that should prove to be

enduring. The rhythm section is the same for both groups — pianist Jaki Byard, bassist Ron Carter, and drummer Ed Thigpen — but the horns and vibist Eddie Locke are neatly shuffled around. Everyone gives a fine performance, even Grover Washington, Jr.; here he plays soprano saxophone with more substance than I had ever thought him capable of. The trumpeters — Eddie Henderson, Roy Hargrove, and Nicholas Payton — give equal but separate performances. And I do mean equal: The three

approach Miles's music from their own perspectives but with common devotion, and the same can be said for tenorists Benny Golson and George Coleman.

I have no favorite track among the eight, because this is a thoroughly enjoyable and loving tribute to a colossus whose artistry these men experienced first-hand. What would Miles have thought? Well, he might have asked, half in jest, "Where's my money?" But I bet he also would have smiled and said, "That's my music." *C.A.*

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CLASSICAL MUSIC

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

BEETHOVEN: Piano Concertos No. 4 and No. 5 ("Emperor").

Gerhard Oppitz (piano): Leipzig Gewandhaus Orchestra. Marek Janowski cond. RCA VICTOR 68417 (70 min).

Performance: Refreshing
Recording: Well-tailored

The appeal of these performances rests perhaps as much on what they don't offer as on what they do. First of all, however, they are very attractive in respect to clarity and elegance of execution. They are also as absolutely free of pomposity or posturing as they are of any form of eccentricity.

There is no self-conscious suggestion here that we are dealing with a rebellious Titan engaged in heroic struggle. Instead, Gerhard Oppitz and his splendid collaborator, conductor Marek Janowski, allow not only the Fourth Concerto but also the "Emperor" to seek its own level as an essentially lyric work, and one in which the Classi-



cal tradition is by no means rejected outright. The slow movement of No. 5 in particular gains from this approach, moving along with the all but weightless ease of a radiant Classical reverie rather than the angst-laden tread of late-Romantic inner drama. The outer movements, too, are just a tad brisker and lighter than what seems to have become the norm of late, without diminishing the work's substance, its stature, or its very genuine emotional power. For all their obvious contrasts, which are by no means smoothed away here, these two concertos have seldom seemed truer partners.

The soloist and conductor, too, are truer partners than many of the pianists and conductors who have recorded these concertos before. There is nothing mass-produced or routine about the way Oppitz and Janowski appear to be responding here to one another as well as to the music to achieve total integration throughout both works, and everyone is in absolutely splendid form. Oppitz's tone is consistently crystalline, his rhythm steady, his phrasing alert but uncluttered. Janowski has the venerable Leipzig Gewandhaus Orchestra playing with an abundance of both vigor and warmth, and he allows the various instrumental solos to shine with winning spontaneity. The recording itself, encoded for Dolby Surround and playable on both surround-sound and conventional stereo systems, is well tailored to the material. *R.F.*

BRITTEN: A Midsummer Night's Dream.

Sylvia McNair (Tytania). Brian Asawa (Oberon). Ian Bostridge (Flute). Robert Lloyd (Bottom). others: New London Children's Choir; London Symphony. Colin Davis cond. PHILIPS 454 122 (two CD's, 148 min).

Performance: Enchanting
Recording: Evocative

Benjamin Britten's magical setting of Shakespeare's magical play was his finest opera after *Billy Budd*, and it may well be the best operatic treatment of the Bard ever composed. The key to its success is that it sticks close to the play rather than attempting to condense, rewrite, and "improve" the original. Although the play's action is somewhat simplified, with every scene except the finale taking place in the fairies' sylvan kingdom, Shakespeare's words are unaltered. Britten's music weaves around the wondrous language with a lavish, freewheeling inventiveness that changes mood and color with the transparent lightness and elasticity of a soap bubble.

The London Symphony plays with superb virtuosity and ideal flexibility under

Colin Davis, and the Philips engineers have captured the performance in a warm, evocative recording. The cast could not be bet-



tered (not even by that of the first recording, conducted by the composer). The fairy king and queen are both gloriously sung. Brian Asawa's mellifluous, richly colored countertenor is reminiscent of that of Alfred Deller, who created the role of Oberon, and Sylvia McNair is simply ravishing as Tytania, his queen. Her lovemaking with Bottom (amusingly sung by the veteran British bass Robert Lloyd) is hair-raisingly erotic

Grace Note

Kathleen Battle has virtually disappeared from the opera stage since being fired by the Met back in 1994 for what were described as "unprofessional actions during rehearsals." Once acclaimed for her performances of the light, lyric-soprano operatic repertoire, the 48-year-old singer from Portsmouth, Ohio, has of late been heard live only in rare recital and concert appearances.

A five-time Grammy winner, Battle continues to record, however. Her latest Sony Classical project, "Grace," is a CD of sacred arias and songs by J. S. Bach, Handel, Mozart, Rossini, and Fauré that was released in March. The harpist Nancy Allen, the organist and harpsichordist Anthony Newman,

Soprano
Kathleen
Battle

and the American Boychoir join Battle in some selections, and a chamber orchestra is conducted by Robert Sadin.



DOUGLAS HOUK/SONY CLASSICAL

— never mind that her lover has been transformed into a donkey.

The young (human) lovers are well cast, too, with John Mark Ainsley especially pleasing as Lysander, a role created by Peter Pears. In a particularly luxurious bit of casting, the exciting young lieder specialist Ian Bostridge sings the role of Flute; his rendition of "O sweet bully Bottom!" is one of the drollest moments in this set. *J.J.*

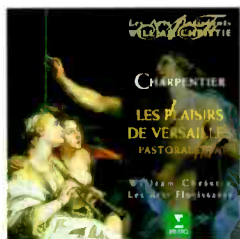
CHARPENTIER: Les Plaisirs de Versailles; Arias on Stanzas from "Le Cid"; Amor Vince Ogni Cosa.

Les Arts Florissants, William Christie cond. ERATO 14774 (53 min).

Performance: Skillful
Recording: Bright

William Christie and Les Arts Florissants here offer three wispy little works in French Baroque genres unknown to few but musicologists — the operatic divertissement, the "serious song," and the dramatic pastorale. They have their charms, but very slight ones, and they require considerable imagination on the part of the modern listener.

The divertissement, *Les Plaisirs de Versailles*, is a bantering contest between Music and Conversation, embodied by soprano and mezzo, as to who will rule the roost at Louis XIV's court. It's done with consummate skill, and hearing mezzo Katalin Karolyi, as Conversation, squawking while soprano Sophie Daneman's prissy Music at-



tempts to show her stuff will initially raise a smile. It doesn't wear well, however, and ultimately tends to support the notion that humor doesn't translate.

The very brief pastorale *Amor Vince Ogni Cosa* (*Love Conquers All*), a delightful bit of fluff about amorous shepherds and shepherdesses, gave Charpentier a chance to show off his ability to compose in the Italian manner. What will speak most forcefully here to modern listeners is the trio of songs on texts based from Corneille's tragedy *Le Cid*, which are sung with affecting warmth by tenor Paul Agnew. *J.J.*

CORIGLIANO: To Music; Voyage for Flute and String Orchestra; Campana di Ravello; Elegy for Orchestra; Promenade Overture; Creations.

I Fiamminghi, Rudolf Werthen cond. TELARC 80421 (62 min).

Performance: Neoromantic glow
Recording: First-class

John Corigliano is one of our most inventive and wide-ranging composers. But you'd never know it from the first four pieces on this recording. In an unfortunate

bit of programming, these short works, all drenched in the same warm, Neoromantic glow, are set up one after the other. A certain sameness ensues: even though they were created over a period of thirty years, they all sound like outtakes from the same film score.

Things perk up with the *Promenade Overture*, a witty twist on Haydn's "Farewell" Symphony in which the musicians saunter onto the stage instead of packing up to leave as in the Haydn. Obviously, this is a piece with a built-in build-up, and the composer and performers take advantage of it. *Creations*, originally written for a projected television version of *Genesis* from the Bible, is a colorful background for actor Ian McKellen's low-key narration of "The Creation of the World" and "The Creation of Adam and Eve." The scoring is a bit too facile and literal-minded in illustrating the text, but it is full of ingenuity and offers the variety lacking earlier. The performances by I Fiamminghi, an excellent Belgian orchestra, and the recording by Telarc are both first-class. *E.S.*

HAYDN: Piano Concertos in G Major, F Major, and D Major (Hob. XVIII: Nos. 4, 7, and 11).

Mikhail Pletnev (piano); Deutsche Kammerphilharmonie, Mikhail Pletnev cond. VIRGIN 45196 (62 min).

Performance: Exceptional
Recording: Mellow

Haydn's keyboard concertos are not considered to be among his most important or most representative works, but there is a great deal of pleasure to be found in them, as Mikhail Pletnev demonstrates with truly revelatory enthusiasm in these remarkably enlivening performances. He responds to Haydn's quasi-synco-pated enticements in the opening movement of the G Major with accents that evoke the character of the old fortepiano while at the same time making every phrase spring to life with unexpected wit and spice. The wonder of it all is that the rhythm is by no means upset by this sort of emphasis, with its tiny punctuating pauses, but rather strengthened by it: giving the phrases room to breathe does not appreciably slow things down but actually enhances the impression of overall liveliness. Pletnev's own cadenzas, in this movement and the adagio, are far less persuasive, tending to meander and lose touch, and the slow movement does seem overindulged and lacking in flow. But then in the finale, as in the first movement, all thought of resistance is simply overwhelmed.

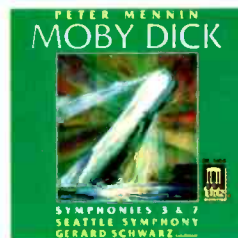
I have no reservations at all about the treatment of the famous D Major Concerto. The orchestral contribution is especially alert and pointed from the first bar to the last, the slow movement flows most agreeably, and the concluding Hungarian rondo has probably never been quite so mischievously winsome. The F Major, a work whose authenticity is in some question, certainly benefits from the treatment it receives here, but it amounts to little more than an entr'acte between the two more substantial concertos. *R.F.*

MENNIN: Symphonies Nos. 3 and 7; Concertato ("Moby Dick").

Seattle Symphony, Gerard Schwarz cond. DELOS 3164 (58 min).

Performance: Excellent
Recording: First-rate

Peter Mennin (1923-1983) was one of American music's major symphonists. The best of his nine works in that form rank with the best of Roy Harris, William Schuman, and perhaps David Diamond (some feel the jury is still out on Diamond). Although seven of Mennin's symphonies have



been recorded, at this writing only the two performed here by Gerard Schwarz and the Seattle Symphony are available.

I've always felt that No. 3 was one of the best, with an opening movement that packs a wallop comparable to the opening of the Vaughan Williams Fourth Symphony. A splendid long line is sustained throughout the slow movement, and a relentless drive manifests itself in the finale. The Seventh, styled "Variation Symphony," is a more somber piece and displays in some passages the fierce nervousity we find in middle and late Schuman. Its high point comes with the two final sections, beginning with a quasi-passacaglia. In both of these works, Mennin's command of structure and expressive content is absolute. I am less convinced by the music of the 11-minute Concertato subtitled *Moby Dick*. I sense little of Melville here other than a brooding quality that evolves into an elemental motoric drive.

In any case, Schwarz and his Seattle crew are in fine form — even with a slight slackening of momentum midway in the first movement of the Symphony No. 3. The recorded sound is absolutely first-rate. *D.H.*

PIAZZOLLA: Revirado; Fuga y Misterio; Milonga del Ángel; Decarissimo; Soledad; La Muerte del Ángel; Adiós Nonino; Libertango; Verano Porteo; Michelangelo '70; Buenos Aires Hora Cero; Tangata.

Emanuel Ax, Pablo Ziegler (pianos). SONY 62728 (60 min).

Performance: Spectacular, intense
Recording: First-class

When composer/performers die their music often goes into limbo, but this has not been the case with the great *tanguero* Astor Piazzolla. In his lifetime hardly anyone else performed his music (who would have dared?), but since his death there has been a whole spate of versions, often on classical labels. Some of the most successful to date are these two-piano arrangements by Pablo Ziegler, the pianist in

HUNGARIAN FANTASY

A thoughtful list of inexplicably neglected symphonic works might well begin with Ernst von Dohnányi's Suite in F-sharp Minor, a striking four-movement work that is perhaps even more lovable and more brilliant than his one piece that clings to a peripheral place in the repertory, the Variations on a Nursery Song for piano and orchestra. Hungaroton has made amends handsomely with an ingratiating new recording of it by the Budapest Symphony under Tamas Vasary — who, like Dohnányi himself, is a Hungarian musician who has earned recognition as both an outstanding pianist and a fine conductor. Happily, this is no mere stopgap; Vasary's feeling for the suite's endearing tunes and gorgeous orchestral color (including prominent, folk-flavored solo passages for clarinet and cello) is beyond question, and his response is surehanded. The two additional works on the well-filled disc have at least had circulation in



other recent recordings, but not very many. They are especially welcome here as part of a program that shows the composer at his most appealing. Csaba Onczay is the very persuasive soloist in an uncut, beautifully integrated

performance of the *Konzertstück* for Cello and Orchestra, and the orchestra alone follows up with the somewhat later *Symphonische Minuten*, a set of five concise and characterful pieces as masterfully accomplished as the F-sharp Minor Suite, and almost as fetching. Hungaroton's production team

apparently focused more on warmth than on sharp-edged delineation, and that suits this music just fine. *Richard Freed*

DOHNANYI: Suite in F-Sharp Minor; Konzertstück for Cello and Orchestra; Symphonic Minutes.

Csaba Onczay (cello); Budapest Symphony, Tamas Vasary cond. HUNGAROTON 31637 (71 min).

Piazzolla's quintet for more than ten years and himself a major *tanguero*. Two-piano Piazzolla was, apparently, the brainstorm of the Argentinian musician and record producer Ettore Stratta, who also conceived the notion of pairing Ziegler with the classical piano virtuoso Emanuel Ax.

Piazzolla's incomparable bandoneón is missing, but the music sits extraordinarily well in the two-keyboard medium, and the blizzard of elegant virtuosity that these arrangements require — and which these two very different pianists supply in equal measure — is almost its own justification. In the end, however, it is the intensity of this music, its connections with the European Classical/Romantic tradition, and the ability of these performers to express both that make it all work. That Piazzolla's music can transcend the narrow definitions of traditional tango has been demonstrated before, but never better than here. *E.S.*

RACHMANINOFF: Piano Concerto No. 3; Piano Sonata No. 2; Preludes in G Major, C-sharp Minor, G-sharp Minor, and G Minor.

David Helfgott (piano); Copenhagen Philharmonic, Milan Horvat cond. RCA VICTOR 40378 (74 min).

Performance: Respectable
Recording: Mixed bag

The Australian pianist David Helfgott remained relatively unknown to the world at large until the film *Shine*, detailing his comeback from nearly a decade of mental affliction, created a sensation at the 1995 Sundance Film Festival and went on to win critical plaudits worldwide. The machinery

of publicity thrust Helfgott into a glaring limelight that has primed expectations in many quarters for a sensational rival to the likes of Vladimir Horowitz or Vladimir Ashkenazy, at least in the realm of Rachmaninoff performance. For it is the formidable yet subtle Rachmaninoff Third Piano Concerto, which Horowitz "owned," that is the musical focal point of the film.

To put it bluntly, Helfgott gives us musicianly and thoroughly respectable readings of the Third Concerto and the knuckle-busting B-flat Minor Sonata, but he in no way matches the dynamic subtleties, let alone the blazing virtuosity, displayed by the two magnificent Russian pianists. The curiously intractable sonata takes an Ashkenazy or a Horowitz not merely to deal with its technical challenges but, more important, to make the structure intelligible. I give Helfgott an A for effort, but that's not enough.

As for the concerto, the performance was recorded at a November 2, 1995, concert in Copenhagen's Tivoli Concert Hall. Helfgott's playing aside, I find the miking uncomfortably close — a conductor's ear view, so to speak. This music needs more elbow room to make its proper effect, and while the Copenhagen Philharmonic under Milan Horvat provides able collaboration, the music also needs a world-class orchestra.

In many respects, the best known of the four preludes recorded here tells the story. The famous C-sharp Minor Prelude is on the broody side, slower in pace by a full minute than Rachmaninoff's own three versions. The equally famous G Minor is likewise on the slowish side, lacking in elemental drive. The studio sonics for the solo cuts

are decent enough but no match for Ashkenazy's London recording venues. The best I can say about the present CD is that it's a fine souvenir of the film. *D.H.*

ROSSINI: Stabat Mater.

Luba Orgonasova, Cecilia Bartoli (sopranos); Raul Gimenez (tenor); Roberto Scanduzzi (bass); Vienna State Opera Chorus; Vienna Philharmonic, Myung-Whun Chung cond. DEUTSCHE GRAMMOPHON 449 178 (59 min).

Performance: Glorious
Recording: Ditto

The oft-repeated joke about Verdi's Requiem is that it was one of his greatest operas. Much the same might be said of Rossini's *Stabat Mater*, as sensational a piece of liturgical music as was ever written. This new recording is a fine one, with a lucid, spacious acoustic that captures a powerful, surging performance by the Vienna Philharmonic. Conductor Myung-Whun Chung wrings every ounce of drama out of the music, yet he also makes the tender, gentle passages sing.

The cast of soloists is a fine one, though Cecilia Bartoli isn't ideally suited for the second soprano part. She has the high notes, but her dark, pure mezzo-soprano timbre



lacks the full measure of clarity and transparency for her cavatina. Luba Orgonasova is marvelous in the "Inflammatus," which immediately follows, her robust, brilliantly hued voice riding high over the orchestra. The most Rossinian of the soloists is tenor Raul Gimenez, who sings a superb "Cujus animam," tastefully shaped yet endowed with all the emotional urgency one could ask for.

Yet the highest vocal honors go to the chorus, recorded with outstanding brilliance and clarity, qualities that make the spectacular finale every bit as exciting as anything Rossini ever wrote for the opera house. *J.J.*

SIBELIUS: Nightride and Sunrise; Luonnotar; Lemminkäinen Suite.

Solveig Kringelborn (soprano); Royal Stockholm Philharmonic, Paavo Järvi cond. VIRGIN 45213 (73 min).

Performance: Impressive
Recording: Very good

Paavo Järvi (the son of the redoubtable Neeme) shows himself to be a formidable Sibelius interpreter. Each work here is a challenge. *Nightride and Sunrise* can be pretty dull stuff unless the conductor pays close attention to subtleties of coloration and dynamics throughout the fierce gallop of the "Nightride" section. *Luonnotar*, the mystical tone poem for soprano depicting the creation of the world as recounted in

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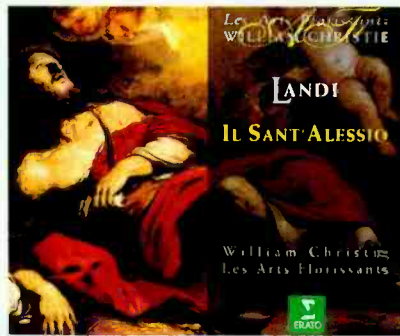
Can there be a more unlikely subject for an opera than the life of St. Alexius? A poor little Roman rich boy, he disappeared on his wedding night and turned up seventeen years later as a homeless beggar living incognito under the grand staircase of his own palace. For this extraordinarily dubious achievement he was awarded the palm of sainthood, a Roman church of his very own, and finally an opera by a Florentine cardinal, Giulio Rospigliosi (who later became Pope Clement X), and a certain Stefano Landi, a former choirboy. The improbabilities multiply. This saintly Roman opera, written for a cast of castrati and boys, is always cited in the history books for its innovative comic scenes!

The new Erato recording of Landi's *Il Sant'Alessio* by William Christie and Les Arts Florissants lacks castrati but leaves the opera's slapstick, acres of recitative, and sensational improbabilities reasonably intact. Alexius no sooner makes his Act I appearance than two local hoods descend on him, pull his beard, tear his rags, and otherwise manage a little sadistic bum-baiting. These antics, delightfully set to music, are followed by a rousing and campy song-and-dance number for, I kid you not, the devils in hell. Not long after that is an interpolated dance number for a kick line of peasant girls played by the chorus boys. I am not making this up.

Music? Absolutely stunning, but be warned — most of it is recitative. There are a few substantial choruses and instrumental numbers spotted throughout, and a choral and choreographic finale of some dimensions, but most of the two-hour

length of this work is occupied by serious recitative in a sumptuous early-opera style. Only in a few places does the music actually coalesce into song — but what moments they are! The arias and the choruses — comic, demonic, or seriously expressive — are drop-dead beautiful, but it is on the strength of the handling of the recitative that this revival lives or dies. And it lives. Christie and his ensemble make a triumph of it, revealing an extraordinary series of forgotten wonders and unsuspected beauties.

It's a small miracle the way Christie



keeps finding glorious voices for early opera. Patricia Petibon, in the title role, has one of those clear, bell-like, otherworldly voices capable of the most exquisite diction and phrasing. Those are not secondary considerations in a work like this; a telling delivery of the words is everything, and this is a wonderful reading of what is a truly declamatory role. Listen to Alessio's big

sequence of scenes near the end of the second act, first solo, then with the Devil and an angel, and culminating in the exquisite song "O morte gradita." There is no aria in the entire repertoire whose simple and melting beauty is more deeply earned than this one!

Sophie Marin-Degor, as the saint's neglected wife, has the most passionate role, and she makes the most of it. The two comic pages, played by Mhairi Lawson and Steve Dugardin, are perfectly cast, and so is Clive Bayley as an oily Demonio, the only true low voice among the leads. Although Nicolas Rivenq is described in the cast list as a bass, his Eufemiano sounds as much like a tenor as Christopher Josey's Adrasto. Even the allegorical figures are outstanding — notably Maryseult Wieczorek, who, as both Rome and Religion, gets some of the most exquisitely melodic music. Chorus and orchestra are equally essential parts of Les Arts Florissants, and their work is impeccable.

A notable feature of the performance is its theatricality and expressivity. Christie and his performers take this grand emotional and dramatic subject as seriously as would any self-respecting Baroque painter. There is good humor and plenty of grand theatrical gestures, but even when nothing external is taking place, the internal drama never falters. A remarkable achievement. *Eric Salzman*

LANDI: *Il Sant'Alessio*.

Les Arts Florissants, William Christie cond. ERATO 14340 (two CD's, 129 min)

the *Kalevala*, requires the greatest delicacy of touch in its opening pages as well as a singer of superlative power and control, one who is able to navigate the stratosphere. The *Lemminkäinen Suite* — properly titled *Four Legends*, Op. 22 — contains not only the well-known *Swan of Tuonela* and the hold-on-for-dear-life finale known as *Lemminkäinen's Homeward Journey* but also two lesser-known and less interesting sections, *Lemminkäinen and the Island Maidens* and *Lemminkäinen in Tuonela*, in which the challenge is to avoid bombast.

Happy to say, Järvi surmounts all the hurdles with ease. *Nightride and Sunrise* is exhilarating and colorful. The listener is made more than usually aware of the kinship between the "Sunrise" music and the Olympian trombone theme of Sibelius's Symphony No. 7 more than a dozen years later. *Luonnotar* is totally spellbinding, thanks in large measure to the fine-tuned vocal control of soprano Solveig Kringsjörn. The *Lemminkäinen* pieces come off splendidly, with a magical *Swan of Tuonela* and a real go-for-broke *Homeward Journey*. The response of the Stockholm Philharmonic players is razor-sharp, and the sonics are a joy to the ear. Get this one. *D.H.*

TCHAIKOVSKY: Piano Concerto No. 1; Nutcracker Suite (arr. Economou).

Martha Argerich, Nicolas Economou (piano); Berlin Philharmonic, Claudio Abbado cond. DEUTSCHE GRAMMOPHON 449 816 (53 min).

Performance: Dazzling
Recording: Rich and smooth

From the evidence here, Martha Argerich has certainly not lost her enthusiasm for the most popular of all piano concertos, and she is definitely a performer who benefits from recording live. Her 1971 studio recording of the Tchaikovsky Concerto No. 1 with Charles Dutoit and the Royal Philharmonic on Deutsche Grammophon, in the rather expansive interpretative frame that was the norm at the time, is still one of the outstanding accounts. This latest remake, taped in concert in 1994, puts the work in a somewhat different perspective.

As in her 1980 concert recording with Kiril Kondrashin and the Bavarian Radio Orchestra on Philips, Argerich trims two minutes off the length of the first movement compared with the 1971 recording without giving the slightest hint of breathlessness or any degree of undue haste. The music simply flows more naturally, more unaffectedly, with a greater sense of spontaneity and

electricity. There is no lack of poetry in the slow movement, and the finale, while exceptionally fleet of foot, never quite runs away with itself.

But while Argerich amply reconfirms her status at or near the top of the list of per-



formers of this concerto, this particular recording may not be a clear choice. It is her only digital one, and it is demonstrably richer and smoother than the two earlier ones, as well as free of the coughing and applause that intrude in the live Philips recording from Munich, but there are some lapses in balance. The brief cello solo about two minutes into the slow movement, for instance, is virtually buried here, as it is on the Philips disc; Dutoit and his recording

team saw that it was put in proper perspective. There is also the matter of the companion work, here a reissue (from 1983) of a pianistically brilliant but quite dispensable transcription of the *Nutcracker* Suite, a work Tchaikovsky put together specifically to exhibit certain *orchestral* textures. *R.F.*

VIVALDI: Six Concertos, Op. 10.

G. SAMMARTINI: Concerto in F Major.

Michala Petri (recorder); Moscow Virtuosi, Vladimir Spivakov cond. RCA VICTOR 68543 (62 min).

Performance: Excellent

Recording: Likewise

Vivaldi's Op. 10 concertos, usually played on a transverse flute, are here given a broader range of color and fuller character delineation by Michala Petri, who uses an alto recorder for Nos. 1, 2, and 5 and a soprano recorder for Nos. 3, 4, and 6. The disc is filled out with a more extended and especially fetching Concerto in F Major by the lesser-known of the Sammartini brothers, Giuseppe, that is heard on the flute or oboe from time to time but is here offered on the instrument for which it appears to have been written, a soprano recorder. This is by all means one of the most attractive releases of its kind in a long time. Petri has never been more ingratiating, nor has she ever enjoyed such consummate collaboration with an orchestral ensemble (could it be Vladimir Spivakov himself we hear in the poignant violin solo at the beginning of the largo in the Vivaldi Concerto No. 6?). The recording itself is exemplary in both its well-judged focus and its all-round vividness. *R.F.*

VIVIER: Prologue pour un Marco Polo;

Bouchara; Zipangu; Lonely Child.

Susan Narucki (soprano); vocal ensemble; Schönberg and Asko Ensembles, Reinbert de Leeuw cond. PHILIPS 454 231 (65 min).

Performance: Superb, metaphysical

Recording: Otherworldly

Claude Vivier was born in Montreal in 1948, studied with Stockhausen in Cologne, traveled in Asia, and then moved to a very rough quarter of Paris, where he was murdered, under somewhat mysterious circumstances, in 1983. His work has emerged in recent years as some of the most original and striking in avant-garde music. Most of it is vocal — some of it set to a language that he made up — and all of it has an almost unbearable intensity.

Reinbert de Leeuw and his excellent Dutch performers have put together a collection of four Vivier works that form a strange, otherworldly opera about Marco Polo — another Westerner who traveled in Asia. These superb performances, superbly recorded, catch the metaphysical accents of this fervent, strong, monodimensional music, whose true subject matter has to do with journeys, aspirations, and dreams.

I have one strong criticism: No texts at all are supplied with the CD. Not all of the language in these pieces is made up, and it would be desirable, at the very least, to know what these people are singing or speaking about. *E.S.*

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QUICK FIXES

BACH: *Concertos for Three and Four Harpsichords (BWV 1063-1065); Italian Concerto (BWV 971); Fantasia and Fugue in A Minor (BWV 904).*

Bob van Asperen, Bernhard Klapprott, Marcelo Bussi, Carsten Lohff (harpsichords); Melante Amsterdam. Bob van Asperen cond. VIRGIN VERITAS 45204 (62 min).

The first concerto here is one by Vivaldi that Bach arranged for four harpsichords instead of four violins, but the one for three harpsichords is genuine Bach. The famous Italian Concerto, brilliantly performed here (presumably by Bob van Asperen), is a solo work in concerto style. The rather mismatched Fantasia and Fugue in A Minor (probably two separate works) is merely a filler. But the performances are all worthwhile, with first-class soloists and an excellent ensemble of vintage solo strings. *E.S.*

MOZART: *Sonatas for Piano and Violin in F Major (K. 377), E Minor (K. 304), F Major (K. 547), and E-flat Major (K. 481).*

Yefim Bronfman (piano); Isaac Stern (violin). SONY 61962 (78 min).

Sony has not only given pianist Yefim Bronfman top billing (following Mozart's



own description of these works) but has for the most part placed him conspicuously farther forward than violinist Isaac Stern, giving the impression of a keyboard recital — a robust, brilliant, and stylish one — with some incidental fiddling in the background rather than a full partnership. Only in K. 304 (recorded in a different setting) do Stern's characteristic warmth and spirit make themselves felt. *R.F.*

POULENC: *Babar the Elephant.*
RAVEL: *Mother Goose, Suite.*

Meryl Streep (narrator); Mona and Renee Golabek (piano); New Zealand Symphony, JoAnn Falletta cond. KOCH INTERNATIONAL 7368 (61 min).

Poulenc composed his odd little piece based on the children's book *Babar the Elephant* at the very end of his life. This whimsical disc of storytelling matched with music is the sort of thing adults wish children would like, rather than something

kids will actually listen to. Meryl Streep's pear-shaped tones are a bit too snooty for the material, but adult fans of Babar and Poulenc will certainly want to have this rarity on their shelf. The Ravel suite is performed with and without narration. *J.J.*

TELEMANN: *Wind Concertos.*

Camerata Köln. DEUTSCHE HARMONIA MUNDI 77367 (62 min).

Telemann wrote dozens of lighthearted and idiomatic concertos for every conceivable instrument — except, oddly enough,



keyboards — and the estimable Camerata Köln seems to be determined to record them all. The solo instruments here include recorders, flutes, oboe, oboe d'amore, violin, and cello. Telemann was an early exponent of fusion, combining Italian, French, German, and even Polish styles. The results are fluent, witty, sometimes surprising, often sweet, invariably sophisticated, amusing, and inventive — and, in these superlative performances, ear-caressing. *E.S.*

DMITRI HVOROSTOVSKY: *Credo.*

Dmitri Hvorostovsky (baritone); St. Petersburg Chamber Choir. Nikolai Korniev cond. PHILIPS 446 089 (63 min).

The thirteen selections here from Russian Orthodox liturgical music are richly harmonized, and the mixed choir expertly performs them, riding the dynamic range from hushed *pianos* to exultant *fortes*. Dmitri Hvorostovsky sings his relatively brief solos with rich tone and ringing fervor, warmly blending with the choral body but delivering a stunning A-natural in the penultimate selection. *G.J.*

NOBUKO IMAI: *Viola Bouquet.*

Nobuko Imai (viola); Roland Pöntinen (piano). PHILIPS 446 103 (77 min).

The world-class violist Nobuko Imai here offers a mix of fluff and genuine substance. Indeed, only one of the sixteen selections is a major piece, Kodaly's remarkable transcription for solo viola of the fantasia from Bach's Chromatic Fantasy and Fugue. Of the other substantial pieces, I would single out Kodaly's own early Adagio and Brahms's powerful C Minor scherzo from the F.A.E. Sonata. The lighter pieces by Tchaikovsky, Fauré, Elgar, Bloch, Kreisler, Schumann, Falla, and others are elegantly done. Roland Pöntinen's piano accompaniments are flawless, and the recorded sound is a pleasure. *D.H.*

Collections

MICHEL BÉROFF AND JEAN-PHILIPPE COLLARD: *French Piano Duos and Duets.*

EMI 55347 (67 min).

Performance: *Stunning*
Recording: *Very good*

Of the five works on this disc, Bizet's *Jeux d'Enfants*, the only one for piano duet (four hands at one keyboard), is also the only one presented in its original form. All the rest were conceived and composed specifically and brilliantly in orchestral terms, then transcribed for two pianos. It's Ravel's transcription of two Debussy nocturnes, *Nuages et Fêtes*, as well as of his own *Rapsodie Espagnole*, but Debussy's own of *The Afternoon of a Faun* and Dukas's own of his famous scherzo, *The Sorcerer's Apprentice*.

While these versions are not in any sense viable substitutes or replacements for the respective orchestral ones, they are remarkably effective in their own right. All three composers, after all, wrote brilliantly for both the piano and the orchestra, and these performances by the long-time (if only occasional) collaborators Michel Béroff and Jean-Philippe Collard are downright stunning. The recording itself is just about ideal in respect to both realism and balance. *R.F.*

JOEL KROSNICK AND GILBERT KALISH:

In the Shadow of World War II (Cello Sonatas by Prokofiev, Poulenc, and Carter).

Joel Krosnick (cello); Gilbert Kalish (piano). ARABESQUE Z6682 (69 min).

Performance: *Splendid*
Recording: *First-rate*

All three of these cello sonatas were completed within a year of each other, in 1948 and 1949, and they all have a Janus-like aspect, looking both forward and backward. The Prokofiev reflects to a degree the beating he and Shostakovich took in 1948 from the Soviet apparatchiks, who demanded a strictly socialist-realist aesthetic — no more modern monkey business. However well crafted, the work has always seemed a bit spiritless to my ear. All praise then to cellist Joel Krosnick and his superb collaborator, pianist Gilbert Kalish, for bringing it to vibrant life.

The Poulenc finds that Gallic master of song and choral music in typically mature form. For all the seeming nonchalance of the three fast movements, they make stiff demands on the players in terms of both virtuosity and musicianship. The high point is the elegant yet intensely tender cavatina slow movement.

The wonderful Elliott Carter sonata is the one really forward-looking work in this collection, pointing toward his mature and often knotty musical speech, but a happy medium is struck between complexity and accessibility. Piano and cello very much retain their individual instrumental characters, generating both comedy and deadly serious drama. The new performance has more warmth than the one Krosnick and

Paul Jacobs recorded for Nonesuch in 1969, heretofore the standard version (and still available on CD), and this one has the benefit of state-of-the-art sound. A "must" collection for cello buffs and lovers of top-drawer musicianship. *D.H.*

CAROL VANESS: Verdi and Donizetti Arias.

Carol Vaness (soprano); Bavarian Radio Choir; Munich Radio Orchestra, Roberto Abbado cond. RCA VICTOR 61828 (72 min).

**Performance: Rewarding
Recording: Very good**

Carol Vaness sings and interprets the "grand" dramatic roles excerpted here with assurance, insight, and vocal beauty. The Final Scene of Donizetti's *Anna Bolena* is delivered with accurate coloratura and a strong sense of pathos always controlled. Each of the four Verdi pieces offers its own reward. The "Semprie libera" from *La Traviata* conveys Violetta's near-desperate state of mind (the passages are too often delivered as a vocalise). There is a ghostly aura to Lady Macbeth's whispered guilt in the Sleepwalking Scene from *Macbeth*, Desdemona's strength is revealed in the Willow Song and Ave Maria from *Otello*, and the reading of the Miserere and cabaletta from *Il Trovatore* is immensely gripping. Throughout, Vaness's voice is beautiful, modulated, unforced, and her attention to the texts and characterizations is commendable. Able assistance is provided by the orchestra and chorus under the caring direction of Roberto Abbado. *R.A.*

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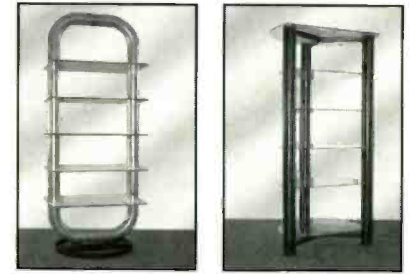
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Index to Advertisers May

Reader Service No.	Advertiser	Page Number
4	Adcom	31
3	Alpine	C4
—	Bose	7
—	Bose-Wave Radio	10
—	Boston Acoustics	13
—	Best Selling Home Plans	58
6	Cambridge SoundWorks	48-49-50
—	Camel	47
—	Chesky Records	10
11	Crutchfield	51
—	Car Stereo Review	101
15	Definitive Technology	C2-1, 32, 33
67	Energy	57
66	Energy	59
36	Eosone	55
18	J&R Music World	84-85
12	JBL	C3
27	Jensen	2-3
—	Marlboro	4-5
39	MCM	105
—	Movado Watch	40
25	NuReality	93
47	One Call	95
—	PARA	30
14	Paradigm	45
42	Paradigm	43
—	Parasound	14
—	Pioneer	28-29
67	Polk Audio	37
9	Polk Audio	39
17	Pyle	11
—	Sony	17-24, 27, 34-35
30	Sound Approach	103
29	Sound City	86
31	Toshiba	8
—	Uncle's Stereo	97
45	Uneda	105

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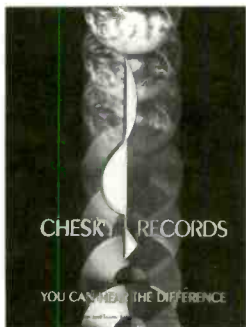
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Dr. Toole's Amazing Phantom Surround-Sound Tonic

I recently spent a day with Harman International's VP of Engineering, Dr. Floyd Toole, to hear an amazing demonstration of 5.1-channel Dolby Digital surround sound. I say "amazing" because we weren't listening to the usual home-theater setup with five speakers and a subwoofer. Instead, all of the sound coming from around the room was produced by a single pair of stereo speakers!

The trick is "phantom imaging" — creating virtual sound sources by manipulating the output of the real speakers. You've been hearing phantom images all your life, like when you're listening to a CD and you hear a singer's voice coming from the space between two stereo speakers. That stuff's easy as pie. But fooling your ears into hearing not only a phantom center image but distinct images in the space to the sides and behind you, now that takes Merlin-grade sonic wizardry.

Harman calls the processing used to create these phantom images "VMAx," for Virtual Multi-Axis Sound. Technically speaking, VMAx is a set of auditory equations known as the Cooper-Bauck transfer function. Developed by Dr. Jerry Bauck and the late Dr. Duane H. Cooper and now licensed to Harman, this process goes far beyond what other "3-D stereo" schemes have been able to deliver in terms of producing a believable surround sound field from just one pair of speakers.

If I were to stand in front of a chalkboard and attempt to go into the math behind Cooper-Bauck, you would fall into a deep, restful sleep, only to be awakened an hour or so later by the sound of my head exploding like a soft melon. But here's the simplified skinny. In a perfect stereo world, your left ear would hear only the left speaker, and your right ear would hear only the right speaker. But in the real world, each ear hears both speakers, and this limits the amount of true front-to-back depth and wraparound imaging you hear from a stereo recording.

Enter HRTF. This stands for Head-Related Transfer Function, which refers to the way a person's two ears perform image localization. HRTF research centers around the use of a dummy head not unlike mine, but with a small microphone

buried inside each ear canal to mimic the human auditory process. By measuring the phase, frequency-response, and timing differences as sounds are directed at the dummy head from as many different angles as possible, researchers have been able to come up with HRTF's that, with various levels of success, can be used to produce uncannily realistic 3-D playback from a conventional pair of speakers. If you make enough measurements and get your math right the way Cooper and Bauck did, you can use the processing to enhance both the stability of the phantom images and the size of the listening zone so that the 3-D effect doesn't fall apart when you move your head.

At Harman, I listened to the VMAx process on two separate systems of wildly

With Harman's VMAx process, I heard distinct, realistic "ghost" images all around the room from a single pair of speakers.

differing quality levels, and in both cases the results were very impressive. In both of Toole's demos, a Lexicon DC-1 surround preamp was used to decode signals from various Dolby Pro Logic and Dolby Digital laserdiscs, and to synthesize music surround modes from stereo CD's. The Lexicon's outputs all fed into the VMAx processor, which mixed everything down to two channels encoded with the Cooper-Bauck transfer function. The processed stereo output was then fed to the amplifiers and speakers as it would be in a normal audio system.

Except the result was anything but normal. I heard totally distinct and realistic-sounding "ghost" images all around the room. The VMAx process even has a "speaker spreader" effect that produces phantom images of the left and right speakers that sound as if you'd taken the real speakers and moved them farther

apart. The spreader is designed to compensate for the fact that VMAx works best when the two speakers are closer together than you'd normally place them for a nice, wide soundstage. In practice, the two real speakers generate five phantom speakers around the room!

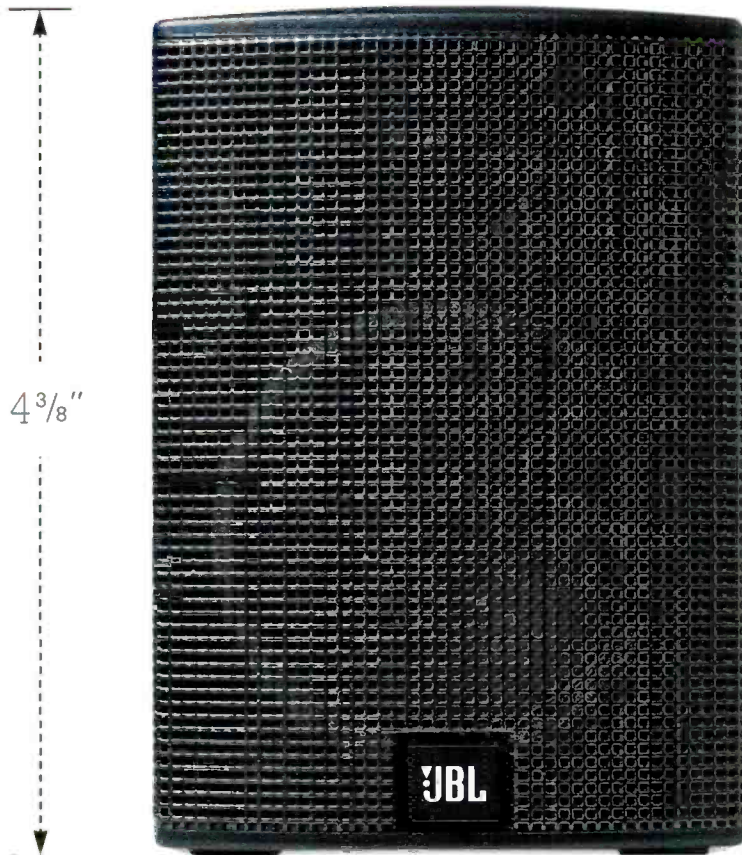
But the acid test of any surround-sound system, virtual or otherwise, is pink noise. Sending pink noise to each speaker in turn is the most revealing test of whether all of the speakers in a home theater are matched in timbre, and thus able to reproduce the original sound field accurately. In every other virtual-surround technique I've heard, the pink-noise test revealed stark timbre differences between the real and phantom speakers.

But when Toole sent the pink noise circling around the room from speaker to speaker, there was virtually no timbral difference between the five phantom speakers. I just heard the same sound move from left to center to right to behind my right shoulder to behind my left shoulder — with, I might add, a tighter timbral match than most systems I've heard using five *real* speakers. Toole likes to joke that one of the benefits of using two speakers for virtual surround is that all five phantom speakers are automatically timbre-matched, but it's not simple. Co-inventor Bauck explains that it took a lot of research and math to come up with the necessary equalization parameters.

It's important to note that VMAx is not a product — it's a circuit that will find its way shortly into products like TV's, home-theater processors, and multimedia PC's from Compaq, among others (Compaq just announced a new system featuring the VMAx processor on an internal audio daughterboard). I believe the PC workstation is where VMAx will find its greatest success, because this seating arrangement automatically places the listener in the perfect sweet spot — in the near-field listening zone and dead center between two closely spaced speakers flanking the PC monitor. Pretty soon, you'll be able to throw a DVD into the DVD-ROM drive, click on the VMAx icon on your screen, and hear goose-bumpy surround sound swirling around your head, precisely defined in space to a degree that even the best home theater can't match.

The field of virtual 3-D imaging has had more than its fair share of gimmickry and pseudo-products, but Harman's VMAx is the first such process that has truly impressed me. When I heard an early demo at the 1996 Winter CES, I thought it was easily the most exciting thing at the show. Now that it's ready for prime time, VMAx is poised to bring fully realized virtual imaging home for the first time. This is a whole new ball game, and I think you're going to be as amazed as I was when you get to hear it. □

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