

Stereo Review

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BULLETIN

by Rebecca Day and William Livingstone

Kennedy Center Honors

The Kennedy Center for the Performing Arts in Washington, D.C., in its fourteenth annual tribute to outstanding artists, will confer this year's Kennedy Center Honors on the country singer Roy Acuff, the musical-comedy writers Betty Comden and Adolph Green, the tap dancers Fayard and Harold Nicholas, the actor Gregory Peck, and the conductor Robert Shaw. The 1991 honorees will be saluted at a gala performance in the Kennedy Center Opera House on Sunday, December 8, to be telecast by CBS.

Tape Report

Four winners of Sony's "Off to London" instant-win game, which runs during November and December, will receive a one-week trip for two to London for the Prince's Trust concert next summer. Game cards will be found in specially marked packages of Sony audio and video cassettes, and additional prizes include 32-inch TV's, Walkman personal stereos, and bonus points toward the purchase of other merchandise. . . . TDK has introduced a 100-minute metal cassette under the MA-X label.

Music Notes

Bruce Springsteen's album "Greetings from Asbury Park, New Jersey" (Columbia), released in January 1973, has finally been certified Platinum by the Recording Industry Association of America. . . . The latest of Concord Records' releases to be encoded for Dolby Surround are Poncho Sanchez's "A Night at Kimball's East" and Mel Tormé and George Shearing's "Mel & George 'Do' World War II." They are compatible with stereo or mono reproduction. . . . The

great jazz trumpeter Miles Davis was made a knight of the Legion of Honor in France shortly before his death in September.

Cataloguing Collections

Several computer programs are available for organizing music collections on CD. The third version of MusicArts (\$130) from Hester & Associates (800-365-0148) has a database capacity of one billion entries. It requires an IBM-compatible PC running DOS 2.0 or higher, a minimum of 400K memory, and floppy and hard disk drives. . . . Simple Librarian (\$45) from Simple Software (214-386-6738) requires an IBM-compatible computer with a minimum of 512K memory, a floppy drive, 2 megabytes of hard-disk space, and DOS 2.1 or higher. . . . For CD/Record Collectors (\$60) from HomeCraft Computer Products (503-692-3732) comes in pop, classical, and jazz versions and has user-definable lines for customized listings. It requires an IBM-compatible computer and 256K memory; a hard disk is recommended but floppies can be used. . . . The Music Library System (\$70) from the Software Guild (305-956-3114) runs on IBM-compatibles and on Macintosh Plus and SE computers. It can store as many as 30,000 titles on a hard disk or several hundred on a floppy disk. A minimum of 192K memory and one floppy disk drive are required. . . . SoftKey Systems (P.O. Box 99755, Pittsburgh, PA 15233) offers Compact Disc Master (\$15), Compact Disc Master Xtra (\$45), Classical Music Master (\$45), and Music Collector Master (\$45), all of which require an IBM-compatible computer running DOS 2.0 or higher and 512K memory.

"Fantasia" on Video

The fully restored, fiftieth-anniversary version of Walt Disney's animated film *Fantasia* (shown in theaters last year) is being released in several home video formats for a limited time of exactly fifty days beginning November 1. A standard (no frills) VHS cassette version costs \$24.99. The deluxe, boxed, collectors' edition (\$99.99) includes the cassette of the movie, a second cassette on the making of the movie, a commemorative lithograph, a sixteen-page book, and the classical soundtrack on two CD's. Laserdisc versions will be available for the same period. The standard two-disc version is on three sides in the CLV format (\$39.99). The deluxe three-disc version (\$99.99) has five sides in the CAV format and supplementary material in the CLV format on the sixth side, plus the book and lithograph. According to Disney executives, after the fifty-day period, *Fantasia* will never again be available for home video. □



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Cover

For a pro's advice on how to make good tape recordings from your compact discs, see page 72.

Photograph by Christopher Gould

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What good is Single Bit if you miss a single note?

Today, more and more CD Player manufacturers are making Single Bit the digital format of choice. Gone are the low level linearity problems that plagued multi-bit players which resulted in a loss of musical detail during quieter passages. Gone is the harshness that came from improper bit calibration or the shifting of calibration through time and use.

In their haste to rally around this newer, simpler technology however, many manufacturers have overlooked certain sonic characteristics of Single Bit. After all, what good is it if every single note isn't perfect?

The first is a phenomenon called CD Jitter. Because of the incredible speed at which a Single Bit D/A Converter has to work, timing errors may occur. In audible terms, these errors manifest themselves as distortion that you hear as muddiness in the bass and lack of clarity in the midrange at high volume levels.



The smaller, bar-shaped Onkyo AccuPulse Quartz oscillator shown at right prevents timing error vibrations far more effectively than the conventional oscillator at left.

Onkyo resolves this via our proprietary AccuPulse Quartz System. It uses a special quartz oscillator clocking mechanism that maintains rock solid stability throughout the digital-to-analog conversion process. The result is a degree of sonic realism you'll notice from the instant the disc begins playing.



All Single Bit systems must also incorporate some sort of Noise Shaping to remove unwanted switching noise inherent in the high speed D/A conversion. Other companies reduce this noise on a continuous slope from the high to low frequencies, in the belief the music will mask the noise in those areas it might be audible. Onkyo's Zero Shift Noise Shaper technology takes a different approach by completely eliminating noise in the middle of the frequency range where the most critical and complex musical information is contained.

Finally, the process by which Single Bit works, called Pulse Width Modulation, can allow small amounts of distortion to creep into the analog output signal. Again, most manufacturers are willing to let this pass, confident it will be obscured by the music. Onkyo's dedication to high fidelity won't allow us to take this chance. Through a phase inversion process we call our Complementary Distortion Canceler, any chance of distortion reaching the output signal is removed.

Buying a Single Bit CD Player shouldn't require a degree in engineering, just a few questions to insure the player is giving you the best single bit performance possible. You'll find that the answer will be Onkyo.



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Hans Fantel, Rolling Stone on Model V62

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Harry Somerfield, San Francisco Chronicle on Model V630

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Editor at Large
WILLIAM LIVINGSTONE

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

Vice President, Group Publisher
NICHOLAS MATARAZZO

Consumer Electronics Group
 Advertising

VP/Regional Advertising Director, East Coast:
Charles L. P. Watson, (212) 767-6038
 Regional Account Manager, East Coast:
Christine B. Forhez, (212) 767-6025

VP/Regional Advertising Director, Midwest:
Scott Constantine, (212) 767-6346

VP/Regional Advertising Director, West Coast:
Robert Meth, (213) 739-5130

Regional Account Manager, West Coast:

Paula Mayeri, (213) 739-5130

Sales Assistant, West Coast: **Lisa Pozen**

Assistant to the Publisher: **Nadine L. Goody**

Operations Manager: **Sylvia Correa**

Advertising Coordinator: **Linda Neuweller**

Sales Assistant: **Yvonne Telesford**

Classified Advertising: (800) 445-6066

Production Manager: **Vicki L. Felmel**

Production Director: **Patti Burns**

Business Services Director: **Greg Roperi**

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LETTERS

Digital Decisions

I enjoyed Michael Riggs's comparison of digital recording formats in the October issue. But when you give detailed specifications of products that don't yet exist, including their "durability"—come back to earth. Some of these products will never descend to earth, and the rest will float down when the hype leaks out with much more modest specs.

W. ROTHSTEIN
Baltimore, MD

The article noted that many of the specification-table entries were approximate or based on manufacturers' claims.

I am very excited about Sony's Mini Disc format. Of all the new formats coming to the market, I feel that it will be the best all around because of its durability, small size, resistance to vibration, and its not using magnetic tape.

Since MD is a digital format, would it be possible to record from CD to MD in a matter of seconds as you do from the A to B drives of a computer? Could you hook up an MD recorder to a CD-ROM

player and record a CD without having to listen to all of it?

CRAIG A. BERNARD
Palos Park, IL

Actually, you can copy digitally from CD to DAT (or to DCC or MD, when those systems become available) if your player has a digital output, but it will take just as long as recording via analog connections since the data stream is fed to a player's digital output and digital-to-analog converter at the same rate. The data rate is extremely high, however: In just 2 seconds, a CD delivers enough data to fill a 360-kilobyte computer floppy.

Will there be a CD player that can record music onto other CD's on the market in the near future? If so, I am going to start saving up now for one.

STEVE RANDI
Bethel, CT

Recordable CD's (CD-R) are available now, but the discs and recorders are very costly, and the discs are not erasable. Erasable, fully compatible recordable CD's (CD-E) are some years off.

"Green" Packaging

Robert Wadsworth's letter in October lauding the "green" packaging of the new Bonnie Raitt CD refers to the plastic spines on the cardboard Digipak as "throwaway," though these are intended to be recycled; it's a fair bet that most will end up in landfills with his. So in the name of "environmentalism," we give up throwing away cardboard and keeping plastic in favor of throwing away plastic, which will be in landfills forever, and keeping cardboard, which will swiftly become worn and dirty.

JON JEROME
Buffalo Grove, IL

Test CD's

Audiophiles who purchase the pricy CBS CD-1 as their only test disc (as recommended by Ralph Hodges in October's "The High End") may be disappointed to discover that it contains nothing applicable to testing speakers in listening rooms (such as phasing and pink noise). When it first appeared, the CD-1 was invaluable for its low-level

Strike Up A Deal With Sony.

Buy any Sony home or car CD player...



tests for CD players, but the *Hi-Fi News & Record Review* "CD 11" (\$30) duplicates all of them and gives one-third-octave pink noise as well. Denon's "Audio Technical CD" (\$20) has swept frequencies with pre-emphasis, which is much more revealing than the CD-1's meager four tones.

We stock all three discs plus twenty-five other test CD's. Our telephone number is (603) 899-5121.

DAVID HADAWAY
President, DB Systems
Rindge Center, NH

Natalie Cole

Regarding Phyl Garland's October review of Natalie Cole's "Unforgettable," I wonder if we heard the same disc. While a tribute to Nat "King" Cole is long overdue, and there is certainly a sentimental basis for having it delivered by his daughter and namesake, I really don't find much to like about this collection. Except for her scatting in *Don't Get Around Much Anymore* and a nice turn in *Paper Moon*, Ms. Cole just doesn't bring anything to the music.

And where in the world did Ms. Garland get the idea that Charlie Chaplin wrote *Smile* for Nat Cole? It was written for Chaplin's semi-silent film *Modern Times* and appears throughout the score.

MARTIN CHESLOW
Stamford, CT

You're right about Smile, and we regret the error.

Alice Cooper

In the October issue Ron Givens reviews Alice Cooper's "Hey Stupid" and refers to the singer's current age as forty-five. Later he says, "When Cooper sang 'I'm eighteen and I like it,' it was believable even though he was then twenty-one." If this is true, then Cooper must have recorded *I'm Eighteen* around 1967, but it actually dates from around 1972, five years later.

BRAD CARTY
Red Bank, NJ

Actually, Alice Cooper was born in 1948, so he's forty-three, and I'm Eighteen was released in 1971, so he was twenty-three at

the time. Ron Givens, wiping egg off his face, said, "Hey, I'm a music critic, not a mathematician."

John Denver

If I were teaching a journalism course, Alanna Nash's interview with John Denver in August would be a "best" example. Ms. Nash maintained an evenly dry voice of report, outdoing the Swiss in neutrality, saving editorial comment for the organization of facts and quotes. Thus, Ms. Nash seems to disappear, while John Denver emerges. I tried to paraphrase the *tone* of the article to a friend and found it impossible. To me, that signals exceptional writing.

DAVID M. KUIECK
Boston, MA

Correction

The address we gave in November for Museatex Audio, in the test report on the Melior Audio/Video Control Center, is no longer correct. The company's new address is 1829-54th St. S.E., Calgary, Alberta T2B 1N5, Canada. □

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Johnny Mathis	Johnny's Greatest Hits	34667	Sarah Vaughan	Brazilian Romance	42519
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Ted Nugent	Ted Nugent	33892	Leonard Bernstein	Romance For Saxophone	42122
Marvin Gaye	Midnight Love	38197	Leonard Bernstein	Children's Classics	44712
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NEW PRODUCTS

Optimus

The Optimus SCT-50 from Radio Shack combines a cassette deck and a compact disc player in one chassis. The CD player features twenty-six-track programming, repeat play, and an index display. The autoreverse cassette deck

features CD-to-tape synchro recording, continuous repeat playback, and Dolby HX Pro headroom extension. Price: \$299. Radio Shack, Dept. SR, 700 One Tandy Center, Fort Worth, TX 76102. **Circle 120 on reader service card**



Alpine

Alpine's Model 7914 car CD tuner incorporates the company's Hybrid-I digital-to-analog converter, which combines elements of multibit and 1-bit technology. CD features include Music Sensor, disc and track repeat, intro scan, and random play. The disc transport automatically locks when a CD is ejected, protecting the laser assembly from damage or misalignment. The T-10 II tuner

section is said to provide better reception of weak signals with less multipath distortion. Tuner features include direct-access presets, preset scan, and auto memory scan, which seeks out and stores the strongest stations in an area. Price: \$500 (\$550 for the removable Model 7915 version). Alpine, Dept. SR, 19145 Gramercy Pl., Torrance, CA 90501. **Circle 121 on reader service card**



Denon

Denon's DCP-150 portable CD player has an eight-times-oversampling digital filter and dual 18-bit digital-to-analog converters. Features include resume play, five repeat and three random-play modes, and programming for up to thirty-two tracks. Dimensions are 5½ x 1½ x 6¾ inches, weight 1½ pounds with bat-

tery. The DCP-150 comes with a rechargeable battery, an AC adaptor, and a remote control for all functions including power switching and volume adjustment. Price: \$400. Denon America, Dept. SR, 222 New Rd., Parsippany, NJ 07054.

Circle 122 on reader service card



Dantax

The Sub 3000 three-piece speaker system from the Danish manufacturer Dantax has a rated frequency response of 35 to 20,000 Hz. Sensitivity is given as 90 dB, impedance as 6 to 8 ohms. The satellite speakers have 4-inch polypropylene midrange drivers and 2-inch ferrofluid-cooled cone tweeters. The subwoofer has two 8-inch polypropylene woofers that operate in a push-pull configuration in a cylindrical enclosure that's said to minimize standing waves. Crossover points are at 95 and 5,000 Hz. The subwoofer is 21½ inches tall and 9¾ inches in diameter; the satellites are 8¾ x 5½ x 4¼ inches. The system is available finished in either black or white. Price: \$999. Distributed by Nordost Marketing Co., Dept. SR, 420 Franklin St., Framingham, MA 01701.

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What you're looking at is not a CD. Well, not exactly. It's actually a new kind of CD called a CD-I. You've probably already read that CD-I's were coming. And you probably already know that CD-I stands for Compact Disc Interactive. What you may not know is that just one 5" disc can contain the combined works of Shakespeare, Dickens and Mark Twain. It can bring to life the paintings and photographs of the great museums of the world. And it can enable your children to exercise their creativity by using television as an interactive educational tool. CD-I technology is not like anything you've seen or heard before. And the possibilities it creates are, truly, limited only by your imagination.



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When the engineers at Philips figured out how to turn an audio signal into a series of digital impulses, a format was born that provided an everlasting alternative to the LP. Of course, what can be done to an audio signal can be done to a video signal as well. Thus, the advent of CD-I.

A combination of both technologies, the Imagination Machine is greater than the sum of its parts. As a CD player, it provides stunning musical clarity thanks to Philips "Bitstream processing." And, as a CD-I player, it creates an exciting new world of interac-

tive audio/video, animated graphics and text. A world you can manipulate and control.

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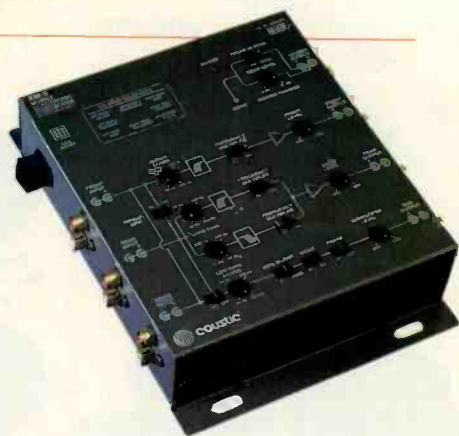
NEW PRODUCTS

NAD

NAD's Monitor 1000 stereo preamplifier is said to provide high performance at a low price by avoiding elaborate controls and features. Its five line-level inputs are all connected directly to the input-selector switch and then to the volume control to shorten the signal path. The phono-preamp stage uses discrete transistors as well as advanced infrasonic filtering to eliminate extrane-

ous signals. A rear-panel switch provides 20 dB extra gain for moving-coil cartridges. The preamp has bass and treble tone controls and a tone-defeat switch, with low-impedance tone-control and output stages. Price: \$299. NAD, distributed by Lenbrook Industries, Dept. SR, 633 Granite Ct., Pickering, Ontario L1S 3K1.

Circle 124 on reader service card



Coustic

Coustic's XM-5 asymmetrical electronic crossover was designed to work with any combination of car stereo components. Its three crossover-frequency control ranges overlap to cover the entire audio spectrum. The XM-5 can be used in a basic biamp setup for a four-channel system; a special circuit enables two or more units to be linked together, permitting the creation of as many crossover points as you need. There is a mono center-channel output that incorporates a selectable 200-Hz high-pass filter. Price: \$225. Coustic, Dept. SR, 4260 Charter St., Vernon, CA 90058.

Circle 127 on reader service card



Celestion

The Celestion 9 three-way bookshelf loudspeaker incorporates a two-piece titanium-dome tweeter, a 4½-inch midrange, and a 6-inch woofer in a vented enclosure. The midrange uses a felted-fiber cone material, which is said to reduce coloration, and a two-roll surround built on a resonance-free, molded-polycarbonate chassis inside an acoustically damped chamber. The woofer also has a felted-fiber cone. Frequency response is given as 55 to 20,000 Hz \pm 3 dB, sensitivity as 89 dB. Nominal impedance is 8 ohms. Power handling is rated as 100 watts. Input terminals are dual binding posts that accept banana plugs, spade lugs, or bare wire. The enclosure is finished in simulated oak or black-ash veneer. Dimensions are 8³/₁₆ x 19¹/₂ x 9⁷/₈ inches. Price: \$599 a pair. Celestion Industries, Dept. SR, 89 Doug Brown Way, Holliston, MA 01746.

Circle 125 on reader service card



Fultron

Fultron's 12-inch Carbon Fiber car subwoofer has a butyl-rubber surround and a textured carbon-fiber cone that is said to use power more efficiently than a paper or polypropylene cone. It has dual voice coils and a cast-aluminum basket said to resist warpage and bending. A vented pole piece helps cool the voice coil for higher power handling and better durability. The company recommends mounting the speaker in a seventh-order ported enclosure or a 1-cubic-foot sealed enclosure, either of which is said to require about half the mounting space of most car subwoofers. Price: \$200. Fultron Car Audio, Dept. SR, Box 177, Memphis, TN 38101.

Circle 128 on reader service card

Nitty Gritty

Nitty Gritty's CD Master compact disc cleaning system comes with a simulated-oak cleaning base, an applicator/buffer, and a 2-ounce bottle of Pure CD fluid, which combines a cleaner, an anti-static agent, and a plastic clarifier/protectant. The system is said to clean debris and smudges, reduce strain on error-correction circuitry, and restore the surface of discs that have minor scratches and abrasions. Price: \$49.95. Nitty Gritty Record Care Products, Dept. SR, 4650 Arrow Highway #4, Montclair, CA 91763.

Circle 126 on reader service card



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PSB Speakers

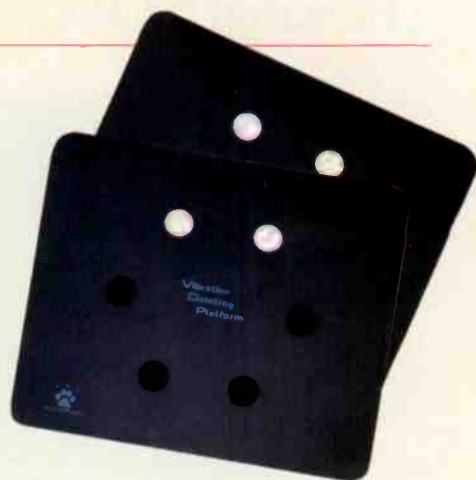
The PSB Stratus Mini loudspeaker has a ¼-inch aluminum-dome tweeter, a long-throw 6½-inch woofer, and a 24-dB-per-octave Linkwitz-Riley crossover network. The location of the tweeter, below the woofer, is said to maintain consistent frequency response regardless of the position of the listener. The high crossover point, 2,200 Hz, is said to enable the speaker to generate high volume without strain. Frequency response is given as 45 to 20,000 Hz ±3 dB, sensitivity as 86 dB. The baffle and grille frame are beveled. Dimensions are 16¼ x 9 x 12½ inches. Finishes are light, dark, or black oak. Price: \$800 a pair; \$200 for optional stands. PSB Speakers, Dept. SR, 633 Granite Ct., Pickering, Ontario L1W 3K1, Canada.

Circle 129 on reader service card

Pacific Audio Works

The Vibration Deleting Platform from Pacific Audio Works, made of 0.075-inch steel, is designed to prevent unwanted vibration in an audio or video system. The hexagonal pattern of holes provides for air circulation around a component, and energy-absorbent rubber mounting feet also help to reduce vibration. The platform measures 18 x 15 x 7/8 inches and weighs approximately 5½ pounds. Price: \$59.95. Pacific Audio Works, Dept. SR, 160 Martinvale Lane, San Jose, CA 95119.

Circle 130 on reader service card



Sharp

The Sharp CD-C900 minicomponent system features a built-in 70-watt powered subwoofer. The system includes a 40-watt-per-channel amplifier with a graphic equalizer preprogrammed for rock, pop, and jazz; a sound expander to create spacious, wide, and narrow sound fields; and a video input and output. The six-disc CD changer has a four-times-oversampling digital filter, dual digital-to-analog converters, synchro dubbing for recording to tape, random play, and a programming memory for up to twenty discs. The double autoreverse

cassette deck has Dolby B noise reduction and automatic program search. Twenty FM and ten AM presets are offered with the tuner, which has a built-in clock/timer. The two-way bass-reflex speakers have 4¾-inch woofers and 2-inch tweeters. The electronic components all measure 10¾ inches wide and 11¾ inches deep, and the speakers and subwoofer are each 6¼ x 12½ x 10¾ inches. Price: \$1,250 complete. Sharp Electronics, Dept. SR, Sharp Plaza, Mahwah, NJ 07430.

Circle 131 on reader service card



Casio

The use of large-scale integrated circuits and high-density mounting enables Casio's DA-R100 digital audio tape recorder to fit into the palm of a hand. A table-of-contents feature displays the number of selections on the tape, the total playing time, and the starting point and length of each selection. Both standard (2-hour) and long-play (4-hour) modes are provided. Additional features include coaxial and optical digital inputs,

a built-in analog-to-digital converter, adjustable-length fade, and repeat. Standard accessories include an AC adaptor, a Ni-Cd rechargeable battery pack, and a carrying case. An adaptor to power the deck from a car cigarette lighter is optional. The DA-R100 measures 3½ x 1½ x 4¾ inches. Price: \$1,050. Casio, Dept. SR, 570 Mt. Pleasant Ave., P.O. Box 7000, Dover, NJ 07801.

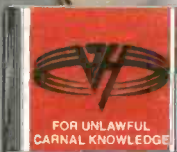
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Desmond Child:
Discipline
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Joe Jackson:
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(Virgin) 64269

Starship: Greatest
Hits (RCA) 90270

Vinnie James: All
American Boy
(RCA) 63237

Dread Zeppelin:
5,000,000
(I.R.S.) 43535

Chris Isaak: Heart
Shaped World
(Reprise) 73735

AC/DC: The Razors
Edge (ATCO) 33379

Trixter (MCA) 61594

Daryl Hall & John
Oates: Change
Of Season
(Arista) 00543

David Lee Roth: A
Little Ain't Enough
(Warner) 10551

Black Box:
Dreamland
(RCA) 84063

Prince: Graffiti
Bridge (Paisley
Park) 34107

Jesus Jones: Doubt
(SBK) 44654

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Civilization (Warner
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Paula Abdul:
Spellbound 73320

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Dancin' On Coals
(MCA) 14678

Diamond Rio
(Arista) 10702

Gipsy Kings:
Este Mundo
(Elektra) 34546

Elvis Presley: Slings
Leiber And Stoller
(RCA) 44359

Mark O'Connor: The
New Nashville Cats
(Warner) 14669

Def Leppard:
Pyromania
(Mercury) 70402

George Benson/
Count Basie/Orch.:
Big Boss Band
(Warner) 13519

Neil Young:
Regged Glory
(Reprise) 34621

Kentucky
Headhunters:
Pickin' On Nashville
(Mercury) 24740

Anita Baker:
Compositions
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Don Henley:
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Akoustic Band:
Alive (GRP) 10721

The Bonnie Raitt
Collection (Warner
Bros.) 00569

Suzanne Ciani:
Pianissimo (Private
Music) 11047

Aerosmith: Pump
(Geffen) 63678

Contraband
(MCA) 32031

Jefferson Starship:
Gold (RCA) 64132

Clint Black: Put
Yourself In My
Shoes (RCA) 24690

Sinead O'Connor: I
Do Not Want What I
Have 'n Got
(Chrysalis) 33512

Paul Simon:
Negotiations And
Love Songs 1971-86
(Warner) 20461

The Police: Every
Breath You Take—
The Singles
(A&M) 73924

Dirty Dancing Sdtk.
(RCA) 82522

Lynyrd Skynyrd:
1991 (Atlantic) 34437

Keith Washington:
Make Time For Love
(Qwest) 10819

Ziggy Marley:
Jahmekya
(Virgin) 54204

Best Of Robert
Palmer: Addictions
(Island) 10819

Gary Burton:
Cool Nights
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Metallica: ...And
Justice For All
(Elektra) 00478

ZZ Top: Recycler
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Wilson Phillips
(SBK) 00725

Damn Yankees
(Warner) 14852

Londonbeat: In The
Blood (MCA) 44569

Bob Marley: Legend
(Island) 53521

Skid Row:
Slave To
The Grind
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Skid Row
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Nelson: After The
Rain (DGC) 74079

James Taylor:
Greatest Hits
(Reprise) 23790

Styx: Edge Of
The Century
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Steve Winwood:
Refugees Of The
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Guy!: Guy!...The
Future (MCA) 14875

Kool Moe Dee:
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Bell Biv DeVoe:
Poison (MCA) 00547

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(RCA) 53656

Pat Benatar:
True Love
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Yanni: Reflections
Of Passion (Private
Music) 24223

Elvis Costello:
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Roger McGulinn:
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(Elektra) 33928

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Like A Rainstorm,
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(Elektra) 52221

Kenny G: Live
(Arista) 64505

Randy Travis:
Heroes And Friends
(Warner) 74597

Diana Ross & The
Supremes: 20
Greatest Hits
(Motown) 63867 *

Lynyrd Skynyrd's
Innyrds (MCA) 01150

Chicago: Twenty 1
(Reprise) 10533

Billy Idol:
Charmed Life
(Chrysalis) 62264

David Sanborn:
Another Hand
(Elektra) 54527

Another Bad
Creation: Coolin' At
The Playground
(Motown) 10456

Lenny Kravitz:
Mama Said
(Virgin) 10041

White Lion:
Mane Attraction
(Atlantic) 54209

Yellowjackets:
Greenhouse
(GRP) 10475 *

Crosby, Stills, Nash
& Young: Greatest
Hits (So Far)
(Atlantic) 30230

Patsy Cline: 12
Greatest Hits
(MCA) 53849

Chicago: Greatest
Hits 1982-1989
(Reprise) 63363

Styx: Classics (14
Greatest Hits)
(A&M) 14822

Morrissey: Kill
Uncle (Sire) 20588

Twin Peaks/TV Sdtk.
(Warner) 63540

Vangelis: The City
(Atlantic) 53304

Johnny Gill
(Polydor) 00738

U2: Rattle And Hum
(Island) 00596

Kathy Mattea: A
Collection Of Hits
(Mercury) 10791



Steely Dan:
Decade—The Best
Of Steely Dan
(MCA) 54135 *

Eagles: Greatest
Hits 1971-1975
(Asylum) 23481

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

Bulletboys:
Freakshow (Warner
Bros.) 34757

Judy Garland: Best
Of The Decca Years,
Vol. 1 (MCA) 10497 *

Bad Company:
Holy Water
(Atlantic) 24784

Horowitz At Home
(DG) 25211

Teddy Pendergrass:
Truly Blessed
(Elektra) 14879

Kik Tracee: No
Rules (RCA) 10719

Extreme:
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Boyz II Men:
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Marvin Gaye:
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(Motown) 53534 *



R.E.M.: Out
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24762

R.E.M.:
Eponymous
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Jimmy Buffett:
Songs You Know
By Heart (Greatest
Hits) (MCA) 42157

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(Polydor) 63353

Best Of The Doobie
Brothers (Warner
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Black (Atlantic) 13772

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 Alabama: Pass It On Down (RCA) 00531
 John Williams/ Boston Pops In Space (Philips) 05392
 The Who: Who's Better, Who's Best (MCA) 00790
 Alan Jackson: Don't Rock The Jukebox (Anista) 43877
 Tangerine Dream: Melrose (Private Music) 10724 *
 Bryan Adams: Reckless (A&M) 51540
 Garfield: Am I Cool Or What? (GRP) 50376

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 Best Of Eric Clapton: Time Pieces (Polydor) 23385
 Best Of Bad Company: 10 From 6 (Alliantic) 60321

Spyro Gyra: Collection (GRP) 33286



Stevie Wonder: Jungle Fever/Sdtk. 54197
 Stevie Wonder: Love Songs 43886 *

Earl Klugh: Midnight In San Juan (Warner Bros.) 73722
 Billie Holiday: The Silver Collection (Verve) 60968 *
 Gordon Lightfoot: Gord's Gold (Reprise) 24008
 Charlie Parker: Bird/Original Recordings (Verve) 01044

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 Jimi Hendrix: Kiss The Sky (Reprise) 61349
 Vince Gill: Pocket Full Of Gold (MCA) 73599
 Kiss: Smashes Thrashes And Hits (Mercury) 00736
 America: Greatest Hits (Warner) 23757
 Van Halen (Warner Bros.) 14820

Joni Mitchell: Night Ride Home (DGC) 10731

Paul Simon: Graceland (Warner) 72315

Hi-Five: Hi-Five (Jive) 10542
 Taj Mahal: Like Never Before (Private) 42141

Take 6: So Much 2 Say (Reprise) 53580



Madonna: Immaculate Collection 54164
 Madonna: I'm Breathless 00572

Suzanne Clani: Planissimo (Private) 11047 *
 Boston: Third Stage (MCA) 73392
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 Janet Jackson's Rhythm Nation 1814 (A&M) 72386

Traveling Wilburys, Vol. 3 (Warner Bros.) 24817

George Strait: Chill Of An Early Fall (MCA) 53641

The Escape Club : Dollars And Sex (Atlantic) 54291

The Mamas & The Papas: 16 Of Their Greatest Hits (MCA) 80183 *

U2: The Joshua Tree (Island) 53501

Eagles: Hotel California (Asylum) 30030

Fleetwood Mac: Rumours (Warner Bros.) 24025

Eric Clapton: Journeyman (Warner) 53940

Whitney Houston: I'm Your Baby Tonight (Anista) 10663

Frank Sinatra: The Very Good Years (Reprise) 80304



The Doors: Sdtk. 54289
 The Doors: Live At The Hollywood Bowl 42851

Bette Midler: Beaches/Sdtk. (Atlantic) 00793

Winger: In The Heart Of The Young (Atlantic) 00570

Van Morrison: Astral Weeks (Warner) 53574

Morrissy: Bona Drag (Sire) 00578

The Stone Roses (Silverstone) 53921

Deee-Lite: World Clique (Elektra) 52050

Clint Black: Killin' Time (RCA) 01112

Highway 101: Bing Bang Boom (Warner) 53985

Too Short: Short Dog's In The House (Jive) 54304

Talking Heads: Stop Making Sense (Sire) 24560

Lisa Stansfield: Affection (Anista) 34198

Elvis Presley: #1 Hits (RCA) 72190



Natalie Cole: Unforgettable 83452

Daryl Hall & John Oates: Rock 'N Soul, Part 1 (RCA) 13313
 The Judds: Love Can Build A Bridge (RCA) 24549
 Marcus Roberts: Alone With Three Giants (Novus) 54397

Traveling Wilburys: Volume 1 (Warner) 00711

The B-52's: Cosmic Thing (Reprise) 14742

Kronos Quartet: Black Angels (Elektra) 62287

Guess Who: Greatest Hits (RCA) 34186

Keith Sweat: I'll Give All My Love To You (Elektra) 51603

Best Of The Bubblegum Years (Buddah) 24141

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Carver

Carver's HR-742 audio/video receiver incorporates the company's Sonic Holography circuitry. Rated at 80 watts per channel, it has high-current output capabilities and can be used safely with low-impedance speakers. The tuner, which has thirty AM/FM presets, features Carver's Asymmetrical Charge-Coupled FM Detection technology for clean re-

ception. Other features include a 75-ohm coaxial input switch for selection between a TV antenna and a cable box, separate preamplifier outputs and main amplifier inputs for use with an additional amplifier, and a sleep timer. Price: \$630. Carver, Dept. SR, 19210 33rd Ave. W., P.O. Box 1237, Lynnwood, WA 98036.



Advent

Advent's Gallery Series acoustic-suspension in-wall loudspeakers use a 6½-inch high-excursion woofer and a ½-inch ferrofluid-filled, hard-dome polycarbonate tweeter. Bandwidth is rated as 60 to 21,000 Hz, sensitivity as 89 dB, impedance as 6 to 8 ohms, and power handling as 50 watts rms, 150 watts peak. The speakers, available with a black baffle and a grille framed in solid pecan or with a paintable white grille, baffle, and trim plate, feature a simplified clip-on mounting system. Exterior dimensions are 12¾ x 8¾ inches. Price: \$399 a pair in wood, \$349 in white. Advent, Dept. SR, 4136 N. United Pkwy., Schiller Park, IL 60176.

Circle 133 on reader service card

Rolykit

The Rolydisc CDR-40 storage system can hold as many as forty CD's. Made of injection-molded plastic, the CDR-40 has a dustproof roll-top closure to protect discs. Stored discs are positioned on a slight incline so that the spine of each CD is easily read. Multiple units can be stacked or stored side by side. The CDR-40 measures 13½ x 13 x 6¼ inches and is available in gray/white, black, green, pink, red, or blue. A twenty-disc version of the storage system is also available. Price: CDR-40, \$24.99; CDR-20, \$14.99. Rolykit, Dept. SR, 960 Rt. 22, Suite 209, Fox River Grove, IL 60021.

Circle 134 on reader service card



Sota Industries

The Sota Time Domain three-way speaker system consists of separate bass and midrange-tweeter modules that are decoupled from each other by spikes. The 8-inch woofer, 7-inch dual-voice-coil midrange, and inverted-dome tweeter are all made of multilayer Kevlar, which is said to be 50 percent lighter yet ten times more rigid than paper or polypropylene. Each driver has its own crossover, enabling biwiring or biamping. The Time Domain's internal and external cables use ultrapure silver wire terminated with gold-plated solid-brass binding posts. Frequency response is rated as 41 to 22,000 Hz ± 3 dB, sensitivity as 89 dB. Nominal impedance is 8 ohms. Recommended power is 30 to 200 watts per channel. Dimensions are 16½ x 11½ x 11½ inches. Price: \$3,200 a pair finished in light, dark, or black oak; \$4,800 a pair in rosewood or ebony. Sota Industries, Dept. SR, 954 86th Ave., Oakland, CA 94621.

Circle 135 on reader service card

All product information is provided by the manufacturers and does not represent the results of tests or evaluations by STEREO REVIEW. Suggested retail prices were current as of press time but are subject to change without notice.



Designer Software

SOME of the greatest minds in history have tackled the problem. Pythagoras, Aristotle, and Ptolemy all scratched their heads over it. But in the past 2,500 years or so, no one has found a way to predict definitively the way sound will behave in a room. A look at any acoustics text will reveal plenty of mathematical formulas as well as practical techniques, but acousticians will tell you that there is an unsettling gap between prediction and actuality. Designers of concert halls are in the unenviable position of not really being able to ascertain the success or failure of their work until the hall is completed and the conductor raises his baton. Talk about pressure—particularly when there is an audience of patrons and taxpayers who have shelled out \$90 million or so to build the damn thing.

Understandably, acousticians have always longed for a way to test a room's acoustics before it is built. In one early technique, scale models of rooms were tested with ultrasonic signals. For example, if a model were built on a scale of 1/4 inch to 1 foot, a 24,000-Hz test signal would approximate the response of a 500-Hz signal (with a wavelength forty-eight times greater) in the actual room. Unfortunately, the method's success was limited at best. The designs for most good halls continued to emerge from intuition and experience rather than from theory alone.

SIGNALS

by Ken C. Pohlmann

Today, acousticians are closing the gap between theory and practice with another kind of model, a model that you can see and measure but that exists only on a computer screen. Using the latest generation of fast and powerful personal computers, designers of performance spaces can become intimately familiar with the acoustical behavior of their creations months or even years before the first hammer is swung.

Case in point is the Modeler design program devised by engineers at Bose and licensed by Bose to professional sound-system installers. Modeler enables exact analysis of sound fields even in complex rooms and has demonstrated its utility in spaces ranging from churches to football stadiums. Bose itself uses the program extensively in fulfilling its responsibilities as official supplier of sound systems for the Winter Olympics.

Modeler is a Macintosh program that enables a designer to describe any enclosed room or outdoor arena graphically, as a series of planar regions. The user can individually specify as many as 512 surfaces with up to 16 sides each, along with as many as 25 doors, 25 windows, and 100 loudspeakers. In addition, each of these room components can be described acoustically—as, for example, a wood-parquet floor or an unpainted concrete-block wall, each with its respective set of absorption coefficients. From this information the program creates a three-dimensional room model that the user can view from a variety of perspectives. Loudspeakers are placed in the room and defined in terms of aiming angle, power level, equalization, and other parameters. The resulting room response can be analyzed with a variety of techniques, including multiple-octave computations of direct and reflected sound, reverberation time, arrival time, frequency response, and the intelligibility of speech.

I tested Modeler's abilities by modeling the concert hall adjoining my office at the University of Miami. This six-hundred-seat hall is a jewel for acoustic performances but has always presented problems for amplified performances. After a few hours at the Macintosh, I had a complete model of

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SIGNALS

the hall and sound system. First I evaluated the in-ceiling speaker locations provided by the hall's designers—locations that were abandoned years ago. The program verified that these locations simply were not suitable for contemporary amplification needs. Next I evaluated the on-stage speaker locations that are normally used now. The program verified the improvement in coverage, along with some limitations.

Using the program, it was an easy matter to examine a number of variants of the current speaker placement. The program showed that if the speakers were raised by about 6 feet and aimed differently, the system's performance could be significantly improved—without changing the hall's architecture and thereby degrading its excellent natural live-performance acoustics.

Although Modeler is designed primarily for sound-system installations in public spaces, I thought it would also be fun to model my own listening room and compare Modeler's predictions with my knowledge of the room's actual behavior. My listening room has always posed problems, with a ceiling ranging in height from 8 to 17 feet and a wall with more than 150 square feet of acoustically reflective window glass.

I used Modeler to examine frequency response at the listening position, arrival time, and other criteria, and I was soon convinced that its predictions were quite accurate. More interesting, now that I had a software replica of my room, was the opportunity for a little tweaking. Modeler suggested that performance would be improved if my speakers were pulled farther away from the wall behind them and placed asymmetrically, and if the wall were covered with absorptive material. I lost no time in making the alterations and heard an immediate improvement in the sound quality of my system.

With programs such as Modeler, acousticians are rapidly shedding the aura of black magic that has long enveloped them, emerging with new-found analytical abilities for predicting the sonic characteristics of listening spaces and sound systems. Pythagoras would be mightily pleased. As I sit in my listening room writing this column, I certainly am. □

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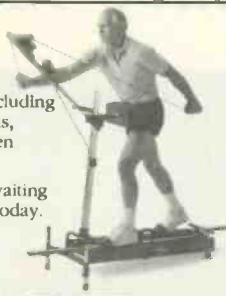
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In ultra-expensive preamplifiers and power amplifiers, tube sound is subjectively described as "mellow", "warmer", "more open and natural" or simply "less harsh than solid state". Objectively, it's safe to say that tubes: 1) Produce even-order distortion versus transistors' odd-order distortion, particularly 3rd harmonics which are especially unpleasant to the ear; 2) Act as a pure Class A device when used in a buffer stage (Class A output is considered the optimal amplifier configuration) 3) "Round off" the waveform when they clip, while over-driven solid state devices cut off sharply, causing audible distortion.

THE SD/A-490t'S OUTPUT SECTION.

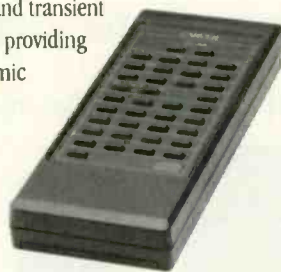
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*Source: 1990 Audio Magazine Annual Equipment Directory.

Most Valuable Player

Picking the right compact disc player—the third in a series on the practical business of buying audio equipment

WHEN the first compact disc players hit the market about a decade ago, the system was touted as "perfect." Few audio enthusiasts accepted that claim at the time, and few do today, but it is true that the variations in performance from one player to another are very small, and the question of whether there are any audible differences at all (or, at least, any worth mentioning) is still hotly debated.

Nevertheless, the CD's popularity has resulted in an enormous number of models, all jostling for their distinctive places in the market. Because the sonic differences between players are so small, there is little chance that you will get burned on audio quality whatever you choose. But the range of features and functions available is huge, and you should plan to spend considerable time sifting through the options that are available and matching them with what you need.

Some basic format decisions should come first. The first players were single-disc models designed to be part of a home audio system, and that category still dominates the high end of the market. But there are alternatives that may well suit you better. For instance, portable CD players now approach the performance of their full-size cousins, and most have line-level outputs and AC power supplies that enable them to be hooked up to a home system. That can be attractive if your audio system already takes up enough space that an additional component would be hard



to accommodate. The additional benefit of portability is clear; usually the main drawbacks of this sort of player are limited programmability and small control buttons.

If you need elaborate programming, a CD changer might be the best choice, as it will permit extended hands-off playing. A magazine-type changer enables you to put together semipermanent collections of as many as six or ten discs (depending on the brand of the changer) that can simply be popped in whenever you want to hear them—or inserted into a trunk-mount-

ed changer in your car if it's compatible with the magazines your home changer uses. More flexible, perhaps, are carousel changers, but you are limited to five discs, and they must be loaded and programmed anew each time you fire up the system.

For many, a sensible choice is a combi-player, which can handle laser videodiscs as well as CD's. As more and more systems combine hi-fi and television, one player for all optical discs makes increasingly good sense, particularly as almost all laserdiscs now have digital as well as analog

ILLUSTRATIONS BY MARK FALLS

BUYING TIME

sound. There's even a combi, the Pioneer CLD-M90, that is also a five-disc carousel CD changer.

WHAT MATTERS

Compact disc players have been among the hottest-selling items in audio for years, and manufacturers have energetically loaded their machines with features and technical "improvements" in hopes of outshining the competition. While this has resulted in some interesting innovations, the confusion level has also risen. So before you set out to pick a player, you should know what is important and what is likely to appeal only to buyers with special requirements.

- **PROGRAMMING.** One of the most attractive things about CD players is that they enable you to be selective about what you play and the order in which you play it. To some extent, all CD players have provision for track-sequence programming, but the systems vary widely in their details. It's worth taking some time in the store playing with the controls to make sure they will do what you want and are easy for you to use—what may be intuitive to one user is often unbearably awkward for another. And if you're contemplating a machine that automatically selects tracks of a certain total length to fit onto a cassette, make sure there is an override to prevent the machine from insisting on a track you'd never want to hear.

- **ACCESS TIME.** CD's are small enough that a player's laser pickup should take only a moment or two to move from one point on a disc to another, but differences in cueing speed from machine to machine are often surprisingly large. Some take almost no time, whereas others can take as long as 10 seconds to jump from first cut to last. And some players, though fairly sprightly when bouncing from track to track, take forever to get going; in particular, some combi-players are notorious for how long it takes them to decide what kind of disc has been inserted. That may not matter to you—or the delays may drive you crazy. Either way, you should know what you're getting.

- **STABILITY.** Although CD players are not usually as vulnerable to physi-



cal disturbances as their turntable predecessors, some are more prone than others to vibration-induced skipping. Many manufacturers have made special efforts to provide shock absorption, so if you expect this to be a problem, jump around a bit in the store or tap on the top and sides of the player to see what happens. If your listening is more placid, however, it makes little sense to pay for much in the way of extra stabilization.

- **INDICATORS.** You can't really see what's going on with your discs, so it's important that the player's front-panel display tell you what you need to know in a way that you can read and make sense of. Some displays are too dim or too small; others cram in so much information that it's hard to figure out what's happening. A good compromise is a display that conveys everything at first or while you're programming but shuts off for ordinary listening (except, often, for the track and time indication).

- **OUTPUT OPTIONS.** With very few exceptions, today's systems require a CD player to be connected to a normal high-level input, usually marked CD or AUX (for auxiliary). A handful of amplifiers contain their own digital-to-analog (D/A) conversion circuitry, however, and there are a few outboard converters on the market as well. To serve them, and to enable direct digital dubbing to digital recorders, an increasing number of players provide digital outputs, either coaxial or optical or both, along with the conventional analog outputs. Digital outputs may not mean very much to you now, but as digital signal processing

and recording become commonplace, they'll be increasingly useful.

- **ERROR CORRECTION.** The compact disc system uses sophisticated data coding that enables players to detect missing or corrupted information and, usually, to restore it before the signal is converted to analog form. Not all players are equally adept at error correction, however, with the result that some are much more prone to skipping and other problems. Unfortunately, it's often hard to know just how good or bad a player is in this regard until you have lived with it for a while, but your dealer may be able to aim you in the right direction if you express concern about this aspect of performance. And if you own a disc that has caused problems in the past, take it with you when you shop and see if you can find a machine that will play it without problems. (Actually, take more than one such disc if you can, since players vary in their response to different types of flaws.)

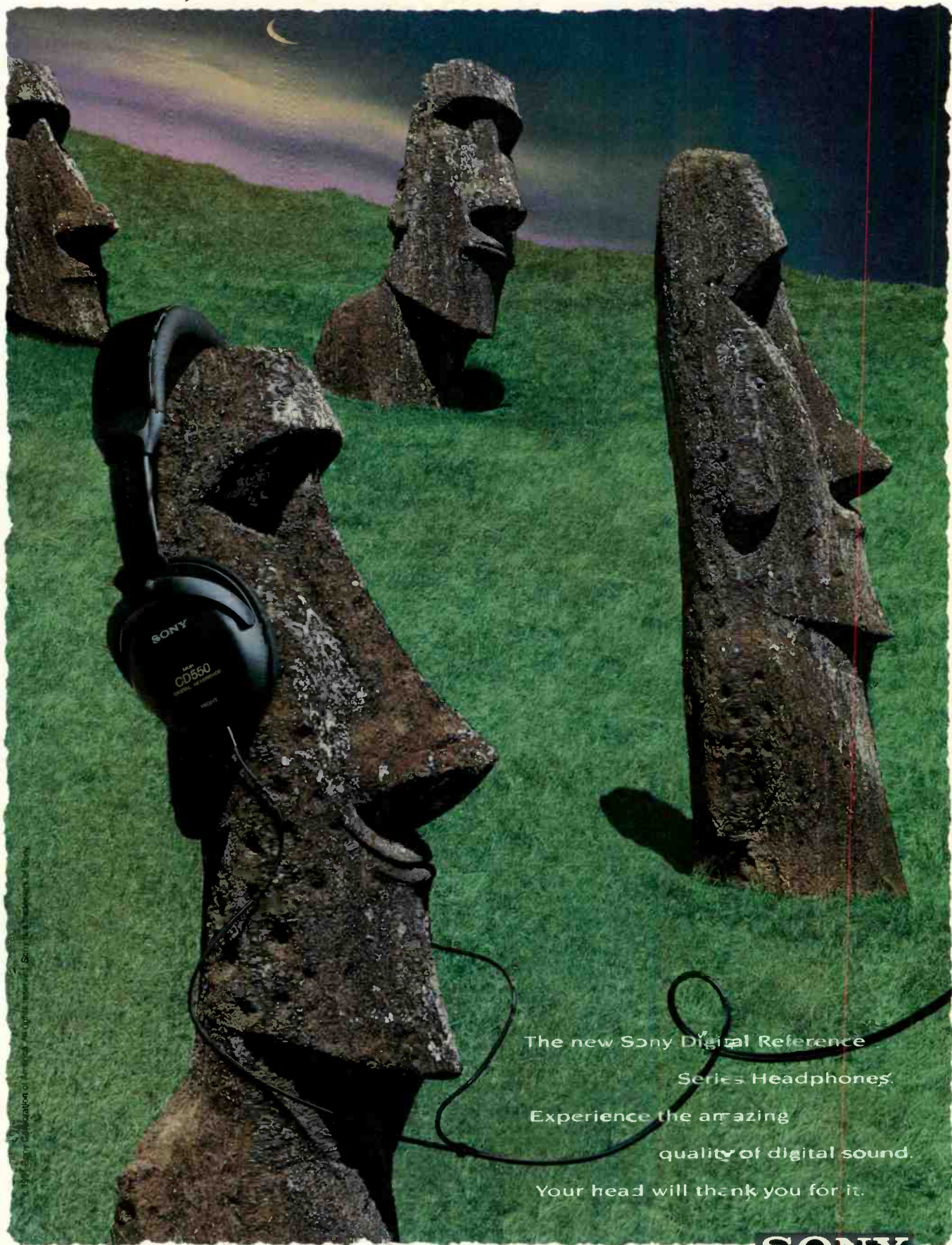
WHAT DOESN'T

It's probably natural for audio companies to try to distinguish their digital products from one another in the same way they do analog gear, but the differences really are much smaller, at least when it comes to technical performance. Consequently, the list of what you can safely ignore when shopping for a CD player is a longish one, but there are a few main areas.

- **MOST SPECIFICATIONS.** The sound quality of a competently designed and manufactured compact disc player is essentially a function of the CD system rather than of the player itself. Some listeners claim that there are definite audible differences from machine to machine, but controlled listening tests have shown that these are actually rather rare; even those who claim to hear such differences regularly admit that the alleged variations are extremely subtle and unlikely to be reflected in the specs. You can safely assume that almost any player you choose will have very flat response, wide dynamic range, and no wow or flutter.

- **EXOTIC CONVERSION.** The heart of a CD player is the circuit that converts digital data coming from the

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disc to a conventional analog signal that the rest of your equipment can process. No aspect of digital audio has received more attention than this device, and there have certainly been measurable gains: Oversampling has reduced high-frequency phase shift, and the use of 18-, 20-, and, finally, 1-bit D/A converters has tamed low-level linearity problems. All of this may be impressive to the engineers who have wrestled with such matters, but the audible benefits have been very slight and usually apparent only in direct A/B comparisons, if at all. Chances are the player you choose will have some sort of advanced D/A

converter in it, but for the most part you needn't lose sleep over just what kind. We do suggest that if you are shopping for a budget player, the safest bet is to get one with 1-bit converters, since high performance comes more cheaply with them than with multibit designs.

- **INDEXING, ETC.** There's room on a conventional CD for lots more than just the music, but neither the record companies nor the player manufacturers have been very eager to take advantage of the capabilities. Now and then there's a flurry of activity surrounding embedded graphics,

and some of us may have a handful of discs encoded to display index points within tracks on long musical works. But so far none of this has added up to more than curiosity value.

- **PROGRAMMING OVERKILL.** Programming is important to a degree, but some players offer far more capabilities than anyone really needs. More than a twenty-selection capacity is unnecessary, for instance, and though players that remember your listening preferences for hundreds of discs are nifty, most people probably use the feature only rarely. If such features add little to the price they are harmless, but all features cost *some* money (although it's often hard to tell how much in any particular case).

- **BEAMS.** Since a CD has no grooves, a player must have some other means of detecting whether it is tracking the disc correctly. One solution is to split the laser beam into three beams that hit the disc side by side. The player uses the middle spot to pick up the signal and the outer ones to sense deviations from the correct path, so that it can keep the main one centered. Most players now use this system, but others employ a single beam and a high-speed linear motor to correct mistracking before it can cause trouble. Either system can work well; which one happens to be used in your player is unimportant.

GET WITH IT

Compact discs are more or less impervious to the sorts of things that gum up other audio media, so the accessories you should acquire are few, and optional. Dirt can cause mistracking if there's enough of it. A number of companies make disc cleaners of various sorts, ranging from cloths to machines, but a clean tissue or handkerchief is often all you need. There are also cleaners for the laser lens in your player, although the lens would have to be filthy to cause major problems.

And, as with tapes and LP's, some form of organized storage for your discs will not only protect them but will also help you find what you want to hear with a minimum of rummaging around. □

NEXT: Turntables, tonearms, and phono cartridges

The Lingo

In the mostly analog world of audio, the digital compact disc has spawned a language of its own.

OVERSAMPLING. Perhaps *the* major buzzword. It refers to a technique in which extra "samples" are mathematically interpolated between those read from the disc to increase the effective sampling frequency and thereby enable digital filtering of the signal. In multibit D/A conversion, the primary benefit is reduced cost for high-quality output filtration. Oversampling does not improve conversion accuracy, resolution, or error correction. The shallower analog filtering it permits generates less phase shift than steep-slope filtering, but the difference, though clearly measurable, is not audible. Oversampling, at very high rates, is also an essential element of 1-bit D/A conversion.

D/A CONVERSION. The transformation of the digital data on a compact disc (or any digital medium, for that matter) into conventional analog audio. The stream of bits from the disc is fed into a buffer (a temporary memory) where it is put into the proper order, corrected, and "clocked out" at a precise rate (to remove any timing irregularities) to the converter proper, which translates the data into a varying sequence of voltages that is then filtered to remove ultrasonic sampling artifacts.

Until recently, the circuits that performed conversion treated each 16-bit digital "word" at once, producing the output voltage it represented. Small amounts of misalignment resulted in measurable low-level nonlinearities, however, so more and more players now contain "1-bit" or "bitstream" converters that operate primarily by means of digital signal processing and therefore tend to be inherently linear.

ERROR CORRECTION. The individual bits of information on a CD are extremely tiny, so even small specks of dirt or pressing flaws can result in the loss of substantial amounts of recorded data. To overcome this problem, the CD standard includes an error-correction system in which the bits are, in effect, recorded out of order and with a large amount of additional data calculated from the signal information. On playback, instead of obliterating a large continuous block of information, the effect of a dropout is spread through a number of digital words. This diffusion of the errors together with the redundant data recorded on the disc usually enables complete and accurate reconstruction of missing or damaged signal data. In the rare instances in which true error correction is not possible, the player can usually interpolate between good data samples on either side of a bad one to conceal the damage without audible ill effect.

Stereo Review

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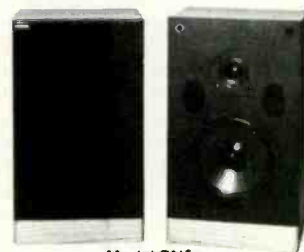
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CIRCLE NO. 45 ON READER SERVICE CARD



AUDIO Q & A

by Ian G. Masters

Speaker Wiring

Q I have three pairs of speakers connected to my amplifier. The cables for all three pairs are coded to insure proper phase, but the coding differs from one pair to the next. How can I make sure all six speakers are hooked up correctly?

JAMES C. BOLL
Lady Lake, FL

A There is no standardization when it comes to how cable or wire manufacturers code their products to enable simple phase matching, but it's fairly easy to make sure a single pair of speakers is in phase. Carefully match the terminals and the wire identification by hooking the "beaded" or striped side of the cable for each speaker to, say, the red (or +) terminal at the amplifier end and to the same kind of terminal at the speaker end. Then hook the other side of the cable to the remaining terminal for that channel at each end. It doesn't really matter what choices you make as long as the wiring is identical for both channels; even connecting the black amplifier terminals to the red speaker terminals will work fine as long as both sides are wired the same way.

When it comes to using dissimilar speakers, there is no way of predicting whether they will be in phase even if they appear to be wired identically, but a simple trial-and-error procedure will clear up the matter. Connect the first pair of speakers, making sure it is in phase; repeat with the second pair. Then, feeding a mono signal through the system, place one speaker from each pair about 3 feet apart, facing each other. When you put your head between these dissimilar speakers, the sound should seem to come from within your head, as with headphones. If you're not sure, reverse the leads on one of the speakers; if the sound is even more diffuse, you were correct the first time. Once you

have matched the first two pairs, you can repeat the process to set up the third.

It is not really necessary, however, to have one pair of speakers in phase with another unless they are going to be used in the same room.

FM vs. Stereo TV

Q For some years I have been taping a favorite music show on my hi-fi VCR, taking the video from the local PBS TV station and the simulcast audio from an FM station. Now the TV station has begun transmitting the program in stereo. Would I get better results using the TV as my audio source, or should I stick with the FM feed?

BILL MCCARTER
Austin, TX

A Theoretically, there should be little difference, but in reality the FM feed is likely to be far better. Since most PBS stations run programs more than once during a given week, you might be able to record a show both ways to check out the differences. Alternatively, you may be able to catch a summer rerun of something you already have on tape.

It may well be that the combination of good audio techniques at the TV station and an unusually good MTS section in your TV set will result in superior recordings. If not, stick with the FM feed, since you're set up for it—but beware: If the TV station has begun stereo broadcasting, the FM outlet may drop the simulcast.

Recording Levels

Q The manual with my cassette deck suggests a maximum recording level of +5 dB for some tapes and +9 dB for others, even though the curves show that frequency response is degraded at these levels. A local sound engineer says that the average level should be about 0 dB and peaks about +2. Who's right? Does frequency response take precedence over signal strength?

AILI A. KATO
Larkspur, CA

A It's hard to make any general rules about this, as the makers of tape decks calibrate their meters differently: +5 dB on one deck might correspond to 0 dB on another when it comes to the actual amount of magnetism applied to the tape. The best bet is to follow the manufacturer's instructions unless you discover that a different level yields superior sound quality. Some experimentation is probably a good idea.

As for frequency response, it is true that tape recorders tend to exhibit more

linear response at lower levels: A curve taken at the -20-dB level is almost always flatter at high frequencies than one taken at 0 dB. But in a typical musical signal, the level registered by the meters will be dominated by low-frequency and midrange energy; the amount of high-frequency energy is almost always considerably less. Consequently, high-frequency response will normally be much better on a music signal registering 0 dB or higher on the meters than it would be on a swept pure tone (as used in a frequency-response measurement) at that level. That is, in fact, why the -20-dB level is used for response measurements: The curves better reflect performance in recording music than curves made at 0 dB.

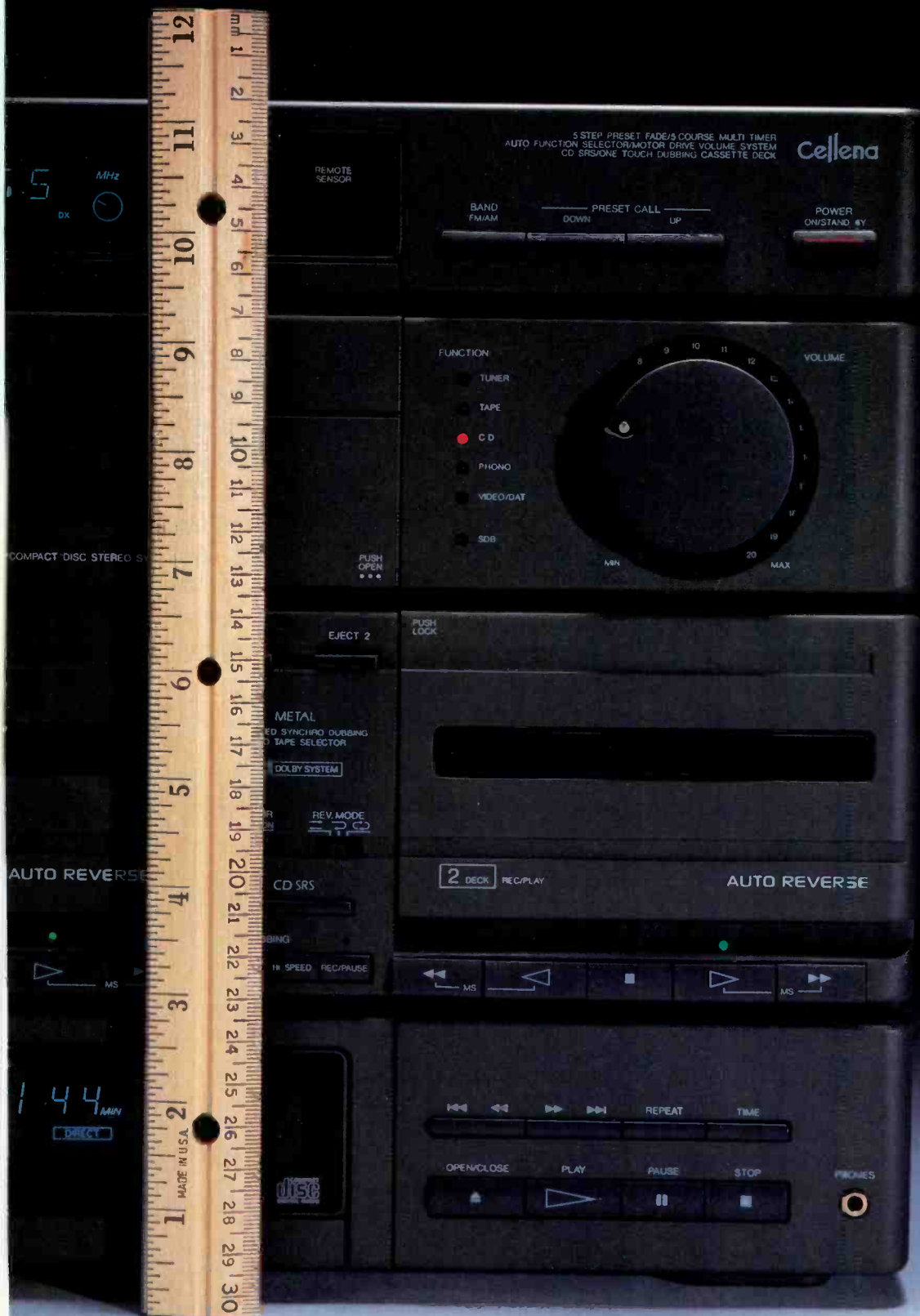
Mimicking Surround

Q I don't understand how a surround-sound system makes any audible sense. Our ears hear left and right by differences in time and intensity, but how they can hear front to back is a mystery to me. It seems to me that a sound reflected from the rear wall might pick up a distinctive coloration, but if that is so, wouldn't it be possible to synthesize the coloration of a specific hall, delay it slightly, and reproduce it through the front speakers to achieve a surround effect?

SCOTT SHIMABUKURO
San Francisco, CA

A Coloration does indeed play a part in our ability to distinguish sounds from the front and rear, but it's a very small part. The shape of our outer ears modifies the sound we hear to some extent, and the modification is different for sounds originating in front of us and behind us, so there are subtle directional clues built into the sound itself. If they were our only clues, the scheme you propose might work, but in fact these spectral differences are quite ineffective. Almost all of our front-to-back localization of sounds is accomplished by tiny head movements, movements we are normally not even conscious of. In a listening room set up for surround sound, try closing your eyes and keeping your head perfectly still; the surround effect will virtually disappear. That's why surround headphones have not had much success: When you move your head, the phones move, too, eliminating the normal positioning clues.

If you have a question about hi-fi, send it to Q&A, STEREO REVIEW, 1633 Broadway, New York, NY 10019. Sorry, only questions chosen for publication can be answered.



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Stereo Review's Guide
to the
New Mini System's

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BANG & OLUFSEN Beosystem 2500

introduction to the new mini systems

Striving to re-create the "live" musical experience in every room of the house is the goal of every stereo enthusiast. For the truest sound, only the finest full-size components will do. But what about the music lover who demands great audio everywhere? Enter the "mini" or "bookshelf" system, a new generation of down-sized components that offer state-of-the-art sound in very small packages... for sound systems that can easily fit in a home, office, dorm room or anywhere else there's a need for great music.

Today's mini systems are actually marvels of electronic minaturization. By using unique chassis designs, advanced digital circuitry and cutting-edge speaker technology, engineers are able to build systems that deliver all of the drama and dynamic range recorded music has to offer. Not only can they handle compact discs but audiocassettes as well—America's two favorite music formats. And they "handle" them with the quality that has taken quantum leaps over the past few years. Forget "The Ghost of Boomboxes Past!"

Bookshelf systems are increasingly popular because they are "one-stop" shopping at its best. In this swiftly changing society, to be able to find a fit-anywhere system in a reasonably-priced package is a joy. They are also simplicity itself to hook up. And since all of the components are from the same

manufacturer, they can communicate with each other with ease, making it much simpler to make tapes from CDs for the car or portable cassette player. Also making modern life easier are remote controls that let you make a wide variety of adjustments from your chair.

Adding to the new "mini advantage" is their sleek, contemporary design. They not only sound good but look the part too. Most systems have a modular style, which allows you to stack the components or place them side-by-side to fit your special space and design requirements. On the following pages, you'll find a guide to the exciting new world of "Little Audio Dynamite!"



YAMAHA YST-99CD

maximum minis

"The reason mini systems have taken off is simple," said Ken Furst. "They let people get high-performance sound from advanced components that don't take up a lot of room. Places that were once 'off limits' for high-quality listening because of space limitations now can have their own top-notch audio. The systems have gotten so small, consumers are only limited by their imaginations as to where to put them." Furst, a long-time industry observer and Marketing VP for Denon, points to his company's hot-selling D-2005 Personal Component System as an example of a "maximum mini." The four components consist of a 40 watt-per-channel amplifier, a tuner/timer, a high-quality 6-disc changer and a horizontal load autoreverse cassette deck. The entire system with speakers has a suggested retail of \$1,500.

Dan Dattilo says Sharp's new CD-C900 "will change the way people look at small audio systems." The company's Audio Marketing Manager says the new mini not only has a 40 watt-per-channel amplifier, it has a 70-watt powered sub-woofer to add real bottom to bass. The CD-C900 (\$1,249) features a 6-disc changer, an autoreverse cassette deck, CD Synchro Dubbing for easy taping and a tuner with 30 presets. Special features include a 5-mode preprogrammed equalizer, a 4-mode Sound Expander to alter acoustics and a 63-key unified remote control.

Kenwood is one of the compact system leaders and their two new editions give several big reasons why. The UD-90 and UD-70 not only have sleek styling, they also have advanced features that fit the 21st century look. Both have Audio Intelligence (AI) circuitry which samples the musical content and automatically sets the optimum sonic levels for great listening. The top-of-the-line UD-90 (\$1,399) can also act as the centerpiece of a Home Theater. It has a Dolby Pro Logic decoder for great at home cinema sound. The UD-90 even has a Digital Sound Processor (DSP) that can turn your room into any of six different venues. Both the UD-90 and UD-70 (\$1,199) have 1-bit CD players, dual autoreverse decks, timers, easy tape dubbing and 40 watt-per-channel amps.

Panasonic also has a sophisticated mini. In keeping with its video leadership position, its SC-CH10 Lifestyle Component System (\$1,050)



DENON D-2005 Personal Component System



SHARP CD-C900



KENWOOD UD-90



PANASONIC SC-CH10 Lifestyle Component System

offers Dolby Pro Logic for a superior home movie experience.

Other top manufacturers that offer sophisticated bookshelf systems with Home Theater features include Aiwa, JVC and Sansui. These companies have a wide variety of mini systems with their best incorporating Dolby Surround or Pro Logic. Aiwa's NSX-D9 (\$1,200) is rated 45 wpc front, 15 rear when in the Dolby Surround mode.

JVC's MX-90 Compact Component System (\$1,200) has six built-in amps to handle two front speakers, a subwoofer, and two rear Surround speakers. Along with Dolby Surround with digital delay, it has DSP and digital parametric EQ with 6 programmed equalizations and one you can set yourself. JVC is also on the cutting edge of the new "micro" systems. The width of the chassis is slightly more than the dimensions of a CD jewel box! The UX-1 (\$599) uses Active Hyper-Bass circuitry to pump a big sound from a small system.

Sansui's MC-X9AV (\$1,599) offers eight surround settings—including Dolby Pro Logic, DSP and variable digital delay. This versatile mini delivers 30 watts-per-channel for the front speakers, 15 for the rear channel and 40 watts for the subwoofer.

Buyers will find no shortage of bookshelf systems when they walk into a dealer showroom. Sony offers a wide variety at different prices with the MHC-3600 (\$1,200) the top-of-the-line. This attractive mini uses a BI-Amplified speaker system for better efficiency and minimal distortion. Pioneer also has a full line of minis, ranging from the CCS-530 (\$1,150) to the CCS-330 (\$725). The CCS-530 has a 6-disc changer with 1-bit DAC and an 8x oversampling digital filter for excellent sound performance. Onkyo's PCS-05 also stands out from the pack because of its dramatic cosmetics and sound quality. The PCS-05 has a 1-bit CD player, a dual cassette deck with Dolby B/C/HX Pro and a tuner/amplifier rated at 45 watts-per-channel. Yamaha's YST-NC1 (\$799) and YST-99CD (\$399) have Active Servo Technology (AST) to get top sound from small speakers. Proton's new attractive mini system is the AI-3200 (\$799). Fisher's new DCS-M44 (\$899) has completely separate components, is rated 22 watts-per-channel and has a 7 band equalizer. Sherwood's 1000 Series of minis uses the new Tri-Power Bass Servo amplifier for superior sound quality.

Today's bookshelf systems simply deliver great sound. They are the maximum minis.



JVC UX-1 Micro Component System



SONY MHC-3600



ONKYO PCS-05



FISHER DCS-M44

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CIRCLE NO. 22 ON READER SERVICE CARD

TECHNICAL TALK

by Julian Hirsch



Is It Live, Or Is It Recorded?

THE other day, while cleaning up a storage area, I ran across a copy of *Audio* magazine from April 1956. It triggered a flood of memories, for in that issue was an article entitled "True Fidelity Organ Reproduction," the first one to be published under my byline.

The subject of the article was a matter of considerable interest to the audiophiles of the 1950's, as it is to those of the 1990's. In fact, decades earlier, even before the development of electrical recording and reproduction, claims were made that acoustic recordings could not be distinguished from live performance. In the 1950's there were a number of public demonstrations of the accuracy of contemporary home hi-fi amplifiers and loudspeakers (the tape recorders were always of professional caliber, usually from Ampex or Magnecord).

I recall attending one such demonstration, in New York's Carnegie Hall, where Gilbert Briggs, founder of Wharfedale, tried to faithfully reproduce small instrumental groups with his speakers. He came close, but it was usually possible to distinguish the recording from the live performance. Another, even more ambitious undertaking in the mid-1950's was a joint effort of Fisher and Jensen (respective manufacturers of the amplifiers and

speakers used) to duplicate the sound of the Philadelphia Orchestra. Surprisingly, they almost succeeded, but not quite.

In that period, I was active with a group of audiophiles, mostly fellow workers at an electronic research and development laboratory. We were strictly hobbyists (audio was not a significant part of our professional activities). Caught up in the enthusiasm of the "live vs. recorded" rage, we embarked on our own project in quest of this audio Holy Grail.

We enlisted the cooperation of Edgar Milliar, organist at St. Mark's Episcopal Church in Mt. Kisco, New York, which had an Aeolian-Skinner organ with some three thousand pipes. Cooperative manufacturers lent us equipment for the project. After some on-site comparative testing, we chose four Acoustic Research AR-1 speakers and one Bozak B-305 for reproducing the main body of the pipes and a Janszen electrostatic tweeter for the flute pipes. Each speaker was driven by its own Fairchild Model 275 power amplifier.

The recording was done with the microphones close to the pipes to minimize the effect of room acoustics, and the playback speakers were placed as close as possible to the corresponding microphone position. (Duplicating a live sound is nearly impossible if the recording contains the added sound of room reverberation or if the playback excites the room acoustics differently.) A stereo recording was made with an Ampex Model 350 recorder and two Telefunken microphones. Many hours of testing convinced us that we could match the sound levels of the organ throughout the church without objectionable clipping. By today's standards, we were hopelessly underpowered, with only 450 watts driving some of the least efficient speakers of the time in a church seating several hundred people. Being young, enthusiastic, and unaware of the impossibility of the task, however, we just went ahead and did it.

And it worked! Some 450 people attended the performance on March 2, 1956. Some of the time we used signal lights to indicate whether the sound came from the recording or directly from the organ, but at other times we

let the audience decide for themselves. At almost every point in the church, it was impossible to tell whether one was hearing the organ or the tape. Even the organist could not reliably tell by ear whether he was hearing himself or the tape.

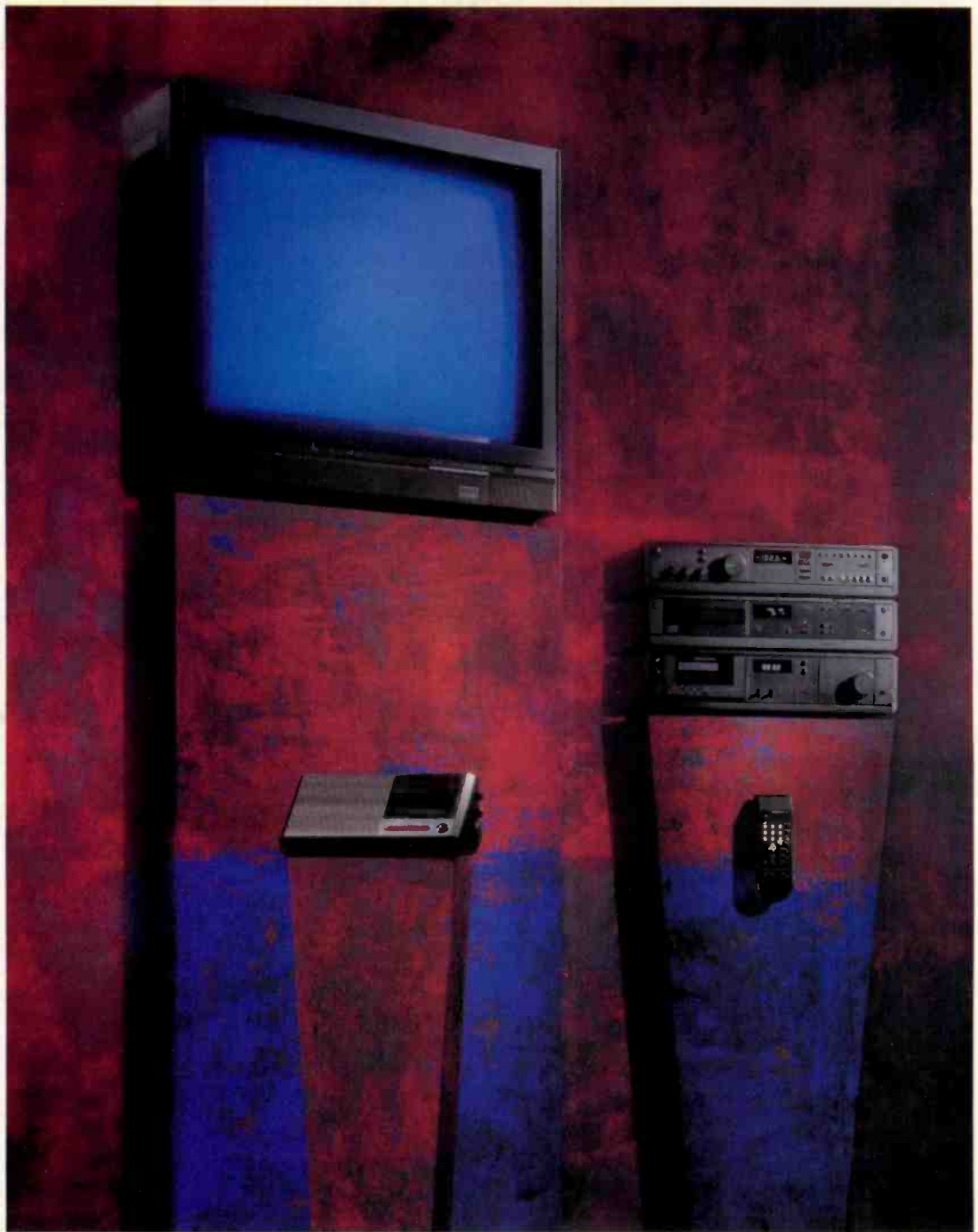
The chief clue, in those pre-Dolby times, was tape hiss, which could be heard by those sitting near the front of the church, facing the flute pipes, when the recording was switched on. Without the hiss, it is unlikely that anyone could have identified the source of the music.

This project was fun and educational for our group of audiophiles, but it was a labor of love, never to be repeated. For some reason, "live vs. recorded" demonstrations became largely extinct after that time, with the notable exceptions of the superb demonstrations at audio shows by Acoustic Research during the period when Edgar Villchur headed the company.

Recognizing the impracticality, both financial and technical, of matching the sound of a full orchestra, especially as audiophiles became more sophisticated and more attuned to brief intervals of clipping and dynamic-range limitations, Villchur used a chamber group (a string quartet, I believe), which was recorded in the world's largest anechoic chamber—outdoors on his lawn in Woodstock, New York. When the performers were on stage at the audio show, with a couple of AR speakers placed among them, it was quite literally impossible to tell when the switch was made to the recording.

Of course, such demonstrations do not prove that a particular speaker is "perfect." In fact, they *really* show us how much imperfection we can tolerate in a speaker before it becomes noticeable. (Understandably, most speaker manufacturers would rather not remind audiophiles of that fact.) I think the real lesson is that a recording made in any normal (that is, nonanechoic) environment can *never* be reproduced with undetectable changes in a different acoustic environment. But if someone finds a way, perhaps with digital signal processing, to effectively remove all reverberant components from a recording, who knows what might happen? □

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CIRCLE NO. 49 ON READER SERVICE CARD

TEST REPORTS



Yamaha RX-950 Receiver

Julian Hirsch, Hirsch-Houck Laboratories

IN creating Yamaha's new flagship stereo receiver, the RX-950, the engineers' goal was to provide performance equivalent to that of high-quality separate components. To this end, they employed Yamaha's patented Hyperbolic Conversion Amplification (HCA) circuit, which is claimed to provide true Class A amplification over a wider range of output power than conventional designs. The internal physical layout and electrical design of the amplifier, from input to output, are as direct and symmetrical as possible. Speaker outputs are switched by relays close to the speaker terminals, and both the input-selector switch and volume control are driven by small motors when the remote control is used. This feature eliminates the use of electronic signal switching, which can cause distortion.

Other construction features of the RX-950 reflect the same purist design

philosophy. The wiring and component parts are of the highest quality, and to minimize the effects of vibration and mechanical resonance, the entire unit is mounted on a molded base, which is supported in turn by a heavy chassis plate and vibration-damping feet.

The RX-950 is also unusual among receivers in having an amplifier section designed to drive low-impedance loads. It is rated to deliver 120 watts per channel into 8 ohms from 20 to 20,000 Hz with no more than 0.015 percent total harmonic distortion (THD). Into 4 ohms, the rating is increased to 180 watts with 0.03 percent THD. It also carries EIA dynamic power ratings of 160, 210, and 340 watts into loads of 8, 4, and 2 ohms, respectively.

The preamplifier section has inputs for audio from a videodisc player or TV set, two tape decks (identified as

VCR/Tape 2 and Tape 1/DAT), the tuner section, a CD player, and a phono cartridge. A PURE DIRECT button on the panel bypasses all signal circuitry except the volume control and connects the CD inputs directly to the power amplifiers. Other audio controls are behind a hinged door across the bottom of the panel. They include individual speaker selectors for two pairs of amplifier outputs, bass and treble tone controls (each with two selectable turnover frequencies), channel-balance and loudness-compensation knobs, and a REC OUT selector that connects any input source to the recording outputs independently of the setting of the front-panel input selector. The loudness compensation, unlike most such circuits, is not linked to the volume-control setting but functions independently over a 40-dB range. A headphone jack is also located behind the hinged panel.

Except for the volume and input knobs and the PURE DIRECT and power buttons, the visible portion of the front panel is devoted to the receiver's tuner functions. The display window shows the tuned frequency, tuning mode,

TEST REPORTS

preset memory channel, and relative signal strength. The display is not affected by the selection of a different program source.

The main tuner controls are a group of buttons to the right of the window. They select AM or FM and automatic or manual tuning. Automatic tuning scans up or down the band until a station receivable in stereo is found. Manual tuning in FM switches the RX-950 to mono mode to improve reception of weak signals. Each of the eight preset station-selector buttons below the window can be assigned to any of five lettered banks by another button, providing a total of forty possible presets.

On the rear apron, the preamplifier outputs and main amplifier inputs are brought out separately and joined by removable links. This simplifies connecting signal-processing accessories without sacrificing the use of the tape-recording loop. There are also two additional sets of preamplifier outputs for driving power amplifiers and speakers in other rooms.

Each of the possible audio inputs from a video source has an associated video input jack, which is connected to the MONITOR OUT jack when that source is selected. The two sets of speaker outputs are heavy-duty insu-

lated binding posts that accept either stripped wire ends or banana plugs. The tuner's inputs are spring clips for 75- or 300-ohm FM antennas and the supplied wire-loop AM antenna.

The wireless remote control that comes with the RX-950 is actually a system control for compatible Yamaha components (identified, like the RX-950, by "RS" following their basic model numbers). It operates the receiver's source-selection, muting, volume, and power-switching functions. Other buttons are dedicated to the basic operating functions of other components.

The RX-950, finished in black, measures 17½ inches wide, 17½ inches deep, and 6¾ inches high. It weighs 33¼ pounds. Price: \$899. Yamaha Electronics Corporation, Dept. SR, 6722 Orangethorpe Ave., Buena Park, CA 90620.

Lab Tests

Although the RX-950's speaker connectors are compatible with single banana plugs, they are inexplicably spaced slightly too far apart for dual banana connectors. We were able to insert them with a slight visible bending of the posts, but this is probably inadvisable as a regular practice.

The amplifiers in the RX-950 proved their conservative ratings by delivering 158 watts into 8 ohms at 1,000 Hz at the clipping point, equivalent to 1 percent THD plus noise (THD + N). With 4-ohm loads, the clipping power level was 245 watts. Relative to the rated output, the respective clipping-headroom figures were 1.2 and 1.3 dB. It is worth noting that this power capability was maintained over the full audio range: From 20 to 20,000 Hz the 8-ohm power exceeded 153 watts, and into 4 ohms it exceeded 235 watts.

Dynamic power measurements were equally impressive. Into respective loads of 8, 4, and 2 ohms, the 20-millisecond burst output was 195, 338, and 575 watts. The dynamic headroom into 8 and 4 ohms was 2.1 and 2.7 dB, respectively.

The amplifiers' THD + N when they were driving 8 ohms was 0.01 percent at 20 to 25 watts output, reaching about 0.015 percent at the rated 120 watts output. Into 4 ohms, the distortion was 0.02 percent between 10 and 20 watts and 0.032 percent at the rated 180 watts. The receiver's protection circuit shut it down when we attempted to drive it into clipping with 2-ohm loads, but by driving only one channel we measured its distortion as 0.02 percent from 20 to 60 watts and 0.03 percent at the clipping point of 300 watts.

The frequency response through the CD inputs was extremely flat, varying only ± 0.02 dB from 20 to 20,000 Hz. There was no measurable difference between the normal and Pure Direct modes. The tone controls had a maximum range of about ± 10 dB at the frequency extremes. Their turnover frequencies were as marked, 200 or 400 Hz for the bass, 2,500 or 5,000 Hz for the treble. The response in the vicinity of 1,000 Hz was essentially unaffected by the tone controls with the 200/5,000-Hz combination; the midrange variation was somewhat greater with the other turnover frequencies.

The loudness contours varied from a modest boost of 3 or 4 dB at the extremes of the audio range (at a -10-dB setting) to a large, 25-dB boost at 20 Hz and a 7-dB boost at 20,000 Hz (at the lower limit setting of -40 dB). Since the loudness compensation can be set by ear, independently of the main volume setting, it should be pos-

FEATURES

- Digital frequency-synthesis AM/FM tuner with forty presets
- Stereo-only auto-scan and mono manual-step tuning
- Inputs for CD, phono, audio tape deck, VCR or second audio tape deck, videodisc player or TV set
- Video-monitor output
- Pure Direct mode connects CD input straight to power amplifiers through volume control
- Motor-driven volume control and input selector in remote operation
- Bass and treble tone controls with selectable turnover frequencies (200 or 400 Hz for bass, 2,500 or 5,000 Hz for treble)
- Loudness-compensation control (independent of volume control)
- Recording source selectable independent of listening source
- Connections and switching for two pairs of speakers
- Separate preamplifier outputs and main amplifier inputs, joined by removable links
- Two additional preamplifier outputs for driving remote amplifiers and speakers
- Inputs for 75- and 300-ohm FM antennas and supplied AM wire-loop antenna
- Wireless remote control operates key receiver functions, plus sleep timer; also provides remote control of compatible Yamaha RS-series components
- Two switched AC outlets

P O L K A U D I O ' S

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M³

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Compact Size and Exceptional Sound

Demand for small, high performance speaker systems has blossomed. Inspired by the often limited space available for loudspeakers and the increasing popularity of home theater systems Polk has developed the exciting new M³.

Unique in performance, shape and size, the M³ is equally at home on a shelf or a wall, in a corner, on a ceiling, or free standing. Whether employed as the primary speaker in a quality high fidelity outfit, as a video surround speaker, or a remote speaker in a secondary location, the M³ will amaze you with its outstanding sonics.

Polk Engineering. Sonic Performance Which Belies the M³ Size and Price.

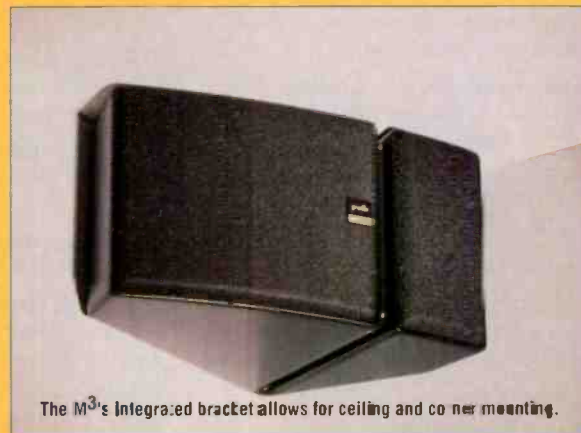
Polk engineers have managed to squeeze exceptional performance into the compact M³ enclosure. Produced with state-of-the-art manufacturing techniques, the cast composite housing is durable and beautiful, as well as sonically inert. The M³ driver complement includes a Polk high efficiency 5.25 inch woofer/mid-range and a wide dispersion .5 inch fluid-cooled polycarbonate tweeter. Bass performance is enhanced with computer-designed, vented enclosure. High frequency dispersion is optimized by a Critical Dispersion Lens which surrounds the tweeter dome. Precise integration of the drivers is achieved through a sophisticated full LCR crossover network.

The Polk Integrated Bracket/Mount

The M³ cabinet includes an integral mounting system which allows total placement flexibility. No expensive optional accessories are required to mount your M³ in any of the aforementioned locations. This innovative system also provides an integrated adjustable bracket designed to optimize the speaker angle when the M³ is placed on a shelf. Finally, the smartly angled rear section of the enclosure allows easy corner or shelf placement with maximum space efficiency.

The Bottom Line

The Polk M³ is an exceptionally high value product. Its superior sound and imaging capabilities are unmatched in its class. The small size, incredible placement flexibility, and reasonable cost of the M³ mean you can easily enjoy high quality music reproduction throughout your home or office.



The M³'s integrated bracket allows for ceiling and corner mounting.

Specifications:

Driver Complement:
5.25" (133cm) bass/midrange driver,
.5" (12mm) polymer dome tweeter
Size: 11.25"H x 6.5"W x 8.25"D
(29cm x 16.5cm x 20.9cm)
Overall Frequency Response:
67Hz - 20kHz
Recommended Amplification:
20 - 100 watts/channel
Nominal Impedance:
Compatible with 8 ohm outputs
Efficiency: 89dB
Shipping Weight:
14 lbs, 1 oz / pair (6.4 kg)



The M³ can be mounted on the wall or set on the floor beside a wall.

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TEST REPORTS

sible to obtain almost any desired degree of compensation at any listening level.

The RIAA phono-equalization response varied only ± 0.1 dB from 60 to 20,000 Hz and was down 0.6 dB at 20 Hz. The phono preamplifier overloaded at 1,000-Hz equivalent inputs between 115 and 130 millivolts (mV) at frequencies between 20 and 20,000 Hz. The phono-input termination was 44,000 ohms in parallel with a 110-picofarad (pF) capacitance.

Sensitivity, for a 1-watt reference output, was 13 mV at the CD inputs and 0.22 mV at the phono input. The A-weighted signal-to-noise ratio (or S/N), referred to 1 watt, was 81 dB for phono and 87 dB for the CD input. A

spectrum analysis of the noise showed exceptionally low power-line hum levels: -95 dB at 180 Hz and -97.5 dB at 60 Hz, relative to a 1-watt output.

The FM tuner frequency response was flat within ± 0.2 dB from 50 to 11,000 Hz, falling to -1 dB at 20 Hz and -3 dB at 15,000 Hz. Stereo channel separation was 50 to 54 dB in the 1,000- to 3,000-Hz range, falling to 25 dB at 20 Hz and 40 to 45 dB in the 13,000- to 15,000-Hz range. The AM tuner frequency response was +1.6, -6 dB from 35 to 2,500 Hz, relative to the 1,000-Hz output.

FM usable sensitivity was a very good 6 dBf (1.1 μ V). The 50-dB quieting sensitivity was 9.5 dBf (1.6 μ V) in mono and 30 dBf (17.4 μ V) in stereo.

At 65 dBf, the FM distortion (THD + N) was 0.09 percent in mono and 0.4 percent in stereo. The respective S/N measurements were 79 and 74.5 dB.

Other FM measurements included a 2.5-dB capture ratio (fair), 74 dB AM rejection (good), adjacent-channel selectivity of 13 dB and alternate-channel selectivity of 85 dB (both excellent), and image rejection of 39 dB (not very good, but not particularly unusual these days, either).

Comments

The Yamaha RX-950 proved to be one of the most robust high-performance receivers we have tested. Its amplifiers are both powerful and rugged, with an effective over-current protection system that shut down the receiver with a relay when it was driving 2-ohm loads at continuous high power levels. Dynamic power capability was equally impressive.

The FM tuner section was mostly excellent, with very high sensitivity and an exceptional 85-dB alternate-channel selectivity (as rated). The image-rejection ratio of 39 dB (slightly below Yamaha's specified 45 dB) was lower than we would expect of a top home receiver, although it should not cause any problems unless you live close to a major airport (we heard no image interference in our tests).

The RX-950 performed superbly in our listening tests, receiving some fifty clear FM signals with the supplied dipole wire antenna tacked to the wall. The stereo muting threshold of 24 dBf reduced the number of receivable stereo signals to thirty-nine, still very creditable performance. It should be noted that the distortion plus noise at low signal levels largely consisted of random noise; weak signals could be heard without audible distortion and, in fact, with little noise.

The RX-950 was very simple to operate, in contrast to many contemporary receivers whose panels are studied with pushbuttons. It is an impressive component, with enormous power capabilities, the ability to drive almost any speaker made today, and a very sensitive, selective FM tuner section. Assuming that its input-switching capabilities meet your needs, you could hardly ask for a finer stereo tuner/amplifier than this one. At its price, it is an excellent value as well as a first-rate receiver. \square

LABORATORY MEASUREMENTS

• **Tuner Section** (all figures for FM only except frequency response; measurements in microvolts, or μ V, referred to 300-ohm input)

Usable sensitivity: mono, 6 dBf (1.1 μ V); stereo, below stereo threshold of 24 dBf (8.7 μ V)

50-dB quieting sensitivity: mono, 9.5 dBf (1.6 μ V); stereo, 30 dBf (17.4 μ V)

Signal-to-noise ratio at 65 dBf: mono, 79 dB; stereo, 74.5 dB

Harmonic distortion (THD + N) at 65 dBf: mono, 0.091%; stereo, 0.4%

Capture ratio at 65 dBf: 2.5 dB

AM rejection: 74 dB

Pilot-carrier leakage: 19 kHz, -48 dB; 38 kHz, -56 dB

Hum: 60 Hz, -74 dB; 120 Hz, -74 dB; 180 Hz, -75 dB

Stereo channel separation at 100, 1,000, and 10,000 Hz: 36, 52, and 41 dB

Frequency response: FM, +0, -1 dB from 20 to 10,000 Hz, -3 dB at 15,000 Hz; AM, +1.6, -6 dB from 35 to 2,500 Hz

• Amplifier Section

1,000-Hz output at clipping: 158 watts into 8 ohms, 245 watts into 4 ohms

Clipping headroom (relative to rated output): 8 ohms, 1.2 dB; 4 ohms, 1.3 dB

Dynamic power output: 195 watts into 8 ohms, 338 watts into 4 ohms, 575 watts into 2 ohms

Dynamic headroom (relative to rated output): 8 ohms, 2.1 dB; 4 ohms, 2.7 dB

Frequency response (CD input): ± 0.02 dB from 20 to 20,000 Hz

Maximum distortion (20 to 20,000 Hz into 8 ohms): 0.015% at 1,000 Hz and 140 watts output

Sensitivity (for a 1-watt output into 8 ohms): CD, 13 mV; phono, 0.22 mV

A-weighted noise (referred to a 1-watt output): CD, -87 dB; phono, -81 dB

Phono-input overload (1,000-Hz equivalent levels): 115 to 130 mV from 20 to 20,000 Hz

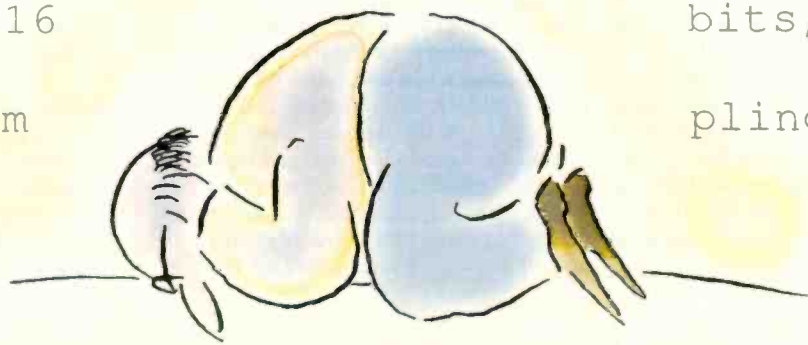
Phono-input impedance: 44,000 ohms in parallel with 110 pF

Tone-control range: bass (100 Hz), +7, -6 dB with 200-Hz turnover, ± 9 dB with 400-Hz turnover; treble (10,000 Hz), +9 -11 dB with 2,500-Hz turnover, +6, -5 dB with 5,000-Hz turnover

Loudness-compensation range (relative to 1,000-Hz level): 0 to +18 dB at 50 Hz, 0 to +7 dB at 10,000 Hz

1 beam or 3 beam / Mash. one bit, 16 bits, or 20 bits / 2
times oversampling at 88.2kHz or 4 times oversampling at
176.4kHz / 1 beam or 3 beam / Mash. one bit, 16 bits, or
20 bits / 2 times oversampling at 88.2kHz or 4 times
oversampling at 176.4kHz / 1 beam or 3 beam / Mash. one
bit, 16 bits, or 20 bits / 2 times oversampling at 88.2kHz
or 4 times oversampling at 176.4kHz / 1 beam or 3 beam /
Mash. one bit, 16 bits, or 20 bits / 2 times oversampling
at 88.2kHz or 4 times oversampling at 176.4kHz / 1 beam
or 3 beam / Mash. one bit, 16 bits, or 20 bits / 2 times
oversampling at 88.2kHz or 4 times oversampling at
176.4kHz / 1 beam or 3 beam / Mash. one bit, 16 bits, or
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oversampling at 176.4kHz / 1 beam or 3 beam / Mash. one
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sampling at

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Definitive Technology DR7 Loudspeaker System

Julian Hirsch, Hirsch-Houck Laboratories

THE new Definitive Technology DR7 loudspeaker system features the same styling and many of the technological features that were introduced in the company's first product, the BP10, which we reviewed last February. The DR7, however, is somewhat smaller and considerably lower priced than the BP10 or its larger companion, the BP20. Also unlike them, it uses only conventionally forward-facing drivers.

The DR7 is a slender, column-shaped speaker that measures 38 inches high, 11½ inches deep, and 8½ inches wide. Like the BP10 and BP20, it is covered on four sides by a snugly fitting black cloth sleeve. The visible portions of the wooden base and the removable wooden top are finished in glossy black piano lacquer or golden oak. The input terminals—multiway binding posts that also accept single or double banana plugs—are on the bot-

tom of the cabinet, whose base is slotted to clear the connecting cable.

The DR7 is a two-way vented system with a 6-inch woofer, a 1-inch ferrofluid-cooled tweeter, and a phase-coherent Linkwitz-Riley crossover network. The woofer is a little above the center of the front panel, the tweeter near the top, and the woofer port near the bottom. The manufacturer describes the system as having "computer-synthesized transmission-line tuning" for extended bass response. Its internally braced cabinet has special foam damping pads and 1-inch-thick Medite front and rear panels with rounded corners. In combination with the flush-mounted drivers and frameless "sock" grille, these features minimize cabinet resonances and diffraction.

The woofer is constructed with a cast-magnesium basket designed to have the largest possible open area behind the cone. Its butyl-rubber surround and dust cap are said to combine durability with a very low free-air resonance, a long maximum cone excursion, and effective damping of mid-range energy in the cone.

The Definitive Technology DR7's specifications include a bandwidth of 22 to 28,000 Hz, a sensitivity of 90 dB, and a nominal impedance of 6 ohms. It is recommended for use with amplifiers rated between 20 and 200 watts per channel. Price: \$750 a pair. Definitive Technology, Dept. SR, 11105 Valley Heights Dr., Baltimore, MD 21117.

Lab Tests

The DR7's room response was exceptionally flat, varying only ± 5 dB from 60 to 20,000 Hz before any corrections were applied. A close-miked woofer response, combined with the port output, varied only ± 4 dB from 30 to 2,000 Hz and overlapped the room curve for more than two octaves to create a composite response curve flat within ± 3 dB from 32 to 20,000 Hz. A separate response curve with the microphone 1 meter from the speaker, using a swept one-third-octave random-noise test signal, gave similar overall results, although many of the variations in output across the spectrum did not coincide with those in the composite curve.

We also took advantage of a new software release from Audio Precision to make quasi-anechoic response mea-

PHOTO: JOOK P. LEUNG

...or play the music.



Recently more and more CD players have been promoted by a kind of numbers game, as if by some magic combination one CD player can be made to sound better than another. The vast majority of these CD players still fail to address the most important subtleties that reproduce the natural real sound of live music.

Adcom on the other hand continues to impress the audio critics with the superior musicality of its GCD-575 CD player. To reach this objective, "...the GCD-575 was designed and built with extraordinary attention to detail."*

We ask that you let your ears be the judge of which CD player meticulously reproduces the integrity of the original performance. The CD player

that plays the numbers? Or our critically acclaimed Adcom GCD-575 which plays the music.

Please visit your Adcom dealer for a demonstration of this remarkable product. Or write us for our brochure. You will discover why it pays to play the music, not the numbers.

**Stereo Review, 12/89.*

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With the SA-GX910 A/V Receiver, Technics raises the state-of-the-art for home theater control centers to a new level.

It combines both the sophisticated control and the huge power capacity it takes to put you in the best seat in the house.

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And just to make sure you get all the thrills and chills you've got coming, every subtle nuance of digital sound comes at you with the stunningly clear reproduction of our MASH** 1 bit DAC (Digital-to-Analog) converter.

Not surprisingly, its 4 band Parametric Equalizer goes beyond conventional equal-

izers by giving you pinpoint control over center frequencies. And the remote is so smart it can learn the commands of most other remotes.

Which means the remote is very much like the SA-GX910 itself. It does so many things so well, about the only thing it doesn't do is pop corn. But we're working on it.



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TEST REPORTS

surements with its MLS (maximum-length sequence) digital test program. Over portions of the frequency range where both test methods (swept and MLS) were valid, there was a rough agreement between them, but we will have to acquire more experience with MLS measurements to establish a meaningful correlation between them and the other types we use.

The DR7's measured sensitivity was 90 dB, exactly as rated. Total harmonic distortion plus noise (THD + N) from the woofer with a 2.83-volt constant input was between 0.5 and 1 percent from 80 to 2,000 Hz, increasing to 2.9 percent at 70 Hz, 3.5 percent at 38 Hz, and 10 percent at 25 Hz. The system impedance was a minimum of 3.75 ohms at 150 Hz, with peaks of 11 to 12 ohms at 62 and 25 Hz and 18 ohms at 1,400 Hz. Although the DR7's overall 6-ohm rating is not unreasonable, as its impedance was greater than 6 ohms over most of the audio range, users should be aware that the impedance does drop below that value in a range where considerable program power may be required.

We were not able to identify the exact crossover frequency, which was

not given in the product specifications, from any of our measurements or from listening. Definitive Technology's claim of "seamless" response appears to be justified. Our best guess is that the crossover is in the vicinity of 2,000 Hz.

The tweeter's high-frequency dispersion was typical of 1-inch domes, with less than 3 dB difference between the output on-axis and 45 degrees off-axis up to about 6,000 Hz. The difference increased to 8 dB at 10,000 Hz and 14 dB at 20,000 Hz. Group delay varied less than ± 0.1 millisecond from 3,000 to 18,000 Hz, with much larger swings from 3,000 to 1,000 Hz.

The DR7, despite its relatively small drivers, was able to handle very high short-term power levels. At 100 Hz, it required a 1-cycle burst of 1,260 watts into the speaker's 4.8-ohm impedance to give positive audible evidence of excessive woofer-cone movement, although some distortion could be heard at somewhat lower power levels. At frequencies of 1,000 and 10,000 Hz, where the speaker's impedance was in the 8- to 15-ohm range, our amplifier clipped first, at 460 and 750 watts, respectively.

Comments

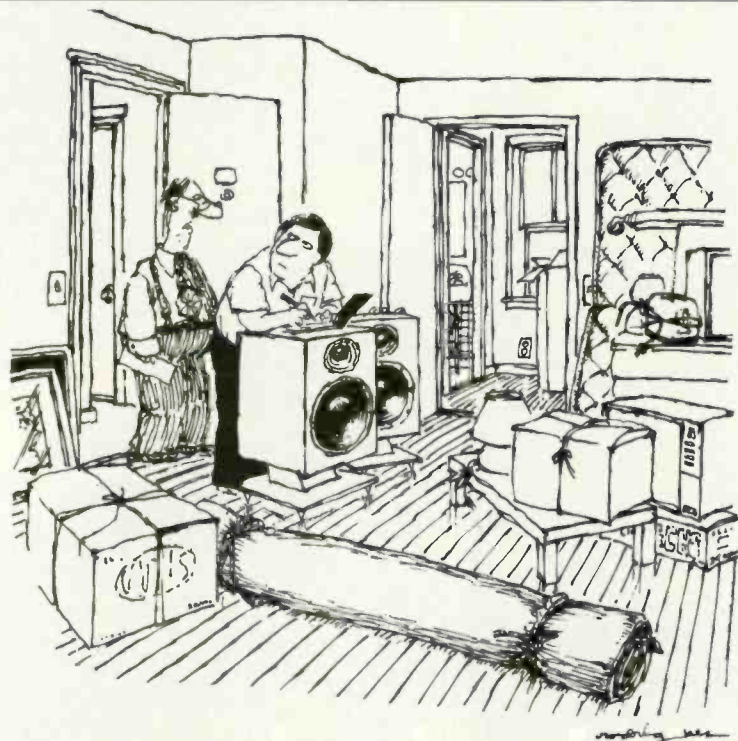
For listening, we placed the Definitive Technology DR7's about 3 feet in front of a wall, 6 feet apart, and 4 to 5 feet from the side walls. They were slightly toed in toward the center of the room.

From first hearing, the DR7's sounded distinctly different from other speakers we had available. They were, most of the time, sonically "invisible," creating a stage of sound that was not obviously connected with the two slender black columns at the front of the room. Not only was there no sense of where, in each column, the sound originated, but there was usually no sense that it came from either of the two visible speakers. This impression was reinforced when we switched between the DR7's and any of several other speakers (some of which are considerably more expensive).

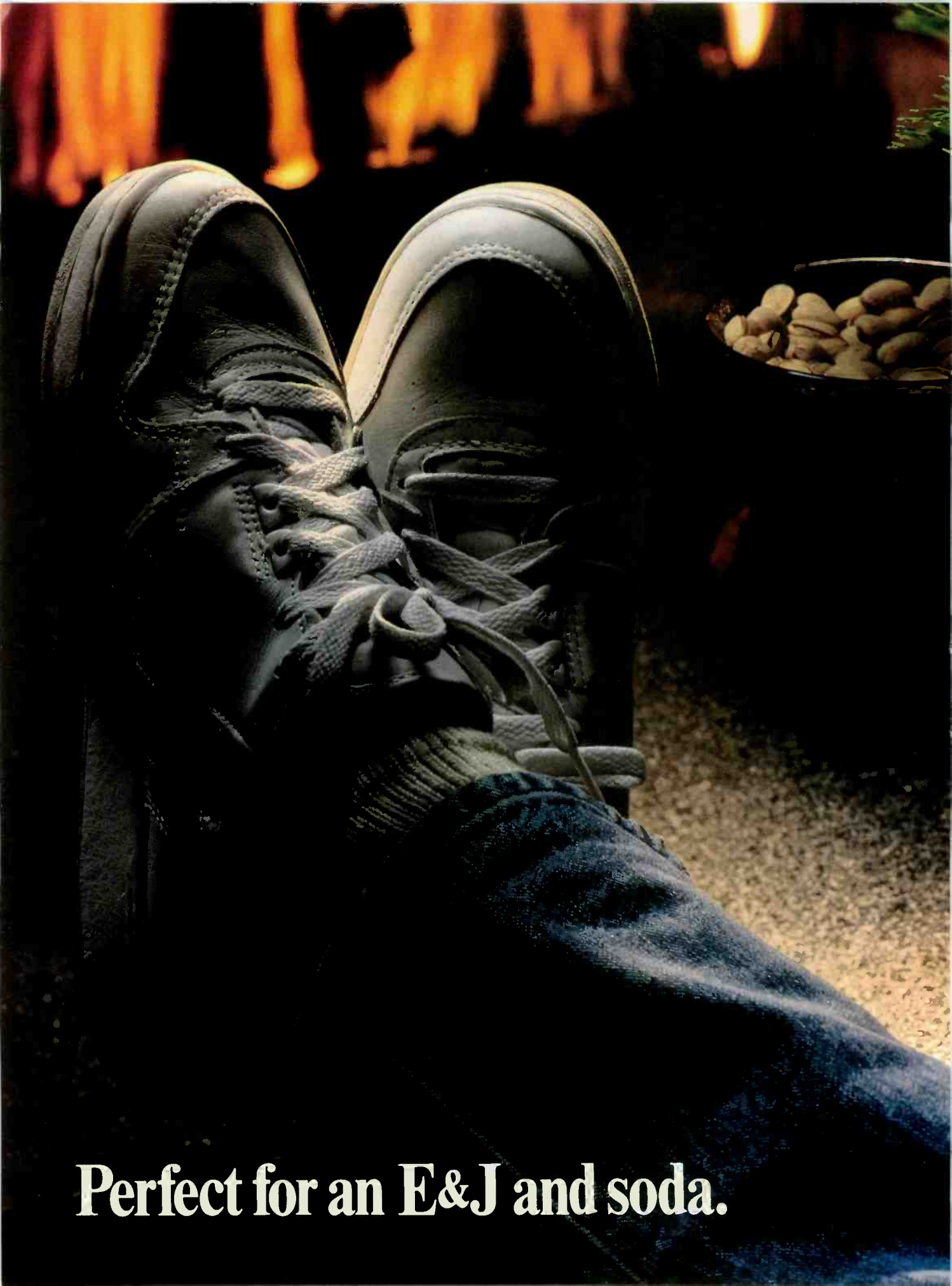
The DR7 sounds less like a speaker—or how we think of a speaker as sounding—than most others we have used. It was not always the brightest of the lot, nor the best in the low bass, but it always seemed to have just the right balance to encourage extended listening. There was an effortless, unstrained character to its sound that we have rarely experienced from speakers in this price range, or even at considerably higher prices.

Frankly, the last time we used speakers having this combination of qualities was during our test of the Definitive Technology BP10. When we heard the DR7 demonstrated at the Consumer Electronics Show last June, it was able to hold its own surprisingly well against the BP10, and in our own familiar surroundings it did very much the same thing in comparison with our memories of some months before. Although the DR7 lacks the bipolar radiation pattern of the BP10 and BP20, and some of their deep bass, it somehow manages to create much of their total effect.

Even if you don't know the DR7's price or driver complement, its performance is impressive in its own right. But when you realize that a single 6-inch woofer and a 1-inch tweeter are generating the sound you are hearing, and that the DR7's price is not much more than that of many "budget" speakers, you can appreciate its real quality and value. □



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TEST REPORTS



Sharp RX-P1 Digital Audio Tape Deck

Craig Stark, Hirsch-Houck Laboratories

THE Sharp RX-P1 digital audio tape recorder is aptly called a "multi-purpose" DAT deck. It is equally at home in a conventional stereo system, in your jacket pocket, and in the car. It accepts input not only from analog or digital line-level sources but from microphones as well. It can play back via digital or analog line outputs, through headphones, or (by means of an ingenious cassette-like coupler) through a car's stereo cassette player. And it can be powered either by a plug-in AC converter, its built-in rechargeable battery pack, or an automobile cigarette-lighter socket.

Fitting so much versatility into a stylish package smaller than today's paperback novels is clearly an engineering tour de force. The RX-P1 actually comprises two modules, which are held together by a locking screw and the smallest twenty-four-pin connector we have ever encountered. The main unit contains the tape transport and digital input/output circuits; the

ancillary unit holds the analog-to-digital (A/D) converter and the battery charger. When used in a car, the charger is replaced by an appropriate adaptor designed for 12-volt automobile systems.

The RX-P1 incorporates a Serial Copy Management System (SCMS) circuit that limits taping from most digital sources to "first-generation" copies—direct digital copies of CD's and commercial DAT's are allowed, but these copies cannot themselves be copied again digitally. SCMS turns on a "flag bit" in the digital copies that prevents them from becoming, in effect, digital submasters for an unlimited series of duplications. Since this flag bit is located in a tape's subcode field (along with the program number, running time, and similar information), it cannot in any way affect fidelity. A tape made from a DAT deck's analog inputs will allow two generations of direct digital copies to be made on SCMS-equipped recorders (that is,

a digital dub of the original can be digitally duplicated, but the resulting copy cannot).

The Sharp RX-P1 supports both of the normally used DAT sampling frequencies: 48 kHz (for taping analog sources) and 44.1 kHz (for dubbing CD's and for playing and copying commercial DAT releases). Both modes permit 2 hours of uninterrupted recording on DT-120 tapes. The RX-P1 does not support the 32-kHz sampling-rate mode used for half-speed recording.

The top of the RX-P1 gently pops up at the touch of a button, exposing a pair of slides into which the tape (a subminiature cassette) is inserted. As in most portable DAT decks, the head drum in the RX-P1 is only 15 millimeters (rather than 30 mm) in diameter. But since the tape wrap around the drum is 180 degrees rather than the usual 90 degrees, the helically recorded tracks are identical to those produced on the larger DAT transports. To reduce low-level distortion, the Sharp RX-P1 uses 1-bit converter technology on both sides of the analog-digital divide.

In the interest of conserving battery power, the RX-P1 uses a simple liquid-crystal display rather than the typical fluorescent panel. Analog recording levels are indicated at only five amplitudes: -50, -24, -12, and -3 dB and OVER. The display also shows both the program number and elapsed time in minutes and seconds, however, and it provides a visible indication of play, record, and pause modes. Since a fully charged battery pack is rated at 100 minutes of playback, or 80 minutes of recording from analog, the deck automatically powers down if left idling longer than 10 minutes. (It takes 8 hours to recharge the battery completely.)

Front-panel pushbuttons control the play/repeat, stop/eject, rewind/review, and fast-forward/cue operations, and additional front buttons are provided for record and pause. To skip ahead or return to a previous program number you press the fast-forward or rewind button the appropriate number of times while the machine is in the play mode. Pressing these same buttons while in the pause mode provides high-speed audible cue-and-review facilities. The deck rewinds automatically at the end of a tape, and it can be



You Should Hear The Latest Dirt.

Dots Will Echo

The trio Dots Will Echo plays flat-out, high-octane New Jersey garage band rock and roll.



Dots Will Echo is: Nick Berry, guitar and vocals; Bob Albanese, bass and synthesizers; Steve Meltzer, drums.

The producer of their new CD, ironically, is purist Will Ackerman founder of Windham Hill.

So at first it is jarring to hear him say, "I wanted to throw 'dirt' into the pristine digital recording process. This is not a concert grand being heard in Symphony Hall. It's three scrapping rockers trying to be heard above the drink orders. My first concern was re-creating in the studio the raw ambience of a bar. A small room with smoke."

He close-miked the drum kit to get the punch of the snare and kick drum. He let Berry severely overdrive his guitar amps,

capturing the warmth and ensuing distortion with digital accuracy. He let in the electronic hiss, which resembles tape hiss, from the synthesizers—the kind of electronic distortion you typically hear at a live performance.

The resulting mix puts you on a bar stool at the Bitter End.

Filled with solid hooks, "their music combines intellect and hormones," says Ackerman. "And I think this new High Street Records release nails it."

Visit a Boston Acoustics dealer and listen to Dots Will Echo on a pair of HD10 loudspeakers.

Music this good should be heard on speakers this good.

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TEST REPORTS

made to repeat automatically by pressing the play/repeat button a second time. (You press it a third time to cancel the automatic repeat.)

The headphone volume control is mounted internally, with the edge of its knob protruding slightly from the left side of the main unit. Adjacent to it are two three-position slide switches that control the power and set the mode for an external timer. The timer switch also has a KEY HOLD position that prevents accidental activation of the front-panel pushbuttons. On the left side of the converter module is a similar three-position switch that is used to select line input, microphone input, or microphone input through a 20-dB attenuator. Here, too, is the analog record-level control, which affects both the left and right channels together. (No channel-balancing control is provided.)

A four-circuit minijack on the front panel is used for digital input/output connections. Sharp supplies the necessary cable, which has conventional phono plugs on the other end. A similar jack accepts either a pair of headphones (stereo miniplug required) or an aspirin-box-sized remote-control device that duplicates all the front-panel pushbuttons and contains an additional headphone jack and volume control.

Three-circuit miniplugs in the back of the rear-mounted converter unit are used for analog inputs and outputs; again, Sharp supplies the necessary cable. No optical digital connectors are provided. The rear panel also contains a connector for the AC-converter power cord and a battery-charge switch and indicator.

With its converter/battery pack attached, the Sharp RX-PI measures 3¾

inches wide, 6¾ inches deep, and 1¾ inches high, and it weighs 1½ pounds. Price: \$1,500. Sharp Electronics Corp, Dept. SR, Sharp Plaza, Mahwah, NJ 07430-2135.

Lab Tests

Whether we were playing back our calibrated Sony and JIS test tapes or recording and playing back analog input (from our Audio Precision System One) or digital input (a direct feed from our CBS CD-1 test CD), the Sharp RX-

The Sharp RX-PI is a full-featured digital audio tape recorder designed to fit handily in a pocket or purse. Getting so much versatility into a stylish package smaller than today's paperback novels is clearly an engineering tour de force.

PI's frequency-response deviations were always extremely low. Our worst-case measurement was within +0.46, -0.35 dB throughout the entire 20- to 20,000-Hz range.

The measured performance figures for distortion, signal-to-noise ratio (S/N), dynamic range, quantization noise, and crosstalk were also very good. The graph depicting distortion and noise as a percentage when using an analog input (Figure A) shows that there was only about a 1-dB difference

between channels at the point where the RX-PI's limiter circuits began to take effect. (All DAT decks have some kind of analog limiting circuits to avoid the harsh distortion that would be generated by digital clipping.) Since the RX-PI lacks a 0-dB marking, however, the user is advised to take the -3-dB display indication as his maximum input level.

Figure B confirms visually the predictable finding that the RX-PI's noise and distortion were higher using its analog inputs than with the digital ones. Again, the noise floors were impressively low.

Finally, Figure C shows the input/output linearity of the digital circuits. Here we were unable to obtain a reliable response at our usual -90-dB end point, though at -80 dB the linearity error of approximately 1 dB is by no means unusual. (Such low levels are where competing manufacturers' claims for and against different versions of 1-bit and multibit conversion technology collide. Just how closely measurable low-level nonlinearity correlates with audible sonic defects remains a matter of debate.)

Naturally, the RX-PI displayed no wow-and-flutter, and its pitch accuracy was as close to perfect as we could measure. Fast-winding speeds were slightly slow, but not seriously so. Input and output levels through the various jacks were entirely normal.

Comments

It would be grossly unfair to apply the same "human engineering" standards by which we would judge a normal-size machine to the Sharp RX-PI. That said, however, it would also be unfair not to note that we did find the buttons, switches, and controls (and even the labels) on the unit so small as to hamper our use of it. And if one of the custom cables for the RX-PI gets lost or chewed by your dog, you won't find a replacement at your local electronics store, either. Still, these are all-but-intractable problems in designing a full-featured DAT recorder to fit handily in a pocket or purse. Moreover, Sharp has done a commendable job in supplying a complete package: everything except microphones and headphones that you'd need for almost any conceivable DAT application.

In listening to both prerecorded

FEATURES

- Digital and analog inputs and outputs
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LABORATORY MEASUREMENTS

Fast-forward/rewind time (DT-120): 76 seconds (both directions)

Speed error: none measurable

Wow-and-flutter: none measurable

Line input for indicated 0 dB: 0.35 volt

Microphone input sensitivity: 1 mV (10 mV in -20-dB switch position)

Line output at indicated 0 dB: 1.16 volt

● **Playback performance (Sony TY-7551 test tape)**

Frequency response (dB, left/right):

20 Hz	+0.35/ +0.51
100 Hz	-0.05/ +0.09
1,000 Hz*	0.00/0.00
10,000 Hz	-0.13/ -0.03
20,000 Hz	-0.31/ -0.27

*reference level

Signal-to-noise ratios (dB, left/right):

Unweighted	90.2/86.9
A-weighted	92.2/88.2
CCIR/ARM	92.1/90.2

Dynamic range (dB, A-weighted): left, 93.6; right, 92.0

Quantization noise (dB, unweighted): left, -89.4; right, -84.4

Total harmonic distortion at 1,000 Hz: left, 0.0045%; right, 0.0047%

Channel separation (dB, left/right):

1,000 Hz	82.9/83.4
10,000 Hz	68.3/67.7

● **Record-playback performance**

Frequency response (dB, left/right):

	Digital input	Analog inputs
20 Hz	+0.6/ +0.36	+0.19/ -0.08
100 Hz	+0.06/ +0.07	+0.05/ +0.03
1,000 Hz*	0.00/0.00	0.00/0.00
10,000 Hz	-0.06/ -0.03	+0.43/ +0.36
20,000 Hz	-0.35/ -0.25	+0.10/ -0.03

*reference level

Signal-to-noise ratios (dB, left/right):

	Digital input	Analog inputs
Unweighted	88.3/82.9	80.4/80.4
A-weighted	91.5/87.7	82.9/83.1
CCIR/ARM	89.6/85.3	79.4/79.5

Total harmonic distortion at 1,000 Hz (left/right): digital input, 0.0081%/0.0098%; analog inputs, 0.024%/0.067%

Channel separation (dB, left/right):

1,000 Hz	82.7/82.6
10,000 Hz	68.2/67.7

Figure A

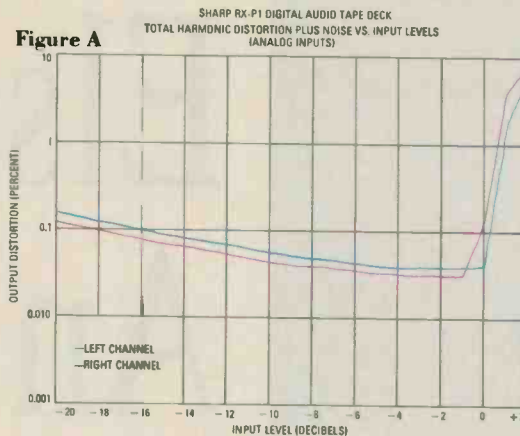
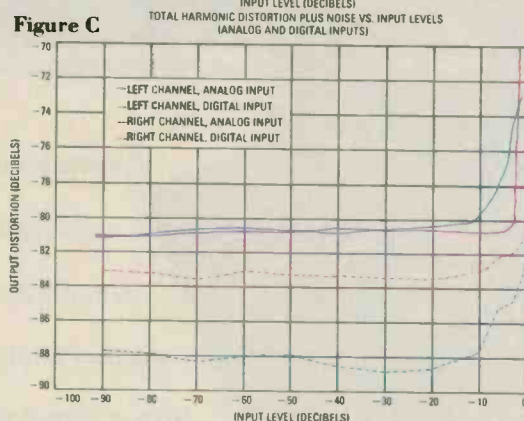


Figure B



Figure C



DAT's and those we dubbed from CD's, we found the deck's frequency response to be wide and clear. The imaging was certainly as good as that of most CD players, though in direct comparison with our reference unit we thought we could detect a very slight narrowing and flattening of the sound

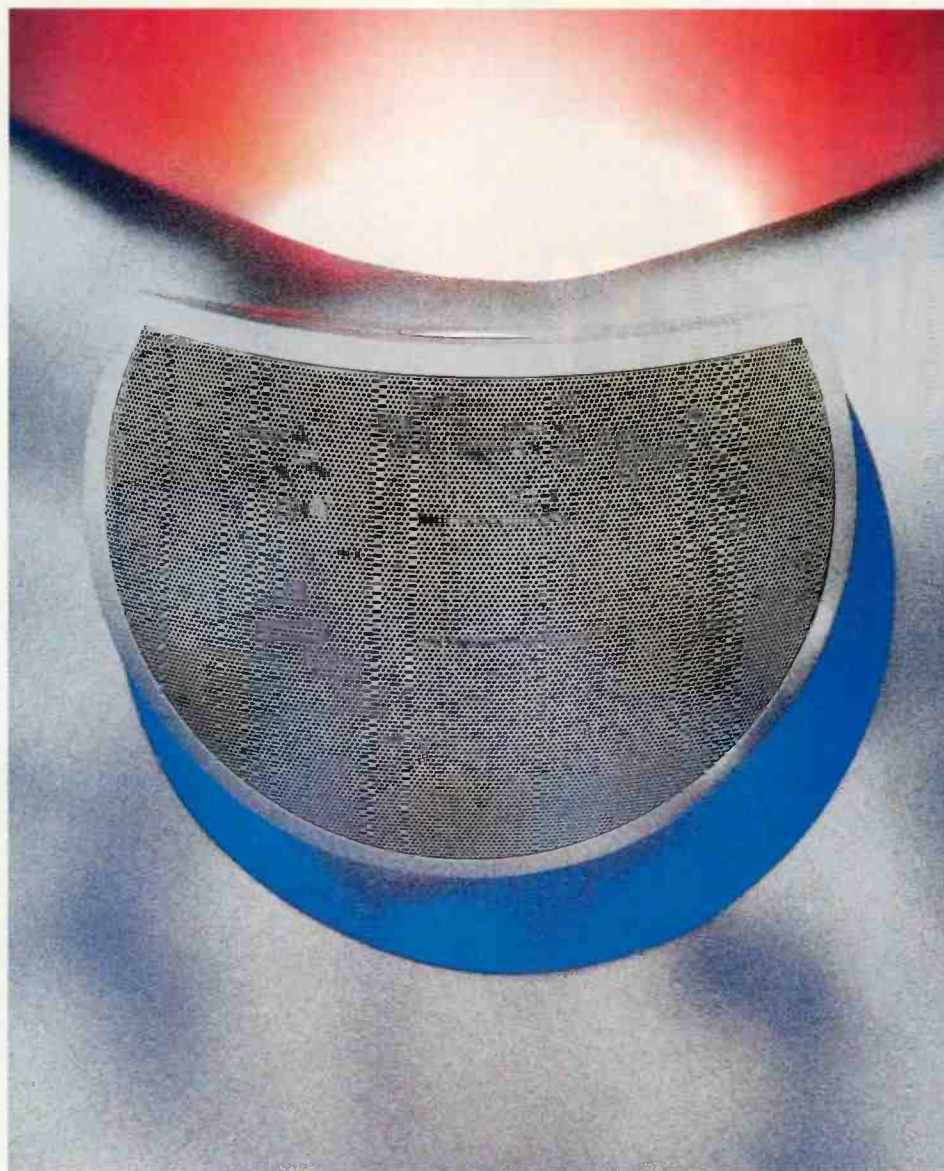
stage. Listening for faults rather than for virtues, we also noticed a slightly edgy quality added to some music. At any reasonable listening level, noise was totally absent, though with our system's volume control set nearly at full gain and no music being played, we could faintly detect some electrical

noise from operation of the RX-P1's motors and mechanism.

None of these minor faults was sufficient to diminish the magnitude of Sharp's accomplishment in the RX-P1, however. It is a fine performer with almost incredible versatility that you can proudly take anywhere. □

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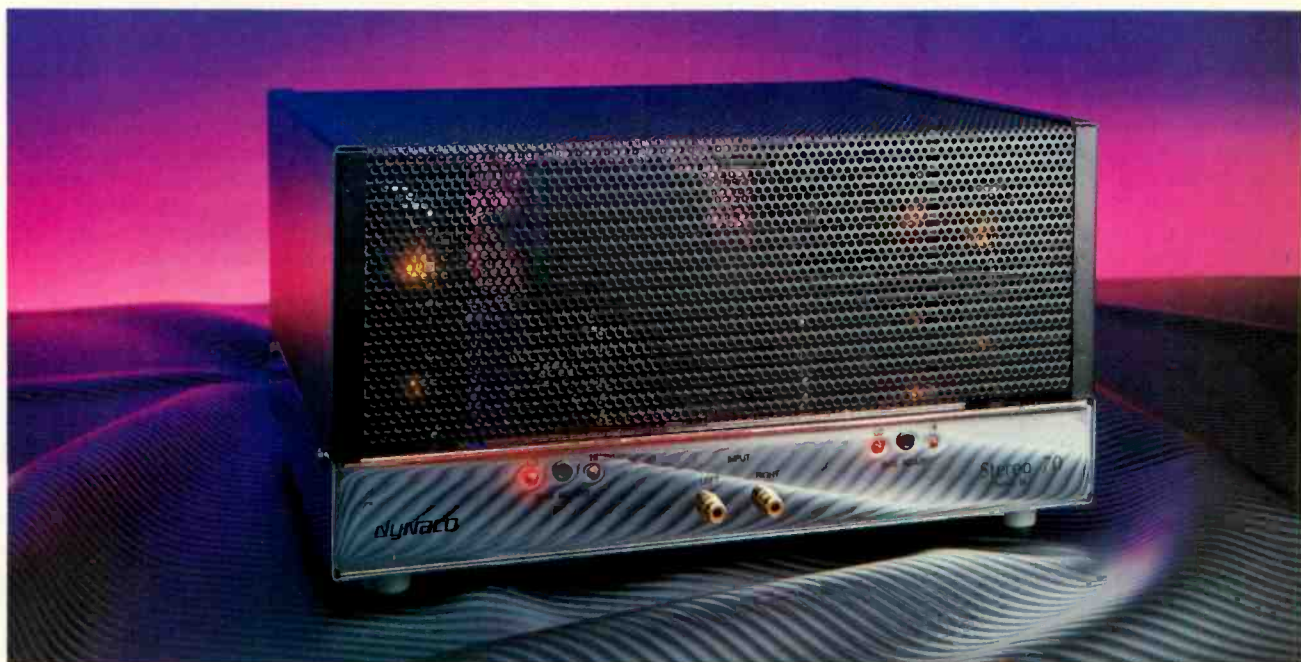
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Dynaco Stereo 70 Series II Power Amplifier

Julian Hirsch, Hirsch-Houck Laboratories

THE Dynaco Stereo 70, one of the most popular power amplifiers of the late 1950's and early 1960's, enjoyed a deserved reputation for quality among the audiophiles of that time. Naturally, it used vacuum-tube circuitry, and its rated output of 35 watts per channel was relatively high for those days.

Eventually, it was superseded by more powerful, solid-state amplifiers, although it remained in the Dynaco line until the mid-1970's. The company was later sold and has since changed hands a few times.

Recently Dynaco was acquired by the Panor Corp. of Hauppauge, New York, which has reworked the old Stereo 70, making several small but significant circuit improvements but retaining almost all the original circuitry. The Stereo 70 Series II's specifications are essentially identical to those of the original, classic Stereo 70, and its metalwork and external appearance are virtually identical, too.

For each channel, a 6GH8A pen-

tode-triode (a functional equivalent of the original, now obsolete 7199) provides gain and phase inversion for driving a pair of 6CA7/EL34 output tubes. The output transformers, which were responsible in large measure for the Stereo 70's outstanding qualities, remain unchanged in the Series II. They feature the "ultra-linear" configuration, with the output-tube screen grids connected to taps on the transformer primary for higher output with minimal distortion. The secondary has taps for 4-, 8-, and 16-ohm loads.

The original circuit values have been retained except for the correction network in each channel that was used to roll off ultrasonic response in the interest of improved stability. Instead, there is now a low-pass filter at the input to each channel to limit its bandwidth to 20 to 20,000 Hz. This requires that the driving preamplifier have an output impedance of less than 2,000 ohms for proper high-frequency response (most preamps do).

Another change concerns the out-

put-tube bias-balancing system. In the original Stereo 70, this required the use of a DC voltmeter. The Series II has a comparator circuit that drives a pair of red LED's for each channel. If the output tubes are not balanced, one of the lights will be brighter than the other. The adjustment is made through holes on the front of the amplifier, using a small screwdriver, until both LED's are lit equally.

The Series II's printed circuit board is made of military-grade double-sided epoxy fiberglass. By including the wiring to the output tubes, nearly two-thirds of the hand-wiring used in the original Stereo 70 has been eliminated.

Dynaco has made substantial changes in the Series II's power supply. A larger, higher-rated power transformer, which can now be wired for 220-volt/50-Hz operation as well as a U.S.-standard 120-volt/60-Hz power source, provides improved line regulation. Solid-state rectifiers are now used instead of the original 5AR4 tube, improving regulation and reliability. The filter capacitance has more than tripled, an improvement made possible by today's more compact capacitors, and the filter choke inductance and resistance have been correspondingly reduced, increasing the available voltage and maximum power output.

Although the Series II's external metalwork is almost identical to that of

TEST REPORTS

the original, there are numerous differences in detail. Heavy-duty, gold-plated multiway binding posts for each channel (instead of the original terminal strips) provide for connecting speakers of 4, 8, or 16 ohms impedance. On the front of the chassis, the old power take-off sockets (for powering Dynaco preamplifiers of that period) have been eliminated, together with the stereo/mono switch that connected the two input circuits together. Instead, the output-tube current-balance indicators and adjustment access holes are on the front, together with the gold-plated input RCA jacks.

The specifications for the Dynaco Stereo 70 Series II include a bandwidth of 20 to 20,000 Hz at the -3-dB points, a nominal power output of 30 watts per channel into 4, 8, or 16 ohms, and a maximum power output of 38 watts per channel at 1,000 Hz with no more than 1 percent total harmonic distortion. Distortion at 30 watts output is specified as no more than 2 percent at 20 Hz, 0.15 percent from 200 to 1,000 Hz, 0.3 percent at 10,000 Hz, and 1 percent at 20,000 Hz. The noise level is specified as better than -85 dB referred to 30 watts output, and channel separation is said to be better than 60 dB. The rated input sensitivity for 35 watts output is 1.3 volts.

The Dynaco Stereo 70 Series II measures 13 x 7 x 9½ inches, and it weighs 32 pounds. Price: \$995 in black, \$1,095 in chrome finish. Dynaco, Dept. SR, 125 Cabot Ct., Hauppauge, NY 11788.

Lab Tests

After a warm-up and check of its bias adjustments, the Dynaco Stereo

70 Series II delivered 40 watts per channel at 1,000 Hz into 8-ohm loads at the clipping point. Unlike most solid-state amplifiers, the Stereo 70 does not clip suddenly but merely rounds off the waveform slightly, making the determination of its clipping power level somewhat ambiguous. As would be expected of an amplifier with an impedance-matching output transformer, the output was essentially the same into a 4-ohm load (about 38 watts).

An input of 1.32 volts drove the amplifier to 35 watts output (corresponding to 0.22 volt for 1 watt). Since a Class A amplifier draws a constant current from its power supply at all power levels, the Stereo 70 Series II's dynamic power was equal to its continuous power output.

Frequency response was down 2.5 dB at 20 Hz and 2.1 dB at 20,000 Hz. The 1,000-Hz total harmonic distortion plus noise (THD + N) was less than 0.1 percent from 0.4 watt to 37 watts, reaching a minimum of 0.045 percent at 4 watts and the rated 1 percent at 45 watts. At a constant 35 watts output, THD + N was between 0.1 and 0.2 percent from 20 to 3,000 Hz and rose to 0.7 percent at 20,000 Hz.

Channel separation from right to left was between 75 and 87 dB from 20 to 20,000 Hz. From left to right it was a constant 60 dB over that range. The A-weighted noise, referred to a 1-watt level, was -82 dB in the left channel and -89 dB in the right channel. A spectrum analysis of the output noise showed a number of low-level harmonics of the 60-Hz power-line frequency, at levels from -80 to -120 dB (referred to 1 watt).

Power bandwidth at 1 percent THD + N into 8 ohms was 30 to 8,000 Hz at 43 to 44 watts output and 20 to 20,000 Hz at 25 watts. With the outputs and inputs paralleled for mono operation into 4 ohms (from the 8-ohm outputs), the power bandwidth at 1 percent THD + N was 30 to 10,000 Hz at 79 watts, down to 20 Hz at 45 watts, and up to 20,000 Hz at 22 watts.

Comments

Our measurements confirmed the ratings of the Dynaco Stereo 70 Series II. Because it is a pure Class A amplifier, its exterior became quite hot during these tests. The instructions stress that *nothing* should be placed on top of the amplifier, nor should its ventilation be obstructed in any way. Because of the warm-up time of its tubes, the amplifier was completely free of turn-on and turn-off thumps, and it will not pass along turn-on transients from a preamplifier if both are switched simultaneously.

In use, the Stereo 70 Series II sounded like a much more powerful amplifier than it is, an effect that many people have noted with other tube amplifiers. This is probably because of its gradual, "soft" clipping, which produces only low-order harmonics (principally second and third), which are not as objectionable as the higher-order harmonics caused by the hard clipping of most transistor amplifiers.

Whatever the explanation, the 35-watt Stereo 70 Series II could play as loudly as we wished without strain or harshness (and we rarely use amplifiers of less than 100 watts rated output). For those who feel that they need more power, the Stereo 70's "paralleling" feature is far more convenient than bridging the channels of a solid-state amplifier. You simply connect the two outputs in parallel (as well as the inputs, with a Y-connector) to convert it into a mono amplifier of twice the stereo power rating, able to drive loads of 2, 4, or 8 ohms.

The Stereo 70 Series II, though not exactly inexpensive, is a reincarnated "classic" that can satisfy your nostalgic urges while providing some of the best qualities of vacuum-tube technology. It is also a handsome package that will do justice, sonically, to some of the best of today's audio components and speakers without requiring a second mortgage on your home. □

LABORATORY MEASUREMENTS

1,000-Hz output power at clipping:
40 watts into 8-ohm load

Clipping headroom (relative to rated output): 1.25 dB

Dynamic power output: 40 watts

Dynamic headroom (relative to rated output): 1.25 dB

Frequency response: +0, -2.5 dB
from 20 to 20,000 Hz

Maximum distortion (THD + N from 20 to 20,000 Hz into 8 ohms): 0.7% at 35 watts output

Sensitivity (for a 1-watt output into 8 ohms): 0.22 volt

A-weighted noise (referred to a 1-watt output): -82 dB

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TEST REPORTS



Phase Technology Model 235ES Sub-Sat Loudspeaker System

Julian Hirsch, Hirsch-Houck Laboratories

THE Model 235ES Sub-Sat from Phase Technology is a conventionally configured three-piece loudspeaker system with two satellite speakers and a common bass module. Each black-finished satellite—measuring 9¾ inches high, 6½ inches wide, and 5⅝ inches deep—contains a 5¼-inch “woofer” and a 2¼-inch cone tweeter in a sealed enclosure. The crossover to the tweeter is at 3,000 Hz. Each satellite weighs about 6½ pounds and has a removable black grille.

The bass module is the now-familiar black box; in this case 18 inches long, 15 inches high, and 8 inches wide. It weighs about 25 pounds. The box contains two 6½-inch woofers whose combined output emerges through a single circular port on one end. Phase Technology supplied no information

about the internal configuration of the box; presumably the drivers face into separate front and rear cavities, from which the two channels eventually combine before they reach the port. The bass module operates at frequencies below 150 Hz. The bass/satellite crossovers are also within the woofer module, which has terminals on one end for connection to the amplifier and to the satellites. The spring-loaded terminals accept only the stripped ends of speaker wires.

The 235ES Sub-Sat system's specifications include a frequency response of 45 to 20,000 Hz ± 3 dB, sensitivity of 88.5 dB sound-pressure level (SPL) at 1 meter, and nominal impedance of 8 ohms. It is recommended for use with amplifiers rated between 10 and 75 watts per channel. Price: \$399. Phase Technology Corporation, Dept.

SR, 6400 Youngerman Circle, Jacksonville, FL 32244.

Lab Tests

We placed the Phase Tech 235ES satellites on 26-inch stands about 10 feet apart and 30 inches in front of a wall. The bass module was on the floor midway between the satellites, with its port facing the listening area. As usual, we measured the room response at a single microphone position at the other end of the room, on the axis of one satellite and 30 degrees off the axis of the other. We also made close-miked measurements at the satellite “woofers” and the bass module's port.

The averaged room response of the two satellites and the bass module was relatively free of the usual low-frequency room-interaction effects, remaining within ± 5 dB from 65 to 20,000 Hz. The close-miked response of the bass module had small peaks at 60 and 140 Hz, with a dip centered at 95 Hz. It fell off sharply below 60 Hz, at about 24 dB per octave, and more gradually above 150 Hz.

When we spliced the bass curve to the room curve, the result was within ± 4 dB from 45 to 20,000 Hz, quite close to the manufacturer's specifications. A frequency-response measurement of the entire system, using a swept noise signal, was within ± 3 dB from 50 to 20,000 Hz.

Sensitivity was exactly as rated, 88.5 dB SPL at 1 meter with 2.83 volts of pink noise (equivalent to 1 watt into 8 ohms), but the impedance reached a minimum of 4.4 ohms at 150 and 500 Hz. The impedance was less than 8 ohms over most of the range from 20 to 1,000 Hz but varied between 12 and 40 ohms at most frequencies above 1,000 Hz. A system rating of 4 to 6 ohms would seem more realistic than an 8-ohm one.

The system's horizontal dispersion was excellent. At 45 degrees off the central axis of a satellite, the output deviated from the on-axis response by less than 3 dB up to 7,000 Hz and by only 6 to 7 dB between 10,000 and 20,000 Hz.

The total harmonic distortion plus noise (THD + N) of the satellite “woofer” was measured at a 3.3-volt drive level, corresponding to a 90-dB SPL nominal output. It was between 0.2 and 1 percent from 1,300 to 3,300

PHOTO: JOOK P. LEUNG

TEST REPORTS

Hz. At the same input level, the bass module's distortion was between 0.5 and 1.2 percent from 60 to 500 Hz, rising to 3.5 percent at 45 Hz and 7 percent at 30 Hz.

The Phase Technology 235ES Sub-Sat system was able to absorb the full output of our amplifier without audible signs of overload distortion. From 100 to 10,000 Hz, the system absorbed single-cycle bursts of between 415 and 870 watts.

Comments

The Phase Technology 235ES Sub-Sat, like many other three-piece speaker systems we have tested, delivered a highly listenable sound whose "punch" and room-filling character often seemed inconsistent with the smallness of its satellites and the inconspicuousness of its bass module.

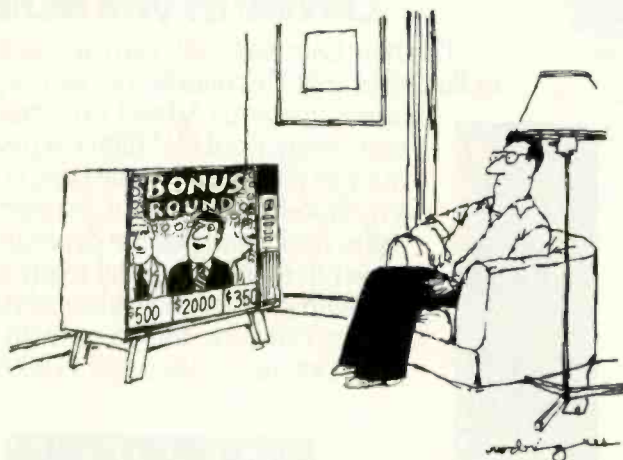
One of the most surprising qualities of the satellites was the performance of their relatively large cone tweeters. Their output remained strong to the limits of our measurement range and had the broad dispersion usually associated with small dome tweeters. Perhaps this quality contributed to the system's excellent spatial characteristics in respect to defining the height and lateral placement of sound sources. When it was reproducing the test section of the Chesky JD37 record, however, it did not seem able to extend the extreme left and right images beyond the satellite speakers themselves.

Another plus for these units was the flatness and extended low-end response of their 5/4-inch bass/midrange

drivers. A number of three-piece systems have a gap, or at least a moderate output reduction, between the bass module's upper limit and the lower limit of the often very small satellite drivers. In the Phase Tech 235ES, the satellites' response was flat within ± 1 dB from 150 to 1,000 Hz. The system had neither a midbass hole nor the upper-bass boom that afflicts many small speakers (and quite a few that are not so small).

The Phase Tech 235ES Sub-Sat sounded pretty much the way its response curves looked. It had an airy and delicate quality when the recording contained some real top end, and its bass never boomed or sounded muddy. On the other hand, some listeners may find the bass to be too retiring and "laid back" for their taste. That will depend on the listening room and program material, and the same effects can easily occur with most other speakers. But this is one respect in which a three-piece system has a real advantage, since its bass module can more readily be moved about to find the best balance between low and middle frequencies. In our case, the only space available for it was one of the worst from the standpoint of low-bass response. Placing it at a floor/wall junction or in a corner would increase deep-bass output.

One of the Phase Tech 235ES Sub-Sat's most attractive features is its price, which is substantially lower than that of most comparable systems. All in all, it is an example of the three-piece-speaker configuration at its best. □



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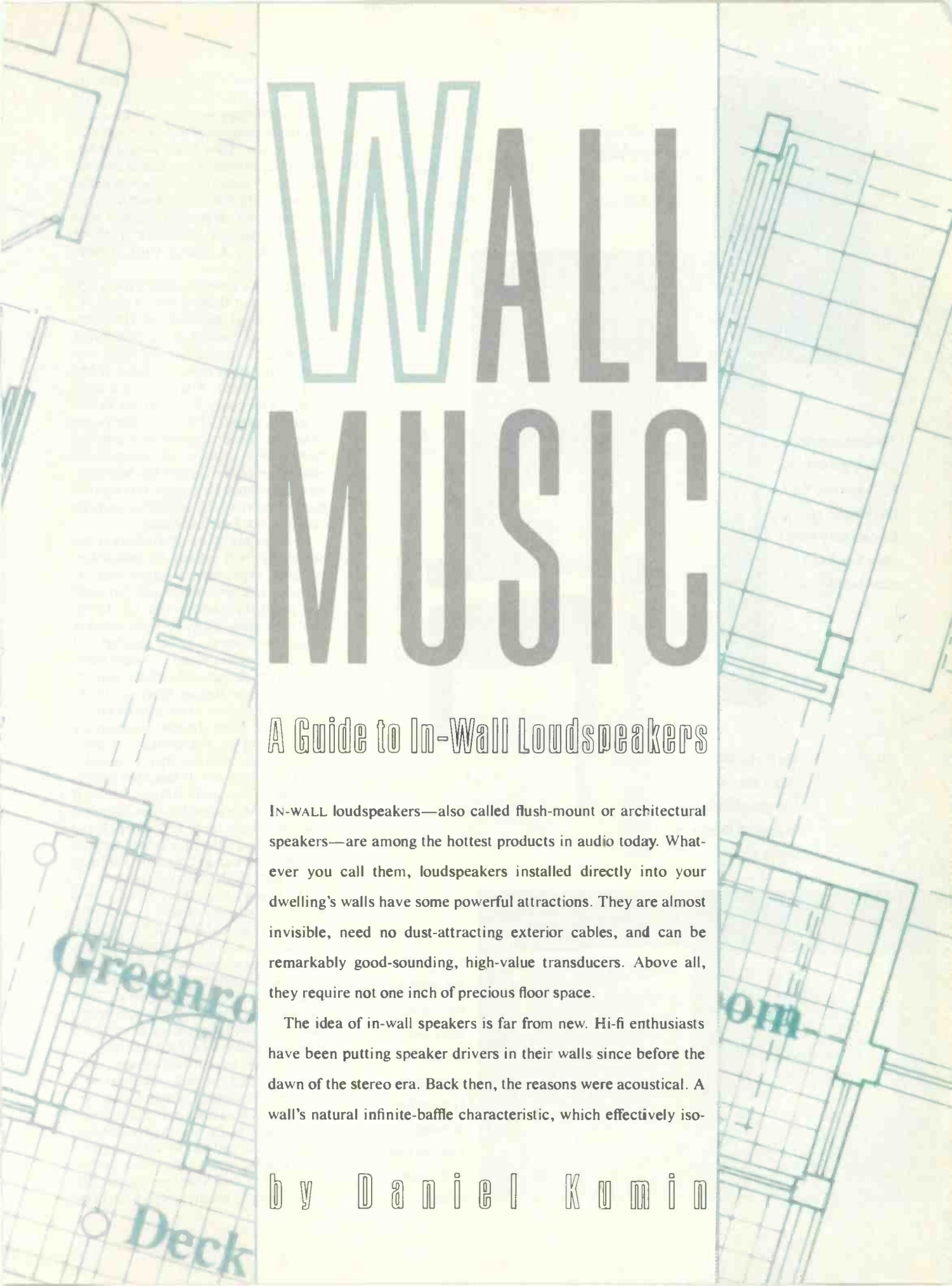
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WALL MUSIC

A Guide to In-Wall Loudspeakers

IN-WALL loudspeakers—also called flush-mount or architectural speakers—are among the hottest products in audio today. Whatever you call them, loudspeakers installed directly into your dwelling's walls have some powerful attractions. They are almost invisible, need no dust-attracting exterior cables, and can be remarkably good-sounding, high-value transducers. Above all, they require not one inch of precious floor space.

The idea of in-wall speakers is far from new. Hi-fi enthusiasts have been putting speaker drivers in their walls since before the dawn of the stereo era. Back then, the reasons were acoustical. A wall's natural infinite-baffle characteristic, which effectively iso-

by Daniel Kumin

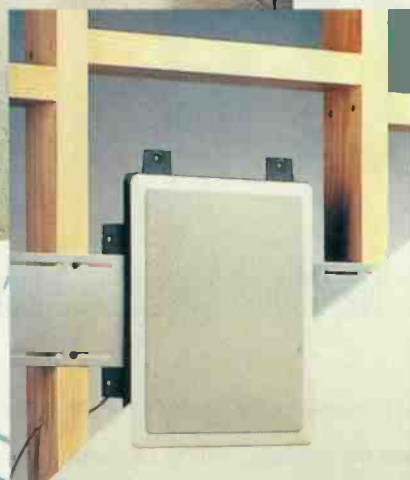
The a/d/s/ Model 750iL (\$1,200 a pair) handles up to 150 watts and comes with a black, white, oak, or burl-walnut frame.



Designed specifically for do-it-yourselfers, B-I-C's two-way M6 (\$229 a pair) has a 6½-inch cone woofer and a 1-inch soft-dome tweeter.



The Boston Acoustics Model 380 (\$500 a pair) measures less than a foot square despite its 8-inch woofer.



Infinity's ERS 500 (\$235 a pair) saves space and delivers full-range sound by mounting its tweeter coaxially with its 5¼-inch woofer.



lates a driver's back wave from its forward radiation, promotes good bass performance—better than many enclosure designs of the day. Cost was a factor, too. Your walls were already there, but a speaker box had to be built from costly materials. And even in the expansive 1950's, living-room real estate mattered, especially since a serious-bass speaker enclosure in those days took up a square yard of floor space at least.

In today's in-wall renaissance, appearance and floor-space savings remain the chief motivations. Unobtrusive in-wall loudspeakers can often circumvent household conflicts between the champions of good looks and good sound. They can also save money, especially if you do the installation yourself. For the hardware alone, an in-wall speaker may cost less than a box speaker of comparable quality simply because it has no enclosure; a cabinet can easily represent a third or more of the cost of an average two-way bookshelf speaker.

In-walls are a natural solution for delivering hi-fi sound in multiroom systems, especially in rooms such as baths or kitchens where conventional box speakers would not fit. (To facilitate such uses, many in-walls employ moisture-resistant driver materials.) With the current trends toward built-in, custom-designed furniture and integrated home-theater systems, flush-mounted speakers make a lot of sense.

In-walls often deliver surprisingly good sound from a stunningly compact and visually retiring driver complement. Because a wall-mounted speaker exploits the wall's infinite baffle, it can generate reasonable bass response from relatively small and inexpensive woofers. And efficiency is usually fairly high: You can get realistic loudness levels with modest amplification.

Most in-wall speakers blend into a room *acoustically* as well as visually; they have no cabinet edges or grille mountings to induce response-roughening, image-smearing diffraction. Further, in-wall speakers may permit greater freedom of placement, thus encouraging good stereo coverage: You need not haggle over floor space with the rubber tree, for example.

But there are disadvantages, too. Consider that in-wall speakers are usually open-back designs that exploit the wall as both baffle and enclosure. Since walls vary a great deal in construction and in the effective volume behind them, the bass performance of in-wall speakers can be less than perfectly predictable. A partition

A NUMBER OF MANUFACTURERS HAVE INTRODUCED THREE-PIECE IN-WALL SYSTEMS USING SEPARATE, DEDICATED SUBWOOFERS.

that is not as stiff as the speaker designer assumed it would be, or one that provides greater or less volume, can affect the speaker's low-end extension and evenness, and even its midrange smoothness and detail.

The most important of all the factors affecting in-wall sound is location. To clear intervening furniture or shelving, wall speakers are sometimes installed high up—too high for good, natural imaging. And some people have a psychoacoustic block against conjuring up a realistic sound stage from speakers that are at the boundaries of a room instead of inside it.

Experimenting with speaker locations in a room almost always yields big dividends in tonal balance, definition, and, especially, stereo imaging. But this sort of trial-by-hearer is impossible with in-walls. While experience helps, even the most practiced custom designer or installer cannot predict exactly how a particular speaker will sound in any given room. One makeshift is to borrow a pair of box speakers that are as similar as possible in design, balance, and frequency response to the prospective in-walls. Connect the box speakers to your system and prop them flat against the wall (on stepladders or whatever your ingenuity can devise) in several prospective locations, then choose the placement that sounds best.

And that leads us to the remaining big minus of in-wall speakers: Once installed, they are pretty much there for keeps. If you rearrange or redecorate your room, or if life should require that you turn the den into a nursery and move the stereo system elsewhere, taking your in-walls along will involve patching walls, spackling, painting, reinstalling, and running new wires to the new location—hardly an alluring prospect.

Design Options

So far, the variety of in-wall speakers has yet to approach that of conventional designs. Most available models are two-way dynamic systems, each having a 4- to 8-inch woofer, a ¾- or 1-

inch tweeter, and a relatively simple crossover. They are usually mounted in rectangular sheetmetal or plastic frame-and-plate arrangements whose low-profile edge is all that remains outside the wall surface. Most incorporate removable metal grilles. Both the grilles and frames are usually designed for easy painting to match the wall so that the speaker "disappears" as much as possible. There are exceptions, however. The a/d/s/ Model 750iL, for instance, is a three-way system with a 1½-inch dome midrange. And you can get it with a beautiful walnut or oak frame that is meant to be seen.



Sonance's AIS 500
(\$499 a pair) has angled drivers
for wider dispersion.

Most in-wall speakers are easiest to install as the walls are going up—always the best method. And most come with mounting brackets that run stud to stud (much as flush lighting fixtures are installed in ceilings); the speakers themselves simply clip in place after the walls are complete.

Many models, however, can also be retrofitted into existing walls with a bit more effort and care—especially in terms of routing the necessary wiring—and several lines are specifically designed for easy mounting in standing walls. The five Boston Acoustics in-walls, for instance, which range

from \$130 to \$500 a pair, can all be installed either at the construction stage, via stud-to-stud hangers, or afterward, when the speaker's frame and backplate simply clamp to the sheetrock in a clamshell arrangement.

Ceiling mounting is another "in-wall" installation option—an especially attractive option in single-story houses, since the requisite wires can usually be routed through the attic. Most in-wall speaker makers offer ceiling-mount kits, and some even have dedicated ceiling models, often round rather than rectangular. But ceiling speakers should be reserved for casual-listening spaces or as a last resort. Our hearing just isn't designed for listening to music from above.

Since "invisible" sound is the whole point of architectural speakers, a system whose woofers are big enough for truly deep bass—say, below 45 Hz—can be self-defeating. Although a three-way in-wall with a 12-inch woofer is not inconceivable given 16-inch stud spacing, it would be hard to conceal and probably impossible to fit within a standard wall's depth. So a number of manufacturers have compromised, introducing three-piece in-wall systems that use separate, dedicated subwoofers, much like free-standing three-piece speaker systems.

KEF combines two CR200F compact 8-inch two-way in-walls (about \$450 a pair) with two 10-inch in-wall CR250SW subwoofers (about \$550 a pair) for a system rated down to 32 Hz ± 2 dB. Polk's AB 900 system (\$799) matches a pair of tiny (6½ x 4-inch) in-wall satellites with an unusual 6½-inch dual-woofer bass module. The bass module is designed to fill the space between two studs, yet it vents into the room through a minuscule 3 x 4-inch grille.

Sonance, one of the originators of modern in-wall speakers, makes no fewer than three subwoofers to go with nearly a dozen higher-frequency models. The PSW-2 (\$460), an 8¼-inch dual-voice-coil design rated to 30 Hz ± 3 dB, installs between studs in most conventional walls, needing only



Paradigm's AMS 200 (\$370 a pair) uses a die-cast aluminum chassis to reduce mechanical vibration.

3 inches of mounting depth. Sonance's penchant for innovation does not stop with subwoofers, however. Its new AIS 500 (\$499 a pair) incorporates three drivers—a 4-inch woofer paired with a 1-inch tweeter plus a 3½-inch full-range cone—that are cross-angled to provide enhanced dispersion for greater placement flexibility. Sonance also maintains that the speaker produces an enveloping sound field ideal for the effects channels of an A/V surround-sound setup.

Luxman has found a clever way to exploit in-wall integration. Its S-503 two-way in-wall (\$360 a pair) can be installed together with an infrared-sensor eye (about \$100). This permits an unusually clean remote-room installation, as the speaker's eye makes an additional cutout and wall box for the sensor unnecessary. Bang & Olufsen makes a similar system. The new IWS 2000, a 5¼-inch two-way speaker (\$650 a pair), can be integrated with B&O's Master Control Link transceiver and relay, providing full, interactive A/V system control.

Several companies offer behind-the-wall speakers with full conventional enclosures that fit entirely within a wall partition. Typical of these is Wallspeaker Technologies' Vista In-wall (\$1,600 a pair), a three-way vented system whose 64 x 13 x 3-inch cabinet can be installed in most conventionally constructed interior walls.

Perhaps the ultimate in this sort of no-compromise design hails from Snell Multimedia, whose in-wall Home THX array includes seven full-enclosure acoustic-suspension speakers (left, center, right, two rears, and two subwoofers). The slim cabinets are made from aluminum to achieve adequate internal volume. All seven meet Home THX standards for controlled directivity, low distortion, and very flat response to provide optimal theater-quality sound, and all but the subwoofers fit standard construction (the subs need 2 x 6-inch framing for a bit of extra depth). Price: about \$7,200 for all seven speakers.

Installation

Once you determine that in-walls meet your loudspeaker needs, the next question is how to get them into your walls. Should you hire a custom installer or do it yourself?

Before undertaking any in-wall speaker installation, you should be able to answer four questions: (1) What is the stud spacing in the wall you plan to use? (2) Where are the plumbing and AC conduits or Romex?



The grille of the Polk AB 900's dual-driver subwoofer, shown behind its two tweeters (\$800 per system), is only 4¼ inches high.



MB Quart's Model 90M (\$599 a pair) features a 1-inch titanium tweeter and an 8-inch woofer. The 1,500-Hz crossover is an octave lower than in most other two-way systems.

(3) How will you bring the speaker wiring into the wall? (4) What's a Saw-Z-All? If you can't respond to all four without hesitation, you probably have no business cutting holes in your house.

If you do choose to do it yourself, first determine the best location for your speakers via the trial method outlined earlier. Then you can think about getting the wiring inside the wall. Snaking wires through insulated exterior walls is the hi-fi equivalent of periodontal surgery; getting them into interior walls is a mere root-canal procedure. For a ground-floor installation, running the cables down to the basement, across its ceiling, and up again is often the easiest approach, and a similar method exploiting attic spaces can be used for second-story jobs or in one-story houses.

In any event, the wire itself is worth considering. When properly installed, speakers, amplifiers, and wiring present a vanishingly small fire risk. Nevertheless, there remains the question of building codes; don't neglect it. Check with your municipality's building inspector's office for the local requirements. And it's an excellent idea to consult an experienced custom installer as well just to make sure you understand the codes and to locate a good source of code-conforming cable. In the disastrous event of a fire, from whatever cause, insurance companies do *not* like to find noncode wiring—of any sort—when they poke among the ashes.

If you're working with new construction rather than existing walls, installation will be a relative snap. But planning is crucial: It's very tough to visualize a room from a blueprint and properly locate loudspeakers in it. Once again, consulting an experienced custom installer can help. In any case, designing in extra framing, double-studding, and even reinforced or doubled-up wall materials can all pay dividends. By improving partition stiffness and damping, you can almost guarantee better, deeper bass and greater clarity.

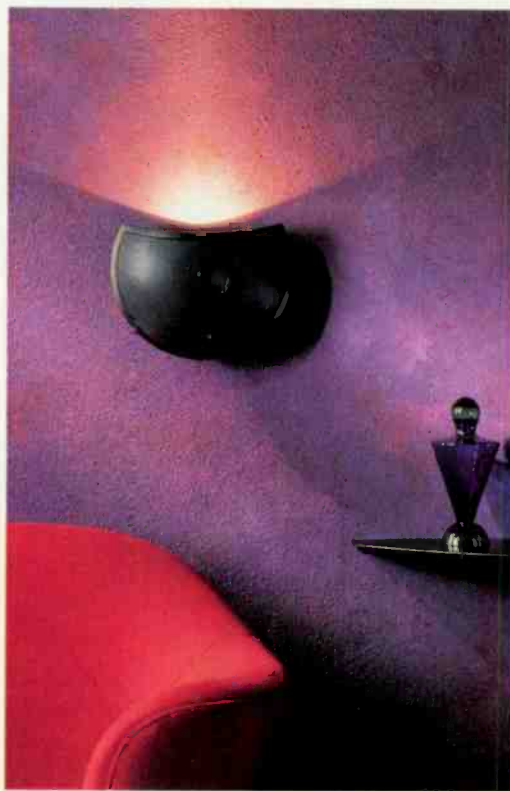
We've only touched the surface—pun intended—of in-wall loudspeakers. The field is expanding to the point where nearly every full-line speaker maker now offers at least one architectural model. And as fully integrated media systems become increasingly popular, in-wall speakers will continue to proliferate. If you can't find exactly the type, size, or style you want today, just wait a month or two. It's coming. □

UP AGAINST THE WALL

SOMETIMES nature—or architecture—conspires against you: In-wall speakers are impossible if, for instance, you live in a stucco or adobe house. Happily, a number of enterprising manufacturers have come up with a compromise solution: "against-the-wall" loudspeakers. These compact speakers are essentially conventional systems that have been squashed flat by a variety of clever design techniques. With depths as slim as a few inches, such models can attractively fulfill multiroom and surround-sound needs where in-wall designs cannot be used.

Bang & Olufsen's Panel line is typified by the Beovox 3000 (\$700 a pair), a wall-mounted two-way system just 3¹/₁₆ inches deep. The 18 x 34-inch panel has a 5-inch woofer and a 1-inch tweeter. An amplified model, the Beolab 3000 (\$1,700 a pair), also incorporates an infrared sensor and display, making it a fully functional extension of a B&O A/V system. Similar, larger Beolab and Beovox 5000 speakers employ dual woofers for slightly extended bass output. Jamo, another Danish manufacturer, also features slim-line speakers, such as the 3¹/₂-inch-deep Jamo Art (\$498 a pair) and the Atmosphere (see photo).

Wallspeaker Technologies makes a slim-line three-way system that stands against the wall, the Vista At-Wall V3A (\$1,600 a pair). Only 7 inches deep and 4 feet tall, it is essentially a surface-mount version of a Wallspeaker in-wall speaker. With a 10-inch vented woofer, the V3A is rated down to 34 Hz ± 3 dB.



The Jamo Atmosphere (\$798 a pair), which mounts on the wall instead of in it, includes a built-in halogen lamp that enables it to double as a sconce.



**HOW
TO MAKE
GREAT
TAPES
FROM CD'S**

As a recording engineer and producer, I often make cassette copies of works in progress for evaluation by the musicians. If the client's comments about the sound are going to mean anything, the cassette has to duplicate the digital master as closely as possible. There is no question that a digital original sounds cleaner and quieter than an analog cassette. But when a modern cassette recorder is set up correctly, the match between the master and the copy often surprises those who hear a direct comparison.

The cassette sounds good for three simple reasons: (1) The tape is of high quality, (2) the recorder is correctly calibrated for the tape, and (3) the recording level is set correctly. When you copy CD's at home, you have the same opportunity to get it right—or mess it up. If you follow the setup and calibration procedures I learned in my service-shop days, you can get very good results in almost any recording, even without test equipment.

Choosing the Tape

Cassette sound is very sensitive to tape quality. In an analog cassette, guides and rollers within the shell affect the tape's alignment and its steadiness of motion. (In video recorders and digital audio tape decks, a long loop of tape is pulled from the shell and threaded through the deck itself, effectively removing the shell from the picture.) A high-quality shell is vital to the deck's performance. So here's my first suggestion: Buy high-quality tape, of a brand you trust.

The magnetic properties of the tape vary from brand to brand and from one type of tape to another within a single brand. These differences are more than enough to compromise the level of performance we're looking for. Hence, my second suggestion: Buy a large quantity of the same brand and type of tape. Set the machine up for that type, and use it exclusively. Different lengths can be used without compromising quality, as long as you stick to C-100's or shorter. Longer formulations use thinner tape, which requires different settings for best results.

There are currently three types of cassette tape in wide use: Type I (normal, or ferric), Type II (chrome,

E. Brad Meyer used to fix tape recorders for money.

PHOTO BY CHRISTOPHER GOULD



or high-bias), and Type IV (metal). Type III (ferrichrome) is extinct. Each type requires a different amount of recording bias, an ultrasonic signal mixed with the audio that reduces the tape's inherent distortion.

There are also two standard types of record and playback equalization. Equalization adjusts the frequency response of the signal to compensate for the physical properties of the tape and the deck's heads. The two equalization curves are called 120-microsecond (μ s) for Type I tape and 70 μ s for Types II and IV. All you need to know about these numbers is that the 70- μ s setting involves more treble boost during recording and, to reduce hiss, more treble cut during playback than the 120- μ s setting.

In brief, Type I tape has the lowest average price and the lowest average quality. The best Type I tapes are fine for speech and, on a carefully calibrated machine, for rock and other kinds of music with moderate dynamic range (the difference between the loudest and softest sounds). If you're making tapes to use on a portable or car player with no tape-type switching (some switch automatically), use Type I tape, since that's the only type for which such a player is calibrated.

Type II cassettes are good for all kinds of music in all but the most critical applications. They're quieter than Type I tapes and usually have better physical packaging and consistency, both from tape to tape and from batch to batch. Type II is the best choice overall for high-quality copying at home and for portables and car players with tape-EQ switching.

Type IV tape, coated with pure metal particles, is by a significant margin the most expensive. Metal tape also boasts the best performance in all commonly measured characteristics—maximum output at all frequencies, high-frequency response at high levels, and overall signal-to-noise ratio (translation: freedom from hiss). Use it for the most critical applications. Note: Many playback-only machines have two-position tape switches labeled "normal" and "metal." As there are only two playback standards, the "metal" position is correct for Types II and IV.

Calibrating the Deck

Originally intended for voice recording, the analog cassette has reached a degree of refinement its inventors never foresaw. Getting high-quality music out of it is, as an engineer friend used to say, like standing up in a hammock. It



can be done, but it's tricky and takes constant vigilance.

In particular, you must precisely adjust the recording level, bias level, Dolby-calibration level, head alignment, and record and playback equalization. On most cassette decks, only the first two or three of these are designed to be adjustable by you, the user. Since you probably haven't got your own test bench, what'll you do?

There are some tricks that can help you make these adjustments without test equipment, but if your tape deck is new, and you don't want to void the warranty or risk damage by opening it up, consider using a local service shop, preferably the one associated with the dealer who sold you the deck. Ask them to calibrate the machine with your chosen tape brand and type, and supply a couple of your cassettes for them to work with. Some dealers will align a new machine as part of the sale, and others may offer a break on the price of the service (usually \$75 to \$150) when you buy.

So you'll know what to ask for, I'll describe the alignment procedures in the order they must be performed. As I go I'll suggest ways to check your machine for errors to see if it needs a visit to the shop.

Playback Calibration. Every tape deck has two sections—recording and playback. The playback section must be aligned first; otherwise, the recording section will be misaligned to compensate for playback errors.

The first job is a mechanical one: aligning the tape head (or heads). Both recording and playback take place within a narrow slit in the head called the gap; if this gap isn't exactly perpendicular to the tape, the upper-midrange and high frequencies will be lost. Some decks use a single head for both recording and playback, while others

separate the two functions. But even on the latter the two heads are usually built into one structure. If your deck's head alignment is off, tapes recorded on it will play back without problems, but your machine will sound dull with all other tapes, including prerecorded ones. In fact, that is how you check this adjustment without instruments: If the tapes you make are the only ones that have good highs on your machine, have someone check the head alignment. And remember, tapes you make with misaligned heads won't sound right on other machines, or even on yours if you ever correct the problem.

Alignment is adjusted by turning a small screw, usually accessible through a hole under the head assembly. If you don't have an obvious problem, you shouldn't touch this screw. The job requires a special alignment tape and a voltmeter. If you suspect serious misalignment—and some new machines do come from the factory in this condition—adjusting for the most treble on several different prerecorded tapes will get you in the ballpark until a pro can do the job.

The next steps in the standard sequence are adjusting the playback level and equalization and calibrating the meters. These steps can only be done with test equipment; changing these settings (which are always inside the deck's cover) without the right tools will almost certainly mess things up. Let the repair shop handle them.

Recording Calibration. In this part of the adjustment sequence you can actually do some good on your own. The first and most important adjustment of the recording electronics is the bias level, and most good decks have a knob for it. Too little bias makes the sound thin and distorted, whereas too much makes it thick and muddy. To adjust bias correctly you need a steady-state signal containing a broad band of frequencies. Ideal for this purpose is pink noise, which is available on a number of test CD's. If you can't buy or borrow a test CD, use FM interstation noise: Detach the antenna from your receiver and tune it to a frequency not occupied by a station in your area.

The procedure for setting bias for recorders with three heads (separate recording and playback, plus erase), which enable true off-the-tape monitoring, is different from the procedure for machines with only two (record/play and erase); three-head machines are much easier to set up. In either case you begin by turning all noise-reduction circuits off. Then feed pink

noise or FM interstation hiss to the deck's inputs and adjust the recording level for an indication of about -20 dB. With a three-head deck, use the tape-monitor button to switch back and forth between the source and the tape, adjusting the bias control for the greatest similarity in sound. If you can't make the source and tape sound alike because one is louder than the other, you will have to adjust the Dolby level (see below) and then repeat this test. If, as is usually the case, the deck has no external Dolby-level control, take it to a service shop.

For two-head decks the routine is the same except that you'll have to record a segment of the noise, rewind the tape, and play it back, comparing the recorded noise with the source using the tape-monitor switch on your receiver or preamplifier. You must repeat this sequence each time you change an adjustment, so the process requires much more time and patience.

Having adjusted the bias without noise reduction, switch on the Dolby B (or Dolby C if the deck has it) and check the match between source and tape. If the Dolby level is correct, the match will still be good. If the playback is dull, you'll need to increase the Dolby level; if it's too bright, reduce the level. Use small adjustments here, and if you can't create a good match with the Dolby level, try *small* adjustments of the bias. If your recorder has no Dolby-level adjustment, the bias control is your first recourse and the service shop your second.

A Word About Noise Reduction. The cassette became a workable music medium with the invention of the Dolby B noise-reduction system. Almost all cassette players have Dolby B or some reasonably close equivalent (often labeled DNR or some such). Dolby B, therefore, offers the widest compatibility, which is why I use it for all my client audition tapes. The dbx and Dolby C systems both offer greater hiss reduction, but the former is rare and the latter requires such critical machine setup that I do not use it unless the tape will be played back on the same machine that recorded it—or one I know to be compatible.

What this means to you is that if you're assembling a compilation of your own music to listen to at home, use Dolby C if you can; if you're making tapes for a portable or car player use Dolby B, or dub a few short selections and check the playback quality before using Dolby C. The new Dolby S system, now available on a few high-end decks, achieves even

greater noise reduction than Dolby C, and it is quite a bit less sensitive to variations in tapes and machines.

Setting the Level

Once the recorder is aligned for the tape, the only task remaining is to set the recording level as high as possible without generating audible distortion. In theory, the correct level depends on the tape type, on the recorder's capabilities, and on the frequency distribution of the music. In practice, I find that one setting, with perhaps a decibel or two of adjustment, works for almost all digital masters. That is partly a consequence of the nature of digital encoding. The maximum level is absolutely defined, and the producer tries to get the signal close to the maximum at the loudest point in the program, whatever the music.

With a good cassette deck and Type II or metal tape, a 1,000-Hz test tone at an input level of -10 dBFS (decibels relative to full scale, the maximum possible level on a CD) should reach the reference Dolby level (marked with a double-D symbol or at the "0" point on the meters of most cassette decks). If you don't have a test disc with a -10-dB tone—or even if you do—make a test recording of the loudest half-minute on the CD you're planning to dub while you watch the meters and listen. The meters should approach their maximum reading, +8 to +10 dB, and the sound should be slightly strained at worst; it should not be harsh or shattered.

With modest decks or exceptionally difficult material, or when you're using Type I tape, the level setting may have to be reduced by 2 to 5 dB. But once you find the correct setting, most CD's will dub properly at or very near it. With care and attention, you can make analog cassettes that sound very close indeed to the original CD's. □



IS IT LEGAL?

THE accompanying article gives advice on how to copy CD's onto tape. The record companies, which sell prerecorded tapes, naturally would like you to buy one of those instead. But you may want to assemble songs from different discs, and you may feel (justifiably) that the copies you make following my instructions sound better than prerecorded tapes duplicated in large quantities at thirty-two or sixty-four times normal speed. Is it all right to copy CD's? Is it even legal?

A CD usually carries three copyrights along with it: one for the music, a second for the performers' rendition of the music, and a third for the recording of the performers' rendition. The record companies have long argued that buying an LP or a CD confers no right beyond that of listening to it, while the manufacturers of CD players and cassette decks counter that unlimited copying for your own use is permissible. (*Everyone* agrees that you may not sell the copies or otherwise use them for commercial gain.) Often cited in this context is the so-called Betamax case, in which the Supreme Court ruled that home taping of broadcast movies for later private viewing is legal.

The question of audio-only copies, however, has never been decided in any court. Legislation now being jointly proposed by the record companies, music publishers, and electronics industry would impose a small tax—payable by the manufacturers, not directly by consumers—on digital recorders and blank media and at the same time specifically legalize the copying of music recordings by their owners for private use.

Meanwhile, as a practical matter, no one has ever been prosecuted for home taping, so whatever your position on the issue, the practice may be regarded as safe. —EBM

C H E R Y L

by William Livingstone

IT'S easy to understand how star athletes, such as Michael Jordan and Chris Evert, inspire young Americans to seek careers in sports. But what inspires a young person in the heartland of the United States to go for success as an opera singer? For the American soprano Cheryl Studer it was the discovery of a charismatic role model—the great singing actress Maria Callas—and she made that discovery through recordings.

Born in Midland, Michigan, and American trained, Miss Studer sang in small houses in Germany during the early 1980's, but in the last half-dozen years she has conquered the operatic world, singing Wagner at the Bayreuth Festival, Mozart in Vienna and at the Metropolitan in New York, and Rossini and Verdi at La Scala in Milan. Still only in her middle thirties, she has made an impressive list of recordings for Philips, EMI/Angel, and Deutsche Grammophon, with which she has just signed an exclusive contract.

I interviewed Miss Studer in New York this year just after she completed a new DG recording of Verdi's *La Traviata* with Luciano Pavarotti, Juan Pons, and the Metropolitan Opera Orchestra conducted by James Levine. "Before I discovered Callas," she said, "classical music played no essential role in my childhood or our family life. We didn't have subscription tickets to the symphony or opera or even to the theater. Our musical life was centered around lighter music—semi-classical, semi-pop (my mother was a great fan of Nat "King" Cole and Perry Como, for example)—and around church music. I can remember my mother sitting at the piano and playing through a hymn book, and I would sing along, and we did that not only on Sundays!

"We were living then outside Kansas City, Missouri, and my mother worked as a traffic manager at a local

FM radio station. Every once in a while she would bring home an LP. The one that had the most influence on my future was 'Callas à Paris.' Seeing how much I adored this recording, she later brought home 'The Art of Maria Callas' with Lady Macbeth's Mad Scene. I listened to these recordings literally thousands of times—and I'm still listening."

Cheryl Studer is a pretty brunette with a womanly figure, an expressive face, and a friendly smile. Devoid of prima donna mannerisms, she discusses her work frankly like any down-to-earth American professional person. Chatting with her, it might be easy to forget that she has now entered the ranks of great singing actresses. Critics praise her musical taste and intelligence, her vocal beauty and radiant top notes, and the subtlety and power of her interpretations, describing her performances with adjectives like "enthraling" and "sublime."

Her range and versatility have not been equaled since Lilli Lehmann in the Golden Age of the nineteenth century. For EMI she has recorded such very different roles as the Empress in Strauss's *Die Frau ohne Schatten* and Odabella in Verdi's *Attila*. Her Deutsche Grammophon recordings include Wagner's *Tannhäuser* (in which she sings Elisabeth) and the title roles in Donizetti's *Lucia di Lammermoor* and Strauss's *Salome*. And on Philips she can even be heard in Mozart's *The Magic Flute* as the Queen of the Night. (Did Lilli Lehmann have the high notes for that?)

"I've been very fortunate," Miss Studer said when asked to comment on this staggering discography. "I have a young-sounding voice—a characteristic I tried to take advantage of in recording *Traviata* as well as *Salome*—and I'd like to make a lot of recordings while my voice still sounds youthful and fresh."

She seemed quite pleased with the way the *Traviata* recording had gone. "I had worked with Jimmy Levine on *Don Giovanni* at the Met last season, but this was our biggest project together so far. Performance is one thing, but a recording . . . you feel like this is *it*, we're making history. *Traviata* is so beautifully written, the way the text and the music fit together, and working with a masterpiece like this is humbling.

"But Jimmy and I agreed absolutely on the proper approach to the work, so although these were the hardest recording sessions I've had, they were also the most satisfying because of the high artistic level. I wanted to tell Jimmy there were things we did on this *Traviata* that I will carry to every other role I do."

New York was hot then, but Miss Studer flourished. "My voice loves warmth and a certain amount of humidity, which makes it feel like warm honey, melty and flexible. And I never got tired until a little bit the very last day when we had to repeat the final scene a few times. It's emotionally draining to die and die and die. But it's the first time I've gone through an entire recording feeling so healthy and happy."

Does work make her happy? "Yes, I love singing. It's one of the most fun things I do."

But singing has not always brought Miss Studer happiness. At the age of twelve she began her vocal training in Midland (to which her family had returned from Kansas City), and she went on to graduate from Interlochen Arts Academy. Impressed with her abilities, Leonard Bernstein awarded her full scholarships to attend summer programs at the Berkshire Music Center at Tanglewood from 1975 through 1977. In 1978 she won third place in the Metropolitan's national auditions, but every opera company or workshop that

STUDEER

*"Just give
me a high C
and I'm
happy."*



she auditioned for turned her down. "I was accepted only for lieder or concert work. I gave what I thought was a very good audition for the Lake George Opera Company, for example, and they didn't even look at me."

She went to Europe for further study in Austria and then found work as a resident artist in the German opera companies in Munich (1980-1982), Darmstadt (1982-1984), and Berlin (1984-1986). She learned a lot in these German theaters, but they were hard years. "The pay was so poor that the first two years I was in Munich I sold Avon cosmetics on the side to make a little extra money," she said. "The operatic work was very difficult, and I had to sing a lot more than I should have—ninety performances in 1981-1982. By the end of that season I was almost destroyed. Only through my own strength and will power was I able to get my voice back in shape by the end of the summer."

HER big opportunity came in 1985 when she was asked to replace another singer opening the Bayreuth Festival as Elisabeth in *Tannhäuser*. "This was my international breakthrough and my first collaboration with a major conductor, Giuseppe Sinopoli. I didn't know one note of that opera—not even the Pilgrims' Chorus—when I agreed to do it. But Sinopoli was very supportive, and I learned the role with him in only three weeks." Her resounding success at Bayreuth opened the doors to the world's major music centers—Vienna, Salzburg, Milan, Paris, London, New York, Chicago, San Francisco, and even Tokyo.

I asked Miss Studer what happens when a singer has such great success so young. Will it all be repetitious now? "Not at all," she replied. "I still have many goals. I want to do more concert work. I'm looking forward to Beethoven's *Missa Solemnis* in Salzburg. It's my great love, my favorite piece of music. I want to do more lieder—I'm fond of Schubert and particularly fond of Wolf, but first I'll be recording some Strauss and Barber songs."

She feels that some people have mistakenly classified her as exclusively a Wagnerian. All along she has sung French and Italian roles, but *Tannhäuser* at Bayreuth gets a lot more attention than *Traviata* in the small city of Braunschweig. Operas of the *bel canto* period appeal to her particularly, and she looks forward to singing Bellini's *Norma*. Other roles in her future are Tosca and Isolde.

"In this *métier*, as in life," she commented, "everything is a question of balance." Her personal life is kept private. She is divorced from her first husband, by whom she has a daughter, now seven. Her European fiancé, Ewald Schwarz, has worked in opera production, and he functions as her advisor. "Ewald's biggest contribution to my career has been to convince me to think for myself, trust my own intuition, and do what I want to do instead of what others want me to."

She has reduced the number of her performances to about forty a year. "It doesn't sound like a whole lot, but it's enough since I'm doing so many recordings. I don't want to sing to the very end, but I want to preserve my voice for a while."

Other singers work all day to get up to their high notes. Cheryl Studer works to get her voice down. If pressed to label it, she describes her voice as a dramatic coloratura. "My voice is not as dramatic as Birgit Nilsson's nor as voluminous as Leonie Rysanek's, but it carries well. I try to limit myself to roles with a sustained high C in them somewhere. Then I know they're right for my voice. Just give me a high C and I'm happy."

Growing up in the Middle West was vocally advantageous. Singers work with teachers and coaches to get their voices properly "placed" and resonating in the middle part of the face called the mask. "Twangy Middle Western voices have that kind of forward placement naturally," Miss Studer said. "We tend to talk through our noses."

Middle Western approaches to work probably contributed to her success. "Our ancestors out there were all good farmers with healthy attitudes. The Middle West is very wholesome compared with the East, which is fun, crazy, and good for artists. Maybe it's best to grow up in a wholesome atmosphere and then get crazy with time."

Miss Studer seeks balance in her choice of roles and balance between effective interpretation and vocal beauty. "I want to give *almost* everything I have in performance, but hold back enough so that I don't destroy myself. I want to balance my physical capabilities and my artistic growth. I feel my artistic abilities increasing, and I want to keep enough voice to reach full artistic maturity. After that point, it won't matter if I don't have any voice left. I don't have to sing forever."

A source of artistic satisfaction has

been working with such conductors as Sinopoli, Levine, and Riccardo Muti in the examination of details, "the way of dealing with rests and short rhythmic notes. I love figuring out the best way to handle a little pause in the text—with a gasp, an audible breath, or silence. And the changes in note values. If a note is written once as an eighth and it changes to a sixteenth when there's a repeat, my God, there's a whole world of stuff hidden within that change."

This kind of detailed analysis sounds like an influence from Maria Callas. "Yes, Callas is definitely the one singer who was able to commit her artistic being in every way—101 percent—to her work. For me she set a goal I always want to come back to, the feeling of making every phrase work. She did it almost without exception. She was *untiring* in her demand on herself to make every phrase make sense. That's the big goal."

Other singers Miss Studer listened to in her formative years were Rosa Ponselle, Montserrat Caballé, and Renata Scotta. Leonie Rysanek was also a great inspiration to her both musically and personally.

She believes strongly that artists cannot really be taught anything, but can only be guided. "Talent cannot be learned. We either have the talent to reproduce our ideas and those of others or we don't. The people who remain in our memories and have lasting influence on us are the ones who were able to inspire us.

"The inspiration can come from recordings or from live performances, with which I had less contact. I saw my first operas when I was twelve or thirteen and my first teacher, Mrs. Gwendolyn Pike (who is still teaching in Midland), took me to Detroit where the Met was performing on tour. Other than Mrs. Pike, the teacher who inspired me most was Phyllis Curtin during those three summers I spent at Tanglewood in the middle 1970's.

"I was inspired by some stage directors, by some colleagues, and by some conductors. And for me the greatness of a conductor depends on his—or her—ability to inspire others. I would go further and say the greatness of any artist depends on his or her ability to inspire.

"And so my ultimate goal is not to conquer any new theater, portray another role, or record another opera (although these things are important to me), but to be inspiring. If I can achieve that, I will have had a successful career and a successful life!" □



HOLIDAY GIFTS

**MERRY, MERRY MUSIC
AND A HAPPY HI-FI!**

THE editors of STEREO REVIEW are always on the lookout for outstanding new recordings, the latest disc and tape cleaners, and clever new ways to store music and equipment. During the year, we get to make a lot of pleasant discoveries by way of product announcements and samples that come across our desks. By the time the holiday season rings in, our stockings are stuffed with gift ideas. Many of our finds are accessories and inexpensive electronics, equipment of the sort we don't usually test, as well as reissued recordings and compilations, which we don't often review. Sometimes we like CD's and videos we have reviewed so much that we want to mention them again. In the end, we made our lists, checked them twice, and put together a collection of useful and noteworthy items that we think any of our readers would enjoy. Happy shopping, and happy holidays.

B Y R E B E C C A D A Y



HOLIDAY GIFTS

Nakamichi ClockRadio 1 (\$149) and **StereoCompanion 1** (\$99) with independent alarms and displays and eight radio presets.

Radio Shack Talking Travel Clock announces the time at the push of a button, \$30.

Sanyo SPT1000 Sportable personal cassette player/radio/pedometer measures the distance you jog while you're lost in music, \$55.

Pillow Talker. Standard, queen, or king-size pillows with built-in speakers for connection to an audio source, \$20 to \$30. (800) 326-7777.



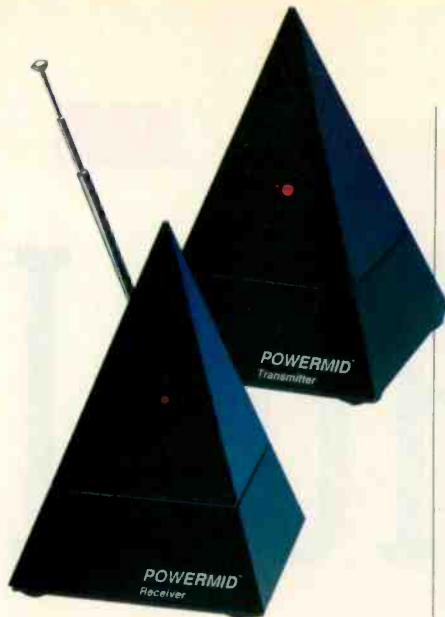
Koss Mac/7 Stereophones for home or portable use, \$50. Lifetime warranty.

Harada MX-22 Gold power antenna, for that special car audiophile, is priced like gold at \$496. (213) 532-1111.

CD Handler pen-shaped CD extractor from KIS Products, \$7. (412) 589-2105.



Proton RS-32 clock radio with two alarms, \$110.



Powermid infrared transmitter system lets you control your equipment from another room, \$60. (800) 526-0027.

Geneva's CD-to-cassette adaptor lets you listen to a portable CD player through a car's cassette receiver, \$24.

Sonex Juniors acoustic foam helps deaden a "live" room; four 2-foot-square sheets in charcoal, beige, blue, or brown, \$54. (612) 521-3555.

Gemstar VCR Plus programming system sets your VCR to record from TV when you punch in a simple code from *TV Guide* or a newspaper listing. \$60. (818) 792-5700.



Universal VX-6 remote control learns the functions of as many as six dedicated remotes, \$50. (301) 363-3000.

"East of the Sun, West of the Moon," narrated by Max von Sydow with music by Lyle Mays (Kid Rhino cassette R4 70419, compact disc R2 70419).

"Jack and the Beanstalk," narrated by Michael Palin with music by David A. Stewart (Kid Rhino cassette R4 70415, compact disc R2 70415).



My First Sony ICF-A6500 AM/FM clock radio teaches children to tell time the old-fashioned way, \$45.



Sanyo Robo-05 portable singalong system with microphone is colorful karaoke for kids, \$120.

The Bumblebeez, "Rainy Day, Sunny Day." Sixteen songs for children on cassette. (213) 654-9187.

Kathy Kallick, "What Do You Dream About?" (Kaleidoscope Kids cassette, C-5001). (800) 886-3636.

Discovering the Great Singers of Classic Pop by Roy Hemming and David Hajdu (Newmarket Press), \$22.95.



Record Art Collection, limited-edition lithographic prints of eighteen famous rock album covers, \$295 each framed, \$195 unframed. Each print includes a copy of the *Record Art* book, a history of album-cover art. (800) 888-0047.

Opera and Its Symbols by Robert Donington (Yale University Press), \$29.95.

Hitsville: The 100 Greatest Rock 'n' Roll Magazines, 1954-1968, compiled by Alan Betrock (Shake Books), \$13.45. (718) 499-6941.

Hit Men by Fredric Dannen, an insider's look at the record industry (Vintage paperback), \$11.

Singing from the Soul: An Autobiography by José Carreras (Y.C.P.), \$27.95.

Bernstein conducts *Candide*. Jerry Hadley, June Anderson, Christa Ludwig, and other soloists, London Symphony Chorus and Orchestra (Deutsche Grammophon 429 734-2 two CD's, 429 734-4 two cassettes).

Beethoven's Thirty-two Piano Sonatas played by Wilhelm Kempff (Deutsche Grammophon 429 306-2 nine CD's).

Bob Dylan, "The Bootleg Series," Volumes 1-3 (Columbia C3K 47382 three CD's). Rare outtakes.

"The Byrds," all the hits and more Columbia/Legacy C4K 46773 four CD's, C4T 46773 four cassettes).

Yes, "Yesyears," including previously unreleased material (Atlantic 50273-2 four CD's, 50273-4 four cassettes).



HALLEY GANGES

Tchaikovsky's *The Nutcracker* performed by the Royal Philharmonic Orchestra, Yuri Temirkanov conducting (RCA Victor 60465-2-RC

"Forty Years: The Artistry of Tony Bennett" (Columbia/Legacy C4K 46843 four CD's, C4T 46843 four cassettes).

"Jazz at the Pawnshop" (Proprius PRCD 7778), so live-sounding, you'd swear you were there, \$20 from Acoustic Sounds, (800) 525-1630.

"The Nat King Cole Story" (Capitol C2AS-95129-2 two CD's, C42Q-95129 two cassettes).

CBS CD-1 test CD. Available from Old Colony Sound Lab, \$45 plus \$2 shipping. (603) 924-6371.



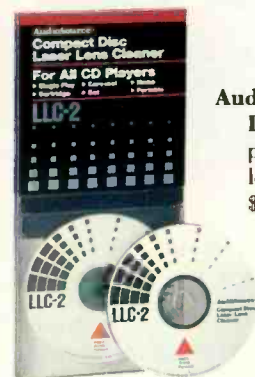
HALLEY GANGES

Play It by Ear, music-trivia game on CD from Rykodisc, \$45.

"The Copland Collection," Vol. 1, orchestral and ballet works, 1936-1948, including *Appalachian Spring*, *Billy the Kid*, *Rodeo*, Symphony No. 3, and other works (Sony Classical SM3K 46559 three CD's).

two CD's), or by the London Symphony Orchestra, Antal Doráti conducting (Mercury 432 750-2 two CD's).

"It's a Beautiful Day" (San Francisco Sound 11790). CD reissue of a classic early-Seventies California rock album, \$24 from Compact Disc Connection, (408) 733-0801.



AudioSource LLC-2 CD player laser-lens cleaner, \$29.95.

HOLIDAY GIFTS

Nitty Gritty CD Master compact disc cleaning system, \$50.

TDK HCW-01 wet-type cassette tape-head cleaner, \$9.

Recoton Model 37TC cassette-deck demagnetizer, \$15.

Stevie Ray Vaughan and Double Trouble, "Pride and Joy" (CMV Enterprises 17V-49069), \$17.98.

"Red, Hot + Blue: A Tribute to Cole Porter to Benefit AIDS Research and Relief" (6 West Home Video SW 5718), \$19.95.

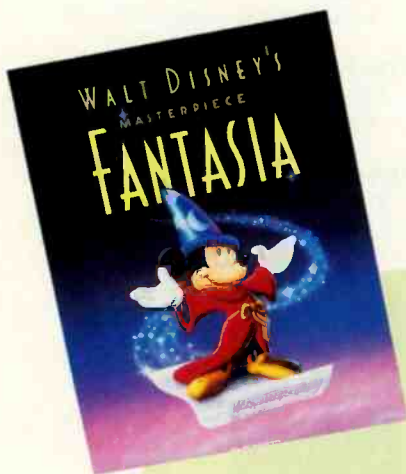
Bert Stern's "Jazz on a Summer's Day" (New Yorker Video), \$29.95.

"Lady Day: The Many Faces of Billie Holiday" (Kultur Video 1292), \$29.95. (800) 458-5887.



HALLEY GANGES

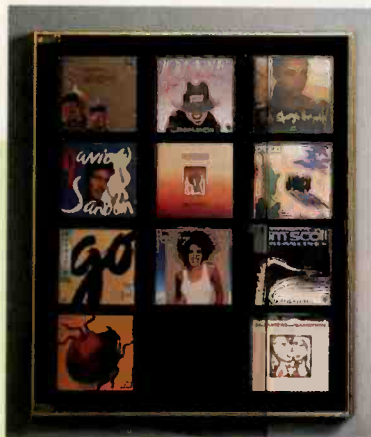
Verdi's *I Vespri Siciliani* with Cheryl Studer, Chris Merritt, Leo Nucci, and the Chorus and Orchestra of La Scala conducted by Riccardo Muti (Home Vision, two VHS cassettes), \$49.95.



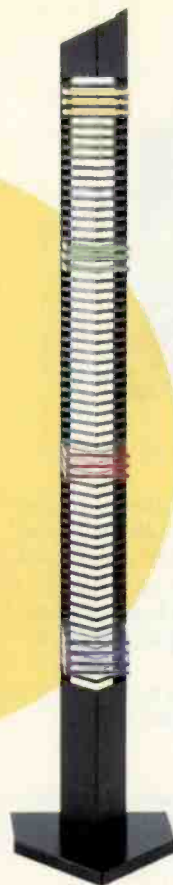
"Fantasia" (Walt Disney). One-time offering of fiftieth-anniversary edition, available for fifty days only beginning November 1. On laserdisc and VHS cassette, from \$25 to \$100, depending on version and format.

Neil Young and Crazy Horse, "Ragged Glory" (Warner Reprise Video 3-38199), \$14.98.

"The Loves of Emma Bardac," a French Impressionist musical docudrama with duo-pianists Katia and Marielle Labèque (Sony Classical laserdisc SLV 46 370).



Disc-Art wall-mounted glass display case for twelve CD's, \$98. (800) 221-1998.



Atlantic Representations Model 1210 metal tower CD rack (left) holds sixty-six discs, \$90. (213) 273-3163.

Stackmaster Stack-in-the-Box hollow hardwood storage boxes for discs, tapes, or accessories look like a VCR, cassette deck, tuner, equalizer, or amplifier, \$55. (201) 585-9143.

Sanus Systems NF28 28-inch-tall black bookshelf-speaker stands with optional top plate for satellite speakers, \$89 a pair. (612) 482-1019.

Leslie Dame CD-576KD solid-oak storage rack holds 576 CD's or 345 cassettes, \$179. (718) 261-4919.

Napa Valley Box P-100 pine wall rack holds 100 cassettes. Stained or natural finish, \$30. (800) 424-2269.



Bishop Plastics acrylic component racks, \$30 each. (404) 928-9352.

Savoy Model 9300 cooler/cassette carrying case holds twelve beverage cans and twelve cassettes, \$25. (508) 373-4184.

A man and a woman are seated on a dark sofa in a home theater setting, viewed from behind. They are looking at a large projection screen that displays the words "HOLLYWOOD AT HOME" in large, bold, red capital letters. The room is dimly lit, with a small table to the left holding a decorative object and a planter with flowers in the foreground. The ceiling features recessed lighting.

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Surround Sound decoders and acoustic environment simulators are supposed to give you a heightened sense of reality when you're listening to music or watching a movie. Unfortunately, most of their effects circuitry robs the original performance of fidelity.

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Home Theater is now an integral part of the '90s' audio/video landscape. The much awaited—and discussed—marriage of audio and video is now a reality. For potential consumers, however, a crucial ingredient to this high-tech link-up is communication. One person's definition of Home Theater is another's fantasy, particularly when visions of Hollywood screening rooms at home fill the air. The reality—and essence—of Home Theater is simply "Big Picture, Big Sound." While some enthusiasts will spend a fortune for a cutting edge system, according to industry experts, it's not really necessary to do so. You can build a system one component at a time, as your budget permits, all the while working toward the goal of bringing a thrilling movie theater experience right in the middle of your livingroom.

While enthusiasts can argue which specific components are the best for a Home Theater, they

all agree that it takes five ingredients to really get the job done. They are a big-screen TV (27-inch screen and above), an A/V receiver with Dolby Surround, a laser disc player, a Hi-Fi VCR and at least four quality speakers for the front and rear channels. Within this basic quintet are literally hundreds of options with a variety of special features and a wide range of prices. In fact, manufacturers are constantly improving overall quality and conveniences. And, fortunately, prices have *dropped* in the key Home Theater categories.

This special section will provide an overview of Home

Theater '92. We'll take a close look at the components that can easily turn your sofa into front-row center seating for your own screening of "Fantasia" or "Terminator 2." The prices are right and more importantly, the experience is a knockout.



©WALT DISNEY



MITSUBISHI HOME THEATER SYSTEM

Televisions—The Cutting Edge

A television is not only your eyes on the world, a big-screen TV is an integral part of the "Hollywood At Home" experience. And today's big-screen sets offer finer images, more advanced features and higher-quality audio circuitry than ever before.

There are three types of television sets currently available—direct view, rear and front projection—giving enthusiasts an extremely wide variety of



MITSUBISHI VS-50VX2

screen and feature options for their growing Home Theaters. Direct view sets can reach a screen size of 35 inches and deliver powerful picture performance while projection TVs can reach 15 feet! A critical measurement of TV quality is resolution, the amount of picture detail in a single scanning line; it is measured in lines. Better sets will have specifications of over 500 lines, which will be more than enough for laser discs, the best prerecorded software at this time.



ProScan PS31151

Top direct view sets, like the Mitsubishi CK-3535R (\$2,899), use cathode ray tubes (CRTs) with High Contrast coating, digital comb filters, a dot pitch of .85mm and Invar shadow masks to produce 700 lines of resolution. The image really sparkles. The tabletop monitor/receiver has a 181-channel tuner, 15 watts of audio power as well as picture-in-picture so you can watch two programs at once. The CK-3535R and select Mitsubishi sets also feature the ViewPoint on-screen operating system. According to Bill Loewenthal, the company's Product Marketing Manager, ViewPoint is an "integral part of our 'systems' approach to Home Theater. This lets people buy our components as their budgets permit and the equipment will



PIONEER PRO-95

always be compatible. They can start with a 27-inch set or larger, add a Hi-Fi VCR then advance to Dolby Pro Logic and larger projection TVs. And since the components all use a common operating system, it makes sophisticated equipment very easy to use."

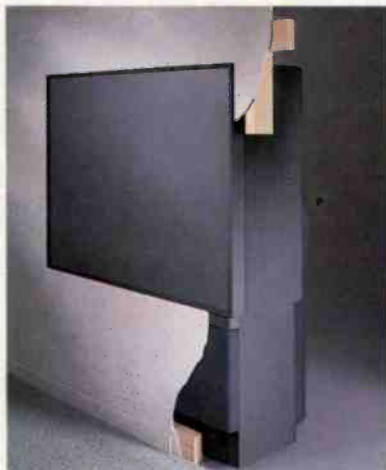
Other manufacturers also use cutting edge technologies to wring every possible ounce of picture quality from a video signal. Sony's KV-29XBR85 (\$2,099) uses ASC Active Signal Correction circuitry to increase sharpness and



SONY KV-29XBR85

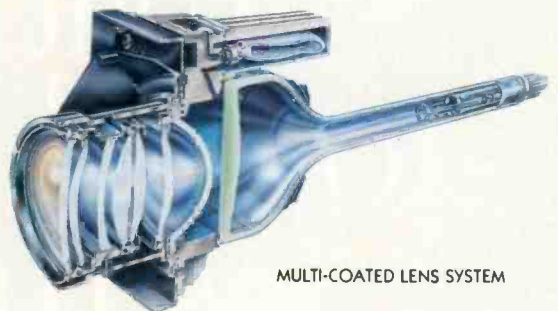
brightness. The 29-inch set is rated at 550 lines, has two tuners for Advanced Digital Picture-in-Picture convenience and SRS circuitry for enhanced sound performance. The 31-inch ProScan PS31151 (\$1,899) uses a digital comb filter and a wide band video amplifier to produce 650 lines. It has a built-in Dolby Surround decoder as well.

Those enthusiasts who really want "The Biggest Picture" for their Home Theaters can choose between screen sizes of 40 inches and 15 feet. And the quality of rear and front projection TVs has taken quantum leaps over the past few years. Not only has picture performance improved, cabinet size of rear projection sets has decreased, allowing them to fit in many more dens and family rooms. Leaders in this "trimming down" movement are Mitsubishi, Hitachi and Pioneer. Mitsubishi (see diagram) and Philips offer sets that can easily be built into walls.



MITSUBISHI SETS
CAN EASILY BE BUILT
INTO WALLS.

Critical viewing measurements for rear projection TVs are horizontal resolution, brightness and viewing angle. Unlike direct view TVs, rear projection sets use three CRTs (red, green, blue), hybrid lenses and a mirror reflector system to form the image you see on the screen. The design of the CRTs and lenses are vitally important for picture performance (see diagram). They directly impact on resolution, brightness (measured in footlamberts) and viewing angle (measured in degrees). Examples of top shelf rear projection sets include the Mitsubishi 50-inch VS-5017S (\$3,699), Hitachi's 60-inch 60SX1K (\$4,400), the 50-inch Pioneer Elite Pro-95 (\$4,800) and the 52-inch Philips 52LP50 (\$3,299).



MULTI-COATED LENS SYSTEM

Front projection TVs provide the biggest picture of all, up to 15 feet with 10 the most commonly found. This type of set consists of two separate pieces: a projector (using three CRTs) and a screen. Like rear projection sets, resolution, brightness and viewing angle are especially important specifications.

Several front projection TVs are now using LCD (Liquid Crystal Display) technology to produce an image, rather than CRTs. Sharp was the first to offer one and now has the third generation XV-120ZU (\$4,000). Philips will also have an LCD projector available early in 1992.

No matter which type of television fits your interpretation of Home Theater—and budget—quality and performance have now reached the cutting edge of video technology.

Some on-screen
TV and VCR menu
systems utilize
all upper case letters
that are hard
to read, mysterious
instructions, or
strange, meaningless
abbreviations that
you have to be psychic
to understand.

Our new ViewPoint™ System prefers English.

SET-UP

TIME SET
▶ CH PROG
ERASE AD TV CATV
PICT PREF
AIR/CABLE
CHANNEL CAPTION

USE (▲▼) & RETURN
(EXIT) TO QUIT

Look at competitive on-screen displays and you may see something like this:*

When Mitsubishi created the concept of Home Theater, we figured it didn't make sense for people to sit down in front of the most incredible sights and sounds television could offer, only to focus most of their attention on making the thing work.

We wanted our technical expertise to enhance the experience, not to complicate it. To work for good, not evil.

This year, we're introducing one of the most remarkable examples of our philosophy to date.

An advanced on-screen operating system called ViewPoint which, using our latest interface technology, lets you control your Home Theater System without distracting from the enjoyment you bought it for.

The System is so elegantly

simple, two buttons are all you need to operate it.

The on-screen information is displayed in upper and lower case letters for better readability, and communicates in a familiar language: English.

That means fewer abbreviations to decipher. Functions like "Time Set" and "Ch Prog" become "Set the clock" and "Memorize channels."

For more complex operations, a logical question-and-answer format guides you through.

Our unique point-and-click interface allows you to simply point to the on-screen item you need. While a P.I.P. window lets you monitor the TV picture as you use any of the menu features.

ViewPoint is available with many of our big screen TV's, our

◆ First Time Set-Up

Your choices are:

Set the clock
▶ Memorize channels
Add/delete channels
Use Home Theater: off
Rename the inputs
Name the channels

Use ADJUST to select.
Then press ENTER.

Press MENU to return
to TV Main Menu.



The same instructions in the easy-to-understand language of Mitsubishi's ViewPoint System.

31" and 35" direct-view TV's, and three of our VCR models.

And because all Mitsubishi components are designed to integrate fully—not just from component to component, but from year to year, as far back as 1986—ViewPoint is also compatible with our previous menu systems.

So whether you're looking for a complete system, adding to an existing one, or building one a few components at a time, everything works together not only esthetically and electronically, but functionally as well.

Which is exactly what you should expect from a great Home Theater system.

At least, that's our viewpoint.



MITSUBISHI

TECHNICALLY, ANYTHING IS POSSIBLE*

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*call (800) 527-8888, extension 245. *This is a composite model of on-screen displays on the market. Actual features and readability may vary.*

Sound Sensations

Whether it's "Hasta La Vista, Baby" from "Terminator 2" or the wonderfully restored soundtrack of "Fantasia," listening to a movie is almost as important as the visuals. In order to fully re-create the movie theater experience at home (minus the popcorn, of course) a Dolby Surround or Pro Logic audio system is a must. And one of the most cost effective ways to reach this goal is the A/V receiver.

Top quality A/V receivers feature enough dynamic power to drive the most complex speakers, extensive audio/video switching capability and have either a Dolby Surround or Pro Logic decoder for true Hollywood-At-Home sound. Almost every blockbuster movie has a Dolby Stereo soundtrack which contains four channels of audio information—front left/right, center dialog and rear surround. Components with Dolby Surround decoding will deliver three of the channels, front left/right and surround, which provides the bone-crunching ambient sound effects moviegoers enjoy so much. It takes four speakers for this version. Dolby Pro Logic goes a big step further and decodes all four channels, including the important center dialog information (requiring a total of five speakers). Just how important is the center channel? For many experts, it takes precedence over any other. It anchors the dialog in the middle of the screen, just like in a movie theater, and accurately localizes the effects channels.

At one time components with Dolby Pro Logic were out of the reach of most consumers. Today it's a completely different story. Companies like Onkyo, Denon, Pioneer, Kenwood and many others now offer high-powered, high-quality Dolby Pro Logic receivers. A good example is Onkyo's TX-SV70PRO (\$850). The Pro Logic receiver is rated at 90 watts per channel into 8 ohms in the stereo mode. When punched into surround, power ratings are 85 watts-per-channel across the three



ONKYO TX-SV70PRO

front speakers and 30 for the rear surround channel. Unlike many other manufacturers Onkyo uses discrete power sources for all Pro Logic channels to improve the overall sound experience. The TX-SV70PRO also has extensive on-screen displays and a full-featured remote to easily access all of its sophisticated functions. It even has multi-room capability to bring high-quality audio to other parts of the house (by adding optional infrared repeaters).

Denon has taken the advanced single IC Dolby Pro Logic circuitry once only found on its AVC-3020 A/V Surround Amplifier and incorporated it into the new AVR-610 (\$600). The new chip delivers improved channel separation, reduced distortion, wider dynamic range and increased signal-to-noise ratios. The result is a dramatic at-home movie experience. By using discrete components, the AVR-610 pumps out 75 watts-per-channel each for the three front speakers and 20 watts each for the rear surround speakers. Along with Pro Logic, the AVR-610 has Hall and Studio modes for non-Dolby encoded material that provide either the big



DENON AVR-610

sound quality of a hall or the intimate feeling of a studio. There are also three video inputs and three audio inputs to handle growing systems.



KENWOOD KA-V9500

Kenwood's KR-V9030 (\$979) is part of the new breed of A/V receivers that not only have Pro Logic but Digital Signal Processing (DSP) as well. DSP simulates different sound fields and acoustically turns any room into an auditorium or concert hall. The KR-V9030 has six DSP options and is rated at 75 watts-per-channel across the three front speakers, 15 rear. Pioneer was the first company to offer a receiver with DSP, the VSX-D1S, and has added the VSX-9900S (\$1,100) to its line. It is rated at 125 watts for the front left and right, 40 center and 40 for the rear. This receiver has six video and five audio inputs, 30 AM/FM presets, a programmable Smart remote and a split screen video enhancer.

Other new A/V Pro Logic receivers of note include Mitsubishi's M-R8010 (\$1,399), JVC's RX-1050VTN with CompuLink (\$1,500), Yamaha's RX-V1050 with



PIONEER VSX-9900S



YAMAHA DSP-A1000

DSP (\$1,199), the Luxman RV-371 (\$1,400), Technics SA-GX710 (\$629), Sansui's RZ-9500AV (\$769) and the Fisher RS646 (\$499).

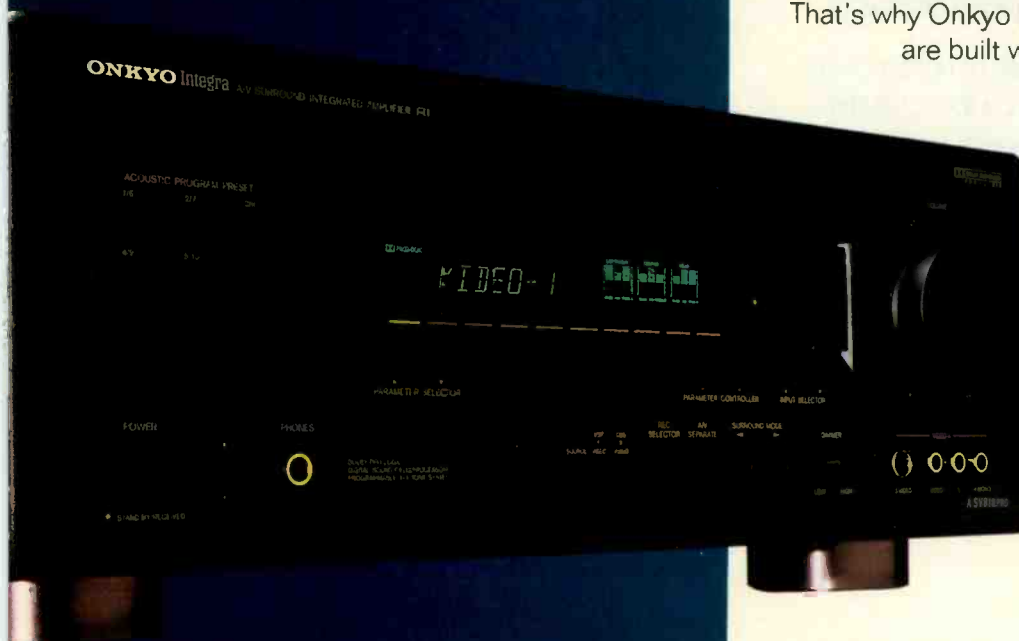
Along with the recent accessibility of Pro Logic, enthusiasts are now able to enjoy THX movie theater components for their Home Theaters. This sophisticated system, is an enhancement of Dolby Pro Logic and requires special amplifiers, decoders and speakers. Technics was the first to offer a complete system and recently high-end manufacturers such as Cambridge SoundWorks, Fosgate, Lexicon, NAD, Triad and Snell have become THX licensees.



TECHNICS THX amplifier

While THX is considered by many to be the "ultimate" Home Theater sound system, there are many other high-quality Pro Logic components available. Some of the most highly regarded are Yamaha's DSP-A1000 (\$1,500) integrated A/V amplifier, Kenwood's KA-V9500 amp (\$1,499), Sony's TA-E1000ESD preamp with Pro Logic and Carver's CT-17 A/V preamp/tuner with Pro Logic and Sonic Holography (\$799).

What good is Dolby Pro Logic if you're powerless to enjoy it?



In the desire to turn everyone's living room into a movie theater, more and more manufacturers are featuring Dolby Pro Logic Surround Sound in their components.

But, **featuring** Dolby Pro Logic and **delivering** Dolby Pro Logic aren't necessarily the same thing. Onkyo understands this difference, unlike those manufacturers interested only in their products having the latest "hot button" regardless of how well they incorporate it.

The promise of the Dolby system lies in its ability to create an extraordinary sensory experience. One you shouldn't be powerless to enjoy because your receiver or amplifier can't handle the demands of dialogue, soundtrack and special effects all at the same time.



That's why Onkyo Dolby Pro Logic components are built with a strong amplifier

foundation. Every model features Low Impedance Drive power supplies, consisting of heavy duty transformers (40% larger than many of our competitors), oversized capacitors and discrete output circuits.

And because we've taken no sonic shortcuts, our A/V components are rated into low impedance loads down to 2 or 3 ohms. These measurements, called Dynamic Power Ratings on a spec sheet, reflect the power reserves an amplifier must have to handle peak power demands. Onkyo A/V components give you the best of both worlds—power to spare for movies, the performance of separates for music.

At Onkyo, we don't believe in shortchanging the critical center channel either. Many of our Pro Logic A/V components have 5 separate amplifier sections, one for each channel, with the power matched between the left & right front and center channels. In this way, the relationship between the dialogue, effects, and music is in the exact proportion the director intended. If they're not, sounds that are supposed to come towards you and envelop you lose their impact, and whispered dialogue becomes overwhelmed.



Onkyo's home theater philosophy also takes into account the physical configuration of your home. An adjustable rear channel digital delay lets you tailor the surround effect to the size and shape of any room. For even more flexibility, our A-SV810PRO features an 8 Mode Digital Soundfield Processor, plus the ability to individually equalize the bass/mid/treble frequencies for each channel.



So, before you invest in any A/V receiver or amp, check to see how it stacks up in terms of Dynamic Power, center channel wattage, and the ability to shape the sound to your needs. Remember, a great Dolby Pro Logic experience requires more than just a logo on a faceplate.

It demands a company as dedicated as Onkyo to bring it to life.

**HI-FI
GRAND PRIX
AWARD**

Onkyo's achievements in Dolby Pro Logic have been recognized by the industry through Audio Video International's awarding their 1991 HiFi Grand Prix Awards as "Product Of The Year" to our TX-SV70PRO Pro Logic Surround Sound Receiver, A-SV810PRO Pro Logic Surround Sound Integrated Amplifier and ES-600PRO Pro Logic Surround Sound Processor.

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The Laser's Edge

There is simply no question about it: In order for your Home Theater to be worthy of the designation, it must have a laser disc player. Laser disc players deliver the finest picture and sound quality currently available. Resolution ratings are typically 400 lines, which is far better than the 240 of standard VHS. And the audio circuits pump out typically superb CD specifications with dynamic range and signal-to-noise ratios of over 96 dB.

There are now over 30 different laser disc players available, ranging from those that play a single side of a disc at a time to models that automatically play both sides and offer digital special effects for any type of platter. Laser discs come in either CLV (long play) or CAV (short play) formats. Special effects, such as crystal-clear freeze frames, cannot be viewed in CLV yet they are available in the more expensive CAV versions. Top-end LD players with "digital frame memory" turn every CLV disc into CAV. Movie lovers should seriously consider this high-end option.



SONY MDP-605

Examples of top players include the Mitsubishi M-V8000 (\$1,499) and Denon's LA-3000 (\$1,000). The Mitsubishi machine offers two-side play and digital special effects for any disc. The full-featured remote also has a jog/shuttle dial that lets you



PHILIPS CDV600

"walk" through a disc frame-by-frame or "run" through it at 30x speed. The Denon LA-3000 has the same LAMBDA circuits found on the company's best CD-only players. Dynamic range is 100 dB, channel separation 103 dB and audio S/N is 109 dB.

Other players of note include Kenwood's LV-700 (\$999) which has digital time base correction for "jitter-free" video, Panasonic's new low-priced LX-101 (\$600), Sony's top MDP-605 (\$1,000), Philips CDV600 (\$1,000) and Pioneer's CLD-M90 (\$700). The new Pioneer player is unique in that it has a six-disc rotary CD changer combined with a laser player. You'll be able to listen to six Madonna CDs then watch her "Blond Ambition" concert on laser! And enthusiasts should know Pioneer's LD-S2 (\$3,500) is still the finest laser player made. Laser and Home Theater simply go hand in hand, just like audio and video.



PIONEER LD-S2

Hi-Fi VCRs—Total Entertainment

Video stores are on practically every corner in America... and VCRs are now in over 70 percent of TV households. This almost unlimited access to Hollywood hits has been one of the driving forces behind the Home Theater movement. Another key ingredient for a great video experience is the Hi-Fi VCR, one of the most reasonably-priced Home Theater hardware requirements.

Hi-Fi VCRs deliver sound that is almost CD quality with a dynamic range of more than 90 dB, frequency response of 20-20,000 Hertz and wow-and-flutter of .005% or less. And practically every Hollywood blockbuster on videotape has a Hi-Fi soundtrack. Simply by hooking a Hi-Fi VCR to your stereo and high-resolution big-screen TV, you'll be well on your way toward the goal of "Big Picture, Big Sound."

One of the newest VCR trends goes beyond Hi-Fi sound and attempts to solve one of the most baffling tasks confronting Americans—how to program an unattended VCR to tape a TV show. Manufacturers took a big step forward in solving the mystery several years ago with on-screen displays. They have refined them further, making them easier to use. A good example is Mitsubishi's ViewPoint operating system, which is found on their top models such as the HS-U82 (\$999). ViewPoint instructions are clearly written, making even the most advanced functions easy to use. RCA has taken another approach and incorporated VCR Plus codes into three of their new VCRs (VR680HF at \$579 is the least expensive). The

codes are found in major newspapers, entered into the remote and programming's done. Also of note is Panasonic's simple-to-use LCD Program Director found on their better Hi-Fi models such as the PV-S4167 (\$799).



MITSUBISHI HS-U82

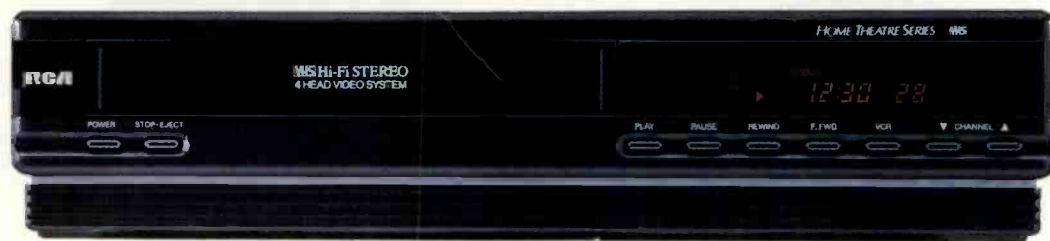
HARDWARE HINTS

Other '92 VCR pointers: new models with center loading slots are available from Sharp and Fisher. The companies state this "mid mount" design cuts down on vibration and adds to image stability particularly for big-screen TVs (Sharp VC-H85U,



PANASONIC PV-S4167

\$569 and Fisher's FVH-4903, \$499). Prices of Super VHS VCRs are now more attractive. This higher-quality version of VHS offers little prerecorded software but make excellent tapes of off-air broadcasts and "work prints" for owners of high-band camcorders.



RCA VR696 HF

Why This Ad Is Making The Other Loudspeaker Company Nervous.

We think the Ensemble II speaker system by Henry Kloss is better than the BOSE AM-5 Series II. And because Cambridge SoundWorks sells direct...it's half the price.



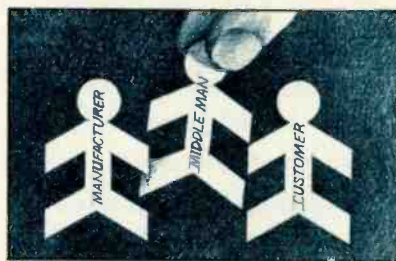
Audio Hall of Fame member, Henry Kloss. All Cambridge SoundWorks products are designed by our co-founder and chairman, Henry Kloss, who created the dominant speakers of the '50s (AR), '60s (KLH) and '70s (Advent). Our high performance, high-value speakers and systems are all manufactured in our factory in Newton, Massachusetts.



Ensemble II performance for half the Bose price. Ensemble® II is the latest version of the subwoofer-satellite speakers *Audio* magazine said "may be the best value in the world." Unlike the Bose® system, it uses two-way satellite speakers and acoustic suspension subwoofers (with 35% more cone area). It can sound identical to our original Ensemble system.



Audio experts on call 365 days a year. Our helpful, knowledgeable audio experts (not clerks) are on duty for advice, hook-up information or orders, 8AM-midnight, *every* day, including holidays. They don't know the meaning of the phrase "hard sell." A customer wrote "The quality of your product is matched by your attitude towards your customers."



We've eliminated the expensive "middle-men." All Cambridge SoundWorks components and systems are sold factory-direct to the public, eliminating huge distribution expenses. Don't be fooled by our reasonable prices—our products are *very* well made, with premium quality components throughout. With our 30-day satisfaction guarantee, you can't lose.

"Ensemble II, like its companions in the Cambridge SoundWorks lineup, performs so far beyond its price and size class that it can be compared only with much larger speakers at substantially higher prices."

— Stereo Review.



The critics—and our customers—agree. Stereo Review, Audio, The New York Times, Rolling Stone, Popular Science, Esquire, CD Review, Inc., The San Francisco Chronicle, American Heritage Invention & Technology, The Absolute Sound and many other publications have all praised our Ensemble speaker systems and our direct-selling approach. Thousands and thousands of satisfied customers agree.

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Magic Boxes

Since audio quality is the second half of the Big Picture-Big Sound equation, choosing loudspeakers is as important as the television set or A/V receiver for true Hollywood At Home.

One of the key questions confronting Home Theater enthusiasts and their families is where to put all of the required speakers. Bose took a giant step toward solving this problem four years ago with the development of the Acoustimass three-piece satellite speaker system. Since bass notes do not need to be localized as do the higher frequencies, the Acoustimass divided the speaker elements. There's a woofer that can be placed anywhere in the room and small, unobtrusive cubes for the tweeter and midrange. The Acoustimass 5 Series 2 (\$799) fits nicely with any decor and delivers superior sound quality. Their Lifestyle System also uses Acoustimass technology.



THE M&K S-100 SATELLITE

Cambridge SoundWorks by Henry Kloss has a high-performance three-piece speaker system that also takes up very little space. The Ensemble II (\$399) features an acoustic suspension subwoofer for accurate bass and true two-ways in the satellites. Cambridge SoundWorks recently unveiled The Surround, the lowest-priced THX approved surround channel speakers currently available (\$400 per pair). They have been designed to radiate sound in a way that listeners cannot hear



THE BOSE LIFESTYLE MUSIC SYSTEM

where it's coming from, just like in the movie theater. They are excellent add-ons for those who already have the two quality front speakers.

Other quality speaker builders have designed speakers specifically for Home Theater and THX use—including M&K, Boston Acoustics, Snell, Triad, Atlantic Technologies and Altec Lansing.

Recently in-wall speakers have soared in popularity because of the Hollywood-At-Home movement. They are perfect for hiding the center dialog and rear surround channels. Perform an "ears-on" test of in-walls from a/d/s/, the Sonance AIS 500,



THE SURROUND FROM CAMBRIDGE SOUNDWORKS

Infinity ERS 800s, and the Polk AB 700 system to hear just how far the technology has advanced.

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Two Reasons To Trade In Your Speakers Now!



The new Bose Acoustimass-5 Series II speaker system includes Direct/Reflecting* cube speaker arrays and a hideaway Acoustimass bass module (not shown).

1 The Bose® Acoustimass-5 Series II speaker system. Technology that sets a new standard for purer sound with even smaller size.

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— Julian Hirsch, *Stereo Review*, September 1991

2 A \$100 trade-in allowance from your Bose dealer.

For a limited time, our participating dealers nationwide will give you at least \$100 as a trade-in for your speakers – regardless of size, age, or condition – when you trade up to the new Bose Acoustimass-5 Series II speaker system.

These dealers are also offering a generous trade-in allowance on the Virtually Invisible® Lifestyle® music system, the complete stereo system from Bose.

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Bob Seger Gets Real

THE Fire Inside" is Bob Seger's best and most natural-sounding album in years. Instead of straining to be the heartland rival of Springsteen, Henley, and so forth, laboring uncomfortably over every word and nuance, Seger sounds as if he laid this album down as it came to him. The time spent away from the business since his last release, 1986's tired-sounding "Like a Rock," has done him a world of good. In *Sightseeing*, for instance, a relaxed Seger recounts a vacation to France. He fantasizes about razing a castle "once lived in by royalty/Who taxed and raped the land" and has his head turned by "a redhead working in a brasserie." The music, meanwhile, is as unfettered and free as a bus rolling through the countryside.

Seger's rock songs connect with the gut like they're supposed to, especially *Take a Chance*, whose clipped, pleading lyrics and rasped delivery capture him at his most committed; *Which Way*, with its big, booming beat and stinging slide guitar; and *The Mountain*, a goosebump-raising confrontation with a dread and disillusionment so fundamentally entrenched that he says "it's almost part of me/I want to have it behind me." It's evident that Seger *is* putting it behind him, for the weary fatalism of his previous albums is surely yielding to a kind of mature acceptance of destiny.

So it's heartening to hear him sing, in *The Real Love*, "I think I've found the real love/Genuine and true," his words neatly tucked into some of the most flowing and unencumbered music he's ever made. In *Real at the Time* he reflects on a past love not with bitterness or lugubrious regret but with fondness and compassion, sticking in a sawing country fiddle over the snare drum's steady rock beat. He gets *real* low-down country in *Always in My Heart*, a tear-in-the-beer ballad for piano and strings reminiscent of Ray Charles's c-&-w forays, and Tom Waits's *Blind Love*, a fiddle-filled rumination about a hard-luck character for whom "the only kind of love is stone blind love."



Seger's statements on the Big Issues of life aren't so much heavyhanded proclamations as casual personal observations, and they're damn near definitive in their offhand wisdom. Only a few things about "The Fire Inside" don't ring true: the Waits song, which Seger isn't sufficiently devil-may-care to put across; the cover art, a silhouette of the Statue of Liberty against a setting sun, which portends weighty matters; and Seger's pretense that the Silver Bullet Band, all of whose members except Craig Frost are absent for most of the album, has any viability or relevance to his music.

In general, this album is about getting comfortable with middle age—not simply embracing its reality but enjoying it. The last song, *She Can't Do Anything Wrong*, is a kind of affectionate look over the shoulder at the sort of

party-time rock-and-roll Seger made when his career was in full stride. He rounded up the old gang to play it, and it has the nostalgic aura of "one more time, for old time's sake" about it. It will be interesting to see where Seger, an artist going with the flow of a mid-life transition in "The Fire Inside," heads next with his music. In the meantime, he's made what is easily his finest album since "Night Moves."

Parke Puterbaugh

BOB SEGER AND THE SILVER BULLET BAND: *The Fire Inside*. Bob Seger (vocals, guitars); other musicians. *Take a Chance; The Real Love; Sightseeing; Real at the Time; Always in My Heart; The Fire Inside; New Coat of Paint; Which Way; The Mountain; The Long Way Home; Blind Love; She Can't Do Anything Wrong*. CAPITOL © CDP 91134-2 (53 min), © 4XT 91134-4.

Dohnányi Conducts Dvořák And Janáček



DVORÁK'S D Major Symphony (No. 6) is the most beguiling of his mature symphonic scores. Touches of Brahms may be found here and there, but the work is replete with the kind of melodic riches that could flow from the pen of the Bohemian master like pure spring water—as in the very opening pages of the first movement, the tender slow movement, the marvelous scherzo, cast in the best Slavonic Dances manner, and the brilliant finale.

Christoph von Dohnányi's way with the music in his new London recording is along the same lines as in his other Dvořák symphony recordings—lean and rhythmically vital but by no means lacking in sentiment where it's called for, as it is in the slow movement here. As always, Dohnányi has a fine hand with details of inner balance and texture; the trio section of the scherzo is a prime instance.

The recording is filled out with Leoš Janáček's wartime three-movement score evoking in near-cinematic fashion scenes from Nikolai Gogol's famous tale of the Cossack chieftain Taras Bulba. The work stands at some distance stylistically from Dvořák, even the Dvořák of the late symphonic poems. A big orchestral canvas is expanded to include organ and bells, which evoke the death of Taras's two sons, Andri and Ostap, and finally the prophetic last words and death of the patriarch himself. Composed when



PHOTO: PETER HASTINGS/LONDON

Czechoslovakia was on the verge of achieving independence, Janáček's *Taras Bulba* documents the pan-Slavic aspirations of the time as well as being a singularly eloquent and colorful piece of music.

Rafael Kubelik with the Bavarian Radio Symphony Orchestra and, more recently, Charles Mackerras with the Vienna Philharmonic have given us stirring recordings of it, and both are available on CD. Dohnányi's new one is leaner in texture but remarkable in its care for detail—most memorably in

the opening movement, where the music "pans" cinematically between episodes of tender passion and sounds of distant battle, reaching a brutal climax in the confrontation between father and son. The very good recorded sound is not as rich as Mackerras's but more than matches the other competing versions. *David Hall*

DVOŘÁK: *Symphony No. 6, in D Major, Op. 60.* **JANÁČEK:** *Taras Bulba.* Cleveland Orchestra. Christoph von Dohnányi cond. LONDON © 430 204-2 (68 min).

Mellencamp Shows Some Muscle

JOHAN COUGAR is dead. So is John Cougar Mellencamp. Long live John Mellencamp. Fifteen years after an ambitious manager foisted the ridiculous surname Cougar on him, Mellencamp—the gift to straight-from-the-heartland rock-and-roll from Seymour, Indiana—has at last returned to his real name.

He has also come back to the kind of four-on-the-floor populist rock that made his assumed name famous. In fact, in his new album, "Whenever We Wanted," he's punching out mu-

sic with more force than ever. It seems even crunchier compared with his last two efforts, the superb best-sellers "The Lonesome Jubilee" and "Big Daddy," which took him in a rootsy, neo-folk direction, blending his moody musings and quiet character sketches with deliberately retro fiddle and accordian.

In "Whenever," Mellencamp pretty much sticks to guitars, bass, and drums, with only an occasional keyboard for atmosphere. The sound is muscular, the guitars placed way up

front in the mix and cranked up until they get a cutting edge of distortion. In the first cut, an angry swipe at the state of U.S. affairs called *Love and Happiness*, the power riffing is rough, aggressive, and loud. At times the band sounds like the Rolling Stones or Creedence Clearwater Revival, but that's simply because Mellencamp has stripped his music down to the classic rock basics. The preening guitar hook and whomping backbeat of *Crazy Ones* may or may not intentionally echo *Honky Tonk Woman*, but they really

Hear the difference.

Introducing the new McIntosh XR250 Loudspeaker System

Driven by the desire to create speakers that could accurately reproduce original music...and tantalized by the elusive combination of variables required for a uniform field of sound... McIntosh scientists used research spanning over two decades to untangle the labyrinth of theoretical leads to a conclusion of audio distinction: The McIntosh XR250 Loudspeaker System.

The XR250 is a four element, three-way loudspeaker system combining two (patent pending) Low Distortion/High Power ten inch woofers; a carefully matched five inch mid-range radiator; and a one inch wide dispersion dome tweeter.

LD/HP Driver Performance Benefits

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tosh (patent pending) LD/HP Driver Technology. This pioneering design reduces harmonic and intermodulation distortion by over 10 dB compared to previous woofers! The LD/HP Driver is capable of producing extremely high levels of excursion with low levels of second order harmonic distortion. The result is an unprecedented clarity in voice and a lack of distortion interference in the lower mid-range. Thanks to LD/HP Driver Technology, the bass response of the XR250—once just an ideal—is now a reality.

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RECORDINGS
BEST
 THE MONTHS



kick nevertheless. Even if it's not thrash metal, "Whenever" is pretty rowdy for a forty-year-old.

Maybe it's because Mellencamp has been off the road since touring for "Lonesome Jubilee," or maybe it's because he's gone through the breakup of his second marriage, but he seems to cut loose in these songs. *Now More Than Ever*, *Get a Leg Up*, *Crazy Ones*, *Whenever We Wanted*, and *Again Tonight* all dive into the wild pool of romance, where girls have "lightning" under their skirts and women taunt men sexually to "get a leg up." Only one song, a brooder about a wasted life called *Last Chance*, takes a reflective break from the ban-tam strutting of songs like *I Ain't Ever Satisfied*, with its boast of "can't get enough, no, of nothing."

Mellencamp seems revitalized here, as if he had taken a new look at rock-

and-roll and decided that it's a cool way to go. His concerns in this album don't have much to do with the midlife of the average male, and he doesn't express them with the same kind of care he's shown in the past. But these songs are about feeling rather than thinking, emoting rather than analyzing. Mellencamp is still a savvy, thoughtful guy. He just doesn't wear it on his sleeve this time around. Call "Whenever We Wanted" a second wind—and a breath of fresh air.

Ron Givens

JOHN MELLENCAMP: *Whenever We Wanted*. John Mellencamp (vocals, guitar); other musicians. *Love and Happiness*; *Now More Than Ever*; *I Ain't Ever Satisfied*; *Get a Leg Up*; *Crazy Ones*; *Last Chance*; *They're So Tough*; *Melting Pot*; *Whenever We Wanted*; *Again Tonight*. MERCURY © 314 510 151-2 (39 min), © 314 510 151-4.

PHOTO: MERCURY RECORDS

An Intoxicating Ravel Collection

THERE is no shortage of attractive Ravel collections, and even the little fanfare Ravel contributed to the composite score of *L'Eventail de Jeanne* is not that much of a novelty anymore, but there are at least two items on Simon Rattle's generously filled new EMI disc that give it a unique appeal. The first, and more substantial one, is the downright irresistible performance of *Shéhérazade* by the soprano Maria Ewing. To describe it as "voluptuous" or "seductive" would be a meaningless understatement. No other recorded performance of this stunning song cycle has so fully realized its intoxicating impact. Ewing is very much aware not merely of musical values but of the brinksmanship in Tristan Klingsor's evocative texts; she and Rattle seem to build upon each other's very pulse and breath to insure that the work comes off as something greater than the sum of even these stunning parts. I have heard only one other performance of *Shéhérazade* as mesmerizing as this one, by a singer who has yet to record it; until she does, this version is a must, and it surely justifies duplicating the other works on the disc.

One of them, however, is not to be found anywhere else: Rattle's appears to be the very first recording of *La*

Vallée des Cloches as orchestrated in 1944 by Percy Grainger. Originally the piece was the last of the five in Ravel's piano suite *Miroirs*, of which he himself orchestrated No. 3, *Une Barque sur l'Océan*, and No. 4, the *Alborada del Gracioso*, which is also on this disc. The idea of Grainger or anyone else presuming to orchestrate music



Conductor Simon Rattle

by so unparalleled a master of that craft as Ravel may strike many people as audacious, but in the event his version of *La Vallée* is a fascinating piece. Grainger did not attempt to imitate Ravel's own style, but he did see to it that the various bell sounds were given the distinct individual characters that are more than implicit in the piano original, in a surehanded and imaginative workout for the percussion.

Rattle and his fine-sounding orchestra serve it up with utter conviction, as they do all the music in this package. There are some leaner and more pungent accounts of the *Alborada*, perhaps, and more caressing ones of the delicious *Mother Goose* ballet (not the more familiar concert suite), but Rattle is effectively evocative in both, and his dark, fiercely dramatic view of *La Valse* does not slight that work's more ingratiating elements—just as EMI's fine sound emphasizes richness without neglecting clarity. Richard Freed

RAVEL: *Fanfare from "L'Eventail de Jeanne"*; *Shéhérazade*; *Alborada del Gracioso*; *La Vallée des Cloches* (orch. Grainger); *Ma Mère l'Oye*; *La Valse*. Maria Ewing (soprano, in *Shéhérazade*); City of Birmingham Symphony Orchestra, Simon Rattle cond. EMI/ANGEL © CDC-54204-2 (75 min).

PHOTO: ALAN WOOD/EMI



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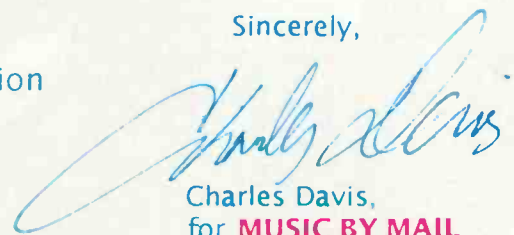
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AMERICAN MUSIC CLUB: *Everclear*. American Music Club (vocals and instrumentals). *Why Won't You Stay; Rise; Miracle on 8th Street; Ex-Girlfriend; The Confidential Agent*; and six others. ALIAS © A015-D (44 min), © A015-C.

Performance: *Ruminative*
Recording: *Atmospheric*

American Music Club is a San Francisco-based band that's made a big splash in England, at least with the press, which has bestowed upon it some of the most ludicrously inflated hype in the history of music journalism. In its homeland, A.M.C. is considerably less celebrated. "Everclear" is its fifth album, and while it's a pretty good album, I'm not going to haul out any superlatives, nor would I salute A.M.C.'s admittedly talented leader with accolades like, "I have seen the future of rock-and-roll, and his name is Mark Eitzel."

Without question, Eitzel is a gifted songwriter, particularly in terms of lyrics. He sings in a voice that ranges from a drowsy, conspiratorial whisper to a bassy, Waylon Jennings-as-cowpunk croon. The other four band members are largely drawn from country or alternative-music backgrounds, and the sound of A.M.C. falls somewhere between those extremes. Imagine U2's "Unforgettable Fire" with a touch of pedal steel or a dobro's steely twang back there in a soupy, impressionistic mix. "Everclear" is a meditative record; only *Crabwalk* hops off the bar stool to kick up an uptempo cloud of dust. Throughout, Eitzel sounds like a man drowning in his cups. His voice is always slower than the music that's moving around behind it, as if he were caught in some sort of drunken eddy. His alienation turns extreme in *Sick of Food*, wherein he sings, "I'm sick of drink/So why am I so thirsty?/I must have been born on the planet Mercury." The music in "Everclear" (the brand name of a potent form of grain alcohol) is stark—frozen and atmospheric. The

Explanation of Symbols

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

emotion in Eitzel's voice is undeniable, but he could stand to vary the program and (in Elvis Costello's words) get happy, if only once in a while. *P.P.*

ASSASSINS (Stephen Sondheim). Patrick Cassidy, Victor Garber, Annie Golden, Jonathan Hadary, Debra Monk, William Parry, others; orchestra, Paul Gemignani cond. RCA VICTOR © 60737-2-RC (52 min), © 60737-4-RC.

Performance: *Spirited*
Recording: *Chillingly vivid*

Not having seen *Assassins* during its run in New York last winter, I can only comment on Stephen Sondheim's score in terms of this album, which was recorded after the show closed because of

convince a reluctant Lee Harvey Oswald to win a place in history comparable to that of Rome's Brutus—is too off-putting and chilling for even Sondheim's considerable melodic gifts to sweeten. *R.H.*

BRUCE COCKBURN: *Nothing but a Burning Light*. Bruce Cockburn (vocals, guitar); other musicians. *A Dream Like Mine; Kit Carson; Mighty Trucks of Midnight; Soul of a Man; Great Big Love; One of the Best Ones*; and six others. COLUMBIA © CK 47983 (60 min), © CT 47983.

Performance: *Cosmic consciousness*
Recording: *Good*

Although Bruce Cockburn, a talented Toronto-based singer/songwriter, start-



American Music Club: alienation blues

generally unfavorable reviews and audience reactions. I'm told by friends who did see the show that Sondheim's songs work in relation to John Weidman's book somewhat as Kurt Weill's music does for certain Bertolt Brecht plays—in other words, as a kind of sugar-coating for the razor-sharp cynicism of the message. In the case of *Assassins*, the message concerns the fascination of many Americans for the upside-down motivations of the nine men and women who killed or tried to kill eight American presidents, from Lincoln to Reagan.

Heard strictly on its own, Sondheim's score is a lively pastiche of various American musical styles, from Sousa to Copland to pre-Sondheim Broadway. Frankly, though, most of the songs don't hold up as anything I'd like to listen to repeatedly. The grim, negative content of most of the lyrics—and, most especially, the long, twisted, 10-minute scene in which John Wilkes Booth tries to

ed out in the early 1970's as a Dylan-esque balladeer, in short order he became a kind of mystic, a Christian who wore his religion on his record sleeves. Musically, he incorporates a little bit of everything in his new album, from strained, Neil Young-like vocals to a reggae beat to Duane Eddy-like tremolo electric guitar (in the instrumental *Actions Speak Louder* and in *Cry of a Tiny Baby*, a modern take—sexual jealousy—on the Mary and Joseph theme). But lyrically he's a male Amy Grant—a lot of his songs might appear on the surface to be about romantic love, but they're really about the other *Great Big Love*, or else about how the Big Guy orchestrates the romantic and spiritual order of things (*A Dream Like Mine*). Even the songs that seem to be about *Indian Wars* and *Kit Carson's* political mission out West turn out to be about a higher plan. Cockburn doesn't ram anything down your throat, though, and he has a nice enough pres-

Illusions

As just about everybody in the world has heard by now, the new Guns N' Roses double album "Use Your Illusion"—sold as two separate discs or tapes for reasons known only to God and W. Axl Rose—is the most successful pop artifact-as-cultural-event since... well, since 1967 and the Beatles' "Sgt. Pepper." But is it good?

Not particularly, alas. Strictly on statistics, this sprawling 2-hour marathon seems needlessly excessive, a set that wasn't conceived as some kind of organic whole but feels instead like thirty songs the Gunners had lying around and randomly threw together. Which isn't to say there isn't an overall lyrical theme; there is. In song after song we hear that the world—mostly women (not GNR's preferred term) or occasionally critics (some actually named in the admittedly funny *Get in the Ring*)—is out to ruin these guys' breakfasts, making them mad as hell, and now it's our turn to suffer. Earth to GNR: Pique is a pathetic concept to build an album around.

There is music here too, of course, and, in fairness, it's not a total loss. Both GNR and producer Mike Clink seem incapable of slickness, which these days is refreshing, and there are lots of moments here—even in the bizarre cover of Paul McCartney's *Live and Let Die*—where everybody works up a phenomenal head of hard-rock steam. True, nothing is terribly original, but as pastiches of the Stones, Aerosmith, and (maybe) Lynyrd Skynyrd go, these are often pretty effective. The ballads, on the other hand, are pretty ugly, in the band's trademark faux-"Beggars Banquet" way (*November Rain*, for example), but I doubt that even fans really care that much about the ballads anyway. As for lead singer Rose—well, he performs about the way you'd expect from somebody who thinks Rob Halford (of Judas Priest) is rock's greatest vocalist. Probably you need to see him dancing onstage to appreciate his work here fully.

Listening to the album(s) straight through, of course, it seems pretty obvious that it's as representative of this band's world view as we're ever going to get. Chutzpah or greed can't explain their releasing 152 minutes of music; clearly, GNR poured their hearts and souls into the making of "Use Your Illusion," and that leads us to a larger question—specifically, how come these guys are the most successful rock-and-roll band in the world right now? My guess is that it's simple, that compared with the competition (bands like Poison or Mötley Crüe), GNR comes off as real, as genuinely dangerous. That's what we've always wanted from our rock



W. Axl Rose

stars, and GNR delivers it up in spades. Unfortunately, their new album is an epic temper tantrum, the aural equivalent of a bratty three-year-old banging a spoon on his highchair.

So what does its enormous success say about the culture we all share with the band? Frankly, my dears, I don't think we want to know. *Steve Simels*

GUNS N' ROSES: *Use Your Illusion I*. Guns N' Roses (vocals and instrumentals); Dizzy Reed (keyboards); Alice Cooper (vocals); other musicians. *Right Next Door to Hell; Dust n' Bones; Live and Let Die; Don't Cry; Perfect Crime; You Ain't the First; Bad Obsession; Back Off Bitch; Double Talkin' Jive; November Rain; The Garden; Garden of Eden; Don't Damn Me; Bad Apples; Dead Horse; Coma.* GEFEN © GEFD-24415 (76 min), © GEFD-24415-4.

GUNS N' ROSES: *Use Your Illusion II*. Guns N' Roses (vocals and instrumentals); Steven Adler (drums); other musicians. *Civil War; 14 Years; Yesterdays; Knockin' on Heavens Door; Get in the Ring; Shotgun Blues; Breakdown; Pretty Tied Up; Locomotive; So Fine; Estranged; You Could Be Mine; Don't Cry (alternate version); My World.* GEFEN © GEFD-24420 (76 min), © GEFD-24420-4.

ence—a calming quality—that he may even make you think a little. Any pretensions about being the next Dylan, however, are long gone. *A.N.*

THE COMMITMENTS. Original motion-picture soundtrack. The Commitments (vocals and instrumentals). *Mustang Sally; Take Me to the River; Chain of Fools; The Dark End of the Street; Destination Anywhere; I Can't Stand the Rain; Try a Little Tenderness;* and seven others. MCA © MCAD-10286 (47 min), © MCAC-10286.

Performance: *A twist on soul*
Recording: *Good*

The Alan Parker film from which this music is drawn concerns a group of Irish teenagers who seek fulfillment by singing and playing African-American soul music. I haven't seen it, but obviously the premise provided a good excuse for a reworking of some of the best popular songs of the Sixties. While these performances certainly cannot compare with the originals, except in being totally derivative from them, most are sufficiently convincing to be enjoyed for their nostalgia value. By far the best performances are by lead vocalist Andrew Strong, who has a rough, raw edginess to his voice and style, qualities essential to this blues-derived material. His rendition of *Try a Little Tenderness* is not likely to eclipse Otis Redding's classic treatment, but he plunges into it with the proper spirit. The women—Angeline Ball, Maria Doyle, and Niamh Kavanagh—are somewhat less successful, especially in songs like *Chain of Fools* and *I Never Loved a Man*, which are so closely identified with Aretha Franklin at the very peak of her form. Overall, though, this is an entertaining set that may send listeners back to the originals. It might also inspire other young performers to explore some of the treasures of a truly golden era. *P.G.*

DASH RIP ROCK: *Boiled Alive!* Bill Davis (guitar, vocals); Hoaky Hickel, Jr. (bass); Chris Luckette (drums). *Don't Wanna Stop; Leave Me Alone (To My Bottle); Bum for Egypt; White Lightnin'; Hell's Scared; Big Daddy Like Whiskey;* and thirteen others. MAMMOTH © MR0027-2 (50 min), © MR0027-4.

Performance: *Rowdy*
Recording: *Who cares?*

Dash Rip Rock is to the contemporary rock scene what Tabasco sauce is to watered-down, off-brand ketchup. That is to say, this trio of New Orleans reprobates is the real thing: rough, uncut, and funkier than a tubful of dancing crawdads. Whereas most bands polish their music for maximum lowest-common-denominator appeal on radio and MTV, Dash scuffs up their repertory with grainy sandpaper and then kicks it full of dents just for the pure hell of it.

Remember when people used to go out to see bands play in bars? Remember

when those bands had some emotional connection to the spirit of rock-and-roll, back in the days before synthesizers, hair spray, and VJ's? Well, Dash Rip Rock remembers, and "Boiled Alive" is a warts-and-all album recorded live at clubs as far below the Mason-Dixon line as you can get without being underwater. The band barnstorms through the loudest 'n' fastest numbers in its seven-year history and lays waste to selected covers. All in all, it's about as much fun as you can have without getting arrested.

The album's real meat is the Bill Davis originals, which celebrate the rip-it-up rituals of Saturday night: *Leave Me Alone (To My Bottle)*, *Big Daddy Like Whiskey*, *Bum for Egypt*, and *Johnny Ace*—an ode to the Fifties r-&-b balladeer who died playing Russian roulette that should be the last word on the subject. Sparks fly from Davis's fingers as he assays a *Cliffs Notes* history of rockabilly in under 3 minutes. Then there's *DMZ*, a semi-affectionate rant about a run-down neighborhood that's played as fast as possible.

Some may be offended by the album's rough language and the politically incorrect point of view that emerges from time to time. But it's just a lot of good, dirty fun. Dash Rip Rock loves rock-and-roll enough *not* to take it too seriously. *P.P.*

NEIL DIAMOND: *Lovescape*. Neil Diamond (vocals, acoustic guitar); vocal and instrumental accompaniment. *If There Were No Dreams*; *Mountains of Love*; *Don't Turn Around*; *Fortune of the Night*; *One Hand, One Heart*; *Hooked on the Memory of You* (duet with Kim Carnes); and nine others. COLUMBIA © CK 48610 (61 min), © CT 48610.

Performance: *Strained*
Recording: *Very good*

Neil Diamond is an easy target. A man who not only deals in emotional and instrumental excess, but pairs it with the blandest of baritones (okay, so maybe he does throw in a growl or two occasionally), he negates his intensity with absurd narcissism and artistic pretension. Those factors abound in "Lovescape" (what a title!), a collection of gloppy songs for the terminally romantic.

Yet perhaps Diamond had higher aspirations. As if he were searching for something, he enlisted the help of not one, not two, but six producers for this project, ranging from the hideously wretched Val Garay to the more straightforward Albert Hammond to the mercurial Peter Asher to the economical Don Was. Not surprisingly, the Was track, *Wish Everything Was Alright*, works best, as Was and his smart clutch of

players—Benmont Tench on organ and Larry Knechtel on piano—pare Diamond's sound to the bone. Trouble is, the tune is so thin and repetitive, the production values don't mean much.

And so goes the rest of the album: Even when the songs are good, such as the duet with Kim Carnes, *Hooked on the Memory of You*, the production usually dives overboard in a sea of MOR vapidness. Several tracks (such as *Fortune of the Night*) sound like production numbers from Las Vegas. When the production is suitably Dramamined, as in *Don't Turn Around*, one of Hammond's tracks, either the songs don't go anywhere or they're not particularly involving—they come across as shallow sentiment and hollow promise.

But two songs—*Someone Who Believes in You*, advice to a loved one who mistakenly believes show business will make him happy, and *When You Miss Your Love*, solace to a jilted friend—prove that Diamond hasn't forgotten what it's like to be merely mortal. Now, of course, there's his soul to convince. And his next crop of producers. *A.N.*

DIRE STRAITS: *On Every Street*. Dire Straits (vocals and instrumentals); other musicians. *Calling Elvis*; *On Every Street*; *When It Comes to You*; *Fade to*

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Black; The Bug; You and Your Friend; Heavy Fuel; and five others. WARNER BROS. © 26680-2 (60 min), © 26680-4.

Performance: *Cinematic*
Recording: *Very good*

Six years after the last Dire Straits studio album, the band has returned with a monochromatic set that is stirring, psychologically invigorating, and rhythmically and melodically maddening.

From its kick-off track—*Calling Elvis*, a nice invention ruined by pedestrian listing of some of Elvis's songs—it is obvious that this is going to be a low-key, atmospheric record, long on blue mood and short on melody. Most of it, in fact, comes across like the soundtrack to a movie you'll never see.

Mark Knopfler, of course, is the principal artistic sensibility at work here, as the songs are his, and his is the predominant voice. In song after song, his stark guitar dreams perk endlessly along, sparked to life only by the rare blood-curdling scream of a saxophone or dobro, or the moan of a distant fiddle. The two songs meant as satire—*My Parties*, which takes on myopic suburban society, and *Ticket to Heaven*, which has its way with sleaze-bag TV preachers—are too laid back to bite, not to mention that we've heard all this from others before.

That isn't to say that there aren't captivating moments here, as in *Planet of New Orleans*, an ambient-heavy jazz tune about an encounter between a "mojo root and a true love figurine." The title song, though confusing (did she throw herself under the wheels or not?), paints a knife-in-the-heart portrait of a man searching for a woman who has given him years of pleasure and pain. The masochist-in-love mumbblings continue in *Fade to Black*, which pictures a faithless lover in a darkened room somewhere, running her finger around the rim of some stranger's glass, combing her fingers through his hair, and, finally, scratching a poison streak across his back. Knopfler's burnt-whisper vocal and crisp guitar fills give this cocktail blues-jazz its seduction and pathos.

For 3:00 a.m. romantic ramblings, psychological masturbation (what dark, menacing activity do they intend to pursue in *You and Your Friend?*), and contemplations of suicide, "On Every Street" is hard to beat. But as a comeback for one of the most influential and successful rock ensembles in recent history, it's passive stuff indeed. A.N.

AMOS GARRETT: *I Make My Home in My Shoes*. Amos Garrett (vocals, guitar); other musicians. *Home in My Shoes; Stanley Street; All My Money; Sleepwalk; Hair of the Dog; and five others.* MOBILE FIDELITY © MFCD 768 (41 min).

Performance: *Shoes, walk all over me*
Recording: *Very good*

Remember the dreamy jazz-guitar solo in Maria Muldaur's *Midnight at the Oa-*

sis? That was Amos Garrett, quite simply one of the most fluid and lyrical guitarists alive. Formerly of Paul Butterfield's Better Days Band, Garrett has played behind a lot of the best, including Bobby Charles and Jesse Winchester. But, of course, that's because he's one of the best himself.

"I Make My Home in My Shoes," Garrett's 1989 Canadian album, is now available in the States from the Mobile Fidelity Sound Lab folks, which means that it's about as clean-sounding a CD as you're going to find. Garrett saunters his way through three instrumentals—two originals (*Stanley Street* and *Bert's Boogie*) and a fuzzy nostalgia trip back to 1959 (Santo and Johnny's *Sleepwalk*)—and lends his serviceable, Everyman baritone to seven other cuts, including Nick Gravenites's *Buried Alive in the Blues*. At his vocal best, such as in *All My Money* or the title cut, a wedding of rock and urban blues with a witty kind of "What, me worry?" lyric, Garrett flaunts a winning affability. At other times, as in *Move On Down the Line* and *I Want a Little Girl*, he affects a black vocal style and texture that detract from his originality. But he makes up for it as an instrumentalist whenever he goes into a single-note or cluster-figure solo, displaying the kind of tone and dexterity most pickers have only in their dreams.

Garrett moves easily between the kind of Chicago blues he played with Butterfield and fusion jazz, also turning in some danceable pop along the way. The material here could be stronger, but even if the songs don't always linger in the memory, Garrett's grace and melodic conception do. This album is sweet, funky, and kick-up-your-heels, get-down grand. A.N.

THE GOLDEN PALOMINOS: *Drunk with Passion*. Anton Fier (drums, percussion, keyboards); Amanda Kramer (vocals, keyboards); Nicky Skopelitis, Richard Thompson (guitars); Bill Laswell (bass); other musicians. *Alive and Living Now; The Haunting; When the Kingdom Calls; A Sigh; Thunder Cries; and three others.* CHARISMA © 91745-2 (51 min), © 91745-4.

Performance: *Restrained*
Recording: *Very good*

Ye gods, talk about an off-the-wall supergroup. *Alive and Living Now*, the first track in "Drunk with Passion," features R.E.M. vocalist Michael Stipe, jazz composer and pianist Carla Bley, and guitarist Richard Thompson. That's in addition to the Golden Palominos' founder and keyboard/percussionist Anton Fier and three other, temporary members of his open-ended band. If you didn't get enough of Stipe in R.E.M.'s "Out of Time," his ecstatic singing in what sounds like a love song on the onset of autumn is one of his most riveting performances. When his voice climbs unexpectedly upward to shout the word "baby," surrounded by the heavenly

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guitars of Thompson and Nicky Skopelitis, it makes for a transcendent musical moment.

Amanda Kramer, who sings most of the rest of the songs, corrals the Palominos into an avant-folk mode suspended somewhere between Cocteau Twins and Renaissance: ethereal and lush, if occasionally fairly monochromatic. The series of meditative pieces, most of which include Thompson's skirling lead guitar, ends a bit joltingly when Bob Mould assumes the vocal reins in *Dying from the Inside Out*. But so it goes with the Golden Palominos. Given the inherent limitation, if you want to see it that way, of the band's not having any fixed personnel besides Fier, "Drunk with Passion" actually coheres fairly nicely as avant-garde mood music with a romantic inner core. P.P.

JENNIFER HOLLIDAY: *I'm on Your Side*. Jennifer Holliday (vocals); vocal



Holliday: new image

and instrumental accompaniment. *I'm on Your Side*; *It's in There*; *Raise the Roof*; *A Dream with Your Name on It*; *Guilty*; *It Will Haunt Me*; and four others. ARISTA © ARCD-18578-2 (49 min), © AC-18578-4.

Performance: *Revamped*
Recording: *Very good*

In the years since her sensational Broadway debut in *Dreamgirls*, Jennifer Holliday has been struggling to establish herself as a recording artist. Now, after two disappointing previous releases and a long sabbatical, she has revamped her image (she shed more than a hundred pounds) and her style to make another stab at success. Unfortunately, Clive Davis, the executive producer of "I'm on Your Side," has cast Holliday very much in the current commercial mold for black women singers, enlisting the same kinds of producers and songwriters who

have failed to come up with distinguished material for the likes of Aretha Franklin and Whitney Houston. The result is an album of the kind of soundalike dance and love songs that have a death-grip on current black pop.

The saving grace is that Holliday is a highly talented singer, with real power and passion. She has toned down her earlier tendency to scream and manages to make some of the numbers here downright appealing in spite of themselves. *I'm on Your Side* and *A Dream with Your Name on It* are lifted above banality by her treatment, and *Love Stories* is given a dramatic song-story reading.

In sum, Holliday's handlers still haven't done quite right by her. Maybe next time. P.G.

JETHRO TULL: *Catfish Rising*. Jethro Tull (vocals and instrumentals); other musicians. *This Is Not Love*; *Occasional Demons*; *Roll Yer Own*; *Rocks on the Road*; *Sparrow on the Schoolyard Wall*; *Thinking Round Corners*; and seven others. CHRYSALIS © F2 21863 (60 min), © F4 21863.

Performance: *Strong*
Recording: *Excellent*

After twenty-four albums, it's safe to say you're either on the bus or off the bus insofar as Jethro Tull is concerned. If you've never quite gotten into Tull, move on to the next review, because this album won't change your mind. But if you're still on these British rustics' wavelength, you'll be pleasantly smitten with "Catfish Rising." Ian Anderson, their raffish leader and multi-instrumentalist, has written a varied batch of material here in a potpourri of styles, from sprightly acoustic jigs to lead-weighted rock, all bearing his unmistakable stamp. It isn't Tull's most cohesive album, but because it's not tethered to a concept, some people will actually find it easier to enjoy than the group's more pretentious masterworks.

After kicking off with two metal-spined riff rockers, *This Is Not Love* and *Occasional Demons*, the album yields to a more blithe spirit. *Roll Yer Own* is a particular delight, harking back to the walking gait and blues/jazz sound of "This Was Jethro Tull," their ancient first album. *Gold-Tipped Boots*, *Black Jacket and Tie* is a bouncy near-rockabilly number with mandolins and flute thrown in, giving it, too, the woody flavor of vintage Tull. Then there's *Thinking Round Corners*, an audacious creation that could have sprung only from a mind as original as Anderson's. What, exactly, is it? Well, if you were as charmed and fascinated by albums like "Stand Up" and "Benefit" as I was many years ago, you'll understand that labels simply can't be hung on music as delightfully deranged and eclectic as this. Just enjoy Jethro Tull's peculiar alchemy and marvel that they're still pulling it off after more than twenty years. P.P.

MASSIVE ATTACK: *Blue Lines*. Massive Attack (vocals and instrumentals); Shara Nelson, Horace Andy, Tony Bry-an (vocals). *Safe from Harm*; *One Love*; *Blue Lines*; *Be Thankful for What You've Got*; *Five Man Army*; and four others. VIRGIN © 2-91685 (45 min), © 4-91685.

Performance: *Different*
Recording: *Variable*

Massive Attack is a British threesome who create their instrumentals by scratching, sampling, programming, and whatever else modern technology allows them to do without actually having to play, then bring in singers to add soulful vocals to their collage-like constructs. Now and then the trio themselves rap in their own unexciting voices. You can hear ticks and pops from some of the recordings they've sampled here—the piano in *One Love*, for example—and the horn and keyboard parts are often audibly out of tune with the vocals. But that's all part of the charm, I guess.

So if its members don't play or sing, what exactly does Massive Attack do? Does this newfangled concept of what it means to make music and be in a band reflect the degraded currency of the current age, or is the traditional definition of a musician, with its emphasis on technique, too narrow and confining? If you're not dancing to this album's deep, hypnotic grooves, you might ponder such issues. But with guest Shara Nelson's vocals soaring effortlessly in three compelling songs—*Safe from Harm*, *Lately*, and the soulful, thrilling *Unfinished Symphony*—the argument may seem irrelevant, and Horace Andy, who contributes agitated, keening vocals to three others, is another intriguing presence. Still, I can't escape the nagging thought that much of what Massive Attack does is contrived, received, and arbitrary, at least by the conventional standards they call into question. P.P.

JOHN MELLENCAMP: *Whenever We Wanted* (see Best of the Month, page 100)

JUDY MOWATT: *Look at Love*. Judy Mowatt (vocals); vocal and instrumental accompaniment. *Fly African Eagle*; *Watchdogs*; *Groovin'*; *Guilty*; *Candle in the Window*; *Jah Live*; *Tomorrow Nation*; *Lioness in the Jungle*; and five others. SHANACHIE © CD-43087 (54 min), © C-43087.

Performance: *Radiant*
Recording: *Very good*

In the years since Judy Mowatt appeared as one of the I-Three's, Bob Marley's back-up group, she has solidified her musical identity as the leading woman of reggae. In "Look at Love," her fifth album, she has gone a step further toward a more mainstream popular sound, as in her novel and memorable reggae treatment of the soul evergreen *Groovin'*. But Mowatt has moved to the center without compromising her integrity, the thrust and spirit of this album remain

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true to the political, religious, and musical essentials of reggae.

The most important element here is the resplendent quality of Mowatt's voice. Her tone is lustrously beautiful, and she articulates each syllable with bell-like clarity, enabling the listener truly to hear the lyrics, which is rare in reggae. The musical settings ideally complement her solos, never intruding or overwhelming. Credit is due producers Sly Dunbar and Robbie Shakespeare (who also play drums and bass, respectively) and to Michael "Home T" Bennett, the main writer and arranger. While the album's appeal is obvious from the first engaging strains, this is more serious music than it may appear to be. These songs are designed to prod, inspire, and motivate. *Warrior Queen*, for example, is a 3-minute lesson in the accomplishments of black women, from Africa to the New World. But despite the polemical intent, the song never descends to mere preaching. In fact, Mowatt is about the most appealing teacher anyone could hope to have. *P.G.*

PLACE OF GENERAL HAPPINESS. Lyrics by Ernest Noyes Brookings, Vol. 2. Brave Combo: *Skin*. Michael Gregory: *Boomtown*. The Young Fresh Fellows: *Yankee Magazine*. Fred Frith: *Life of a*

Detective. Lonesome Bob: *My High School Education*. The Incredible Casuals: *Toast*. Rubber Rodeo: *Planning and Completing an Explorative Trip to Planet Mars*. XTC: *Rocket*. And twelve others. EAST SIDE DIGITAL © 80522 (70 min).

Performance: *Quirky*
Recording: *Good and bad*

Let's call the late Ernest Noyes Brookings a folk artist who painted with words. His poems, which are set to music in this album (as in an earlier tribute) by a strange assortment of pop musicians, are sweet, awkward, and peculiar. Their stiff syntax often comes off like a bad translation from another language. Describing skin, for instance, in the poem of that name, Brookings wrote: "Skin covers flesh of animals and humans/The former covered with fur and latter on the head has hair/The skin could be reminiscent of Harry Truman/Animals covered with fur, humans generally bare." Simplistic, yes. A little wayward, yes. But, hey, it rhymes. And the group Brave Combo came up with a salsa arrangement that gives the song an easy, swaying charm.

Other Brookings verses, on such subjects as *Yankee* magazine, the poet's high-school education, and cheese, get garage-rock, art-song, and honky-tonk

treatments. No matter what the poem/band combination is, however, the general effect is almost always a slight tweaking of Noyes's cheerful goofiness. These cute hybrids, performed by strange, mostly unknown groups, can be cloying when taken in a bunch, but nearly all of them have a whimsical appeal all their own. *R.G.*

PSYCHEDELIC FURS: *World Outside*. Psychedelic Furs (vocals and instrumentals). *Valentine; In My Head; Until She Comes; Don't Be a Girl; Sometimes; Tearing Down; There's a World Outside*; and three others. COLUMBIA © CK 47303 (43 min), © PCT 47303.

Performance: *Slow going*
Recording: *Fair*

If Bobby McFerrin's catch phrase is "don't worry, be happy," Psychedelic Furs singer Richard Butler's would have to be "don't be happy, worry." The Furs' latest album consists of more doom and gloom from Butler and company. Once again, he declaims in an asthmatic, catatonic monotone, seemingly oblivious to the musical commotion churning around him: discordant guitars, synthesizer wheeze, robotic percussion, all adding up to the musical equivalent of an overcast sky. There are

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few breaks in the clouds—no Todd Rundgren production job or jolting rays of popcraft, the kind that made the Furs albums "Forever Now" and "Talk, Talk, Talk," respectively, such a gas ten years back. About the only revelation comes when Butler sings, "Why wait? There's a world outside." Curiously, he seems dogged by the same ennui delivering these hopeful words as he does in the rest of the album's slow-moving songs. *Until She Comes* and, especially, *Sometimes* break the mold by being truly pretty, if also somewhat sad as well. But this is no renaissance for the Psychedelic Furs, just more of the same. *P.P.*

BOB SEGER AND THE SILVER BULLET BAND: *The Fire Inside* (see Best of the Month, page 99)

CHRIS SMITHER: *Another Way to Find You*. Chris Smither (vocals, guitar). *High Heel Sneakers/Big Boss Man; Another Way to Find You; Down in the Flood; Lonely Time; Lonesome Georgia Brown;* and thirteen others. FLYING FISH © FF 70568-2 (57 min), © FF 70568-4.

Performance: *Jewel dealer*
Recording: *Good*

Armed with only a trademark blue acoustic guitar, New Orleans-born Chris

Smither sat in a recording studio for straight sets on two nights in December 1989 and came out with this hypnotic record where his guitar and supple voice seem to become one remarkable instrument. The writer of two songs included in Bonnie Raitt's 1990 "Collection" album—*Love You Like a Man* and *I Feel the Same*—Smither is that rarest of performers: a man who can hold the interest of his audience through eighteen original and familiar Delta-blues, folk, and rock-style offerings (by Randy Newman, Bob Dylan, Willie McTell, and Chuck Berry) with only his emotionally intense, confessional singing and ringing guitar.

But then Smither's guitar can wail and talk and dispense medicine like few others. And while at first his voice seems fairly ordinary, it becomes clear that his quiet baritone isn't so commonplace after all—it's no unskilled singer who can expand from a soft-focus emission to a quick vibrato and masculine growl within the span of a phrase.

That technique serves him well in such well-worn standards as *High Heel Sneakers/Big Boss Man* and *Statesboro Blues*, where he affects rural black phrasing and pronunciation but makes the lyrics come alive in a spectacular, first-person way, as if he's got some similar history of his own. Smither shines brightest, however,

in his own compositions, such as *Another Way to Find You*, where he summons the ghost of Robert Johnson; *I Got Mine*, a soulful anthem for the troubled and beleaguered; and *Every Mother's Son*, a nourishing and thought-provoking story song in which a gun and ruination play supporting roles.

A couple of dud covers and one dud original aside, this is a commanding and entrancing album, and it should open bigger doors for an acoustic interpreter of the first order. *A.N.*

STEPHANIE. Stephanie (vocals); Ron Bloom (guitar, keyboards, percussion); other musicians. *Winds of Change; You Don't Die from Love; Love Once; Born Blue; Words upon the Wind; Sky Fall Down; Unchained; Hunger Rise;* and two others. WTG/EPIC © NK 44489 (37 min). © CK 44489.

Performance: *Commercial pop*
Recording: *Very good*

Tiffany, Debbie Gibson, and Wilson Phillips will all have to move over and make room for a real princess—with the soul and voice of a Valley Girl. Yes, Princess Stephanie of Monaco makes her stateside debut as a recording artist with "Stephanie," five years after wowing Europe with *Owragon*, a single that

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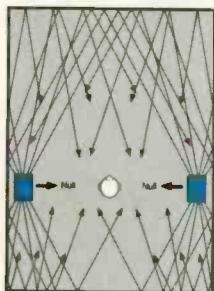
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sold five million copies. All the fuss may have to do more with pedigree than talent; based solely on vocal ability, Stephanie could be any suburban mall-crawler with a mouse-squeak voice and a vapid repertory. But America has a boundless appetite for cheerful banality, and Stephanie's synthetic love songs are as competent as anyone else's. Still, most of this stuff is as disposable as a commercial jingle for designer jeans. *Born Blue* and *I Escape* try to bare the soul that royals are presumed not to have, but by and large this album is so slight it could float away on a puff of wind. P.P.

BEBE AND CECE WINANS: *Different Lifestyles.* BeBe and CeCe Winans (vocals); vocal and instrumental accompaniment. *Depend on You; Addictive Love; It's O.K.; The Blood; Two Different Lifestyles; Supposed to Be; I'll Take You There;* and five others. CAPITOL © CDP 92078-2 (57 min), © C41H 92078-4.

Performance: *Good*
Recording: *Satisfactory*

If you only listen to this record, it's unlikely you'll guess its genre. You'll have to *read* the lyrics to conclude that this is newfangled "inspirational"—or religious—music. While the popular singing group the Winans is broadly known for a modern approach to gospel, siblings BeBe and CeCe Winans have gone a step further by presenting music so closely patterned after current commercial hits (even featuring the rapper Hammer on one track) that you may not notice they address the love of God rather than of man. Despite the reliance on pop clichés, however, there are some highlights. Sister CeCe is eloquently appealing in *Supposed to Be*, and brother BeBe gives Luther Vandross a run for his money as a silken-voiced balladeer in *Searching for Love*, a beautifully crafted original. And the appearance by Mavis Staples in *I'll Take You There*, which she popularized with her family group, the Staples Singers, so many years ago, is an unexpected treat.

Still, BeBe and CeCe may have gone too far in their effort to fuse pop with gospel, since about half these numbers are more boring than inspirational. P.G.

Jazz

EARL HINES: *Blues So Low (For Fats).* Earl Hines (piano, vocals). *Oh! Lady Be Good; It Had to Be You; Two Sleepy People; The Jitterbug Waltz; Memphis Blues; Sweet Lorraine; Tin Roof Blues; I Wish You Love;* and ten others. STASH © ST-CD-537 (66 min).

Performance: *Fatha knows best*
Recording: *Decent remote*

When Earl "Fatha" Hines contributed *Fireworks* to a particularly memorable

Louis Armstrong Hot Five date in 1928, he gave us a most descriptive term for the way he would continue to dazzle listeners for another fifty-five years. No other pianist had such a dynamic style; Hines could take a tune on a roller-coaster ride, slowing it down to a crawl and then accelerating it into a dizzying burst of spontaneous combustion. He was way ahead of his time, which is why his music never sounds dated.

"Blues So Low" is a live album recorded during a 1966 European solo tour. Hines was making a comeback of sorts; he had spent far too long pleasing the beer-and-straw-hats crowd with a good but limiting Dixieland band. The Hot Club of France, which sponsored the tour, had Hines perform unaccompanied for budget reasons, but the result was extraordinary, and the recording captures him in top form.

I was never fond of Hines's singing, which does not begin to approach the high level of his keyboard work. The album starts off with a vocal in *Oh! Lady Be Good*, and two more pop up later, but most of it is taken up by an awesome display of technical skill and imagination, with a good measure of humor. There are nineteen tracks but twenty-eight tunes, for Hines loved to create medleys. Thus *Boogie Woogie on the St. Louis Blues*—a 1940 hit for his big band—moves into *I Dream of Jeanie with the Light Brown Hair*, *Frankie and Johnny*, and *Dark Eyes* before stomping to a rousing finish. This track alone is worth the whole album, and the audience explodes with understandable enthusiasm. Whether you like your jazz old, new, or in between, "Blues So Low" is worthy of your ears. C.A.

LONELY UNIVERSE. Michael White (trumpet); Michel Lambert (drums, Mikätron); David Torn (guitar); Mick Karn (bass). *Engine; Territoires de Pontougas; Passenger; Ceremony; The Wind in All This Noise*; and four others. CMP © CD 41 (39 min).

Performance: *Somewhat mechanical*
Recording: *Good*

Trumpeter Michael White has always had a tendency to take his music to a region where jazz, Stravinsky, and modern technology come together. A player must move skillfully there to avoid his music's sounding contrived—or like something a Hollywood studio cat dragged in. In "Lonely Universe," a 39-minute album that takes its name from a quartet White co-leads with drummer Michel Lambert, the music is perilously close to being a misbegotten sound owing as much to science as to the arts. White's clarion trumpet—souped-up though it is—floats in a synthesized atmosphere, and although the result borders on special effects, good taste and musicianship generally prevail. But the breeze from Windham Hill blows strong in this lonely universe, making me kinda wish for a twister or two. C.A.

JAMES MOODY: Honey. James Moody (soprano, alto, and tenor saxophones); Kenny Barron (piano); Todd Coolman (bass); Akira Tana (drums). *Honey's Tune; It Might as Well Be Spring; Mutt & Jeff; Sepia; Someone to Watch Over Me*; and four others. NOVUS © 3111-2 (61 min), © 3111-4.

Performance: *Marvelous*
Recording: *Bad balance*

Since the late Forties, when he was a member of Dizzy Gillespie's big band, the saxophonist James Moody has been recognized as a master of the art. His 1949 improvisation in *I'm in the Mood for Love* was turned into a vocal hit by King Pleasure, who renamed it *Moody's Mood for Love*. There were no further spurts of popularity in Moody's career, but he overcame a few setbacks and has climbed back to the comfortable position he holds today.

"Honey" features the quartet Moody has been working with recently, a marvelously cogent group that follows him well through his chameleonic repertory. The album is a good hour of shifting moods featuring the leader's soprano, alto, and tenor saxophones, typically excellent work by pianist Kenny Barron, and fine support by bassist Todd Coolman and drummer Akira Tana. The drums are too conspicuous in the mix, but that's not Tana's fault. We can blame it on producer John Snyder and his engineers, Joe Lopes and Jay Newland. This is the third album I have heard recently that they produced and engineered, on different labels, and all have been similarly marred. C.A.

ANDY SUMMERS: World Gone Strange. Andy Summers (guitar); Mitchel Forman (keyboards); Tony Levin (bass); Chad Wackerman (drums). *World Gone Strange; Ruffled Feathers; Bacchante; Song for M*; and six others. PRIVATE MUSIC © 01005-82088 (51 min).

Performance: *Yuppie pabulum*
Recording: *Reverb-o-Rama*

I never paid much attention to Andy Summers, although I rather enjoyed a number of records by the Police. Sorry to say, but Summers leaves no more of an impression on me with his own album. Having endured "World Gone Strange" from start to finish, I am more than ever convinced that some musicians ought never to step out on their own. To hear Summers's work here is to realize that he is basically a run-of-the-mill electric guitarist who garnered a lot of attention riding on Sting's coattails. This is a 50-minute exercise in tedium, ten tracks on which absolutely nothing noteworthy happens. Accompanied by keyboards, bass, and drums, Summers plods through a series of uninspired tunes, which are really only dull melodic snippets repeated *ad nauseam*. As background, it would not be offensive, but when you *listen* to it, silence comes as a relief. C.A.

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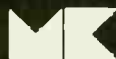
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BACKBEAT

by Steve Simels



Skeletons, Out Of The Closet

ALARGE part of rock-and-roll since its inception has always been a sort of shared joke between the audience and the performers—the punch line being that, okay, this noise usually doesn't mean anything (in fact, probably *shouldn't* mean anything), but hey, we all know it, who cares, and isn't the stuff fabulous anyway?

Of course, the problem today is that the joke has curdled somewhat; in an era when, say, a Janet Jackson signs a recording contract worth more than the GNP of several Third World countries, said insane expenditure meant to produce nothing more valuable to society than a bunch of three-chord dance tunes, it is increasingly difficult to rationalize rock (in fact, any commercial pop music) as the inspirationally silly stuff we all fell in love with way back when.

So what are the alternatives? Well, basically, either we start listening to

Bulgarian New Age CD's or figure that since rock is really dead there's nothing left to do but have fun dancing on its grave. Unless, of course, you're the Skeletons, whose "In the Flesh" has just been released on CD by East Side Digital and who pretend instead that the existential void at the heart of modern rock—what John Waters has aptly described as "today's Hit Parade of Hell"—doesn't exist.

At this point—while you're doubtless mumbling, "Yeah, sure," to yourself—a little history is probably in order. The Skeletons are the brainchild of bassist Lou Whitney and guitarist D. Clinton Thompson, two bar-band vets who are the closest thing the U.S.A. has ever come to producing a home-grown version of Dave Edmunds and Nick

Lowe. They're encyclopedic neotraditionalists, writers and producers who craft their music out of the shards of forty-odd years of rock history, from jump blues to college radio, and who realize that the best of it—namely, those records whose virtues are simplicity, wit, and realism rather than artiness, angst, and pomposity—is eternally valid.

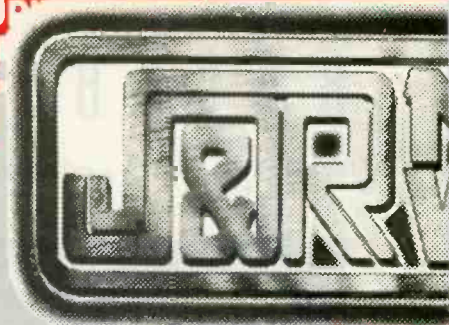
If Whitney and Thompson's names ring a bell, that's because with various cronies they've been responsible for some of the most critically acclaimed indie rock out of the Midwest since 1977. The principal recorded artifact of that low-profile career, also now on CD from East Side Digital, is 1982's "Shake and Push" by the Morrells, a Whitney/Thompson project that may have been the best American rock album of the decade (and very similar to what the guys are doing currently, although the Morrells' album was a little more upfront funny).

The Skeletons, however, are basically like Edmunds and Lowe's Rockpile, but from a distinctly American perspective. Their sound is big, guitar-driven, and wildly eclectic, with overt influences ranging from psycho-surf instrumentals to straight country to folk-rock to Beach Boys pop to Memphis soul to Sixties freak-outs. Their music can be highly unpredictable—the vaguely Who-ish, ultradanceable *Outta My Way*, to name just one, contains perhaps the most kinetic salsa-influenced piano solo on a rock record since *I Love the Sound of Breaking Glass*—but their lyric writing is consistently, trenchantly witty no matter what genre they're running through their musical Cuisinart. Sample quatrain from one of their infrequent "protest" songs: "Thirty days in the workhouse/But don't you shed no tears/'Cause if I'd been a black man/They'd have given me thirty years."

Of course, the Skeletons' story really gets told in their treatment of cover tunes. "In the Flesh" includes, for example, Sonny Bono's *Laugh at Me*, a camp classic of long-haired hippie paranoia, but recast as a hilarious tribute to contemporary bald-headed rock stars. And the late Gram Parsons's obscure and cynical generation-gap number, *Older Guys*, is rendered as a smashing synthesis of late New Wave and progressive country.

Still, as you may have guessed by now, music per se isn't the point here. Rather, the point is an attitude—one that combines a genuine enchantment with rock-and-roll in all of its bizarre permutations with the inability to sing or play anything without tongue planted, ever so slightly, in cheek. The Skeletons have that attitude down cold, which is to say that like all the great ones since Elvis P. they truly get the shared essential joke I mentioned up top. Whether they'll ever have an impact on the record business or the culture at large is not something I'm going to hold my breath waiting to find out. The world, and rock-and-roll, are probably winding down too fast for even the sanest of musicians to make much of a difference (which, come to think of it, may be the cream of the jest). But in the meantime, there's no doubt that you should listen to "In the Flesh," and *my pronto*. □

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Technics SA-GX505	•110 watts/channel, Dolby Pro Logic	•369 ⁹⁵
Technics SA-GX710	•125 watts/ch, Dolby Pro Logic	•529 ⁹⁵

Receivers



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Technics RS-TR313	•Dual rev, Dolby B/C/HX-Pro	•179 ⁹⁵
JVC TDW-505	•Auto-Rev, pitch, Dolby B/C/HX-Pro	•229 ⁹⁵
Technics RS-TR515	•Dual-Reverse, Dolby B/C/HX-Pro	•249 ⁹⁵
JVC TDW-805	•Dual Reverse/Record, Dolby B/C/HX-Pro	•299 ⁹⁵

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Audio Technica SM-502	•Disco Mixer, sound effects	•179 ⁹⁵
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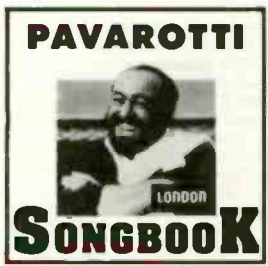
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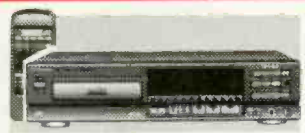
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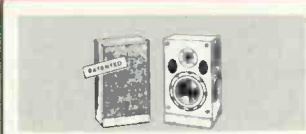
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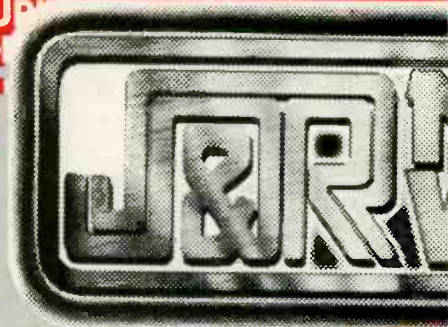
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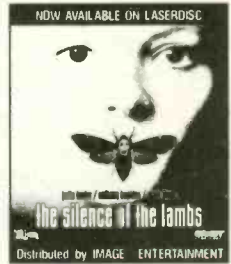
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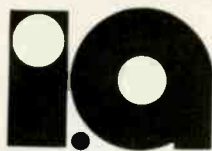
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BARBER: *Overture to "The School for Scandal," Op. 5; Symphony No. 1, Op. 9.*
BEACH: *Symphony in E Minor, Op. 32*
("Gaelic"). Detroit Symphony Orchestra,
Neeme Järvi cond. CHANDOS ©
CHAN 8958 (72 min), © ABTD 1550.

Performance: *Beach better*
Recording: *Spacious*

Barber's early overture to *The School for Scandal*, by turns dashing and tender, is already amply represented on CD, with the recordings by Gerard Schwarz (Delos) and Leonard Slatkin (EMI/Angel) leading the pack in terms of vitality and sonic quality. Neeme Järvi makes too much of tempo contrasts in his reading, thus breaking line and momentum. He does better with Barber's dramatic and impressively cohesive First Symphony, in one movement, particularly in the scherzo section. While the Detroit players respond splendidly, the microphone placement dilutes the string sound and thus the overall impact. Also, the timpani seem overly resonant at times.

The spacious acoustics of Detroit's renovated Orchestra Hall are much kinder to Amy Beach's "Gaelic" Symphony, a work composed in her twenty-seventh year and first performed, in 1896, by the Boston Symphony Orchestra, no less. This first large-scale symphony by a woman composer is cast largely in the vein of the Boston school of the day (Chadwick, Paine, Foote), along with touches of Brahms, Dvořák, and so on, but takes its special flavor from the use of folk melody in the slow movement. The melody of Beach's own song *Dark Is the Night* plays a role in the first and last movements. There is nothing prissy or ladylike about this music—it stands up well in the company of that of Beach's male contemporaries. The finale, in fact, verges on the blustery. Järvi seems more at home with this score than with Barber, and the sound seems to have better overall presence. *D.H.*

Explanation of Symbols

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

BARTÓK: *Violin Concerto No. 2; Viola Concerto, Op. Posth.* Pinchas Zukerman (violin, viola); Saint Louis Symphony Orchestra, Leonard Slatkin cond. RCA VICTOR © 60749-2-RC (70 min).

Performance: *Convincing*
Recording: *Fine*

Not many string players could carry off this double assignment—the Bartók Violin and Viola Concertos—with as much energy and panache as Pinchas Zukerman. In a way, I almost like his version of the Viola Concerto better; perhaps it is just that one hears this work to such good advantage so rarely. The Violin Concerto—now known as No. 2 since the discovery and restoration of an earlier one—is a showier work, and Zukerman handles its brilliancies very well. But the best part is the beautifully articulated slow movement.

An oddity is the inclusion of two finales for the Violin Concerto. Apparently Bartók originally wrote the last few bars as an orchestral flourish sans soloist and was only afterward persuaded to provide some solo ham for the final grand slam. He published both versions, but, of course, the showier solo ending is the one always heard. The truth is that the original is far superior, takes almost nothing away from the soloist, and should always be used! You can program it yourself by combining Tracks 1, 2, and 7 on this CD, but don't forget to back up for the Viola Concerto. That work, deciphered and finished after Bartók's death by Tibor Serly, often sounds a bit tentative and even incomplete. Not here. This is a simple, moving, and deep performance by a fine violinist turned master violist, aided and abetted by the very excellent Leonard Slatkin and his Saint Louis forces, arguably now one of our first-rank orchestras. *E.S.*

BEACH: *Symphony in E Minor, Op. 32*
(see BARBER)

BEETHOVEN: *Piano Sonata No. 31, in A-flat Major, Op. 110; Piano Sonata No. 17, in D Minor, Op. 31, No. 2* ("The Tempest"). Claudio Arrau (piano). PHILIPS © 422 067-2 (48 min).

Performance: *Expansive*
Recording: *Excellent*

Rudolf Serkin, Wilhelm Kempff, and Claudio Arrau all died in a four-week period last spring. Arrau, eighty-eight, was the only one of these three great pianists who remained active to the very end of his life. Philips has some more of his last recordings scheduled for release, and there is to be a three-decade retrospective in the form of a twenty-five disc Arrau Edition. The present disc, recorded four years ago as part of what was to have been his second complete survey of

the Beethoven sonatas, is wholly in character.

The A-flat Major Sonata in particular is as fulfilling in its way as any single performance of such a work can hope to be. I can imagine some listeners may find the scherzo underanimated, but to my ear it fits in seamlessly with Arrau's exalted realization of the more substantial movements that frame it. He is his expansive self in the D Minor as well, as if regarding this much earlier sonata as inhabiting the same rarefied world as the exalted final triptych. More drive would not have been out of order in the opening movement as well as the extremely leisurely middle one, but the concluding one, for all Arrau's deliberateness, generates and sustains a momentum that



Zukerman: Bartók with panache

carries it forward with an almost mystical power. Apart from interpretive considerations, the playing itself is compellingly beautiful, and so is the way Philips has recorded it. *R.F.*

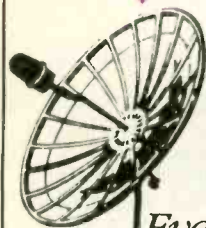
BERLIOZ: *La Damnation de Faust.* Maria Ewing (soprano), Marguerite; Dénes Gulyás (tenor), Faust; Robert Lloyd (bass), Mephistophélès; Manfred Volz (bass), Brander; Choruses of Cologne Radio, Stuttgart Radio, and NDR Hamburg; Frankfurt Radio Symphony Orchestra, Eliahu Inbal cond. DENON © 81757 9200-2 two CD's (127 min).

Performance: *Okay*
Recording: *Mostly good*

Berlioz's *La Damnation de Faust*, termed by its creator a "dramatic leg-

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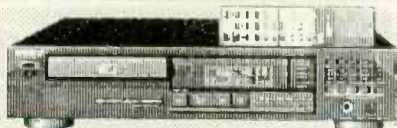
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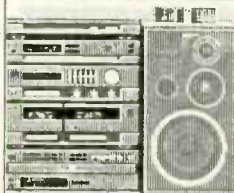
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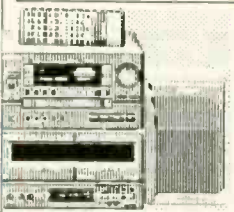
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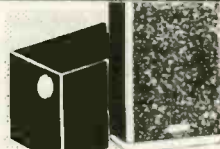
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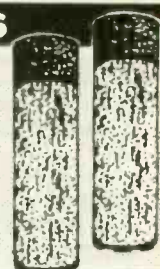
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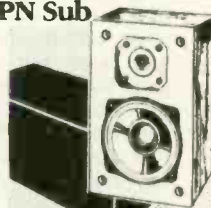
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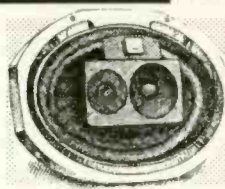
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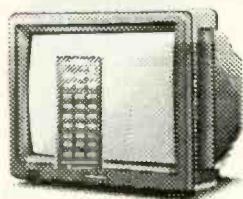
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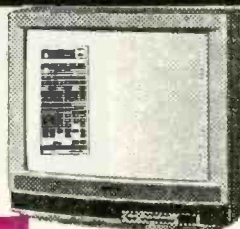


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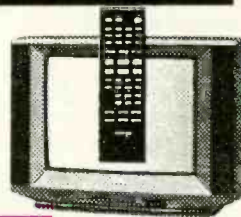
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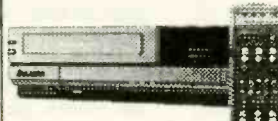
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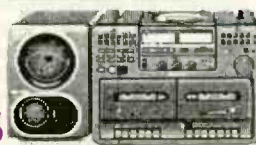
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end," is a semi-opera that sizzles in a good concert performance and makes an ideal recording vehicle in the right hands. Several past recordings came close to that ideal, most notably Colin Davis's on Philips. This new version is a sensible and partially successful achievement on a somewhat lower level. Eliahu Inbal, who has apparently undertaken to record all of Berlioz's major works, is properly attuned to the idiom's unique combination of transcendental lyricism and explosive energy. His tempos are marginally brisker than Davis's, and he favors lighter textures and less momentous climaxes, but he makes all the dramatic points and gets excellent orchestral execution.

The vocal demands, however, are only partially met. Maria Ewing sings the *Roi de Thulé* ballad with a touching inward delicacy. The wide range of Marguerite's music is at her command, but she doesn't always make the words count and leaves the listener wishing for the more voluptuous tones of Rita Gorr, Janet Baker, and Josephine Veasey in this music. Dénes Gulyás is a fine, musicianly tenor but without the needed tonal amplitude and unforced access to the high tessitura. Nor is Robert Lloyd comfortable in his top range: The part calls for a bass-baritone in the Van Dam-Ramey mold; Lloyd is a true bass, and a rather plummy and unfocused one at that.

Three choruses contribute helpfully to the enterprise, but the engineers did not succeed in properly focusing on the solo voices when they need to be heard above the choral mass. Nor have they matched the warmer and more enveloping sonorities that distinguish the sound of the eighteen-year-old Philips set, which remains my preferred version. G.J.

DVOŘÁK: Violin Concerto in A Minor, Op. 53; Romance in F Minor, Op. 11. Thomas Zehetmair (violin); Philharmonia Orchestra, Eliahu Inbal cond. TELDEC © 46328-2 (42 min).

Performance: *Excellent*
Recording: *Very good*

There are a half-dozen formidable recordings of the Dvořák Violin Concerto currently in the catalog, and they all offer the Romance, Op. 11, as a filler. This new one by the Salzburg-born violinist Thomas Zehetmair with the Philharmonia Orchestra under Eliahu Inbal is one of the best. Recorded in the Snape Maltings Concert Hall, site of the Aldeburgh Festival, it has the most gracious acoustic surround of all. Zehetmair's musicianship is of the very best, and his performances here steer a middle course between the warmth of Kyung-Wha Chung and the scintillating virtuosity of Midori, the other top contenders. Zehetmair's violin does not force itself on the attention but emerges in very sensitive fashion from the orchestral fabric, particularly in the slow movement of the concerto and in the romance. The folk-



McGegan: uncompromising *Messiah*

tinged finale of the concerto, however, lacks nothing in fleetness and tonal brilliance. Inbal and the Philharmonia provide vital and sturdy orchestral backing. For the dollar-conscious buyer, the problem here is a relatively short playing time. Musically, Zehetmair may have the edge thanks to his central-European background, and the sonic excellence of his recording is another advantage. D.H.

DVOŘÁK: Symphony No. 6 (see Best of the Month, page 100)

HANDEL: Messiah. Lorraine Hunt, Janet Williams (soprano); Patricia Spence (mezzo-soprano); Drew Minter (countertenor); Jeffrey Thomas (tenor); William Parker (bass-baritone); U.C. Berkeley Chamber Chorus; Philharmonia Baroque Orchestra, Nicholas McGegan cond. HARMONIA MUNDI © HMU 907050.52 three CD's (190 min).

Performance: *Probing*
Recording: *Plain*

Recording companies are always looking for fresh reasons to justify yet another recording of Handel's *Messiah*, but Harmonia Mundi has come up with one so clever and attractive, it's amazing nobody did it sooner. Handel revised *Messiah* roughly half a dozen times, often to accommodate the singers he had on hand. This recording claims to bring together all the significant variants, arranged so that you can program the different versions for yourself. Musicologists will complain that the performance doesn't adjust the size of the forces used for the different versions—which is an impossible demand to make of a single recording—and there may always be quibbles over what constitutes a "significant" variant. But less picky listeners can enjoy hearing how practicality often stimulated Handel's creativity.

That's *not* the main reason to buy this

set, however. Conductor Nicholas McGegan obviously has a highly personal approach toward the piece: The emotional center of gravity here is the Easter section and the suffering of Christ. That's not only what you remember most at the end of listening, but the tone of that section informs all the rest in this least glossy of all *Messiah* recordings. Forget the usual creamy surfaces and resonant church sonorities. McGegan's spacious pacing of "He was despised," for instance, lets one feel the heart-breaking pain of the persecuted Savior. In other words, this uncompromising performance never allows us to take refuge in the cozy nostalgia of *Messiahs* past.

Even the vocal soloists give performances that are stronger in dramatic truth than sensuous pleasure, with the exception of countertenor Drew Minter, who supplies both these qualities in one of the finest recorded performances of his career. And the U.C. Berkeley Chamber Chorus, with its small but focused sound and great flexibility, is about as far from the Mormon Tabernacle Choir as you can get. The result is not a *Messiah* for those looking for a nice piece of holiday music. The cover art, which shows the blindfolded, suffering Christ rather than some warmly lit manger scene, says it all. D.P.S.

JANÁČEK: Taras Bulba (see Best of the Month, page 100)

MOZART: String Quartets in G Major (K. 80), D Major (K. 155), G Major (K. 156), C Major (K. 157), F Major (K. 158), B-flat Major (K. 159), E-flat Major (K. 160), F Major (K. 168), A Major (K. 169), C Major (K. 170), E-flat Major (K. 171), B-flat Major (K. 172), and D Minor (K. 173). *Divertimentos in D Major (K. 136), B-flat Major (K. 137), and F Major (K. 138).* Hagen Quartet. DEUTSCHE GRAMMOPHON © 431 645-2 three CD's (216 min).

Performance: *Expressive*
Recording: *All right*

Mozart's early string quartets, composed between the ages of fourteen and seventeen, are usually written off as mere juvenilia. None of them turns up with any frequency in performance, and they are usually recorded only within the context of an "integral" collection. No one, however, writes off the three divertimentos (K. 136-138) written early in the same period; they have, in fact, become staples of the repertoire for both the string quartet and, more conspicuously, the string orchestra. It is unfortunate, in a sense, that these three substantial and familiar works are placed at the very beginning of this three-disc set by the Hagen Quartet, because I'm afraid they are the least attractive of all the performances in it. The fast movements are too breathlessly fast, the slow ones too drawn out; one is put off by the notion of the players' strutting their stuff with little regard for the consequences. But in the quartets themselves the impression is

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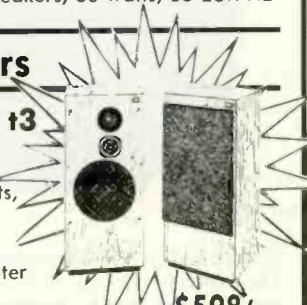
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altogether more positive. The performances are without exception characterful, expressive, and thoroughly musical as well as impeccably played. And, after all, the thirteen quartets without the three divertimentos would still be good value.

The quartets alone are offered in a recent three-disc Hungaroton set in which the Festetics Quartet plays them on "authentic instruments," and comparing the two versions may provide some surprises in terms of the range of interpretation such modest works can inspire and sustain. By way of simplification, it might be said that the Festetics players take a more expansive view of the material, characterized by more leisurely tempos and less pointed phrasing,

Symphony Orchestra, Yoel Levi cond. TELARC © CD-80289 (63 min).

Performance: *Expansive*
Recording: *Rich and well balanced*

There have been more than a few distinguished recordings of Prokofiev's Fifth Symphony since the work began to circulate just after World War II. This new one commands a place among the very finest. While it may not surpass all of the current competition, it not only justifies but encourages the idea of having more than a single version of such a work, and it is exciting for what it tells us about Yoel Levi and his orchestra.

At 49 minutes, Levi's is one of the most expansive readings of the Fifth so far. It is also one of the most beautifully

Symphony is as affectionate as in the larger work and as appropriate to the material—the result is crisp, effervescent, and elegant. Both of these stimulating and richly satisfying performances suggest that since taking the Atlanta podium in 1988 Levi has been effectively polishing and refining an already very good ensemble to give the South its first "world class" orchestra. R.F.

RACHMANINOFF: *Piano Concerto No. 2, in C Minor, Op. 18; Rhapsody on a Theme of Paganini, Op. 43.* Andrei Gavrilov (piano); Philadelphia Orchestra, Riccardo Muti cond. EMI/ANGEL © CDC 49966-2 (59 min).

Performance: *Very good* Rhapsody
Recording: *Resonant*

Question: What famous piece of music was written only after the composer was psychoanalyzed and treated for writer's block?

The answer, of course, is Rachmaninoff's Second Piano Concerto. Does that mean you have to undergo psychoanalysis in order to perform it properly?

Perhaps not. But there's something strange going on when a young Russian pianist of the stature of Andrei Gavrilov tackles the music of his great predecessor and gets billing on the CD cover only half the size of the Italian conductor's. And, in fact, piano and pianist are swamped in a miasmatic symphonic transformation of the work. Somebody should have analyzed something here.

The situation is completely different with the Rhapsody on a Theme of Paganini. The liner-note writer for this album thinks it is a work mainly of "unbridled optimism and radiant lyricism." I think it is a work of daemonic energy and biting wit. Apparently Gavrilov, no old-fashioned Russian Romantic but a man of our time, sees and hears it that way too. And Riccardo Muti goes along with him. This performance is much more of a real collaboration, with a strong point of view about the music, and it works. E.S.

RAVEL: *Shéhérazade; Alborado del Gracioso; La Valse; other works* (see Best of the Month, page 102)

SCHUBERT: *Der Hirt auf dem Felsen. Songs: Gott im Frühlinge; Nachtviolen; Der Wanderer an den Mond; Der Musensohn; An die Nachtigall; Der Schmetterling; Abendstern; Schwestergruss; Der Wachtelschlag; Nacht und Träume; Liebhaber in Allen Gestalten; Auf dem Wasser zu Singen; Die Forelle; Gesänge aus Wilhelm Meister; Heimliches Lieben; An die Entfernte; Seligkeit; Erster Verlust; Rastlose Liebe.* Nancy Argenta (soprano); Melvyn Tan (fortepiano); Erich Hoeprich (clarinet, in *Der Hirt*). EMI/ANGEL © CDC 54175-2 (74 min).

Performance: *Neat, a bit cool*
Recording: *Excellent*

The latest entrant to the crowded field of Schubert song recordings is from Nancy



Pianist Andrei Gavrilov: Rachmaninoff for our time

emphasizing (if that verb may be used in respect to such an easygoing approach) warmth rather than the brilliance the Hagen Quartet brings to bear. I would have to come down in favor of the Hagen, even though Deutsche Grammophon's recording is a little hard-edged and Hungaroton's smoother one enhances the warmth of the Festetics performances.

Neither set, though, is likely to make anyone want to give up the older recordings of these works by the Quartetto Italiano on Philips. They are available now only as part of the entire cycle of twenty-three quartets (without the three divertimentos, which the Quartetto did record, and gloriously), spread rather extravagantly over eight midprice compact discs. R.F.

PROKOFIEV: *Symphony No. 1, in D Major, Op. 25 ("Classical"); Symphony No. 5, in B-flat Major, Op. 100.* Atlanta

played and most handsomely recorded. The expansiveness, it should be noted, is not indulged at the expense of momentum. The emotional depth with which Levi invests the first and third movements demands his broad pacing, but the music is conveyed with such utter conviction and flexibility that one is simply not aware of its being slower than the norm. Phrases are shaped naturally and unselfconsciously; rhythms are steady. What the listener does notice, appreciatively, is the exceptional detail (again, without impeding the flow) and the overall richness of the well-balanced orchestral choirs. And in the grand climaxes of the opening movement, the witty asides of the scherzo, the voluptuous star-scapes at the end of the adagio, and the scintillating percussion in the closing pages, the recording itself is rich and well balanced to match; Telarc has quite surpassed itself here.

Levi's approach in the "Classical"

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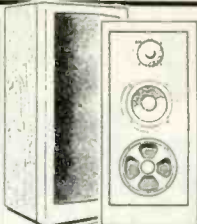
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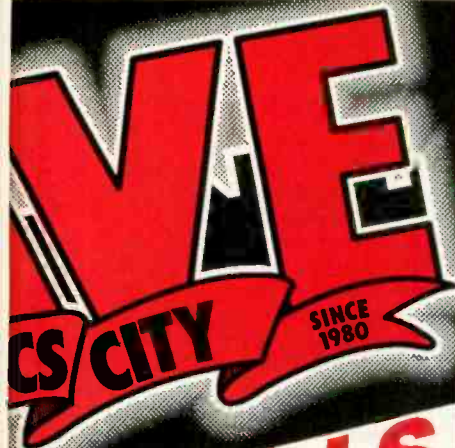
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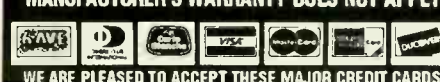
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*a critical
discography*



new for 1992

Argenta, a young Canadian soprano who has made several previous recordings of early music, usually with period-instrument groups. This background is reflected in her approach to Schubert's songs: a virtual absence of vibrato, pure intonation, and a quasi-instrumental treatment of the music. It's good as far as it goes. Argenta can produce tones of ethereal quality, create an aura of otherworldly calm in *Nacht und Träume*, and capture the eerie world of *Schwestergruss*, a song that resembles *Death and the Maiden* in gloominess. Her approach also produces an interesting effect in *Der Hirt auf dem Felsen*, where the clarinet partners a soprano voice that sounds like another clarinet. But it cannot work all the time, especially not in such a wide-ranging program. *Der Wanderer an den Mond*, in particular, rejects her neutralizing manner. In other instances, too, there is a lack of spontaneity and directness. Nor does she make enough of the words: Her enunciation, while not really indistinct, is not the last word in clarity.

Melvyn Tan's expert keyboard work will especially please the historically oriented listener and the fortepiano fancier. This is a well-planned and generous program, very well recorded, and supplied with texts, translations, and good annotations. It has much to offer, but not enough to displace the recordings of the same music by Elisabeth Schumann, Elisabeth Schwarzkopf, Christa Ludwig, or Elly Ameling. *G.J.*

SCHUBERT: *Overture in C Major, in the Italian Style (D. 591); Symphony No. 3, in D Major (D. 200); Grand Duo, Op. 140 (D. 812, orch. Leppard).* Indianapolis Symphony Orchestra, Raymond Leppard cond. Koss © KS-2221 (71 min).

Performance: *Elegant*
Recording: *Good*

Raymond Leppard's first recording with the orchestra he has headed since 1987 honors the tradition begun by the Indianapolis Symphony under Fabien Seitzky on Victor 78's some fifty years ago, of exploring beyond the standard repertory. The "symphonic" character of Schubert's most ambitious work for piano duet, the so-called Grand Duo, has intrigued musicians since the work was new. Robert Schumann suspected it was a reduction of a symphony; Joseph Joachim concurred and in 1855 orchestrated it. Leppard has been impelled to undertake a new orchestration because he feels Joachim's was too Brahmsian, with too much doubling and general heaviness, unlike Schubert's own "transparent orchestral sounds that suit his fleet lyricism."

Leppard's textures are lighter than those in Claudio Abbado's recording of the Joachim version with the Chamber Orchestra of Europe, and it tells at several points—the opening of the scherzo and its entire trio, for example. Leppard's notion of "fleet lyricism" is reflected in a genial but alert sense of

momentum. The music may not be as unarguably symphonic as the slightly earlier Symphony in E Major, which Schubert never got around to orchestrating, but it works well in Joachim's setting and perhaps better still in Leppard's. Leppard's orchestra responds beautifully, and the disc is filled out with a bright-eyed and elegant reading of the adorable Symphony No. 3 and the second of the two overtures "in the Italian style" (the one without the Rossini quotation), which is a charming beginning for what amounts to almost a full-length concert. Fine sound, too. *R.F.*

SIBELIUS: *Symphony No. 4, in A Minor, Op. 63; Symphony No. 5, in E-flat Major, Op. 82.* Pittsburgh Symphony Orchestra, Lorin Maazel cond. SONY CLASSICAL © SK 46499 (72 min).

Performance: *Refined*
Recording: *First-rate*

Back in the mid-Sixties Lorin Maazel recorded for London a powerfully convincing cycle of the Sibelius symphonies with the Vienna Philharmonic Orchestra. He has now tackled the formidable Fourth and the sunny Fifth with the Pittsburgh Symphony, an orchestra with which he has long been associated. It is clear from the new recording that Maazel has rethought his interpretations to a significant degree, especially that of No. 4. The first movement, marked *Tempo moderato, quasi adagio*, takes 2½ minutes longer than in his 1968 recording. The scherzo is within normal tempo parameters, but the great slow movement takes an additional 2 minutes here, as does the weirdly fantastic and tragic finale. Whether or not one is convinced by Maazel's prevailing slow tempos, there can be no question about his superb command of textural detail and instrumental coloration. For example, the dissonance-ridden development of the fanfare figure in the slow movement, which can sound chaotic because of balance problems, is handled to perfection. Surprisingly, Maazel slows up in the final pages of the symphony, usually tight-lipped and laconic in effect, and dilutes the power of the music with a feeling approaching sentimentality.

Maazel's Fifth is revelatory in its own way. This is not a rugged interpretation, à la Bernstein's 1966 Columbia recording, but a refined one that to me stresses the Impressionistic aspects of the score—not surprising in view of Maazel's special mastery of Debussy and Ravel. Again, the command of timbre and inner balance is impressive. As at the end of the Fourth Symphony, Maazel comes dangerously close to sentimentality in the very last pages of the Fifth, where Sibelius's score simply has the music continue at tempo to an abrupt halt. Overall, however the famous finale, with its ostinato horn figure, comes off in masterly fashion. Maazel lets the chorale tune in the winds serve as a driving element while the horn figure

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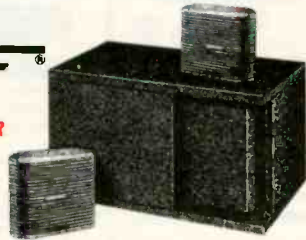
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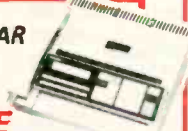
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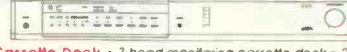
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remains the harmonic foundation (as we realize from the concluding emphatic chords). Thanks to digital technology, the pianissimo reprise of the opening bars in the violins has never sounded more magically atmospheric. Despite minor reservations as noted, I rate this recording of the Sibelius Fifth among the half-dozen best. *D.H.*

Collections

GUILDHALL STRING ENSEMBLE: *Scandinavian Suite*. Nielsen: *Little Suite, Op. 1*. Grieg: *Holberg Suite, Op. 40*; *Two Elegiac Melodies, Op. 34*; *Two Melodies, Op. 53*. Sibelius: *Romance in C, Op. 42*. Wirén: *Serenade, Op. 11*. Guildhall String Ensemble, Robert Salter cond. RCA VICTOR © 60439-2-RC (70 min), © 60439-4-RC.

Performance: *Beguiling*
Recording: *Flawless*

We are used to hearing most of the works in this attractive Nordic program performed by a full string orchestra. The players here, all originally from London's Guildhall School of Music and Drama, are just eleven in number, but they manage to generate in effortless fashion a warm and full-bodied string tone, and their elegance of line and phrasing never becomes precious. Part of their success is due to a Classical sense of proportion that informs all the musicmaking here, and part is due to what appears to have been an ideal recording locale, the Forde Abbey at Chard in Somerset, which contains the sound just beautifully.

PHOTO: USA KOHLER/TEDECC



Soprano Dawn Upshaw

The youthful Carl Nielsen work gains greatly from this chamber-orchestra treatment; the second-movement waltz episode is especially delectable. The Sibelius Romance and Grieg's Elegiac Melodies also gain from a more transparent texture than we usually hear. The delightful Serenade by Sweden's Dag Wirén is as airy and fresh as spring itself in this performance. Highly recommended for all musical tastes! *D.H.*

DAWN UPSHAW: *The Girl with Orange Lips*. Ravel: *Trois Poèmes de Stéphane Mallarmé*. Falla: *Psyché*. Stravinsky: *Two Poems of Konstantin Bal'mont*; *Three Japanese Lyrics*. Delage: *Quatre Poèmes Hindous*. Kim: *Where Grief Slumbers*. Dawn Upshaw (soprano); chamber ensembles. ELEKTRA NONE-SUCH © 79262-2 (47 min).

Performance: *Exquisite*
Recording: *Excellent*

Three of the components of this collection—Ravel's *Trois Poèmes de Stéphane Mallarmé*, Stravinsky's *Three Japanese Lyrics*, and Delage's *Quatre Poèmes Hindous*—had their premières at the same Paris concert, on January 14, 1914. Both Ravel and Stravinsky were involved with Diaghilev's ballet productions at the time; Delage was Ravel's pupil. One might even say that Ravel's shadow hovers over the entire program. It is his influence that permeates Falla's haunting *Psyché* despite its delicate Iberian allusions, and it is revealed even more prominently in the refined orientalism of the Delage cycle. Ravel's own Mallarmé songs flirt with atonality—presumably under Schoenberg's influence—though the angularity of the vocal line is supported by sensuous harmonies rarely encountered in Schoenberg. The Stravinsky songs, all from the same period (1911-1913), are brief, flavorful trifles, and Earl Kim's cycle of seven songs—including the one that gives the album its title—provides a late-twentieth-century flowering of Ravelian elements. Based on the poetry of Rimbaud, they are inventive and evocative, varied in their instrumental coloring, and include some unaccompanied as well as melismatic singing. They attest to Kim's expertise in writing for the voice.

Dawn Upshaw's performance here calls for raves I am happy to provide. She phrases beautifully, negotiates wide leaps with deadly accuracy, varies her tone from a cool, vibratoless line to throbbing passion with a facility that conceals enormous art, and sings with a flawless intonation. The tonal beauty she displays in soft passages is carried undiminished into powerful outbursts. These songs are not for every taste—some of them are certainly a bit cool and uninviting for mine—but they occasion a vocal tour de force. Upshaw is a major artist who receives splendid support from a group of outstanding instrumentalists, and their efforts are captured in ideal sound. *G.J.*

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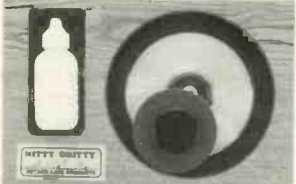
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Prepared by David Stein

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But what may ultimately be more exciting is something no other receiver can offer. Dolby[®] Pro Logic Enhanced. A technical feat which combines DSP and Digital Dolby Pro Logic.

An incredible enhancement which allows you to enjoy all the sonic information embedded in the movie soundtrack, as well as the acoustics of the theatre, all without leaving the house.

Under the hood, the RX-V1050 sports five power amplifiers—110-watt amplifiers for the left, right and center front channels, and 30-watt amplifiers for each of the rear effects channels.

A high-powered center channel combined with Yamaha's DSP and Digital Dolby Pro Logic enables Yamaha's RX-V1050 receiver to recreate the experience other receivers have promised, but have never quite delivered.

Stop by your nearest Yamaha dealer and hear the new RX-V1050 receiver. The best argument for staying home anyone's ever come up with. **YAMAHA[®]**

The only receiver that can make your home theatre sound as good as the original.

