

Stereo Review

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June 8

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Stereo Review

INCORPORATING HIGH FIDELITY

December 1995

No home theater is complete without a hi-fi VCR, and new models like the Samsung VR8905, JVC HR-S5200U, Toshiba M761, and Sony SLV-780HF are especially easy to use. The Samsung even incorporates the StarSight on-screen menu system for programming (shown here on a Samsung TV set). See page 68 for more.

Photograph by Jook P. Leung

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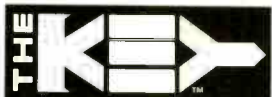
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BULLETIN

BY BOB ANKOSKO & WILLIAM LIVINGSTONE

A/V DIGEST

Interference-free, CD-quality radio is inching closer to reality now that lab testing of nine Digital Audio Radio (DAR) systems has been completed by digital radio subcommittees of the Electronic Industries Association and the National Association of Broadcasters. The next phase calls for field testing in San Francisco. The findings of those tests are expected to be presented to the Federal Communications Commission in early 1996. . . . TDK has reduced the price of its 60-minute CD-RXG write-once recordable CD from \$25 to \$19. . . . The new *Radio Shack Unlimited* catalog, available in Radio Shack stores, is said to provide access to more than 100,000 hard-to-find electronics products, parts, and accessories. The company says most catalog items are delivered within five days.

B.B., MEET MARILYN

Blues singer and guitarist B.B. King and operatic mezzo-soprano Marilyn Horne will receive the Kennedy Center Honors in Washington, D.C., on December 3. The gala presentation concert, to be attended by President and Mrs. Clinton, will be taped for broadcast on CBS on December 28.

TENORS, PARAKEETS

After the phenomenal success of their joint concerts in Rome (1990) and Los Angeles (1994), the Three Tenors — Jose Carreras, Plácido Domingo, and Luciano Pavarotti — have announced that they will take their show on the road in 1996, performing in Tokyo (June 29), London (July 6), New York (July 20), and Munich (August 3). They will sing in Melbourne, Australia, on March 1, 1997. . . . "Jimmy Buffett's Parakeets" is the first children's record to be

released (CD and cassette) on Buffett's Margaritaville label, a subsidiary of Island. The album contains ten previously released Buffett songs as performed by the W.O. Smith Singers, a Nashville children's chorus. Buffett's fans are known as Parrotheads, and their children are called Parakeets.

"STAR WARS" & MORE

The *Star Wars* trilogy has been rereleased by Fox Video for the last time in its original theatrical format and for a limited time only — until January 31, 1996. This release marks the debut on VHS videotape of THX Digital Mastering, a film-transfer process developed by Lucasfilm for its THX program. The cassettes can be purchased separately for \$19.98 each or as a gift pack for \$49.98. . . . Access Music, a Northern California record company, will issue *all* of its new CD releases in Dolby Surround. The label's first surround CD is "It's About Time" by Japanese superstar pianist Tadamitsu Saito with Jon Anderson of the rock group Yes. Call 1-800-306-3008 for a catalog. . . . L-Squared Communications has released "Platinum Sound Effects for the 21st Century," a ten-disc set featuring selections from the library of the Hollywood sound designer Frank Serafine, including effects from many well-known movies. The set is offered in several formats, including CD-ROM. Price: \$1,395. Call 1-800-779-5239 for more information.

ELVIS! SUNG IN LATIN!

Dr. Jukka Ammond of Finland, an expert in the Latin language and an Elvis Presley fan, reports that in a dream he was visited by The King, who requested that his hits be translated into the eternal language. Dr. Ammond dutifully



REACHING FOR THE STARS

Just a few months ago, RCA was the only company selling the high-power Digital Satellite System (DSS), with 175 channels of programming available through DirectTV and USSB. Now DSS, known for its pizza-size 18-inch dish and excellent audio/video quality, is also being marketed by Sony and GE, with Toshiba, Uniden, and Hughes Network Systems slated to offer packages soon. Undaunted by the DSS camp's impressive momentum, two new medium-power direct broadcast satellite (DBS) services, AlphaStar and EchoStar, are gearing up for launch. They'll join Primestar, which offers a 95-channel medium-power service, via a 39-inch dish, through Radio Shack and independent distributors. AlphaStar plans to introduce its 100-channel Direct-To-Home (DTH) service this month, and EchoStar is hoping to turn on its 150-channel service early next year. Both packages use a 24-inch dish. The AlphaStar system will be sold through Amway distributors for \$899 (including installation) and satellite TV dealers, and the EchoStar system will be sold under the Magnavox and Philips brands.

translated six songs and recorded them with the aid of a back-up group. ("Ooooooh, ooooooh" is the same in English and Latin.) The resulting CD, which includes such tunes as *Cor Ligneum* (*Wooden Heart*) and *Tenere Me Ama* (*Love Me Tender*), has been widely publicized on the Internet, and it is now available in the United

States on K-tel Latin as "The Legend Lives Forever in Latin" (DA 8212).

A GUIDE TO DIE FOR

The 1996 edition of STEREO REVIEW's *Stereo Buyer's Guide*, featuring summary listings of more than 8,000 audio and A/V components, is on newsstands. The cover price is \$4.95.

ILLUSTRATION BY BOB SCOTT

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Matthew Polk
Co-founder, Polk Audio

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Stereo Review

PRESENTS

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LETTERS

Measuring CD Changers

In the October issue Ken Pohlmann tested seven high-performance CD changers. In the measurements table the total harmonic distortion plus noise (THD+N) at 1 kHz for the Nakamichi MB-2s changer is given as 0.11 percent. I recently purchased the same model, and in the box was a chart with the manufacturer's own measurements, which says that the THD+N at 1 kHz is 0.005 percent. I have seen differences between a manufacturer's specifications and an independent measurement before, but in this case it is quite substantial. Which measurement is correct? Or is yours not comparable with the manufacturer's? CLARK BACALA
Regina, Saskatchewan

Ken Pohlmann replies: Both measurements are correct given their conditions. I used a low-pass filter with a higher cutoff frequency (80 kHz) than the one Nakamichi uses for its measurements, so slightly more inaudible out-of-band noise showed up in mine than in theirs.

Analog CD Reissues

After reading Peter Mitchell's insightful "High End" column in October ("Old Wine in New Bottles") about remastered CD's of classic analog recordings, I am curious as to the applicability of the new techniques he describes to pop, rock, and jazz. Will they prove as useful with Sixties and Seventies albums recorded on amplified instruments as they are for classical music?

JOE LUCA
Port Jefferson, NY

Yes — for instance, some of the new Neil Young reissues (see reply to next letter) include amplified instruments. Sony's Master-sound series of reissues of Columbia and Epic pop, jazz, and soundtrack hits was one of the first uses of Super Bit Mapping. Denon's Savoy Jazz Master Transfer Collection uses 20-bit recording and other techniques to restore recordings from the Forties and Fifties by the likes of Charlie Parker, Stan Getz, Miles Davis, and the Modern Jazz Quartet. Other labels are also using advanced techniques for special collections.

Peter Mitchell's "The High End" in October mentioned that Neil Young is reworking his old albums using the Cello Audio Palette. Can you tell me if there is a schedule for release of this older material and which albums in particular are being reworked?

MARK NEMECEK
Medford, NY

Warner Bros./Reprise will release the first CD versions of three of Young's old Reprise albums this month: "Journey Through the Past" (1972), "Time Fades Away" (1973), and "Re-actor" (1981). Three other al-

bums never on CD will be released early next year: "On the Beach," "American Stars 'n Bars," and "Hawks & Doves." Young is also working on a comprehensive digital anthology of his work, but no release date has been announced.

DSS for Alaska

I've been following the news about the mini-dish Digital Satellite System (DSS), and I'm not at all surprised at the sales figures. People are fed up with being jerked around by the cable industry. But what about Alaska? No one can give me an answer as to when we might get the signals here in Fairbanks. Do you know? ROS MCRÆ
Fairbanks, AK

The good news is that DirecTV began offering direct broadcast satellite programming to Alaska residents starting on October 13. The bad news is that while the programs can be received and decoded by DSS equipment, the 18-inch satellite dishes usable in the lower forty-eight continental states are not large enough to catch the signals. Required dish sizes vary from about 4 feet in the Juneau region to 8 feet in the Anchorage and Fairbanks areas.

Donna's Dead

In the October Popular Music "Quick Fixes" some cretin with the initials "S.S." did a "review" of a CD called "Donna Reed's Dinner Party." I would never buy an album with Shelley Fabares's *Johnny Angel* on it, but a review should have some accuracy. Donna Reed is not "real-life" anymore as she died some five to ten years ago, so it would be very hard for her to be "considerably hipper" than the aforementioned CD.

BAIRD M. CROVISIER
Tarzana, CA

Steve Simels replies: Donna Reed died in 1986, and I apologize for implying that she is still among us. But I'm sure that, wherever she is, she's hipper than that CD.

Mono from Stereo VCR

I recently upgraded my receiver to one with Dolby Pro Logic and four other audio modes. The installation was done by the audio center where I bought the receiver as well as a 50-inch TV. The TV picture is great, and the sound through my new receiver is sensational — especially for programs broadcast in Dolby Surround.

My problem has to do with my ten-year-old stereo hi-fi VCR. Tapes I make play fine through either the TV or the audio system, and even better using the Concert or Hall modes on the receiver. But any prerecorded videotapes encoded with Dolby, like *Jurassic Park*, or TV programs with Dolby



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have sound only in the center speaker when they're played through the receiver with the Dolby button pressed.

Technicians from the receiver and VCR makers and the store where everything was bought tell me that the VCR is too old to transmit Dolby signals. I don't think it is, but it does need repair. What do you say?

JEROME D. SIMON
Park Ridge, IL

Sounds like your VCR is giving you mono sound, which Dolby Pro Logic will direct to the center channel. A stereo signal is required for Dolby Surround encoding and decoding. Two things to check before you head to the repair shop: First, is your receiver being fed, whether directly or indirectly, from the VCR's line-level audio outputs? Only those outputs will carry stereo; the coaxial RF (antenna) output will carry mono audio when playing back a tape. Second, is there an audio-mode switch on the VCR, and, if so, is it set to stereo?

Click-and-Pop Removal

August "Bulletin" mentioned Tracer Technologies' crackle-removing computer program called DART (Digital Audio Restoration Technology) for multimedia PC's with Windows and 16-bit sound cards. I ordered the program (incidentally, Tracer Technologies' correct phone number is 717-747-0200), and I can't say enough good things about it! DART is a godsend to collectors and owners of old recordings! It does indeed remove pops, clicks, and dropouts in just a few minutes (using a fast Pentium PC), and it removes them nearly as well as the original No Noise system for Macintosh computers — and at less than a hundredth of the cost.

Two other programs for fine-tuning crackle-removal are Wave for Windows 2.03 (Turtle Beach Software, 717-764-5265), which zooms down to sample level with variable x-y axis (for visualizing extremely fine clicks and then mouse-penciling them out), and Soundforge 3.0 (Sonic Foundry, 608-256-3133), which lets you slow down playback to one-twentieth speed to zero in on problem noises. After using digital noise elimination, I simply can't go back to listening to noisy records straight or even with those rare old analog click suppressors, which quite often replaced pops with thumps.

BRUCE MILLER
Spanaway, WA

Correction

The item in November "Bulletin" about the tiny satellite speakers in a new Bose Lifestyle music system incorrectly identified the model. The new \$2,500 system is the Lifestyle 20. □

We welcome your letters. Please address correspondence to Editor, Stereo Review, 1633 Broadway, New York, NY 10019. You should include your address and telephone number for verification. Letters may be edited for clarity and length.

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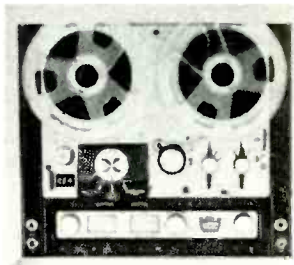
TIME DELAY



30 YEARS AGO

In his December 1965 editorial, William Anderson introduced articles on folk-inspired European composers Dvorak and Kodaly with the surprising observation that “America *has* no large, rich, old, homogeneous body of folk music to serve composers as a reservoir of inspiration.”

New products included the Roberts 1770-D stereo open-reel tape deck with four recording speeds, the Altec Lansing 847A “Seville” speaker, and the Benjamin Miracord 40H automatic turntable. Julian Hirsch tested Marantz’s \$600 Model 10B



Roberts 1770-D stereo open-reel tape deck, 1965

tuner (“I have never seen a tuner to compare with it”). The Installation of the Month, owned by Dr. Harvey Ryder of St. Joseph, Missouri, involved Bozak drivers (four woofers, two midranges, and sixteen tweeters), McIntosh electronics, and a Dual turntable, all fitted under a stairway.

But wipe your feet before you go in mom’s kitchen: Reviewing “Rod McKuen Sings His Own,” Gene Lees distilled the album’s meaning from a Turkish proverb: “Before you learn to love, first learn to run through snow, leaving no footprint.”



20 YEARS AGO

Apparently insensitive to the Christmas spirit, the December 1975 issue offered “Ten Performers I Hate,” selected by our pop music reviewers. Lester Bangs, who asserted that David Bowie “sings like an electric eel expiring on a rotisserie,” clearly was up to the assignment, although he found it “somewhat constraining, in compiling



Dual autoreverse cassette deck, 1975

a list such as this, to be limited to musicians, but fortunately they compensate by being easy targets.”

In Best of the Month, David Hall was moved by Carlos Kleiber’s performance of Beethoven’s Fifth with the Vienna Philharmonic on Deutsche Grammophon (“among the half-dozen best discs in the entire catalog”), while Noel Coppage was similarly impressed with Willie Nelson’s “Red Headed Stranger” (“the more times I listen, the more I find in it”). In other reviews, Joel Vance dismissed Steppenwolf’s “Hour of the Wolf” as sounding like “the Beach Boys in a snit,” and Eric Salzman reported on the music of British serial composer Harrison Birtwhistle: “A friend of mine described it as a sex act between two consenting nuclear power plants — unkind but not too farfetched.”

“Julian Hirsch Tells You How to Go Shopping for a Christmas Tuner” was the very specific title of the issue’s cover story, with suggestions based on signal reception and rejection, reproduction accuracy, convenience features, and, of course, cost. In test reports, Hirsch-Houck Laboratories examined Dual’s first cassette deck to be sold in the U.S., a deluxe model with the then-unusual feature of autoreverse, and the B.I.C. 980 turntable, which had “as low a rumble level as we have ever measured on an automatic turntable.”

David Bowie, 1975



Do not operate heavy machinery after hearing: Encountering “Heart of Hearts” by Polish-American TV star Bobby Vinton, Peter Reilly called it “an album that challenges and confounds any as yet known reality.”



10 YEARS AGO

The Kyocera PL-701, the Linn Sondek LP12, and the Sota Star Sapphire were the “3 Top Turntables” discussed by Julian Hirsch in a December 1985 feature. Hirsch-Houck Labs contributed test reports on the Nakamichi Stasis PA-7 power amplifier (“a credit to its manufacturer and its designer”),



Technics SL-XP7 portable CD player, 1985

the Akai GX-9 cassette deck (“a pleasure to use”), and the Technics SL-XP7 CD player, one of the first portable models sold in the States (“a most impressive achievement”).

Hold the mayo: Reviewing Scritti Politti’s “Cupid and Psyche 85,” Mark Peel wrote that lead singer Green Gartside’s vocals were “so coy and precious you want to grab him by his Polo by Ralph Lauren collar and rub his face in a tube of Vidal Sassoon styling mousse.” — Steve Simels

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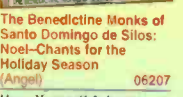
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- CLASSICALSM (Luciano Pavarotti, Evgeny Kissin)
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NEW PRODUCTS

▼ ARCAM

Arcam's Xeta 2 provides all that's needed to adapt the electronics side of a two-channel system to five-channel surround: a surround processor (with Dolby Pro Logic, Dolby 3 Stereo, Cinema, and Hall modes) and three 50-watt amplifier channels to power a center speaker and two surrounds. It offers adjustable

surround-channel delay, four line-level audio inputs, a tape loop, four composite-video inputs, two video outputs, and center, surround, and subwoofer line outputs. Price: \$1,200. Arcam, distributed by Audio Influx, Dept. SR, P.O. Box 381, Highland Lakes, NJ 07422-0381.

• Circle 120 on reader service card



▲ CASTLE ACOUSTICS

The Durham 900 speaker from Castle Acoustics of Great Britain combines a 5-inch woofer with a double magnet and a 1-inch soft-dome tweeter in a 16-inch-tall ported cabinet. Low-frequency limit is given as 60 Hz and sensitivity as 90 dB. Nine wood-

veneer finishes are available, including black ash (shown), oak, rosewood, walnut, mahogany, yew, and cherry. Price: \$670 a pair. Castle Acoustics, distributed by QMI, Dept. SR, 25 South St., Hopkinton, MA 01748.

• Circle 121 on reader service card



▼ TOSHIBA

Measuring just 10 x 3¼ x 6⅞ inches, Toshiba's TX-975 is one of the smallest ten-disc car CD changers on the market. Designed to be mounted either horizontally or vertically, it is said to be small enough to be placed under the

seat or in the glove compartment of some vehicles. It uses two 1-bit digital-to-analog (D/A) converters with eight-times oversampling. Price: \$500. Toshiba, Dept. SR, 82 Totowa Rd., Wayne, NJ 07470.

• Circle 122 on reader service card



▲ WATERWORKS ACOUSTICS

Designed to be mounted outdoors at ground level, the Soundscaper speaker from Waterworks is said to provide omnidirectional sound from its cylindrical plastic enclosure, which houses a downward-firing 4-inch woofer and four ½-inch tweeters. The

7½ x 8-inch speaker is rated to handle 60 watts (IEC) and play down to 80 Hz. Standard finishes are black and green. Price: \$299. Waterworks Acoustics, Dept. SR, 3365 Fernside Blvd., Alameda, CA 94501.

• Circle 123 on reader service card

NEW PRODUCTS



▲ SONIC FRONTIERS

Aimed at the "budget-conscious audiophile," the TransDAC digital processor from Sonic Frontiers features two Burr Brown 20-bit digital-to-analog converters and a direct-coupled Class A analog output stage with Analog Devices op amps. Covered by a five-year

parts-and-labor warranty, the 9½ x 2 x 7-inch device accepts RCA-type coaxial and Toslink optical digital inputs. Price: \$599. Sonic Frontiers, Dept. SR, 2790 Brighton Rd., Oakville, Ontario L6H 5T4.

• Circle 124 on reader service card



◀ SOUNDWAVE

Usable as either a primary or surround speaker, Soundwave's Metronome packs a 6½-inch woofer, a computer-optimized crossover, and a 1-inch fabric-dome tweeter into a 13-inch-tall trapezoidal cabinet designed "to minimize diffraction and reduce standing waves." Low-frequency limit is given as 65 Hz, sensitivity as 88 dB. Available in black or white. Price: \$550 a pair. Soundwave by Vero, Dept. SR, 1150 University Ave., Rochester, NY 14607.

• Circle 126 on reader service card



▲ MTX

MTX's LPS600 speaker/amplifier selector handles up to six pairs of speakers in any combination. The device also has an A/B amplifier and input selector for use with power amps that put out up to 250 watts per channel (continuous) and impedance-

protection circuitry to maintain safe loads regardless of the selected speaker combination. The LPS600's plug-in connectors accept 14-gauge wire. Price: \$300. MTX, Dept. SR, 4545 E. Baseline Rd., Phoenix, AZ 85044.

• Circle 128 on reader service card

▼ ADS

The R50i/c, ADS's first ceiling speaker, combines a 5¼-inch woofer, a 1-inch soft-dome tweeter (with self-resetting over-power protection), and a 12-dB-per-octave two-way crossover in a steel frame with gold-plated binding posts and a white steel grille. The

speaker attaches to ½- to 1½-inch-thick sheetrock or drop-panel ceilings with a four-screw mounting assembly that grips the surface when the screws are tightened. Price: \$149. ADS, Dept. SR, One Progress Way, Wilmington, MA 01887.

• Circle 125 on reader service card



▼ STUDIOTECH

StudioTech's C Series speaker stands come in four heights: 14 inches (\$80), 21 inches (\$90), 28 inches (\$100), and 32 inches (not shown, \$110). All feature steel support rods, high-density fiberboard bases and platforms (with rubber bumpers), concealed wire routing, and removable

carpet spikes. Finish options are black (shown), black with chrome tubes, and oak with brass tubes. Available by mail order (prices exclude shipping) from StudioTech, Dept. SR, 5031 Birch St., Suite C, Newport Beach, CA 92660; phone, 1-800-887-8834.

• Circle 127 on reader service card



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Home Theater Options**

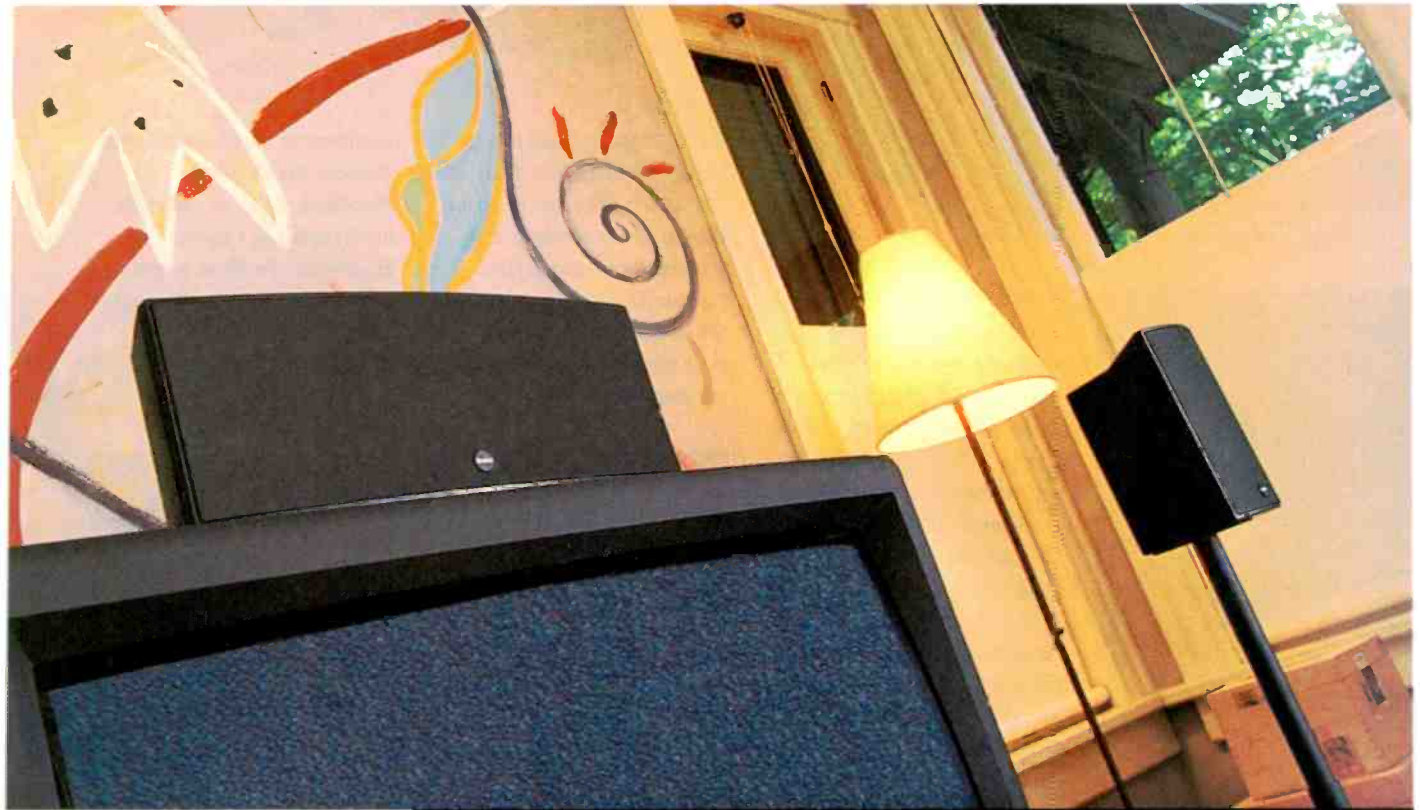
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The \$699 MSRP six-piece SubSat6 II Theater Package includes four SubSat6 II Satellites, a PV12 subwoofer and CR1 center channel speaker.

Boston Acoustics

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NEW PRODUCTS

▶ PLATINUM AUDIO

Platinum Audio's 14-inch-tall Solo speaker combines a 5-inch woofer and a 1-inch tweeter using proprietary aluminum diaphragms in a cabinet with rosewood-veneer side panels. Its aluminum back plate has two vents (one is plugged to achieve 40-Hz tuning), biwiring terminals, and a heat sink for the internal crossover. Price: \$2,498 a pair. Platinum Audio, Dept. SR, 10 Commerce Park North, Unit 12, Bedford, NH 03110-0607.

• Circle 129 on reader service card



◀ M&K

The M&K MX-125 powered subwoofer uses two 12-inch drivers in push-pull configuration for output to 20 Hz and below. The 23 x 15 x 18-inch black-lacquered cabinet also packs a 125-watt amplifier, an adjustable low-pass filter, and M&K's Headroom Maximizer II circuit, which is said to insure wide dynamic range and high output without clipping. Price: \$995. M&K Sound, Dept. SR, 10391 Jefferson Blvd., Culver City, CA 90232.

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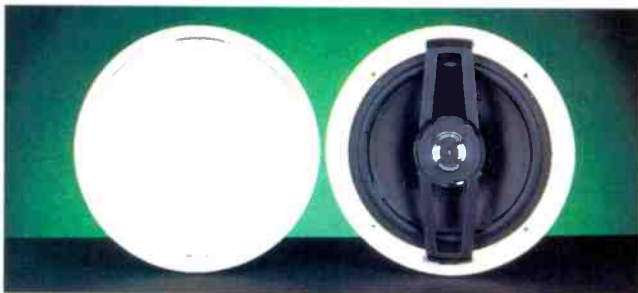


▼ MB QUART

MB Quart's QM 160.56 KX coaxial car speaker features a 3/4-inch angled titanium-dome tweeter suspended above a 6 1/2-inch woofer. Frequency response is given as 40 Hz to 32 kHz, power handling as 70 watts maximum

(continuous), and impedance as 4 ohms. Mounting depth is 2 1/2 inches. Includes a matte white grille. Price: \$329 a pair. MB Quart, Dept. SR, 25 Walpole Park S., Walpole, MA 02081-2532.

• Circle 131 on reader service card



▲ TDK

TDK's "Ultimate Guide to Great Sound" CD contains 74 minutes of test signals and music designed to point out the strengths and weaknesses of car and home systems, including multichannel A/V setups. There are seventy-three tracks in all, ranging from the simple Stereo Channel

Identification to the sophisticated Surround Sound Image Placement. All of the test signals are preceded by a narrated explanation. Available by mail order for \$5 (includes shipping). TDK CD Offer, Dept. SR, 24 E. 21st St., 3rd floor, New York, NY 10010.



▲ RCA

RCA's T27204BC 27-inch stereo TV sports a built-in four-head VHS Hi-Fi VCR featuring the VCR Plus programming system, automatic head cleaning, on-screen displays, an eight-event/one-year timer, automatic digital tracking, and a quick-start transport mechanism. TV highlights include auto clock-set circuitry that

receives time and date information over the air, front-panel A/V inputs for connecting a camcorder, video-game console, or other video source, and a TV/VCR remote. Price: \$999. Thomson Consumer Electronics, Dept. SR, 10330 N. Meridian St., Indianapolis, IN 46290-1024.

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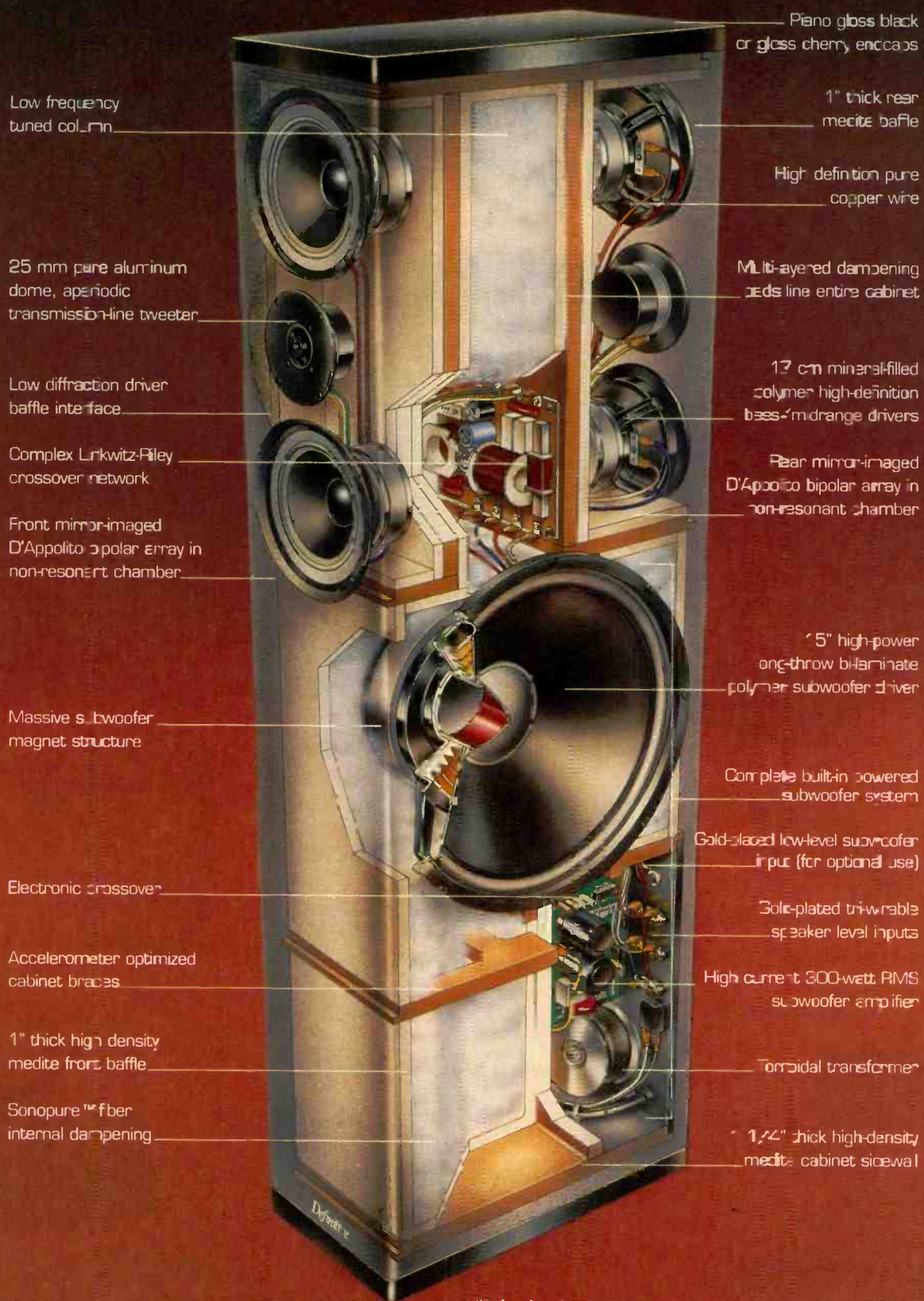
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-Julian Hirsch, *Stereo Review*

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

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

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

—Julian Hirsch, *Stereo Review*

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

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AUDIO Q & A

IAN G. MASTERS

Deeper Bass

Q I recently added a Dolby Pro Logic receiver to my system, and I use my old two-channel receiver to drive a subwoofer. According to the specifications, my subwoofer has response down to 35 Hz, while the old receiver only goes down to 40 Hz. Is it possible with my equipment to get the bass response down to 35 Hz or even lower?

KIRK FANG
Wichita, KS

A Maybe. It depends on what your equipment is actually capable of doing. The numbers you quote are inadequate as a means of predicting what success you'll have in extending your bass. For example, the 40-Hz specification for the receiver doesn't mean that it produces nothing below 40 Hz — virtually any piece of electronics today can handle half that — but probably that it can't do it at the specified distortion level. Since distortion isn't as significant in the bottom octave, you might well have lots of usable power in that part of the spectrum.

The speaker is quite another matter. Speaker specs tend to be vague at best and aren't much of a guide to real-world performance. The 35 Hz quoted for your subwoofer may only mean that there is *some* output at that frequency, but it might be 20 or 30 dB down. If that's the case, you might be able to bring it up using equalization; the only way to find out is to try. Play a test CD with spot frequencies to identify the point at which output disappears altogether, then boost the appropriate bands.

Creating an In-Wall System

Q I'm in the process of building a new house and would like to build my home entertainment system into a wall. How do I provide ventilation for the main components? How do I wire the system after the drywall is up? And would it be satisfactory to place a powered subwoofer in a cavity in the wall with its port facing outward?

DAVID J. DOWNEN
Waterloo, IL

A Ventilation is important if your equipment will be in very confined quarters, in which case you could install a small exhaust fan. If you are contemplating building a false wall several feet out from the room's real wall, however, there may be enough air behind it that extra ventilation won't be a major concern.

As for wiring, it should be done *before* the drywall is in place. Also, since you're starting from scratch, be sure to build in some sort of access to the rear of your

equipment stack so that you can easily replace or upgrade components later. Placing the subwoofer in an alcove in the wall should work fine; it doesn't really matter which way the port faces as long as there's some space around the subwoofer cabinet.

Output Mismatch?

Q I found out a bit too late that the very good-sounding satellite/subwoofer system I purchased works properly only when it's connected to the output of a battery-powered portable audio player. Is there anything I can add to the output of my regular audio receiver to make it match the input of the speakers?

DON RIMSNIIDER
New Orleans, LA

A There shouldn't be a significant electrical difference between the output of a portable CD or tape player and the line output of an ordinary receiver. You'll probably need an inexpensive adaptor cable to plug things together, but beyond that you should have no problem driving your speakers with your present equipment.

If for some reason the speakers are designed to be driven from a headphone jack, which has a higher output voltage, you can feed them from your receiver's headphone output. Again, you'll probably have to buy an adaptor to do that.

Dusty Speaker Cones

Q I have noticed quite a buildup of dust on the cones of my speakers, and I am concerned that it may affect their sound quality in some way. Is that a potential problem? If so, what can I do about it?

M. VILLACIN, JR.
Lake Hiawatha, NJ

A I can't imagine that dust would in any way affect the sound of your speakers unless there were truly massive quantities of it. But if you're worried about it, it's easy enough to remove. Buy a can of pressurized air from any photographic-supply store and use it to blow away the dust. I wouldn't use a cloth to dust the cones, however, as you might damage the diaphragms, particularly in the case of a tweeter.

Deteriorating DAT

Q I have music in all formats, and I would like to organize things by dubbing all my non-CD recordings to a digital medium. I would like to use DAT, but I have heard that long-term storage — more than ten years — is problematical with this for-

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mat. Will the sound quality suffer over time because of the large amount of data stored in this medium?

DALLAS HOLSTON
Suffolk, VA

A The digital audio tape (DAT) format hasn't been around long enough for anybody to be certain on this point, but there's no good reason to believe that the recordings will deteriorate significantly, and certainly not because there's so much data on the tape. If a tape does show signs of

physical deterioration, however, you can always make a perfect dub of it before the problem gets too bad. That's one of the key advantages of digital recordings.

Speaker Shielding

Q I would like to place my large home-built subwoofer in a corner of my listening room, but because of my system's configuration, the sub would have to be placed behind the TV. There's room for it

there, but the speaker is not magnetically shielded and would definitely interfere with the picture. Does anybody make shielding caps for speaker magnets, or is my only option putting a sheet of steel between the subwoofer and the rear of the TV set?

DAN STEVENS
Escanaba, MI

A I'm not aware of such "caps," and if there were such a device I doubt it would offer adequate shielding anyway. Placing a sheet of steel between the speaker and your TV set is clumsy but probably the way to go. The other option to consider is placing the steel sheet inside the subwoofer enclosure on the side facing the TV.

Adding an Outboard Amp

Q My receiver only produces 50 watts per channel, and I would like to increase that power by adding an extra amplifier. The inputs provided on the receiver are Tape 1 and 2, CD, VCR, and Phono. Can I use any of those for the new amplifier?

MARK WATTERS
Tyrone, PA

A The inputs are irrelevant when it comes to adding amplification. What you need to look at are the outputs on your receiver. If you're lucky, it has preamp outputs connected to "main in" jacks by a U-shaped piece of metal. You can break this connection and use the preamp outputs to feed an external amplifier (and, with Y-connectors, you can continue to use the receiver's amplifier section to power a second set of speakers).

If your receiver doesn't have preamp outputs, you can use its tape-out jacks to drive a second amplifier, but you won't be able to use the receiver's volume or tone controls.

Power to the Speaker

Q The speakers I am thinking of buying can handle much more power than my receiver can supply. Even if I never intend to play the system at particularly high levels, would the speaker's sound better with more amplifier power in reserve? J. WIEST

Huntingdon Valley, PA

A Power handling has very little to do with sound quality; it refers to the maximum continuous power the speakers can handle without frying. Such specs are notoriously slippery, though, as there are no standards for them. In any case, most of us rarely run our systems anywhere near the breaking point except on very brief musical peaks. The benefit of extra power is that those peaks may be reproduced with less distortion than they would be with a lower-powered amp, but that will only be true if your present equipment is sufficiently underpowered to strain noticeably.

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



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The Art of War

In his classic treatise *The Art of War*, the Chinese warrior Sun Tzu set down his rules of military strategy. "To fight and conquer in all your battles is not supreme excellence," he wrote. "Supreme excellence consists in breaking the enemy's resistance without fighting. Thus the highest form of generalship is to balk the enemy's plans . . . and the worst policy of all is to besiege walled cities. . . . In war, then, let your great object be victory, not lengthy campaigns."

Whether it was fifth-century B.C. oriental wisdom or twentieth-century A.D. projections of twenty-first-century profit margins, something persuaded the Sony/Philips camp and the Toshiba/Time Warner camp to sit down at the bargaining table to discuss their competing Digital Video Disc (DVD) proposals. Subse-

quently they announced that a compromise had been reached and that there will be only one DVD format, as yet unnamed. This averts the prospect of a full-scale format war, an endeavor that is usually fatal to one or both sides, as the VHS/Beta and MD/DCC wars attest.

All the corporate forces had a brilliant vision of the future, and it was the competition between them that encouraged productive invention. Sony/Philips took the first step by announcing their MMCD (MultiMedia Compact Disc) format last January. Toshiba and Time Warner responded with their DVD format and shrewdly arrayed formidable support from Hollywood corporate forces and makers of A/V hardware. In comparison, MMCD lacked widespread support in both the entertainment software and the

A/V hardware industries. Still, MMCD challenged DVD technologically. The MMCD system featured single-sided discs in which two embedded data layers could be read from the same side of the disc by refocusing the laser. That was superior to the two-sided disc used in the rival DVD proposal. With arguing rights firmly established, the stage was set for confrontation.

Over the spring both sides tweaked their formats. Over a million DVD's were cranked out to ascertain mass-producibility of the discs and to have stockpiles if the formats were launched as designed. In addition, Toshiba announced its own dual-layer single-sided disc, called SD (for Super Density), which leveled the playing field and hardened the stand-off.

Over the summer, the computer giants Apple, Compaq, Fujitsu, Hewlett-Packard, IBM, and Microsoft refused to endorse either format and called for a compromise. They argued that the two proposals were similar in design and that incompatibility was economically unwise. Because of the huge market potential of DVD computer applications, both sides started talking to each other. Finally, Sony and Philips offered to support the SD format *if* it adopted the MMCD coding method. That led to an agreement.

The new DVD format will incorporate the best parts of SD and MMCD. This ap-

DOLBY SURROUND
AC-3 PRO-LOGIC

THX



proach wisely follows Sun Tzu's injunction: "Our own flags should be substituted for those of the enemy, and the chariots mingled and used in conjunction with ours. The captured soldiers should be kindly treated and kept. This is called, using the conquered foe to augment one's own strength."

Specifically, the new format follows the SD physical disc design, with data-coding methods derived from the MMCD. The new disc will look like a regular CD and will be able to store audio, video, or computer data. It will comprise two 0.6-millimeter-thick substrates bonded together (from the SD format), use an error-correction code called RS-PC (also from SD), and use a modulation code called EFM Plus (from MMCD). A basic-density disc, with data encoded on only one layer, will store 4.7 gigabytes; in comparison, today's CD's hold 0.65 gigabyte. A single-sided, dual-layer DVD will hold almost 8.5 gigabytes.

The new format will allow digital coding of motion pictures. A basic-density disc will accommodate a 133-minute movie with variable-bit-rate MPEG-2 coding; 5.1-channel audio soundtracks will accompany the video, coded with either AC-3 or MPEG-2. The video signal should exceed laserdisc quality.

If Toshiba's plans are included in the

final specification, the new format will also carry audio-only technology to a higher level, with an audio version of the DVD that stores linear PCM digital audio tracks using sampling rates from 48 to 96 kHz and word lengths from 16 to 24 bits. Critical listeners will be delighted. Depending on the sampling rate and word

The new DVD format will incorporate the best parts of the competing SD and MMCD formats.

length, an audio DVD will have plenty of playing time; all of Beethoven's symphonies could fit on one basic-density disc.

The new format will also revolutionize the computer world. Applications with heavy data-storage needs, including games and multimedia, will gain immense storage capacity. And as software producers take advantage of the format, computer users will upgrade to DVD drives.

First-generation DVD's will be single-sided, single-layer discs, but first-generation DVD players will be able to play both single- and double-layer discs (hold-

ing either video, audio, or computer data) as well as existing audio CD's, CD-ROM's, and Video CD's. Existing CD and CD-ROM players will not be able to play the new discs. Future plans call for double-sided discs with up to four data layers holding 17 gigabytes, write-once and recordable/erasable discs, and high-density discs that may store as many as 42 gigabytes.

Whatever its technical details, the DVD format promises to be the most important product rollout since the CD. Its designers hope that it will replace CD, VHS, and CD-ROM. And DVD will push both the entertainment and computer industries to new levels of sophistication, eventually leading them to join into one multimedia industry. In short, DVD could become the universal storage medium of a universal industry.

Of course, now that internal disorder has been quelled, the real battle must still be fought. When the offensive is launched in late 1996, these audio/video/computer corporate juggernauts must face the mightiest force of all — the consumer. Apparently the corporate forces have studied Sun Tzu and are already following his strategy. After all, Sun Tzu said, "All warfare is based on deception. Hold out baits to entice the enemy. Feign disorder, and crush him." □

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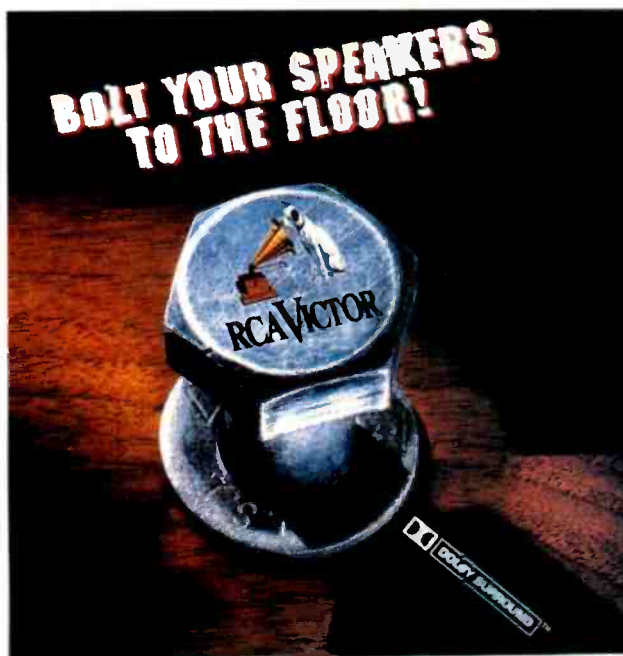
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Dolby Surround technology was originally developed to encode surround effects on a cinematic soundtrack to give viewers in a movie theater a greater sense of involvement in whatever was shown on the screen. For more than a decade most motion pictures have been released in Dolby Stereo, and in recent years home theater equipment has been developed to make this sonic extra dimension available to home viewers. In a similar way, RCA brings the extra realism of Dolby Surround to compact discs for the benefit of music lovers at home.

RCA's Dolby Surround recordings are completely compatible with ordinary stereo equipment. This means that when played on a conventional audio system with two speakers, they present the fine stereo image expected from the best modern recordings, but when you play them on a surround-sound system, the walls of the listening room seem to fall away, and you feel transported to the theater or concert hall where the original recording was made.

The fifteen tracks on the RCA Surround Sampler we are now offering to you include such sonic spectaculars as the title theme from John Williams's score for *Star Wars* and Lorin Maazel conducting the introduction to Strauss's *Also Sprach Zarathustra* (a.k.a. *2001: A Space Odyssey*). Other selections of demo-disc quality are "O fortuna" from Orff's



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TECHNICAL TALK

JULIAN HIRSCH

The A/V Revolution

Our hobby — when it was really a *hobby*, not a multi-billion dollar business — originally evolved so that people could enjoy recorded music in their homes with a sense of realism far beyond the limitations imposed by the crude contemporary technology of mass-market phonographs and unbaffled speakers. Not only were the available amplifiers, record players, and loudspeakers crude by today's standards, but the associated "software" (a term not yet coined in those times) consisted principally of 78-rpm phonograph discs, frequently of mediocre — or worse — quality and with a playing time limited to a few minutes (which led to the development of the record changer).

Although there were a few "audiophiles" active in the 1930's, the first major escalation of audiomania occurred in the years immediately following the end of World War II. Early "hi-fi" component systems, as distinguished from one-piece console radio/phonographs, often used amplifiers derived from public-address applications, but these were soon superseded by true high-fidelity designs, some of which would compare favor-

ably with the best of the best. But what reads STEREO REVIEW must realize, there has been an overwhelming change of emphasis in audio product development and merchandising, stressing home theater and audio/video components and applications rather than the familiar two-channel stereo installation. It would be easy to conclude that classic two-channel stereo music reproduction is obsolete, or at least on the road to obsolescence.

But that's not quite the case. Two-channel stereo is far from obsolete, nor is it likely to be for some time to come. I am not sure at what point there is a crossover between marketing drive and consumer demand, but certainly both are factors in what we are seeing now.

I don't think that the number of home theater installations will ever match the number of traditional stereo

Despite the rise of home theater, classic two-channel stereo music reproduction is far from obsolete, nor is it likely to become obsolete soon.

music installations, for a variety of reasons. It is unlikely, in the current climate, that most people living in the cramped quarters of the city will invest in the expensive systems now being marketed. And let us not forget the "high end" audiophiles who are very much a part of the scene. I suspect that these folks are going to continue to purchase reproductions of loudspeaker and placement imitator standards. It is not the entire view of the general public in layout required for performance, which is the same as that required for a music system. To do this at this point anyway), probably be dedicated to a specific purpose. But how much space and the

cash we'd need to set up separate hi-fi and A/V rooms and components, the best of both worlds?

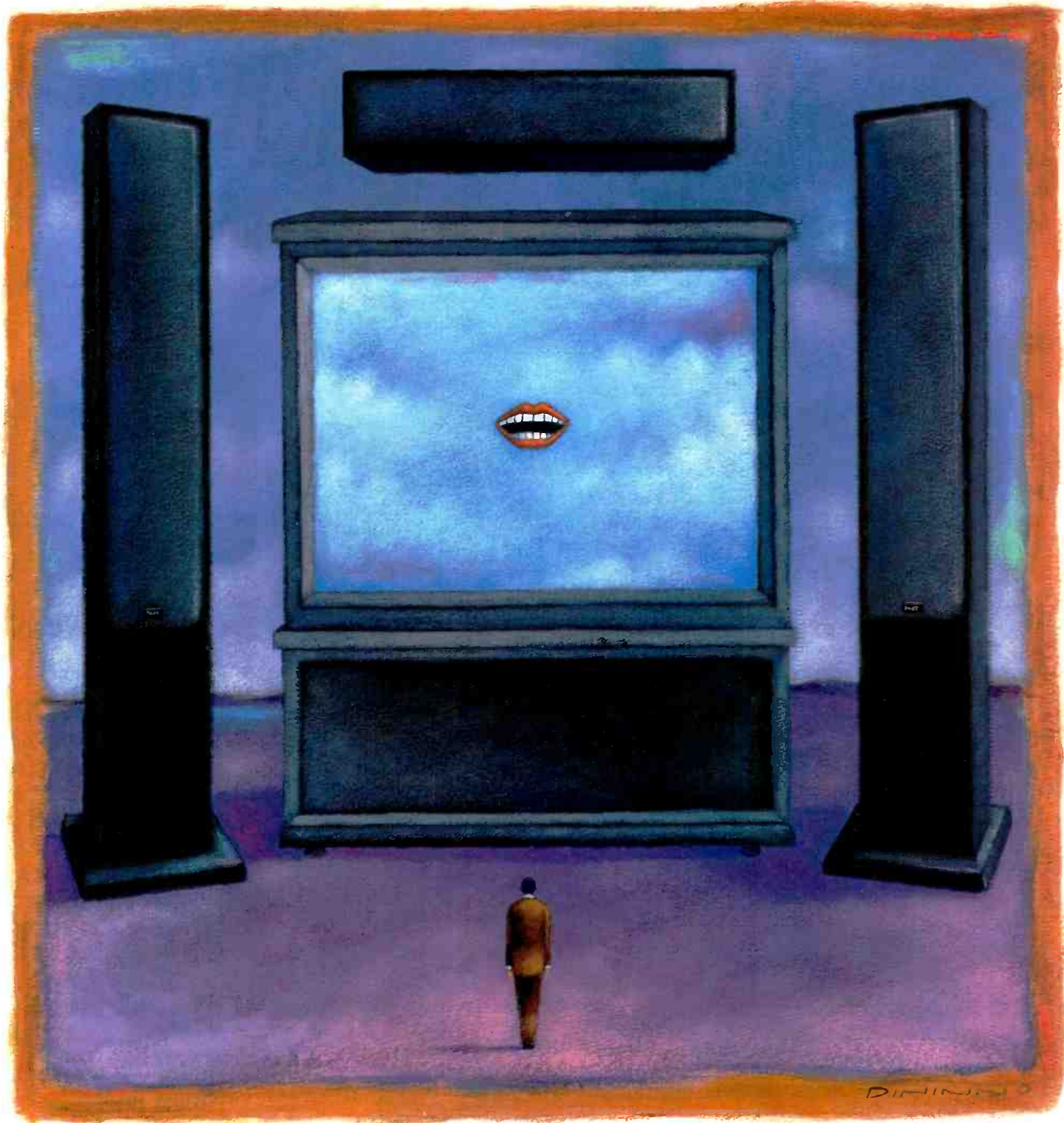
There are strong indications that the industry is addressing these questions. I applaud (and am not surprised by) the growing number of relatively small, affordable, and A/V-compatible speakers that are available today. Together with the corresponding growth in availability of good, moderately priced A/V receivers, they can bring the special qualities of Dolby Surround sound to a wide audience without bankrupting the family exchequer.

Where does this situation leave the true "high end" audiophile? Actually, not in bad shape at all. The audio high end offers (and will continue to offer) a large number of excellent, if costly, components to choose from. The only potential problem a high-ender may face in the future is if he, too, gets bitten by the A/V bug. Unless the victim has the resources to set up an audio/video system whose quality rivals that of his audio system, this could lead to severe aesthetic and financial stress.

Collectors of antique audio components will pay handsomely for such classics as the Brook and McIntosh amplifiers of the late 1940's or the Marantz amps of the early 1950's. They were classics of their time and still

are. I doubt that many of today's components, though vastly superior in design sophistication and sheer performance to their ancient precursors, will ever have the same status. Things are simply changing too fast nowadays, and it takes time for anything to achieve that sort of recognition.

It seems to me that today's A/V systems and components are in much the same state as their early audio ancestors four decades ago. A lot of what they can do is "new and wonderful," especially in comparison to anything the general public has experienced before. But it took some time for hi-fi audio to mature and become attractive and useful (and affordable!) to a large market. In any case, it's clear that the audio/video genie is out of the bottle and won't be returning anytime soon. Interesting times lie ahead! □



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For many speaker designers and manufacturers, home theater is a relatively new idea. But the people who work at Cambridge SoundWorks - including our cofounder Henry Kloss (who also founded AR, KLH and Advent) - have been involved with the concept of home theater from the beginning. In 1969 (years before VCRs and cable TV), Henry Kloss founded Advent, the company that introduced the first home theater audio/video systems - complete with big-screen TVs and digital surround sound. We have had an ongoing relationship with the people at Dolby Laboratories, creators of Dolby Surround Sound, since Henry Kloss introduced the first consumer products with Dolby noise

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Stereo Review said

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Cambridge SoundWorks makes two “dipole radiator” surround sound speakers. Dolby Laboratories recommends dipole radiator speakers for use as surround speakers. *The Surround* has a very high power handling capacity and is often selected for “high end” surround sound systems. *Audio*, describing a system that included *The Surround* said “In many ways the surround sensation was every bit as good as far more expensive installations.” **\$399.99 pr.** The smaller *The Surround II* is arguably the country's best value in a dipole radiator speaker. **\$249.99 pr.**



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Cambridge SoundWorks manufactures four speakers for use as center channel speakers in Dolby Pro Logic home theater systems. All four are



Our Popcorn

Opens The Way To Killer An Affordable Price.” *Stereo Review*

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Pioneer VSX-D3S Audio/Video Receiver

DAVID RANADA • TECHNICAL EDITOR

As the first A/V receiver with built-in Dolby AC-3 digital surround-sound decoding, the Pioneer VSX-D3S inaugurates a major new product category. If Pioneer's initial AC-3 receiver is not a total success, the company still deserves credit for being first to bring AC-3's benefits to the A/V receiver. Every manufacturer will have to go through some AC-3 teething pains as we all get accustomed to the new system.

An AC-3 decoder is a set of digital-signal-processing integrated-circuit chips. In the VSX-D3S, those chips, manufactured by Zoran, are the first ones developed for AC-3 decoding. The same chips also perform Dolby Pro Logic decoding completely in the digital domain, unlike the analog or hybrid analog/digital Pro Logic circuits available in most other A/V equipment. Since at this writing there are no public test materials for AC-3 decoders, much of our instrumented testing of the Zoran chips was done in Pro Logic mode, which at least exer-

cises the same digital-to-analog stages employed by AC-3 decoding. In listening tests, we were able to sample most of the AC-3-encoded laserdiscs released so far.

The "stereo" separation AC-3 gives between the two surround speakers is one of the system's most immediately noticeable characteristics. That separation implies that an AC-3 receiver should have equal maximum power outputs for the five main channels. In a Pro Logic receiver the surround channel is a mono signal, and since it is reproduced over two speakers, each surround speaker requires only half the power needed by a front-channel speaker for the same sound level, at

DIMENSIONS: 16 $\frac{3}{4}$ inches wide, 6 $\frac{3}{8}$ inches high, 16 $\frac{3}{4}$ inches deep

WEIGHT: 33 pounds, 1 ounce

PRICE: \$1,925

MANUFACTURER: Pioneer Electronics (USA) Inc., Dept. SR, P.O. Box 1540, Long Beach, CA 90801-1540

least in theory. So while equal power per channel is a good idea in Pro Logic receivers, it's virtually imperative in AC-3 models. The VSX-D3S is accordingly rated at 100 watts per channel in five-channel surround operation (at a rather high 0.8-percent distortion), or at 130 watts per channel in two-channel stereo mode.

At present you can get an AC-3-encoded signal from only one type of component, a very recent laserdisc player with an AC-3 RF output, and the receiver has a phono jack on the back for such signals. There's also another rear-panel phono-jack AC-3 input, designated DIGITAL IN (TV/SAT) for "future AC-3 system digital TV audio broadcasts," as the manual puts it. The VSX-D3S has neither a coaxial nor an optical input for a conventional digital audio signal, which would have eliminated one stage of analog-to-digital conversion, a possible source of distortion and noise when playing conventional (non-AC-3) soundtracks. Such an input may also have been adaptable to Dolby's proposed digital interface for AC-3 signals. You must in any case hook up both the AC-3 output and the normal analog outputs of your AC-3-capable laserdisc player to the VSX-D3S.

Aside from the two AC-3 connections and a small cooling fan, which is always on and may be audible during very quiet passages, the rear panel of

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TEST REPORTS

the VSX-D3S is utterly conventional. That conventionality extends to the use of pseudo-multiway binding posts as speaker connectors for two sets of left and right main speakers. Despite their impressive looks, these comfortably accept only stripped wires. And even though they have the same output capabilities as the left and right front channels, the surround and center channels use speaker connectors of the snap-clip variety, which are actually less reliable with thick cables than cheaper-feeling spring clips. The principal input and output phono connectors are arrayed vertically, though the composite- and S-video connectors for A/V components are right next to their corresponding audio connectors.

The VSX-D3S provides rear-panel A/V connectors for two VCR's, a laserdisc player, and a TV/satellite receiver or a set-top box. Front-panel phono connectors are provided for a single A/V component, such as a camcorder (composite-video only). Audio-only connectors are provided for a phono cartridge (moving-magnet only), two tape decks, and a CD player.



TV-monitor outputs are fed out on both composite-video and S-video connectors. An FM-antenna F-connector is supplied along with binding posts for a wire dipole FM antenna and an AM loop antenna, both also supplied. There are three AC convenience outlets, two switched and one unswitched, and a phono connector for the single line-level subwoofer output.

The front panel is dominated by two large circles. The knob on the right is the volume control, with a handy position-indicator light. The dial next to it and a couple of nearby buttons are used for the receiver's graphical user interface (GUI, pronounced "gooley"), a very elaborate on-screen menu system. The intricacy stems from the receiver's ability to command virtually every other component in your system that can be remotely controlled by an infrared signal. You can either associate a component's brand name with one of the on-screen control panels provided for every input or, if your component doesn't show up in the menu, use a command-memorization process in which you aim the "foreign" remote at the VSX-D3S and press its buttons. To command external components, the VSX-D3S is supplied with two different infrared repeater modules that plug into the rear panel. One sends infrared radiation around the room, and the other is designed to stick onto the infrared sensor of a single component. The remote-control setup procedure is logical, but

MEASUREMENTS

AMPLIFIER SECTION

All data for two-channel stereo operation.

OUTPUT AT CLIPPING (at 1 kHz)

8 ohms	153 watts
4 ohms	225 watts

CLIPPING HEADROOM (re rated output)

8 ohms	0.38 dB
--------	---------

DYNAMIC POWER

8 ohms	156 watts
4 ohms	242 watts

DYNAMIC HEADROOM (re rated output)

8 ohms	0.8 dB
4 ohms	2 dB

DISTORTION AT RATED POWER

(120 watts, 1 kHz)	0.009%
--------------------	--------

SENSITIVITY (for 1-watt output into 8 ohms)

CD	20 mV
phono	0.8 mV

NOISE (re 1 watt, A-wtd)

CD	-83.6 dB
phono	-72 dB

PHONO-INPUT OVERLOAD

(1-kHz equivalent levels)	
20 Hz	98 mV
1 kHz	98 mV
20 kHz	76 mV

RIAA PHONO-EQUALIZATION ERROR

20 Hz to 20 kHz	±0.2 dB
-----------------	---------

FREQUENCY RESPONSE (tone controls centered)

20 Hz to 20 kHz +0, -0.5 dB	
-----------------------------	--

TONE-CONTROL RANGE

100 Hz	±5 dB
160 Hz (frequency of max. effect)	±10 dB

10 kHz	±8.5 dB
Super Bass maximum boost	9.5 dB at 80 Hz

DOLBY PRO LOGIC PERFORMANCE

FREQUENCY RESPONSE (tone controls centered)

left, right	20 Hz to 20 kHz +0.02, -1.2 dB
center	20 Hz to 20 kHz +0.01, -1.65 dB
surround	20 Hz to 6.4 kHz +0.03, -3 dB

OUTPUT AT CLIPPING (1 kHz, 8 ohms, channels driven individually, 114 volts AC line)

front left, center, and right	135 watts
surround	114 watts

OUTPUT AT CLIPPING (1 kHz, 8 ohms, five channels driven simultaneously, 114 volts AC line)

	90 watts per channel
--	----------------------

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

left, right	-67.9 dB
center	-66.9 dB
surround	-66.4 dB

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

left, right	0.063%
center	0.08%
surround	0.17%

SURROUND-DECODER INPUT-OVERLOAD

MARGINS (at 1 kHz)	
left, right (re 2-volt input)	+0.56 dB
center (re 1.4-volt input)	+3.3 dB
surround (re 1.4-volt input)	+3.4 dB

SURROUND-CHANNEL NOISE-REDUCTION

CALIBRATION ERROR	
re Dolby level (247.5 mV)	+1 dB

CHANNEL SEPARATION (100 Hz to 7 kHz)

left output, right driven	>45 dB
left output, center driven	>39 dB

left output, surround driven	>40 dB
center output, left driven	>37 dB
center output, surround driven	>35 dB
surround output, left driven	>36 dB
surround output, center driven	>34 dB

TUNER SECTION

All data for FM only except frequency response.

SENSITIVITY (50-dB quieting)

mono	20 dBf
stereo	44 dBf

NOISE (at 65 dBf)

mono	-80 dB
stereo	-78 dB

DISTORTION (THD+N at 65 dBf)

mono	0.21%
stereo (mostly pilot leakage)	2.15%

CAPTURE RATIO (at 65 dBf)

	1 dB
--	------

AM REJECTION

	58 dB
--	-------

SELECTIVITY

alternate-channel	65 dB
adjacent-channel	9.5 dB

PILOT-CARRIER LEAKAGE

19-kHz	-36 dB
38-kHz	-47 dB

HUM (120 Hz)

	-75 dB
--	--------

CHANNEL SEPARATION

100 Hz	42 dB
1 kHz	48.5 dB
10 kHz	34.5 dB

FREQUENCY RESPONSE

FM	20 Hz to 15 kHz +0.1, -0.25 dB
AM	100 Hz to 3 kHz +0.5, -6 dB



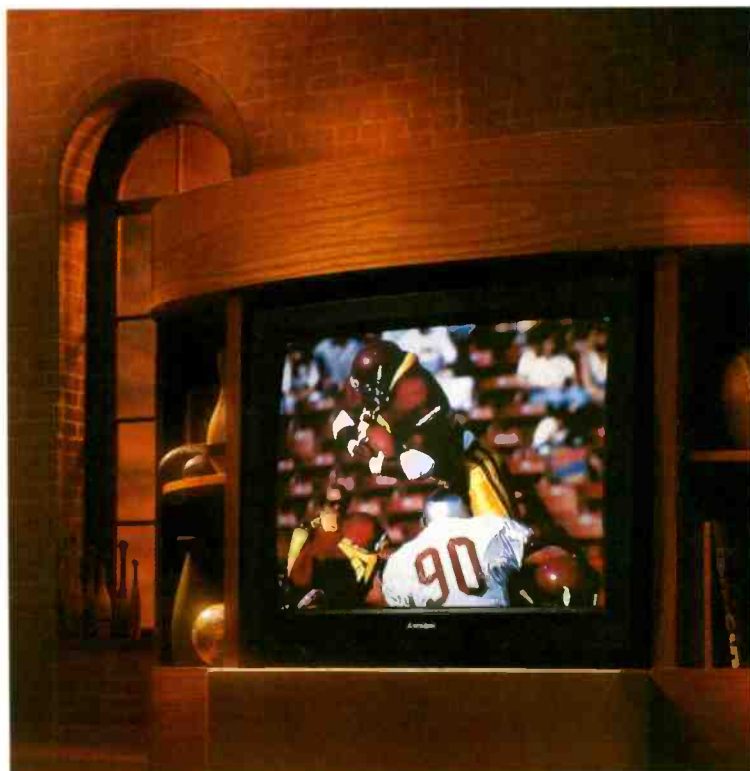
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time-consuming and possibly confusing to someone unfamiliar with graphical interfaces. Fortunately, it need be done only once with each source component.

Pioneer lost a nice opportunity in not making the remote for the VSX-D3S match the dial-and-button system of the front panel. Not only are the front-panel controls much easier and faster to use than the separate left, right, up, and down cursor buttons and enter key on the remote, but the dial could also have served to control the jog/shuttle functions on Pioneer laser-disc players. Another opportunity was lost when Pioneer neglected to use the front-panel dial for tuning the radio sections, just like in the old days. The tuning system supplied is rather clumsy in comparison.

Once we got the system set up for testing, which required hooking up a video monitor and getting thoroughly acquainted with the on-screen menus, we found generally good performance

**Pioneer deserves credit
for being the first
company to bring Dolby
AC-3 processing
to the A/V receiver.**

in all areas. Output power measurements were high and identical for all channels, as promised. But the tests revealed a rise in background noise whenever we switched on any of the digital processing, whether AC-3, Pro Logic, or the music-enhancement modes. The noise shows up in the rather poor measured noise levels for all channels during Pro Logic operation. In our listening tests, the noise was audible enough to be annoying during quiet passages of Pro Logic-encoded music CD's. It was not dependent on the volume setting, since it did not change in audible level even when the volume control was turned completely down.

The noise's omnipresent character, along with the vastly better performance we encountered from the same Zoran AC-3 chips in Enlightened Audio Design's \$7,000 TheaterMaster surround-sound decoder, suggested that the noise was leakage of digital-circuit signals into the analog signal

paths. It did sound pretty grungy — like the background noise from a typical computer sound card, and unlike pure "analog" noise, which is simple hiss. Sure enough, our spectral analysis of the VSX-D3S's background noise when any of the digital processing modes was in use showed the characteristically spiky spectrum of digital-signal leakage. Taking off the receiver's cover and examining the circuit layout revealed ample opportunity for leakage from the digital circuitry. On the other hand, plain two-channel stereo operation, without DSP, was very low in noise.

Aside from the background noise, the receiver sounded spectacular in AC-3 playback, providing the sense of unlimited dynamic range and coherence of spatial effects we have heard in demonstrations of AC-3 by Dolby Labs and others. The overwhelming sonic impact came, however, after a very careful setup of the speakers aided by a microphone and spectrum analyzer. This particular receiver not only deserves such attention but actually requires it because of the strange behavior of its subwoofer output and related circuitry.

The speaker-setup menu screen allows you to switch in high-pass filtering on the front speakers to remove deep bass from the signals driving them; the bass is shunted through the subwoofer output instead. This filtering occurs whenever a "small" speaker is selected in the speaker-setup menu. The cutoff frequency of the high-pass filter is the same as that selected for the low-pass subwoofer crossover frequency. In general, high-pass filtering on the main speakers in a system having a subwoofer is a good idea, since it reduces the possibility of overloading the main speakers with frequencies they cannot handle well. It also increases the effective maximum sound level you can get, as a bass-free signal considerably reduces the burden on a power amplifier.

The problem occurs when you switch from Pro Logic operation to plain stereo. If you have set up your system for proper subwoofer/main speaker balance using small main speakers in the Pro Logic mode, whenever you switch to plain stereo operation both bass balance and bass smoothness will be disturbed because in this mode there is no high-pass filtering. In two-channel mode, the left and right front speakers receive no high-pass filtering regardless of the

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speaker-size selection in Pro Logic mode. The same problem may also occur when switching between stereo and AC-3 operation, but it was difficult to confirm that without access to AC-3-encoded test signals.

There's a second bass-balance problem affecting any switch between plain stereo and Pro Logic (and, again, possibly AC-3) operation: Not only does the switching drop the front-speaker level by around 5 dB, which by itself would be simple to get around with a twist of the volume control, but it also raises the level of the subwoofer output by about 1 dB. In effect, the subwoofer output is *boosted by 6 dB* when going from stereo to Pro Logic operation. Going in the other direction, if you set up your home theater speaker system (including subwoofer) for best response in Pro Logic operation, it will sound decidedly thinner when you switch to stereo mode.

Like most A/V components with a subwoofer output, the VSX-D3S provides no subwoofer test signal in the speaker-balancing test-tone sequence. But the perception of a soundtrack is strongly affected by the bass level, and you can easily get it very wrong without some sort of instrumented guidance. Getting the balance right is especially crucial for AC-3, which can produce very high bass levels — five channels' worth plus the ".1" low-frequency effects channel. You'll need a test disc with low-frequency noise tones as well as a sound-level meter to set up this receiver for the most accurate operation.

Pioneer's manual doesn't mention that the only way you can control the .1 bass-effects channel is via the LFE control in the speaker-mode menu. The LFE control only affects AC-3-encoded material, and turning it to "off" will eliminate the contribution of the AC-3 effects channel. Its "+10" setting, not "0 dB," is the calibrated setting that produces the theatrically correct amount of AC-3 bass-effects signal, provided that all the speaker levels are set correctly and that they can handle the bass. The "0" dB setting actually reduces the bass-effects-channel level by 10 dB.

Another aberration may be not be as minor, depending on the speakers you intend to use with the VSX-D3S. As I mentioned above, the low-pass crossover frequency applied to the subwoofer output is adjustable. You get a choice of three frequencies — 100, 150, and 200 Hz — but no choice of

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S-100B

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—Sound & Image

V-125



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crossover slope, which remains approximately 12 dB per octave. Many larger subwoofers, such as Home THX models, require a lower crossover frequency (80 Hz) and steeper slopes (24 dB per octave). If you use a powered subwoofer, it won't need the VSX-D3S's low-pass filter, but you won't be able to get the line-level subwoofer output to come on *without* Pioneer's low-pass crossover filter in the signal path.

One solution to the larger-subwoofer problem is to set the receiver's subwoofer crossover frequency to 200 Hz and then let the powered subwoofer's crossover operate correctly at its optimal lower frequency (say, 80 Hz). But that won't work if you have selected the "small" setting for any of the front speakers. The front-speaker output will then operate only from 200 Hz up while the subwoofer will operate from 80 Hz down, leaving a gap more than an octave wide (80 to 200 Hz). You'll probably end up using the hookup of last resort: speaker-level connections to the powered subwoofer with "large" speakers selected in the setup menu.

The VSX-D3S is clearly best suited for home theater systems in which the

subwoofer and main speakers operate comfortably with a crossover frequency of 100 to 200 Hz or whose main speakers can withstand very high levels of low bass so that the need for a standalone subwoofer is reduced. Unfortunately, the former requirement rules out the use of many high-quality speaker systems that can handle the

Aside from the background noise, the Pioneer VSX-D3S receiver sounded spectacular in AC-3 playback.

enormous amounts of bass an AC-3 soundtrack can generate. Many of these difficulties would have been eliminated if Pioneer had provided a complete set of pre-out/main-in connections so that a good powered subwoofer's own high- and low-pass filters could be employed instead of the processing in the receiver.

Finally, the receiver's music-enhancement modes sounded exaggerated to me. More adjustability would be useful here, specifically the ability to remove the generated artificial echoes from the front speakers, where they can add too much spatiality to solo singers and soundtrack dialogue. Pioneer's circuitry allows using any of the music-processing modes in addition to AC-3 or Pro Logic, but doing so greatly reduces the intelligibility of soundtrack dialogue, and I would not recommend such combination processing for serious listening.

Dolby's AC-3 system is such a major step forward in home theater sound that every self-respecting home theater enthusiast probably wants to be the first on the block with an AC-3 receiver. But you might want to wait for Pioneer's second generation of AC-3 products. By then, I expect their designers to have ironed out the noise problems we found with the VSX-D3S, to have provided a digital audio input, and to have figured out how a subwoofer output and related matters are supposed to be handled in an otherwise well-performing, topflight A/V receiver. □



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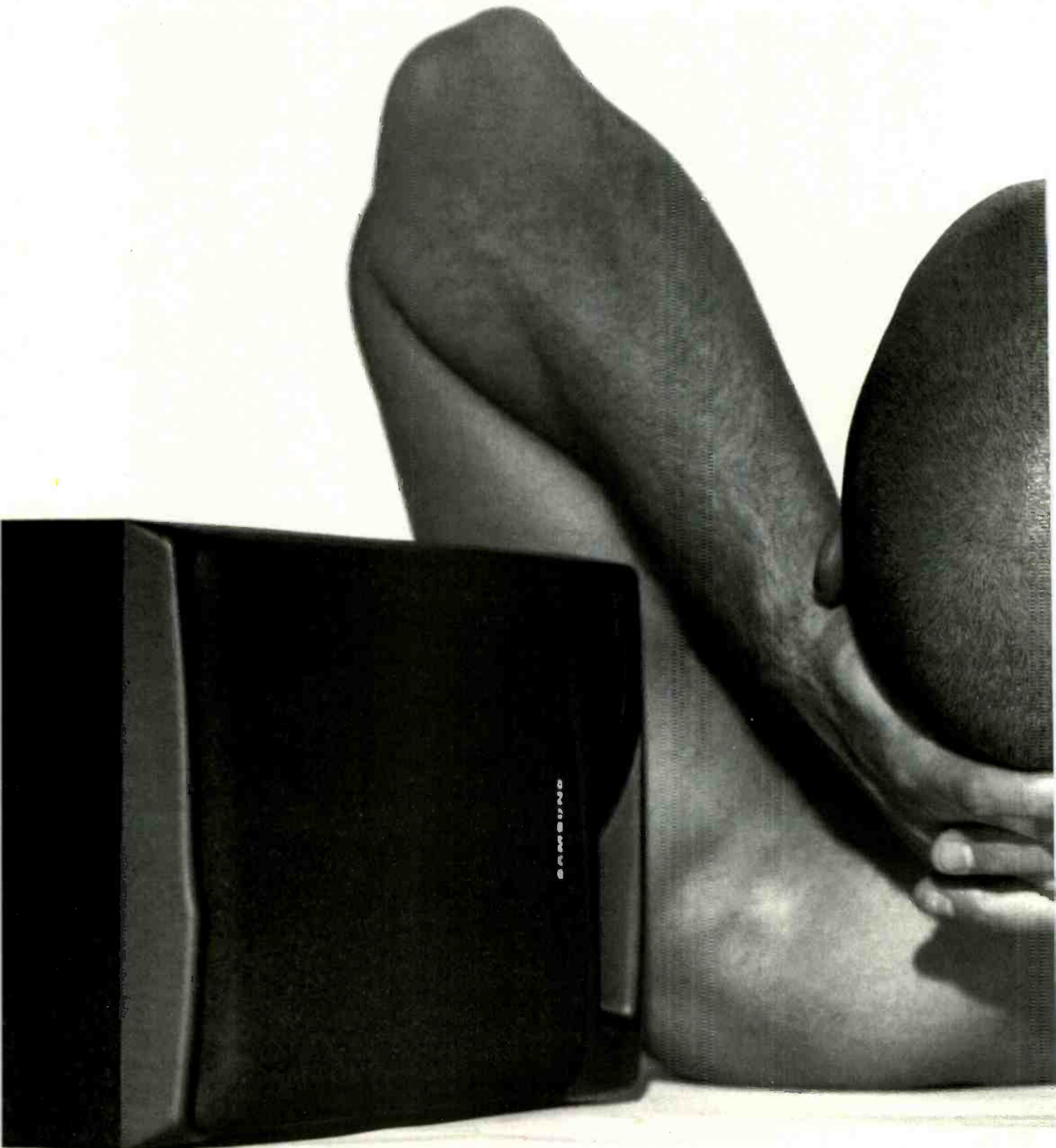
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Onkyo DX-C320 Compact Disc Changer

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The most popular form of multidisc CD player is the carousel changer, typically accommodating three to six discs on a rotating platter that delivers the selected disc to its playing position. Most carousel CD players are also very moderately priced, and they offer not only the flexibility of automatic multidisc playing but also most of the same operating features found in single-disc players.

Onkyo's new DX-C320 is a six-disc carousel changer with an exceptional assortment of operating conveniences. It features single-bit digital-to-analog (D/A) converters, eight-times-over-sampling digital filters, and several proprietary circuits said to enhance the imaging and listening qualities of music recordings.

The DX-C320 allows you to add, remove, or replace up to three discs from the carousel without affecting the playback of a selected disc. It has seven repeat-play modes: one track, one disc, all discs, a selected (A-B) seg-

ment of a disc, a programmed sequence of tracks on any or all discs, a random sequence of tracks from one or all discs, and a random sequence of whole discs. Up to forty tracks can be memorized for playback in any sequence.

A novel Next Selection button can be used while playing a programmed sequence of tracks. It allows you to enter the number of a different track on the same disc for playback when the current track is finished. For convenience in taping from a CD, a Peak Search feature can scan the disc for its highest peak level and play that 4-second segment of the program repeti-

DIMENSIONS: 18 inches wide, 4¾ inches high, 16¾ inches deep

WEIGHT: 16 pounds, 5 ounces

PRICE: \$350

MANUFACTURER: Onkyo,
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NJ 07446



tively while you set the recording level; pressing stop cancels the process.

The front panel of the DX-C320 contains a number of pushbutton controls. The display, in the top center of the panel, shows the complete operating status of the player. The disc drawer, which occupies nearly the full width of the panel, extends forward about 8 inches

when the open/close button is pressed, providing access to three of the disc trays. A Disc Skip button rotates the carousel as required for access to all six positions.

Six Direct Play buttons are used to load any desired disc into the playing position. Below the display window is a row of small buttons that provide direct access to any track of the currently loaded disc. The basic playback-control buttons are identified with standard symbols.

The remote control furnished with the DX-C320, in addition to duplicating the front-panel controls, offers high-speed search in either direction. The remote controls supplied with certain other Onkyo audio components

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Julian Hirsch, Stereo Review

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(identified with an RI) can also be used with the DX-C320.

Our evaluation, using Technics and CBS test CD's, showed the performance ratings of the DX-C320 to be generally conservative and typical of the current state of CD-player performance.

The only respect in which the player fell below "excellent" was in its susceptibility to mistracking from mechanical shocks delivered to its top cover, a large (15 x 18-inch) piece of light-gauge aluminum with no reinforcing ribs. Even a light finger tap on its surface was usually enough to cause mistracking. Fortunately, the front and side panels were sufficiently rigid to prevent problems of this sort in normal use.

The player's laser beam tracked through rather severe errors on the Pierre Verany #2 test CD. It tracked without audible flaws through a 2,400-micrometer signal gap (above-average performance).

The typical time required for a change of disc in automatic operation was about 10 seconds. Opening or closing the disc tray required about 3½ seconds. The ability to add or remove discs while one is playing makes it possible to have an endless music program with a manual change every few hours.

Although most of the player's operating controls involve standard func-

MEASUREMENTS

MAXIMUM OUTPUT LEVEL	2 volts
FREQUENCY RESPONSE	
20 Hz to 20 kHz	+0.2, -0.15 dB
CHANNEL SEPARATION	
100 Hz	102 dB
1 kHz	101 dB
20 kHz	94 dB
QUANTIZATION NOISE	-92.5 dB
DYNAMIC RANGE	97 dB
DISTORTION (THD+N)	
1 kHz, 0 dB	0.003%
1 kHz, -20 dB	0.002%
20 Hz to 10 kHz, 0 dB	0.018%
LINEARITY ERROR (at -90 dB)	0.3 dB
MAXIMUM INTERCHANNEL PHASE SHIFT	3°
DEFECT TRACKING	
Pierre Verany #2 disc	2,400 µm
IMPACT RESISTANCE	top, D; sides, A
DISC-CHANGE TIME	10 seconds

tions, it has enough special features to require some hands-on practice. This is not a CD player that can simply be unpacked, installed in a system, and used with full effectiveness without studying the manual and experimenting with the controls. The time spent will be amply rewarded.

All in all, the Onkyo DX-C320 is a first-rate component, providing a well-balanced combination of versatility, value, performance, and price. □



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TEST REPORTS



DOCK P. LEUNG

Mission 732 Speaker System

JULIAN HIRSCH • HIRSCH-HOUCK LABORATORIES

The Model 732 is one of the smaller models in a new series of loudspeakers from Mission, a well-known British manufacturer. The compact and moderately priced speaker was designed to provide exceptionally extended bass response from a cabinet that Mission describes as "modestly proportioned." It carries a nominal 8-ohm impedance rating and is recommended for use with amplifiers rated between 20 and 100 watts per channel.

The Model 732 is a two-way system operating in a vented enclosure. Its single 7-inch polypropylene-cone woofer crosses over to a ferrofluid-cooled 1 1/8-inch laminated metal-dome tweeter at about 3 kHz. Unconventionally, the tweeter is located *below* the woofer, just above the port, which is also on the front panel. Mission claims that this placement provides optimum time alignment between the drivers and a smooth phase response in the crossover region. The front-mounted woofer port is bisected by a vane said to reduce turbulence that can add noise to the bass output of a vented speaker. Putting the port in front makes it possible to place the

speakers against a wall. Mission recommends a spacing of 4 to 6 inches from the wall, with the speakers facing straight out, not "toed-in," for optimum imaging. It is also suggested that for best performance they should be "run in" with a music program for a minimum of 24 hours.

The particleboard cabinet of the Mission 732 is finished in black ash vinyl. Despite the system's light weight, the enclosure is highly rigid. The speaker panel is a molded-plastic assembly normally covered by a black cloth grille, which is easily removed or replaced. The input terminals, recessed into the rear of the cabinet, are multiway binding posts that accept wires, lugs, or banana plugs. The Model 732's frequency response is

DIMENSIONS: 8 inches wide, 16 inches high, 12 inches deep

WEIGHT: 14 pounds

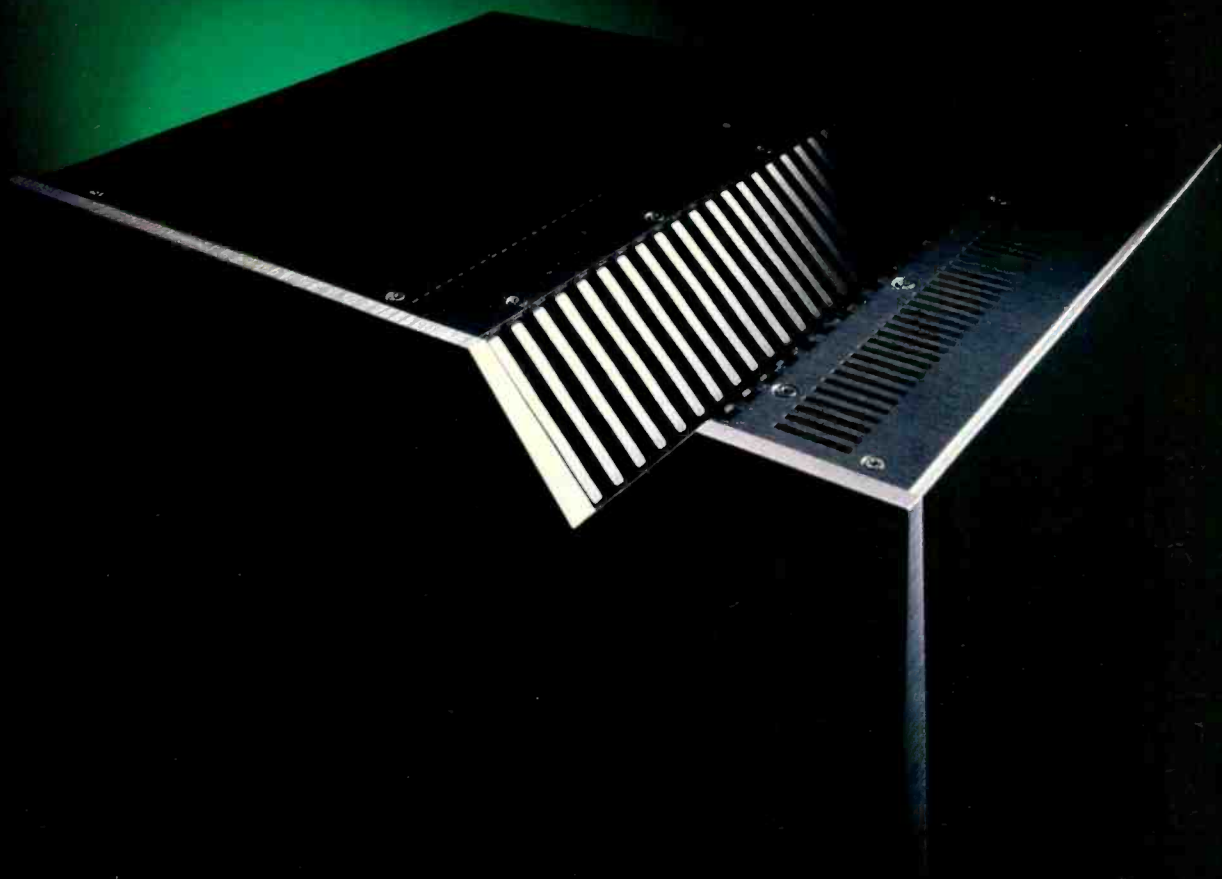
FINISH: Black ash vinyl

PRICE: \$449 a pair

MANUFACTURER: Mission, Dept. SR, 400 Matheson Blvd., #31, Mississauga, Ontario L4Z 1N8

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TEST REPORTS

specified as within ± 2 dB from 70 Hz to 20 kHz, and its -6 -dB point is given as 47 Hz.

Lacking convenient wall space, we installed the Mission 732 speakers on 26-inch stands about 4 feet from the wall behind them and 7 feet apart. It was also impractical to "break in" the speakers for 24 hours, as recommended. Even so, they proved to be every bit as impressive as their manufacturer claimed they would be.

The averaged room response of the pair of speakers, at a distance of about 10 feet, was within ± 3 dB from 55 Hz to 20 kHz. Quasi-anechoic MLS response measurements at distances from 1 to 3 meters gave essentially similar results over this test's effective range of 300 Hz to 20 kHz.

The system impedance reached its minimum of about 5.5 ohms at 200 Hz and a maximum of 25 ohms at 1.7 kHz. The actual crossover frequency could not be established from any of our measurements. The low-frequency impedance response indicated bass resonances at 28 and 40 Hz.

Sensitivity with an input of 2.83 volts of random noise was slightly lower than rated, 87.5 dB sound-pressure level (SPL) compared to the specified 89 dB. Horizontal dispersion at 45 degrees off-axis was good, with about a 10-dB drop at 15 kHz and above, but less than 5 dB at 10 kHz and below. The woofer distortion at an output of 90 dB SPL was between 1 and 2 percent at frequencies above 70 Hz, reaching 3 percent at 50 Hz and 6 percent at 40 Hz.

Driving the Mission 732 with high-power single-cycle tone bursts indicated that it can withstand considerable power input without damage despite its small size. At 1 kHz and above, our amplifier clipped at outputs from 400 to 900 watts without damage to the speakers. At 100 Hz, the woofer cone bottomed with a 145-watt input, well in excess of the system ratings.

In listening tests, the Mission 732 sounded as good as its measurements implied. It was superbly balanced over the audio range, with a sound quality so clean and unstressed that it never gave a clue as to the size (or price) of its source. The bass, in particular, was free of the peaked output, usually between 80 and 200 Hz, that muddies the sound of so many (possibly most) speakers.

When I realized how good the Mission 732 sounded, I set up an A/B comparison with a considerably larger and costlier system that was on hand at the time. Excluding the low-bass range (under 60 or 70 Hz), the Mission speakers held their own remarkably well against this unfair competition. When I combined a pair of subwoofers with the Mission speakers, the two systems were definitely in the same league.

Clearly, the Mission 732 is a truly fine and surprisingly inexpensive speaker system, and a notable value at its price. Putting it through its paces was an enjoyable and educational experience. Hear it if you can, whether or not you are in the market for new speakers. □



TEST REPORTS



NHT SW3P Powered Subwoofer System

JULIAN HIRSCH • HIRSCH-HOUCK LABORATORIES

The NHT SW3P powered subwoofer system departs somewhat from conventional subwoofer design. Instead of the driver and the amplifier/crossover being combined in a single assembly, as most are, they are entirely separate units. This is a very practical solution to the problem of designing a large, heavy speaker driven by a very powerful amplifier in a single structure.

The SW3 speaker unit is a cubical box, 19 inches on a side, attractively finished in glossy black laminate. The sealed enclosure houses a single long-throw acoustic-suspension driver with a 12-inch polypropylene cone. The front of the box is covered by a removable black cloth grille, and its two five-way binding posts are recessed into the rear of the box.

The SW3 is rated to deliver 88 dB sound-pressure level (SPL) at 1 meter when driven with a 2.83-volt signal,

and it carries a power-handling rating of 50 watts minimum, 250 watts maximum. Its impedance specification is 6 ohms nominal, 4 ohms minimum. The SW3P system's low-frequency response is given as 23 Hz.

The SA-3 subwoofer amplifier/crossover is a large, fairly heavy, black-finished unit resembling a typical (rather powerful) stereo power amplifier. Its only visible front-panel fea-

DIMENSIONS: SW3 subwoofer, 19 inches wide, 19 inches deep, 19 inches high; SA-3 amplifier, 4¾ inches high, 17 inches wide, 14½ inches deep

FINISH: SW3, glossy black; SA-3, textured black

WEIGHT: SW3, 66 pounds; SA-3, 22 pounds

PRICE: \$1,350

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

tures are a pushbutton power switch and a large volume knob.

The rear panel of the SA-3 carries all its signal inputs, outputs, and control functions. The speaker terminals are twin binding posts like those on the SW3 speaker module. Standard phono jacks are used for the stereo line inputs (which are blended in the amplifier) and for the pair of high-pass line outputs. The line outputs bypass the SA-3's high-pass filter so that the system's main speakers carry their normal full frequency range. The installation instructions clearly explain the three hookups for the SA-3 — between a system's preamp and power amp, between the pre-out and main-in jacks of a receiver or integrated amp, and at the line-out or subwoofer-out jacks of a receiver or integrated amp.

The rear apron of the SA-3 also contains three control knobs, two that adjust the crossover frequencies and a third that sets the signal phase (relative to the input signal) at 0, 90, 180, or 270 degrees. The adjustable fourth-order (24-dB-per-octave) low-pass filter is continuously variable between 35 and 150 Hz. The high-pass filter can be set for a turnover frequency of 65, 80, 100, 125, or 150 Hz, all with 12-dB-per-octave slopes.

Electrically, the SA-3 has impressive ratings, starting with an output of 250 watts into 6 ohms. Its total harmonic distortion (THD) is rated at less than 0.03 percent at full rated power and less than 0.01 percent at half-power (125 watts).

We measured the SW3's acoustic performance as driven by the SA-3 amplifier. The subwoofer's bass resonance was at 36 Hz, where its impedance was almost 16 ohms. The impedance measured 4 ohms from 70 to 200 Hz, rising to 6 ohms at 50 and 400 Hz.

The close-miked frequency response of the complete SW3P system was within ±1.5 dB from 20 to 55 Hz using the 35-Hz-cutoff switch setting. At the 60-Hz setting it was ±4 dB from 20 to 90 Hz. Distortion (THD plus noise) at a 90-dB SPL was less than 1 percent above 38 Hz, rising to only 4 percent at 20 Hz.

Separate measurements on the SA-3 amplifier, using a 4-ohm resistor load, produced equally impressive results. Its power output at a constant 0.1 percent distortion ranged from 320 to 350 watts over the range of 20 to 200 Hz. The amplifier's low-pass frequency response was flat within better than 0.5 dB from 10 Hz to 20 Hz, rolling off to

approximately -3 dB at the selected crossover frequency. The high-pass characteristics were equally good.

Throughout the measuring and listening process, the SA-3 amplifier never became more than mildly warm to the touch. Although the installation and adjustment procedures are thoroughly covered in the separate instruction booklets for the SA-3 and SW3, no technical information is furnished for the "Class G" amplifier other than the statement that it has "high efficiency." Judging from its cool operation, both on the test bench and in normal use, this claim is well justified.

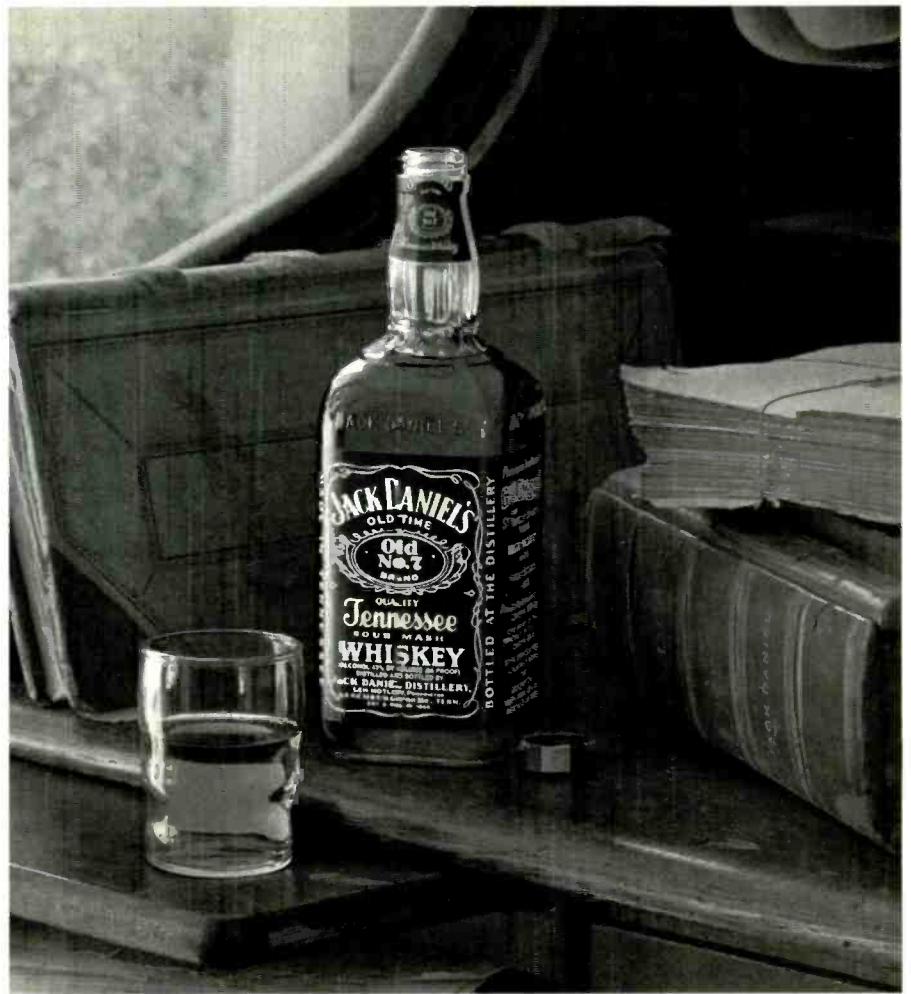
For our listening tests we teamed the SW3P subwoofer system with several small speakers, the kind that can benefit most dramatically from a good subwoofer. The results were consistent with what we had measured from the SW3P alone. The combined system's

**NHT's SW3P system is
a practical solution to the
problem of designing a
large, heavy speaker
driven by a powerful amp.**

low bass reached down to the 20- to 25-Hz region, at ear-popping levels when that was required.

As with any free-standing subwoofer (one not part of a specific speaker system), the SW3P's performance depends strongly on proper setup and careful adjustment. You should be prepared to experiment freely with different recordings and settings of the SA-3's crossover and level controls, as well as with the SW3 bass module's position relative to the main system speakers and the room boundaries. At 66 pounds, the SW3 is not an easy box to move around, and since our room doesn't have a lot of convenient places to put it, we did not experiment with placement as much as one should for a permanent setup.

Nevertheless, it was clear from our measurements and listening both that the NHT SW3P has a strong, clean response through the lowest three audible octaves and that it is one of the more versatile subwoofer systems on the market. It is also attractive enough to earn a visible place in any home listening room. □



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If you think the ultimate speaker system would have a subwoofer, you're half right.

The dual-subwoofer *Ensemble*® speaker system by Henry Kloss. \$599⁹⁹ factory-direct.

Ensemble is Cambridge SoundWorks' very best speaker system. It involves no compromises in performance, no cost-saving shortcuts. As a result, its performance stands head-to-head with audiophile tower speakers selling for well over \$1,000 a pair, yet its unique four-piece design literally disappears in your room.

There is no other speaker system like it.

Designed to perform in your home – not in a laboratory.

It has always been true that speaker placement in the listening room has a significant effect on the sound of any speaker system. No matter how a speaker may perform in a laboratory or a specially-designed showroom, at home the acoustics of the listening room significantly affect the sound.

Most positions in a room where you might place a speaker tend to emphasize one portion of the musical range, and tend to de-emphasize some other portion of the musical range. For example if you place a conventional speaker close to a room corner which will enhance the bass response, that location may hinder the upper ranges of music.

Ensemble's unique four-piece design eliminates this dilemma.

Big sound without the big boxes.

Ensemble consists of four separate speaker units; two for each stereo channel. Two

powerful, but ultra-slim subwoofers reproduce the deep bass, while two compact satellite units reproduce the rest of the range.

By separating the low bass from the rest of the musical range, *Ensemble* is able to reproduce just the right amount of energy across the musical spectrum, without turning your listening room into a stereo showroom.

"Crisp, balanced sound, stereo imaging is phenomenally sharp – some of the best I've heard...some of the speakers I'm comparing it to cost \$1900 to \$2800"

High Performance Review

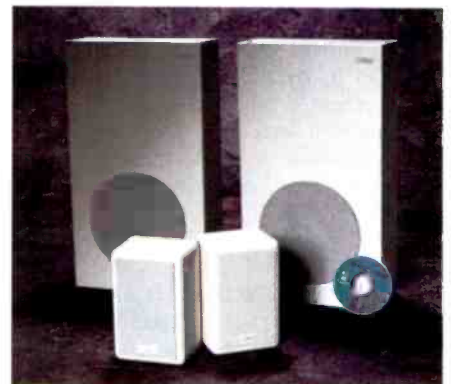
You can place the subwoofers on the floor, up against a wall, or in a corner – all places that allow them to reproduce bass notes efficiently. These locations are also often out-of-sight, which can be a real decorating advantage. The satellite speakers can then be placed out in the room, at ear level, positioned to create a realistic stereo image. They can be hung directly on the wall, placed on shelves, or mounted on stands.

Why two subwoofers?

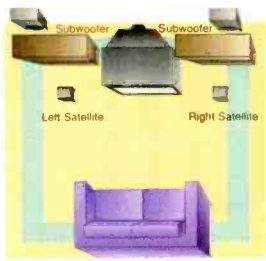
Subwoofer/satellite speaker systems that use one subwoofer can and do sound terrific (in fact, we offer a full range of single-subwoofer systems). But for the ultimate in

brehtaking, accurate sound reproduction, and the most powerful bass performance, you should have two subwoofers. Here's why:

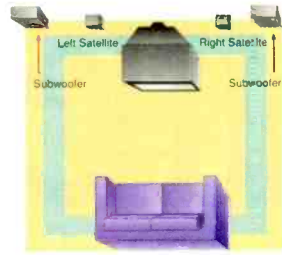
- *Increased sound pressure levels and power handling capability.* Quite simply, *Ensemble's* dual subwoofer system, with its two 8" long-throw woofers, will play louder and take more power than single-subwoofer speaker systems, including our own. This is even more significant if you are using *Ensemble* in a home theater, since authentic low bass sound effects in movies require extra-powerful bass output.



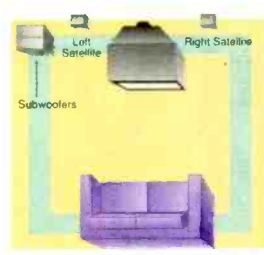
Ensemble is now available with either its original charcoal Nextel finish with black subwoofers, or a new version with white hand-finished satellites and white vinyl subwoofers for no additional charge.



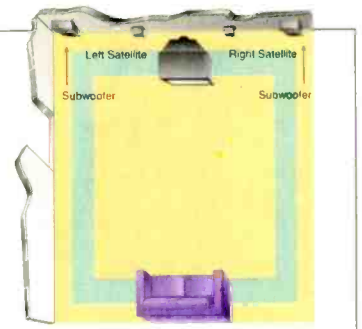
Ensemble's ultra-slim (4 1/2") subwoofers can be put in out-of-the-way places – even behind or under furniture.



Ensemble's dual subwoofers accurately reproduce the stereo bass on some modern digital recordings, adding to imaging realism.



Ensemble's dual subwoofers can be placed together in a corner to achieve very high bass output for reproducing low-frequency movie sound effects with incredible realism.



In larger rooms with big openings into other rooms, Ensemble's dual-subwoofer design assures uniform bass throughout the room.

• *Uniform bass response throughout the listening room.* Depending on room acoustics and speaker placement, a system can produce bass "nulls" and "peaks" in different areas of

Cambridge SoundWorks "may have the best value in the world."

Audio Magazine

a room. Two subwoofers can solve that problem. To quote *Audio* magazine, "At low frequencies, strong and widely spaced room modes are occurring... some locations have a lot of bass while others lack bass. When two subwoofers are placed in the room, better uniformity of bass response is obtained."

• *Ultimate placement flexibility.* It is our experience that room placement is the ultimate key to real-life performance of any given speaker in any given room.

Ensemble offers more

placement flexibility than any other speaker we know of. Its subwoofers are only 4 1/2" thick, so you can actually put them in places where no other subwoofer would fit: under furniture, on top of bookshelves or behind draperies. You can also put one on one side of the room, and the other on the opposite side, which turns out to be correct placement in many cases.

• *Two-channel bass on modern recordings.* Some modern recordings, especially two-microphone recordings of full orchestral works, have stereo bass imaging. *Audio* magazine says, "Using two subwoofers provides more realistic bass and takes



advantage of program material with fully stereo bass."

No compromises. No shortcuts.

Don't be fooled by *Ensemble's* price. It's affordable because of our efficient factory-direct sales system.

• The satellites are genuine two-way designs with separate 4" mid-bass/mid-range drivers and 1 3/4" tweeters with integral domes. The satellite cabinets are solidly constructed of resonance-resistant MDF for optimum acoustic performance. Each one is hand-finished in scratch-resistant, suede-like Nextel or durable white paint.

• The speaker drivers used in the satellites and subwoofers are of the highest quality. The 8" long-throw woofer drivers, designed by Henry Kloss and manufactured by Cambridge SoundWorks, use a unique, integrated heat sink for increased power handling capacity.

• Each satellite and subwoofer contains the precise response-tailoring crossover circuitry it requires. This allows you to choose from several different ways to wire the entire system.

• Both the satellites and subwoofers use gold-plated five-way connecting posts.

• Durable, acoustically transparent metal grilles protect the speaker drivers, instead of the inexpensive cloth grilles used by many systems.

• Last but not least, the entire *Ensemble* system has been painstakingly fine-tuned (or "voiced") by Henry Kloss for proper octave-to-octave tonal balance. Because it

does not give undue emphasis to any one octave of music, *Ensemble* has a rich, natural, accurate sound normally associated with the best (and most expensive) of conventional speakers under laboratory conditions.

"smoother than many more expensive speakers...it is hard to imagine going wrong with Ensemble.."

Stereo Review Magazine

You can spend hundreds of dollars more for a speaker system that doesn't sound as good. Or you can buy *Ensemble*—direct from Cambridge SoundWorks, or at Factory-Direct Speaker Walls in Best Buy stores.



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Ensemble is available factory-direct for only \$599⁹⁹ with a full 30-day risk-free home audition. Listen to *Ensemble* in your home, with your music. If you aren't happy, return it within 30 days for a full refund. We even reimburse your original UPS ground shipping charges in the continental U.S. Call today.

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Are "tower" speakers better?

A great many people presume that very large, very expensive "tower" speakers are inherently better than subwoofer/satellite speakers. Nothing could be further from the truth. If you were to take apart a high quality tower speaker and *Ensemble*, you'd see both use premium quality drivers, crossovers and cabinets. The physical volume of the cabinets

enclosing each speaker driver is carefully matched to the demands of that driver. With *Ensemble* you get all the quality components and precise engineering of premium tower speakers — built into four smaller cabinets instead of two large ones. Separate cabinets give you room placement flexibility to get optimum performance in your listening room.

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with two transformers. One for the analog section and one for the digital section, each housed on separate circuit board assemblies to eliminate EMI and RF interference.

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CIRCLE NO. 4 ON READER SERVICE CARD



BOOK & LENS

Harman Kardon Citation 7.0 Audio/Video Preamp

DAVID RANADA • TECHNICAL EDITOR

With an elegantly minimalist front panel containing a sensual blue and green display, the Harman Kardon Citation 7.0 A/V preamp is one of the most attractive components I have ever tested. Even better is that its beauty extends to the performance and versatility of its circuitry.

The large central window that dominates the front panel contains four displays. On the left is a deep-blue two-line alphanumeric readout, which can be used (after some practice) instead of the on-screen display to adjust many system functions. The color does make the display a little harder to read at a distance than, say, an amber display might be, but it is sumptuous-looking. In the middle of the window is a set of green LED's that indicate the activation of various system functions such as the high-cut or sibilance filter. To the right are two moving displays, mostly green. First is a vertical array of LED's that indicate level, which is most useful for customizing input levels for best noise performance without overload. At the far right is a circle of LED's that show approximately where the preamp's surround processing is steering the sound.

The seven buttons below the display window control the preamp's basic functions. Two are used to select the

input source, and two select from the twelve surround processing modes, eight preprogrammed and four user-programmable. One button turns the full-mute feature on and off, and the last two raise and lower volume. You cannot, however, switch surround processing off from the front panel to get to the preamp's two-channel stereo mode. That can only be done with the supplied infrared remote control, which is also the only means of accessing many of the other features.

Most of those features are concerned with customizing the preamp's factory settings for your system's requirements and your listening preferences. Virtually everything in the operation of the Citation 7.0 is adjustable and the adjustment is memorizable, whether important, like the turn-on volume setting, or unimportant, like the background color of the on-screen display. You encounter this flexibility right off the bat when you start hook-

ing the preamp up and find that the eight inputs, all A/V, do not have fixed labels for specific components, though there are some power-on defaults (Input 1 is initially labeled for a laserdisc player, for example). You can program the labels for each input in the front-panel and on-screen displays after everything is hooked up.

The first four inputs have both S-video and composite-video connectors, and while only one type of video connection can be used with an input at one time, you can select and program the memory for either type. The remaining four inputs have only composite-video phono-type connectors. As with most components able to switch between S-video and composite-video connections, there is no conversion between formats. Two sets of A/V recording outputs are provided, and the preamp will let you record from one input while listening to another. There's also a jack for a small microphone (supplied) used in an automatic speaker-balancing procedure.

There are fourteen audio-output jacks. Two pairs are stereo recording outputs, and the others carry the main-channel and surround-channel output signals, two for the front left and right channels, one for the center, two for "side" surrounds, two for "back" surrounds, and one for a mono subwoofer. The last two provide separate left and right subwoofer outputs for deluxe installations. The distinction between "side" and "back" surrounds was not clearly addressed in the preliminary instruction manual we had. It appears that the two different sets of surround outputs are to be used simultaneously with special Dual Drive sur-

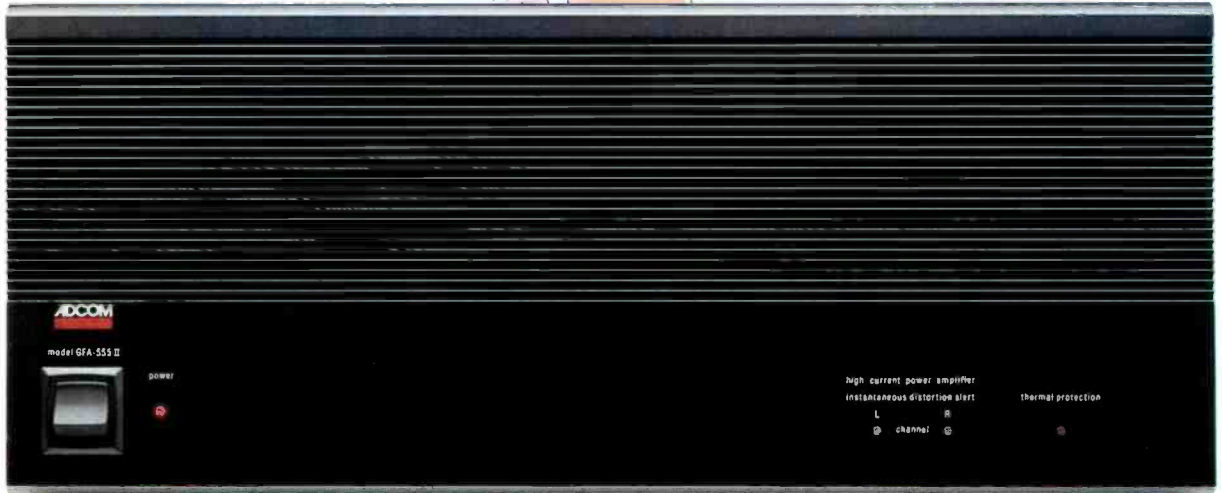
DIMENSIONS: 17½ inches wide,
5¼ inches high, 14½ inches deep

WEIGHT: 18 pounds

PRICE: \$3,550

MANUFACTURER: Harman Kardon Citation,
Dept. SR, 26046 Eden Landing Road,
Suite 5, Hayward, CA 94545.

Bad news.



Adcom's GFA-555II is no longer made.

Good news.



Adcom's new GFA-5500 continues the legend.

The Adcom GFA-555II power amplifier has been legendary among audiophiles and serious music listeners. It set the standard for high end sound at reasonable cost, consistently being compared to amplifiers costing two and three times as much. Now, after years of evolutionary development, its successor is available.

The new GFA-5500 provides 200 watts-per-channel continuous at any frequency from 20 Hz to 20 kHz at 8 ohms. It continues the Adcom tradition of delivering high current into low impedance loads that results in extraordinarily pure, clean, musical sound reproduction. But the big news is its use of the newest hybrid MOSFET transistors, HEXFETS. These all-new devices permit a more efficient circuit board design that leads to shorter power paths

for improved sound. And the really good news is that while providing all the punch and muscle of MOSFETS, they have a remarkable ability to sound as sweet as tubes.

So while audiophiles the world over may be sad to see the end of the legendary GFA-555II, music lovers everywhere can look forward to hearing the sweet power of the GFA-5500. Visit your Adcom dealer and listen. You will hear the details that make a difference.

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TEST REPORTS

round speakers available from JBL (another Harman International company). Otherwise, which set of outputs you should use depends on the type of surround speakers you have (dipole or bi/monopole) and where you have placed them.

The eight factory-preset surround modes are labeled Dolby Pro Logic, THX, 70mm, 6-Axis, Class(ical), Jazz, Rock, and Mono. The THX mode supplies the standard THX re-equalization, timbre matching, and surround-decorrelation processing. The 70mm mode is an enhanced movie-decoding setting providing an extended bandwidth to the surround channels, faster sound steering than Pro Logic, and some blending of the front left and right channels into the corresponding surrounds to increase the sense of spaciousness. The 6-Axis mode is said to be "universal," equally suitable for soundtracks and music. It selectively feeds front left/right signals to the surround channels and is claimed to be able to produce a phantom rear image. All the surround modes delay the signal to the surround speakers, and Classical and Jazz add some artificial reverberation to this delay. Virtually all the characteristics of these modes can be altered by the user and the resulting settings stored as one of four Custom modes.

Separate remote-control buttons can



select Venue (a specific combination of reverb level and decay rate), activate a sibilance filter (to prevent "splatter" of dialogue out of the center speaker), Bass EQ (providing up to 12 dB of boost at 40 Hz in 3-dB steps), and High EQ (a high-cut filter following the THX re-equalization curve in THX mode but a different although similar curve in the other modes). There's also the important Stereo Only button, which immediately switches surround processing on and off without muting.

The only operationally significant parameters that are not adjustable are the crossover frequency of the subwoofer-output low-pass filter and the

corresponding frequency of the five main-speaker high-pass filters that are switched in whenever a subwoofer output is turned on. The filtering is THX-standard, meaning that the crossover frequency is 80 Hz; the low-pass filter rolls off at 24 dB per octave above 80 Hz, and the high-pass filter rolls off at 12 dB per octave below 80 Hz. With a high-performance component like the Citation 7.0, it's only fitting that this filtering is optimal for high-end home-theater speaker systems with their larger subwoofers.

I cannot overemphasize the importance of the Citation 7.0's automatic speaker-balancing feature for adjusting the levels from each speaker in a surround system. It worked very quickly and very well, producing listening-position levels from each speaker — including the subwoofer — that were matched to within ± 1 dB. The subwoofer balance may have to be altered after setup, however, either for reasons of taste (many listeners think flat bass response sounds somewhat thin) or to compensate for a less than perfect tonal match with the main speakers. This can be done either by manually raising the subwoofer level during the speaker-balance procedure or, an easier path, using the Bass EQ control. Bass EQ was also useful in its intended application of giving an impact-improving low-frequency boost to soundtracks.

The Citation 7.0's measured performance ranged from very good to outstanding. Particularly noteworthy were the flat frequency-response figures and the low noise and distortion levels in Pro Logic mode, and the noise and distortion performance in the music surround modes was nearly as good. The data vindicate Harman Kardon's use of true 16-bit digital audio signals in the surround-channel delay circuitry.

In listening tests, the Citation 7.0 sounded as noise- and distortion-free as it measured in both plain stereo and surround operation. Pro Logic decoding was accurate and very clean. The surround-channel decorrelation circuits used in THX processing to produce a greater sense of envelopment from Dolby Surround movies were blessedly free of the all-too-common THX "tunneling" coloration. The 7.0 is one of only two THX processors I have tested that did not turn a surround-channel grand piano into a clanky barroom upright (the other was from Lexicon, yet another sister company of Harman Kardon).

MEASUREMENTS

DOLBY PRO LOGIC PERFORMANCE

All measurements for Dolby Pro Logic decoding except as noted.

FREQUENCY RESPONSE (tone controls centered)

left, right 20 Hz to 20 kHz +0.18, -0.19 dB
center 20 Hz to 20 kHz +0.27, -0.0 dB
surround 20 Hz to 7.4 kHz +0.04, -3 dB

NOISE (re 200-mV output, A-wtd)

left, right -73.9 dB
center -74.3 dB
surround -74.5 dB

DISTORTION (THD+N, 1 kHz, 1-volt output)

left, right 0.026%
center 0.025%
surround 0.088%

SURROUND DECODER INPUT-OVERLOAD MARGINS (at 1 kHz)

left, right (re 2-volt input) +0.95 dB
center (re 1.414-volt input) +4.0 dB
surround (re 1.414-volt input) +0.6 dB

SURROUND-CHANNEL NOISE-REDUCTION CALIBRATION ERROR

(re THX level (141.4 mV input) 0 dB

CHANNEL SEPARATION (100 Hz to 7 kHz)

left output, right driven >44 dB

left output, center driven >44 dB
left output, surround driven >32 dB
center output, left driven >46 dB
center output, surround driven >46 dB
surround output, left driven >39 dB
surround output, center driven >48 dB

THX RE-EQUALIZATION ERROR

(maximum) 0.6 dB

THX SURROUND-EQUALIZATION ERROR

. <0 dB

CONVENTIONAL STEREO PERFORMANCE

OUTPUT AT CLIPPING (at 1 kHz) 9 volts

DISTORTION (THD+N at 1 kHz)
at rated output (6 volts) 0.0216%

SENSITIVITY (for 0.5-volt output)
default setting 100 mV

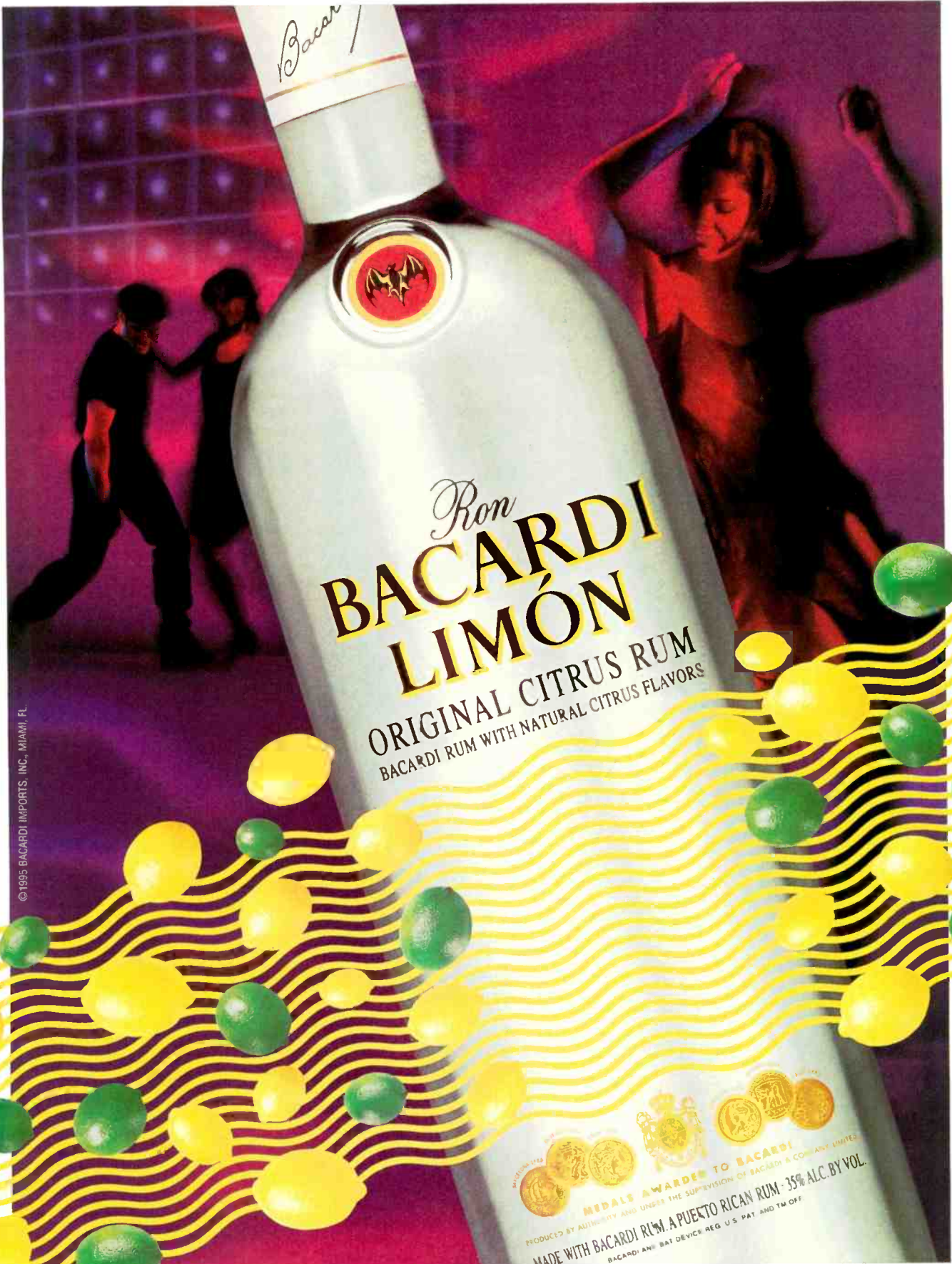
SENSITIVITY ADJUSTMENT RANGE 20 to 197 mV

INPUT OVERLOAD LEVEL
(at default sensitivity setting) 2.07 volts

NOISE (re 0.5-volt output, A-wtd) -82.2 dB

FREQUENCY RESPONSE 20 Hz to 20 kHz +0.15, -0.1 dB

CITRUS ON A NEW WAVELENGTH



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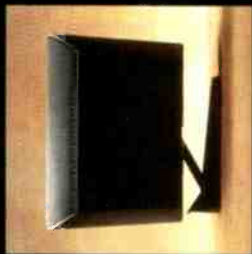
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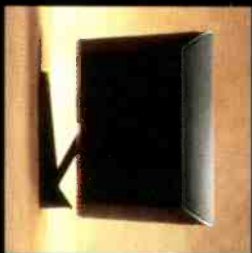


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TEST REPORTS

While not strictly theater-accurate, the 70mm and 6-Axis modes were great fun, depending on the program material. They did not add the spurious "ambience" of a movie theater to soundtracks, which other processors that employ multiple ambient artificial reflections sometimes do. Such reflections can greatly reduce the intelligibility of soundtrack dialogue — which, no matter how hard I tried, I could *not* do with the Citation 7.0's 70mm and 6-Axis modes. Whether you prefer your soundtracks played as they are in a theater (Dolby Pro Logic or THX) or souped-up (70mm or 6-Axis), you'll get better results faster and with less fine-tuning with the Citation 7.0.

Similarly, the music-processing modes provided a superior enhanced musical experience with all music except the pure-acoustical genres. In particular, the sonic image from many pop recordings in the 6-Axis or Rock mode was often entertainingly spread around the room in a very convincing fashion, but again without a spurious sense of acoustic space created by ambience-generation techniques. On the other hand, the sense of you-are-there realism of many pure-acoustical recordings, such as classical instrumentals and some jazz and folk music, was not as great as can be obtained from a good artificial ambience generator. Still, those devices often have difficulty enhancing any music containing singing (such as opera) without sounding cavernous, something that never occurred with the Citation 7.0.

About the only significant feature I found lacking in the Citation 7.0 is Dolby AC-3 decoding. But Harman Kardon says that next spring we can expect the Citation 7.5, a stand-alone device for AC-3 decoding that can also connect directly to the Citation 7.0 so that both can be controlled by the same remote. If I were lucky enough to own a Citation 7.0, I'd be more than willing to wait to add the Citation 7.5 (assuming, of course, that it performs at the same exalted level as the Citation 7.0).

Harman Kardon's designers can be proud of their achievement in the Citation 7.0. Its high performance both in normal stereo operation and in surround playback of soundtracks and music, its ease of setup and use, and its programmable versatility are second to none and superior to most. Combined into one component, the result is unbeatable. The Citation 7.0 is the best A/V preamp I have tested. □

Stereo Review

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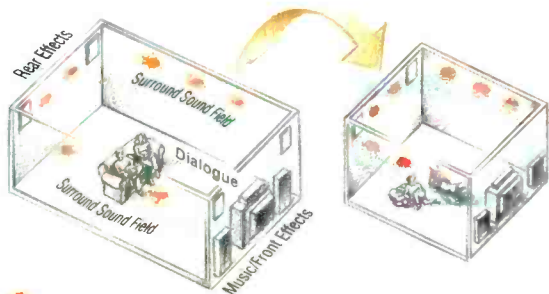
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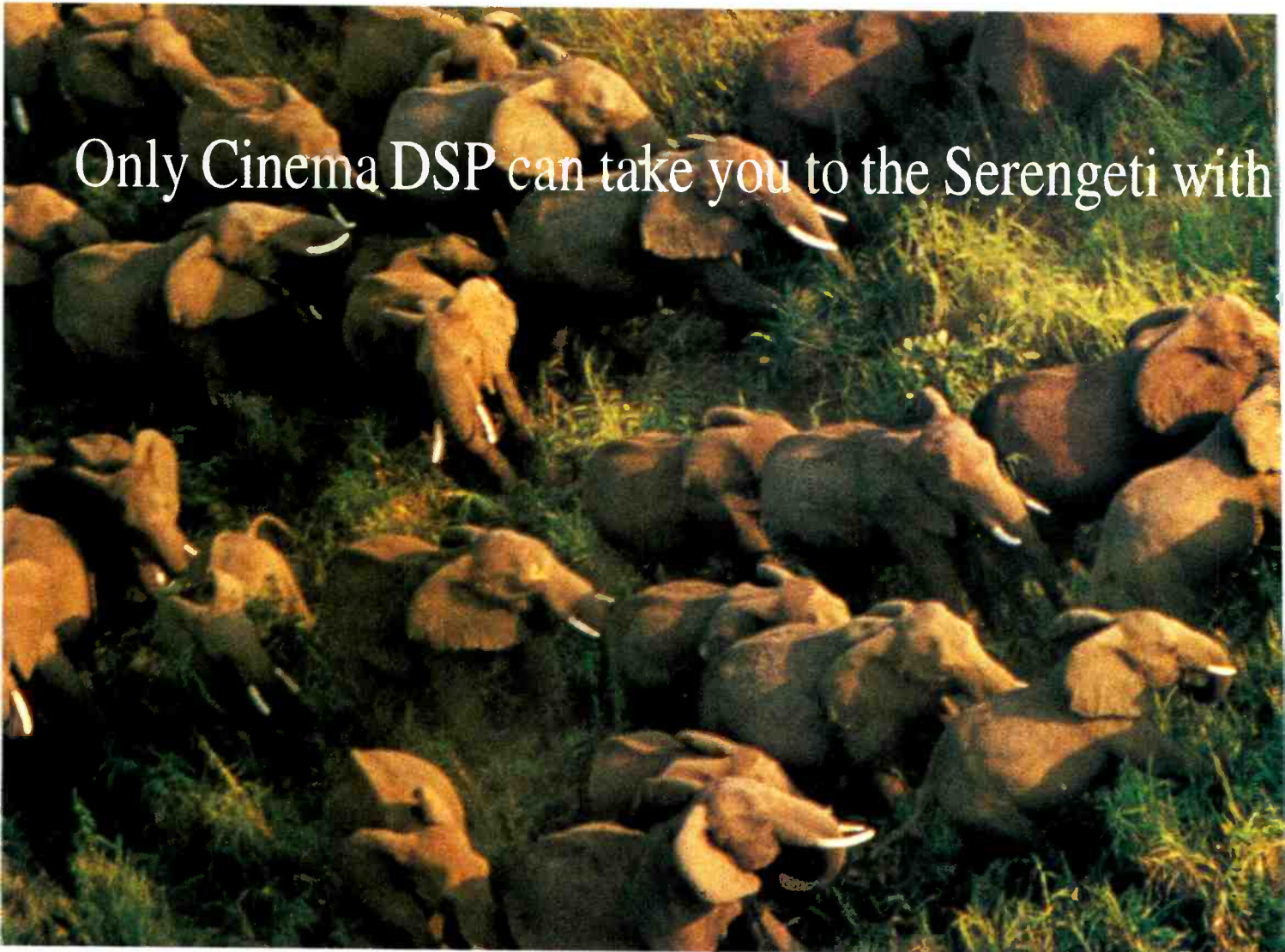
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out a passport, map or shots.

New RX-V290



New RX-V390



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From its debut barely two decades ago, the VCR has delivered on a very simple promise: to provide oodles of entertainment in our homes by letting us watch *what* we want *when* we want. But for many of us, that's no longer enough. Even as the VCR has become an integral part of American life — four out of five of us now own at least one, and the average household rents at least one tape a week — it has developed into a vastly more sophisticated machine. Many of us are now in the market for our next machine and are finding that the latest models can do much more than simply record and play movies and TV shows.

The new generation of VHS Hi-Fi VCR's can drive an awesome home theater, edit home videos, copy one tape to another, and help you navigate quickly through the hundreds of channels now available in the entertainment lanes of the information superhighway. Virtually all hi-fi models now include on-screen menus for ultra simple setup, time shifting, and programming. There are decks that program themselves and set their own clocks automatically using the electronic signals coming over the broadcast airways. (Scrry, comedy writers, the days are numbered for jokes about the infamous flashing "12:00.") There are even VCR's that skip commercials during playback so you can watch your favorite TV shows without interruption.

StarSight's on-screen program guide, displayed here on the Samsung TXB2735 TV, is built into Samsung's VR3905 VCR (top). Other decks shown are JVC's HR-S5200U, Toshiba's M761, and Sony's SLV-78JHF.



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 ren's Prog
 h/Science/
 Talk/Magaz
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 /Romance
 llaneous
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The StarSight program guide is featured in the GVR-E469 from Goldstar (\$550), a model that also offers audio level meters and a multibrand TV/VCR remote with jog/shuttle control.



Hitachi's VTF594A editing VCR (\$499) has a tape navigation feature that displays recording information on screen. Both front and rear A/V jacks are included for easier camcorder hookup.



A Super VHS VCR such as JVC's HR-S5200U (\$850) provides 400 lines of horizontal resolution, suitable for recording high-quality broadcasts delivered via a Digital Satellite System.



The VRT262AT from Magnavox (\$280) is an economy-minded machine that offers on-screen programming as well as a host of automatic features, including digital tracking.

Hi-fi is definitely the way to go if you're in the market for a new VCR. Sure, you can buy a mono machine with two video heads for about \$150, and a four-head mono deck renders better freeze-frames and other special effects for as little as \$200, but for just a bit more cash a four-head VHS Hi-Fi stereo VCR delivers many more features. Since engineers a decade ago began using the entire width of videotape to store the audio portion of a recording, VCR's have been delivering true high-fidelity audio comparable to the sound of compact discs. Prior to this development, audio was carried only on a skinny track on the edge of the videotape. That was okay when just about everyone was playing back tapes through the tiny, tinny speakers on the sides of 19- and 21-inch TV's, before the advent of home theater.

VHS Hi-Fi is the stepping-off point for surround sound, including Dolby Pro Logic, the de-facto standard for the enveloping sound of home theater. Whether you rent tapes at the corner video store or buy them to add to your library, just about all movies on videocassette are encoded with Dolby Surround, so all you have to do is add a surround-sound processor, a few extra speakers, and a big-screen TV to a hi-fi VCR in order to create your own home theater.

There's good news for your pocketbook, too: Prices for hi-fi VCR's now start at under \$300, a terrific value readily appreciated by those of us who bought our first mono recorder ten years ago for twice that sum. Because of the low prices and high-quality sound reproduction, as well as the growing popularity of home theater, hi-fi models now make up about a third of all VCR sales.

Half the models currently offered by JVC, the company that developed VHS and VHS Hi-Fi, are hi-fi units, including the top-of-the-line HR-IP820U (\$600). This model is also the first VCR to feature a new system developed by Gemstar called Index Plus+, which stores program information in a deck's memory when a tape is recorded. That way you can keep an index of your tape library in the machine. Specific program information can be called up on screen at a later time without having to reinsert the tape.

There's evidence that easier-to-use VCR's are making an impact. A study

this past summer by the Electronic Industries Association (EIA) showed that nearly 80 percent of VCR users record programs regularly, and about a third of them tape once a week or more, reflecting the new one- or two-button recording procedures. This data would seem to indicate that the flashing "12:00" can indeed be banished. But if you're still uncomfortable setting the clock on your VCR, several companies have an answer. Auto clock set, a feature first introduced by Sony last year, automatically sets the date and time using signals transmitted over the air by PBS stations. Some stations also deliver the station ID and program title. Sony now offers the auto clock set feature in three models, the SLV-740HF (\$449), SLV-780HF (\$499), and SLV-940HF (\$549).

If you want to view what you've recorded without advertising interruptions, RCA is offering the VR678HF VCR (\$499) with the Commercial Free system, which detects and marks commercial segments on a tape during and after recording so that in playback the VCR automatically skips past them. Three minutes of commercials can be skipped in about 10 seconds, during which time a blue screen is displayed. Instead of skipping all commercials automatically, you have the option of initiating the feature manually (with a single button press on the remote) or quick-scanning commercials on screen.

Among other features of the RCA VR678HF is VCR Plus+, developed by Gemstar a few years back to simplify programmed recording. Gemstar roared ahead of the programming pack by placing its VCR Plus+ codes in newspapers nationwide and signing up virtually all VCR suppliers for the service. VCR users could now tape a program just by punching up a few code numbers. Recent improvements to VCR Plus+ have integrated the control of cable converter boxes while further simplifying the programming process.

Similar quick-record features are being incorporated into advanced versions of on-screen program guides, which are designed to navigate through the many offerings on cable, satellite, and broadcast TV. One such program guide, the StarSight system, began to appear in TV sets last year and is now available in VCR's as well, including Magnavox's VRT762 (\$500), Goldstar's GVR-E469 (\$550),



Mitsubishi's HS-U510 (\$499) has an Active A/V Network for providing a remote link to the company's TV's, plus CenterTrack video heads for optimum performance on lesser-quality tapes.



Panasonic's PV-4564 (\$430) includes the Spatializer system for simulating surround sound from two speakers. The remote provides direct access to a broadcast's Secondary Audio Program.



The Commercial Free system in RCA's VR678HF (\$499) marks advertisements during and after recording. In playback, the VCR skips three minutes of commercials in 10 seconds.



The StarSight-equipped VR8905 from Samsung (\$550) has the company's Diamond Head system, designed to reduce wear and consequently extend the life of the deck's video heads.



Among decks providing the VCR Plus+ programming system is Sharp's VC-H945U (\$410), which also features a trilingual on-screen display (English/Spanish/French) and an automatic head cleaner.



Sony, which introduced the first VCR with automatic clock set, now offers the feature in an expanded line of models, including the SLV-780HF (\$499).



The M761 (\$499) is one of three models from Toshiba that have six video heads and a flying preamp to help improve the picture quality of tapes recorded in the EP mode.



Among the convenience features of Zenith's VR4225HF (\$330) are soft-touch tape loading, a dimmed display when the deck is off, and automatic clock adjustment for Daylight-Savings Time.

Samsung's VR8905 (\$550), Zenith's VR4295 (\$650), and Sony's SLV-980HF (\$699). StarSight provides a color grid of capsule program descriptions and allows the viewer to select programs by "theme" (sports, movies, etc.) or customize the guide to reflect favorite programs. Even better, StarSight enables VCR users to tape programs by simply highlighting the desired program and pressing "record." StarSight is also available in a growing number of TV's and in a stand-alone set-top box. Subscription price for the service is about \$4 a month.

To monitor recordings more readily, Hitachi's VTF594A editing VCR (\$499) includes a front-panel LCD as well as a tape navigation feature that displays on screen the date, time, channel, and recording length when a tape is inserted into the deck. Hitachi also provides a jog/shuttle dial on both the front panel and the remote control for easier home-video editing, plus front and rear A/V jacks for simpler camcorder hookup. Decks that, like the VTF594A, are designed for editing also feature a flying erase head, which follows the same path as the record head, generating more precise edits and thereby eliminating defects such as incomplete scene changes and color smearing.

Manufacturers of VHS Hi-Fi VCR's continue to refine basic video recording technology to deliver better resolution — especially in the EP mode, which viewers regularly choose to triple the recording time of a tape. Toshiba offers VCR's with six video heads and a flying preamp for improved picture quality of tapes recorded in the EP mode. The M781 (\$549) also includes digital technology for reducing picture noise in the luminance and color signals, which is helpful for heavily used tapes, such as rental cassettes and children's videos.

Sharp now equips all of its hi-fi VCR's with 19-micron Exact Track video heads. Thinner than the standard, 26-micron heads, they are designed to give clearer pictures in the EP mode. Sharp's VC-H948U (\$440) also has a trilingual on-screen display (English/Spanish/French), an automatic head cleaner, VCR Plus+ with cable-box control, auto clock set, front A/V jacks, and a high-speed rewind that can completely rewind a 120-minute tape in 2.4 minutes.

"Model Twelve Wins Hands-Down!"

Stereo Review
November, 1995

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CIRCLE NO. 6 ON READER SERVICE CARD

Now that VCR's almost universally offer easy setup, programming, and recording, many are incorporating quite specialized features as well. Panasonic's new line of hi-fi VCR's makes it easier for the visually impaired to enjoy programs. The remote control included with these decks has a dedicated button (dimpled for location by touch) that provides direct access to the Secondary Audio Program (SAP) used on some TV broadcasts for Descriptive Video Services (DVS). Most TV's and VCR's only allow access from an on-screen menu.

Just as the VCR has become more sophisticated in two decades, so have the program sources available to it. Laserdiscs, Hi8 and S-video camcorder tapes, satellite TV, and even

some cable TV systems offer excellent audio and video. If you want topnotch reproduction and you already have a TV with an S-video connector, consider a Super VHS (S-VHS) VCR. For a few hundred dollars more than the standard hi-fi deck, you can get accurate reproduction of programs taped from your 400-line-resolution Digital Satellite System (DSS), dub your Hi8 or S-VHS home-video tapes at comparable quality, or simply achieve the best-quality analog video recording of your favorite TV show. Next year there will be a whole new category of digital VCR's to capture digital signals (see "The 'D' Words" on this page).

RCA says its VR725HF S-VHS VCR (\$699) offers "Digital Satellite System compatibility," with 400 lines

of resolution through the S-video connection. The deck also includes VCR Plus+ with cable-box control and a remote with digital jog/shuttle control for frame-by-frame viewing.

For added convenience in dubbing, Go-Video and Goldstar offer several dual-well VCR's that allow one-button copying from one tape to another. The 8mm-to-VHS GVR-DD1 from Goldstar (\$900) is a mono unit, but the company expects to market a hi-fi model next year. Go-Video's GV-4060 (\$899) includes two four-head hi-fi decks for VHS-to-VHS dubbing, while the GV-8050 (\$1,099) makes 8mm-to-VHS copies and, combined with a computer and special software, can serve as part of a very simple yet flexible video editing system. □

DVD, D-VHS, and DVCR

VIDEO IS GOING DIGITAL, PROMPTING many viewers to wonder about the future of videotape. Every day it seems we hear about new digital technologies — tiny satellite dishes, compact digital videodiscs (DVD's) — that will relegate videotape to the realm of quaint, formerly dominant technologies, alongside the vinyl LP and black-and-white TV. Indeed, DVD players have been promised for next year at prices around \$500, and the five-inch digital discs will begin showing up in video stores.

Still, tape lovers need not worry. Videotape will be around for a long time — and it's already adapting for the digital age. By this time next year you should be able to walk into a store and buy a D-VHS VCR. In this case the "D" means "data," not "digital," referring to the standard developed by JVC that essentially modifies a Super VHS (S-VHS) machine to record and play back a digital bitstream imported from a Digital Satellite System (DSS) or other digital source. Thomson Consumer Electronics, which markets RCA, Proscan, and GE, says it will introduce a D-VHS VCR next year for under \$500, and JVC intends to have its first model ready by the end of 1996.

On the other hand, some observers maintain that a D-VHS VCR will just be an interim device until a true digital VCR (DVCR) comes on the market in another year or two. DVCR's will themselves have the technology to decode the compressed video signals that will be the mainstay of the digital video era. Compression is one of the key enabling technologies of digital video transmission and storage, and it has progressed rapidly in just the past two years. At last winter's Consumer Electronics Show in Las Vegas, Sony demonstrated a DVCR that rendered resolution every bit as impressive as that of the DVD players also on display.

Nevertheless, in the past two decades most American consumers have voted with their wallets for the "just okay" picture quality of standard VHS over the higher-resolution images provided by the more expensive laserdisc and S-VHS formats, so the appeal of digital technology's spectacular pictures is still a big question. The real benefits of DVCR's — in fact, of all digital video — will most likely lie in the vast capacity for storage, the readiness for manipulation, and the relative ease of high-quality transmission.

— J.B.

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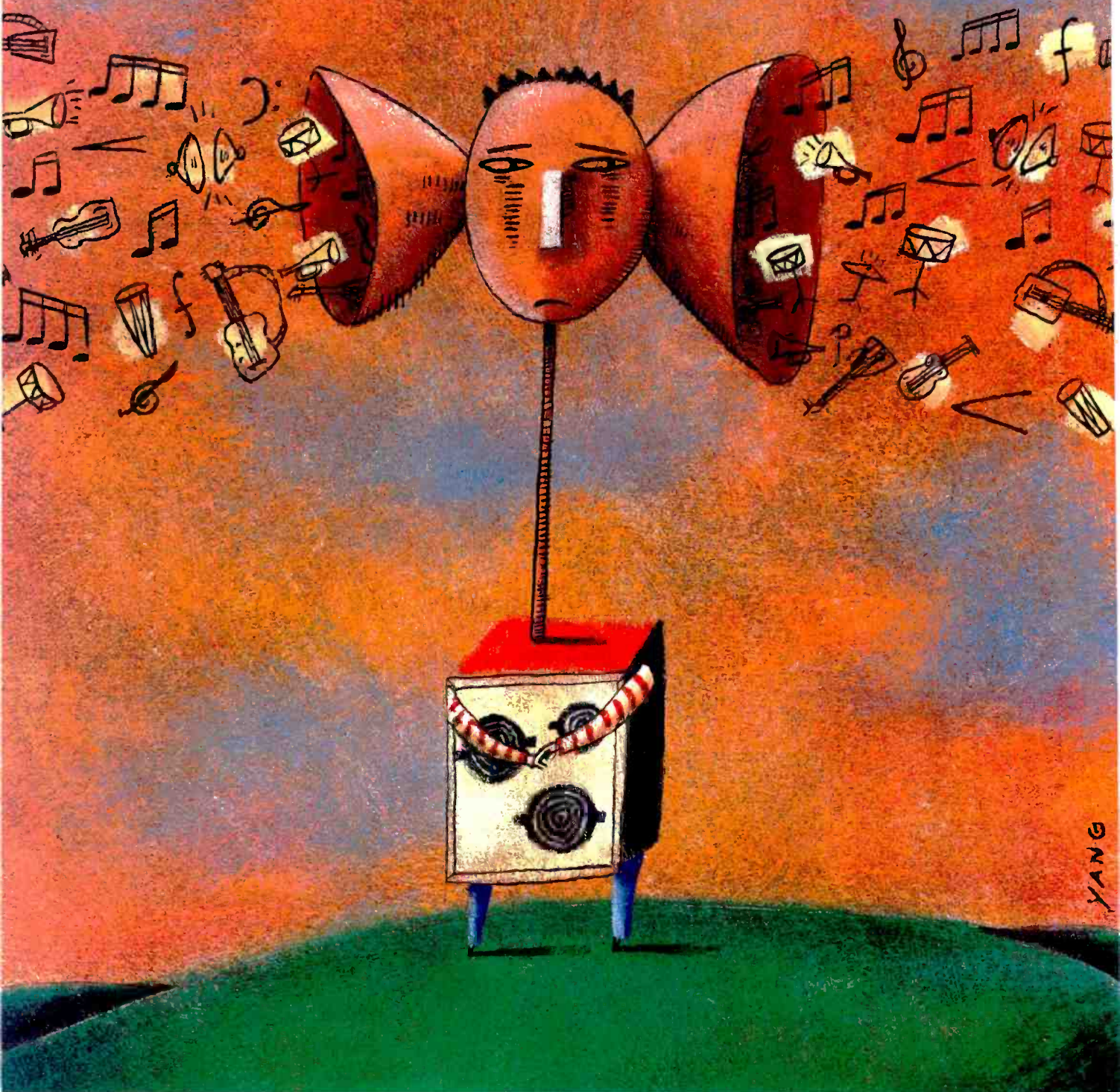
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CIRCLE NO. 6 ON READER SERVICE CARD

Critical



YANG

Listening

by Howard Ferstler

A Comprehensive Guide

The purpose of a high-fidelity system is to deliver accurately reproduced sound to the listener. Consequently, it should make itself as invisible as possible, enabling discs, tapes, radio — or even video programs — to be enjoyed to the fullest.

There are times, however, during the arrangement of equipment in one's home or when shopping for new gear, when it is important to ignore art and listen to the sound of the equipment. Even when you are fully satisfied with your equipment and its installation, it is a good idea occasionally to devote some time to cold-blooded analysis of how well it is operating. When you do that systematically, you are engaged in critical listening. Our goal here is to explain what to listen for, share some techniques, and suggest some recordings you might find useful.

What It's All About

It is important at the outset to understand what you can realistically expect to achieve by means of critical listening, for although the ear is the ideal tool for certain types of audio detective work it is not very efficient at all for others. In the case of most basic electronic audio components, such as amplifiers and CD players, a characteristic "sound" is rare with modern equipment. If you hear something amiss, it is usually a malfunction of some sort or an indication that the component is misadjusted or being operated beyond its limits (demanding more output from an amplifier than it

can deliver, for example). It is even possible in the process of listening intently for your imagination to fill in the blanks for uncooperative reality.

So except in pathological cases, most of the things you might want to know about the performance of primarily electronic components (amplifier power, tuner sensitivity, and so forth) are more readily and reliably determined by lab testing than by ear. You certainly will not be able to pinpoint the very low-level distortions introduced by typical, well-adjusted electronic gear.

Loudspeaker performance and room/speaker interactions are another matter completely. Complex radiation patterns, irregular frequency response (at least relative to electronic components), wall and floor reflections, and varying levels of distortion can make it difficult to correlate what is measured with what is heard. This is the realm in which a trained, attentive ear is supremely valuable. Once the quality of the electronic components is deemed adequate, critical listening will mostly involve the subjective, but disciplined, evaluation of loudspeaker systems in suitable rooms.

There are a number of things to consider when critically listening to a sound system. One major factor will be whether the listening room itself works with the hardware or against it. That is obviously important when setting up, adjusting, or relocating an existing set of speakers, but it is also vital when shopping for them.

Although many high-end audio specialty shops have impressive auditioning rooms that complement the behav-

ior of some speakers, the almost recording-studio quality of such setups eclipses what most listeners have available at home. Typically, such rooms have sound-deadening or sound-scattering panels installed in well chosen but visually unsettling locations, and the room size, shape, and overall decor may dictate speaker positioning that is rarely feasible in a home environment. Therefore, despite their often impressive acoustic credentials, many high-end-store listening rooms are not suitable for critically evaluating speaker systems designed for the home.

On the other hand, most mainstream audio and audio/video stores (particularly those that also sell appliances) have environments that are acoustically inferior to what nearly any enthusiast will have at home. At such establishments, auditions often take place in large, noisy, acoustically live rooms that work against speaker systems designed for use in home listening situations. In addition, it may not be possible to place two pairs of speakers optimally for a decent comparison, and the amplifiers employed, often working in conjunction with a flimsy switch box and dozens of feet of small-gauge "speaker wire," may lack the power to drive some systems to adequate levels in the large, noisy space.

Although it probably won't hurt to engage in casual comparison listening in such environments, the smart equipment shopper will make it a point to do serious critical listening in a more workable area. If the dealer's demonstration room is not satisfactory (and a good dealer will be aware of that), it may be possible to borrow a couple of

Critical Listening

systems to try out at home. That may be a lot to ask of a chain-store sales clerk, but many specialty shops will let you try certain floor models at home — if you are a regular customer, look clean, and leave a deposit.

Once a decent environment is available, another consideration will be the recordings listened to. Poor ones may simply reveal their own shortcomings rather than the imperfections of the equipment. Indeed, good, nuance-revealing speaker systems may sound worse than inferior ones if the recording itself is bad. Try to familiarize yourself with a number of good releases and use those as measuring rods during your evaluations. Even before you turn the hardware on, the art of critical listening requires good recordings and a room you're familiar with.

When developing your critical-listening faculties, whether to critique or properly install your present system or simply to refine your shopping proficiency, there is no substitute for practice. It pays to cultivate your listening skills before shopping for any kind of hardware, particularly speakers.

What to Listen For

When practicing it is important to be aware of the following aspects of performance.

■ **Smoothness.** Nobody will dispute the value of smoothness when it comes to speaker sound. Just what is this quality, though? One way to recognize it is to familiarize yourself with the sounds of speaker systems that have received outstanding reviews. Better, though, is to have some familiarity with the real thing: Attend a live concert or two (symphonic, jazz, folk music, whatever) where nonelectric, acoustic instruments and unamplified singers are performing. Then, as soon as possible after a performance, audition a top-quality recording of similar music on a good system.

With a proper recording, a smooth-sounding system will not emphasize any particular part of the audible bandwidth. The treble will not be harsh or projected, the midrange will not be heavily emphasized (or suppressed), vocals will not have a nasal or buzzy quality, and the bass will be naturally full when called for but will not boom or intrude excessively.

A jazz album that sounds smooth on any fine system is Joe Williams's "I Just Want to Sing" (Delos 4004), and Not Drowning, Waving's "Claim" (Reprise 26181) is a rock CD with

POP RECORDINGS FOR CRITICAL LISTENING

Because of the elaborate multiple-microphone techniques used for most pop-music recordings, relatively few will deliver the soundstage "realism" found in many classical releases. But a good number do have plenty of dynamic impact, bandwidth, and clarity, and some do present a decent soundstage. Here are a few that can help you in the exercise of critical listening. Although their strengths vary, most display a balance of good focus (particularly with piano and drums when those instruments are present), precise imaging, decent stage depth, and often substantial dynamic impact.

Warren Bernhardt: *Heat of the Moment*. DMP CD-468.

Jim Brock: *Tropic Affair*. Reference Recordings CD-468.

Matt Catlingub: *Your Friendly, Neighborhood Big Band*. Reference Recordings RR-14CD.

Donald Fagen: *Kamakiriad*. Reprise 45230.

Flim and the BB's: *Vintage BB's*. DMP CD-486.

Peter Gabriel: *Security*. Geffen 2011.

George Gershwin: *Piano Improvisations*. Special Music 6039.

Tom Harrell: *Passages*. Chesky JD-64.

Dick Hyman: *From the Age of Swing*. Reference Recordings RR-59CD.

Janis Ian: *Breaking Silence*. Morgan Creek 20023.

Sara K.: *Play on Words*. Chesky JD-105.

Chuck Loeb: *Balance*. DMP CD-484.

Van Manakas and Jim Brock: *Letters from the Equator*. Reference Recordings RR-56CD.

Bonnie Raitt: *Luck of the Draw*. Capitol 96211.

Oystein Sevag: *Link*. Windham Hill 11123.

Bobby Short: *Swing That Music*. Telarc 83317.

The Timeless All-Stars: *Essence*. Delos 4006.

Jennifer Warnes: *The Hunter*. Private Music 82089.

Phil Woods: *Here's to My Lady*. Chesky JD-3.

Yellow Jackets: *Four Corners*. MCA 4994.

ZZ Top: *Antenna*. RCA 66317.

notable smoothness, as is Billy Dean's country-and-western "Fire in the Dark" (Liberty 98947). An excellent example of smoothness in a classical vein is the Chandos CD (8849) of Mussorgsky's *Pictures at an Exhibition*.

■ **Clarity.** For some people, this aspect of performance is the very definition of high fidelity. Yet clarity can be a tricky item. Some highly regarded speaker systems, because of the shape of their radiation patterns or the slope of their direct-field midrange frequency response, have the ability to produce almost headphone-like clarity — an effect that surpasses what would be encountered in a good mid-hall seat at a live performance. In addition, some listeners sit very close to their speaker systems, and that will always have a profound effect on perceived clarity. Some speakers withstand close-up listening better than others.

Actually, many listeners, particularly those who have never attended a live acoustic performance in a good hall, would be shocked by how "muffled" a live presentation may sound in comparison with a typical recording. When playing a good recording, a well-designed pair of speakers with flat, smooth output both on- and off-axis will present a blend of ambience and clarity that mimics a good live performance. A clear-sounding system will not sound muffled and yet will also not be overly crisp, brassy, or strident. Finally, when listening for clarity pay attention to the system's behavior at high listening levels. Some amplifiers will overload at such outputs, and when that happens even a good pair of speakers can seem to muddy up.

Fred Hersch's "Forward Motion" (Chesky JD-55) is a jazz recording that will demonstrate the clarity potential of any sound system, and Annie Lennox's "Diva" (Arista 18704) displays excellent pop-music clarity. The Boston Pops' "America, the Dream Goes On" (Philips 412 627) reveals excellent clarity throughout.

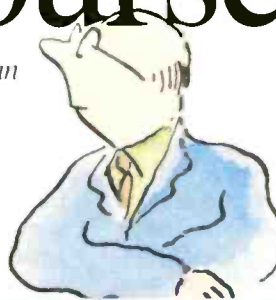
■ **Bandwidth.** Using recordings with a wide frequency response, particularly in terms of deep bass, note whether the system covers the frequency extremes that your musical tastes demand. With a recorded segment having a good deal of treble energy — clashing symbols or a triangle, for instance — listen for a sense of detail and articulation, as opposed to a muffled blur. Note also if the middle bass is boomy, because many speakers have peaks in that range, giving the

We couldn't have said it better ourselves.

— excerpts from *Audio Magazine*, by Anthony H. Cordesman

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Critical Listening

impression of punchy, deep bass even though the fundamentals may not be accurately reproduced at all.

An excellent bandwidth test, particularly for the deep bass, is Flim and the BB's "Big Notes" (DMP CD-454), with its sub-25-Hz synthesizer tones, and Rickie Lee Jones's "Traffic from Paradise" (Geffen 24602) also has an impressive frequency spread.

■ **Distortion.** In speaker systems, midrange and treble distortion will usually not be apparent until very high listening levels are achieved. At normal levels, most of the unpleasant speaker artifacts we hear in the range above the bass have to do with non-uniform dispersion, irregular frequency response, or room influences. Much

of the actual "distortion" we hear at high levels may be the amplifier clipping — when, for example, a cymbal clash takes on a splattering sound.

With the volume cranked up, few recordings will exercise the midrange and treble potential of an amp/speaker combination better than Bob Mintzer's "Art of the Big Band" (DMP CD-479), Cedar Walton's "Cedar Walton Plays" (Delos 4008), or the Reference Recordings (RR-57CD) release of John Rutter's Requiem.

Bass distortion, on the other hand, may be fairly easy to detect, and some speaker systems will have significant amounts of it at very low frequencies, particularly at high sound levels. Amplifier clipping can also simulate

woofer-distortion problems. When evaluating any system make it a point to listen to one or two recordings with extremely deep bass. Even if you do not plan to listen to pipe organ, bass drum, or synthesizer, a system that can handle the very low frequencies will have less trouble with those an octave or two higher, especially at high levels.

Few recordings will surpass the bass force of the Argo recording (414 420) of organ works by Felix Mendelssohn, with its powerful sub-20-Hz organ pedals. Try Track 8 for a real woofer-workout treat. Another recording that will test the limits of both woofers and amplifiers is the Telarc CD (80041) of Tchaikovsky's *1812 Overture* and *Capriccio Italien*, with its sub-20-Hz cannon (including some fundamentals to below 15 Hz).

■ **Imaging.** Depending on a multitude of factors, a recording may have as much impact on soundstage focus as the speakers. Indeed, recording engineers often work to highlight the positioning of performers who would ordinarily be pinpointed by visual cues at a live performance.

At the playback end, it is important to remember that speakers with somewhat narrow midrange and treble dispersion, at least in rooms that mask off-axis irregularities, may have the ability to focus individual performers more accurately or specifically than wide-dispersion systems. Nevertheless, the latter, while still imaging adequately, may do a better job of simulating the acoustical blend of live-concert sound in the vast majority of listening rooms. What is most critical is whether the images formed are stable. Speaker systems that image well in normal rooms — those with uniform off-axis radiation — will not generate vague or shifting sonic images with a good recording.

As an example of what to listen for, it's hard to imagine a recording that delivers better focus than Paco Peña's guitar CD, "Misa Flamenca" (Nimbus 5288), and Laverne Butler's "Day Dreamin'" (Chesky JD-117) is a fine example of more popular fare with fine imaging.

■ **Depth and Ambience.** As with left/right imaging, this aspect of performance will be strongly influenced by the source material. Recordings made with "minimalist" techniques will nearly always do better here than

CLASSICAL RECORDINGS FOR CRITICAL LISTENING

The advent of the compact disc led to the creation of a multitude of expertly made recordings that can highlight the qualities of a good system. Each of the CD's below has its strong points, but all display a well-focused soundstage (especially when solo performers are involved), balanced tonality, good environmental ambience, and an outstanding sonic blend, along with fine clarity and an often exciting dynamic range. Except where noted, these are orchestral recordings.

William Alwyn: *Symphony No. 3; Violin Concerto.* Chandos 9187.

American Tribute. Summit 127.

Arie Antiche. Claves 50-9023 (vocal and harpsichord).

Johann Sebastian Bach: *Orchestral Suites.* Hyperion 66701/2.

Bela Bartok: *Miraculous Mandarin.*
Zoltan Kodaly: *Hary Janos; Dances of Galanta.* Delos 3083.

Aaron Copland: *Rodeo; Billy the Kid; El Salón Mexico; Danzón Cubano.* Argo 440 639.

Peter Maxwell Davies: *Strathclyde Concertos Nos. 3 and 4.* Collins 12392.

Norman Dello Joio: *Antiphonal Fantasy on a Theme of Vincenzo Albrici.* **Robert Planel:**

Concerto for Trumpet and Strings. **Vincent Persichetti:** *The Hollow Men.* **Charles Ives:** *Variations on "America."* Summit 145.

Fiesta. Reference RR-38CD.

George Frederic Handel: *Water Music.* Harmonia Mundi 907010.

Joseph Haydn: *String Quartets, Op. 54, Nos. 1 and 2.* Deutsche Harmonia Mundi 77028.

Franz Liszt: *Piano Concertos Nos. 1 and 2; Hungarian Fantasy; Totentanz.* London 433 075.

Gustav Mahler: *Symphony No. 3; Kindertotenlieder.* Chandos 9117/8.

Wolfgang Amadeus Mozart: *Die Zauberflöte.* Telarc 80302 (excerpts, 80345).

Sergei Prokofiev: *Alexander Nevsky.*
Dmitri Shostakovich: *Symphony No. 9.* Dorian 90169.

Jean Philippe Rameau: *Pièces de Clavecin; Suite in A Major.* Reference RR-27CD (harpsichord).

Maurice Ravel: *Shéhérazade; Ma Mère l'Oye; La Valse.* EMI 54204.

Nikolai Rimsky-Korsakov: *Scheherazade; Russian Easter Overture.* RCA 61173.

Gioacchino Rossini: *Arias.* London 425 430 (vocals).

Franz Schubert: *Symphonies Nos. 5 and 8.* Virgin 59273.

Dmitri Shostakovich: *Symphony No. 5; Ballet Suite No. 5 from "The Bolt."* Chandos 8650.

Igor Stravinsky: *Firebird Suite; Petrouchka.* Telarc 80270.

Peter Ilyich Tchaikovsky: *Symphony No. 4; Romeo and Juliet.* Telarc 80228.

Trittico. Reference RR-52CD.



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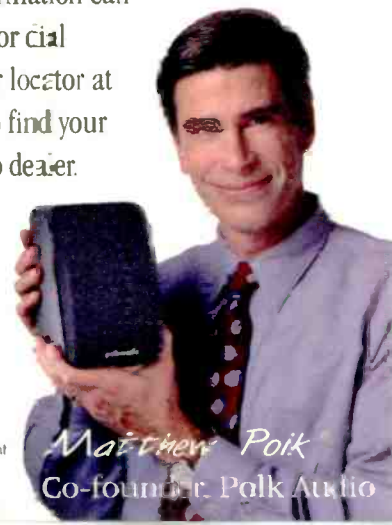
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Matthew Polk
Co-founder, Polk Audio

WORKOUTS

Although each of these recordings may display other virtues, individuals looking for a way to determine if their power amplifiers, woofers, or subwoofers are up to snuff will appreciate them as critical-listening tools. While occasionally quite subtle and also sometimes heard only fleetingly, the bass in many of these recordings is usually very deep, room-filling, and often very powerful. The approximate lowest frequency range on each disc is noted.

Johann Sebastian Bach: *Organ Works*. Telarc 80088 (below 25 Hz).

Billy Barber: *Light House*. DMP CD-455 (sub-30-Hz synthesizer).

Leonard Bernstein: *Chichester Psalms*. **Samuel Barber:** *Agnus Dei*.

Aaron Copland: *In the Beginning; Three Motets*. Hyperion 66219 (sub-25-Hz organ, sub-40-Hz drum).

Peter Maxwell Davies: *Solstice of Light; Five Carols; Hymn to the Word of God*. Argo 436 119 (sub-25-Hz organ).

Marcel Dupré: *Symphony in G Minor*. **Josef Rheinberger:** *Organ Concerto No. 1*. Telarc 80136 (sub-20-Hz organ).

Enya: *Water Mark*. Geffen 24233 (sub-30-Hz synthesizer).

Paul Hindemith: *Organ Works*. **Augustinus Kropffreiter:** *Toccata Francese*. **Hugo Distler:** *Spielstücke*. Argo 417 159 (sub-20-Hz organ).

Gustav Holst: *Suites for Band; Hammersmith*. Reference RR-39CD (sub-35-Hz drum).

Joseph Jongen: *Symphonie Concertante for Organ and Orchestra*.

César Franck: *Fantasia in A Major; Pastorale*. Telarc 80096 (sub-20-Hz organ).

Michael Murray: *The Ruffatti Organ in Davies Symphony Hall*. Telarc 80097 (below 25 Hz).

Organo Deco. Delos 3111 (below 25 Hz).

Pomp & Pipes. Reference RR-58CD (sub-25-Hz organ).

Sergei Prokofiev: *Symphony No. 5*. Chandos 8576 (sub-35-Hz drum).

Ottorino Respighi: *Pines of Rome; Roman Festivals; Fountains of Rome*. London 410 145 (sub-30-Hz organ).

Julius Reubke: *Sonata for Organ; Sonata for Piano*. Dorian 90106 (sub-25-Hz organ).

Robert Noehren Premieres the New D. E. Pilzecker Organ at the Church of St. Jude. Delos 3045 (sub-20-Hz organ).

Ned Rorem: *Organ Music*. Delos 3076 (below 25 Hz).

John Rutter: *Requiem*. Reference RR-57CD (sub-25-Hz organ).

Camille Saint-Saëns: *Symphony No. 3*. Philips 412 619 (sub-20-Hz organ).

Leo Sowerby: *Organ Music*. Delos 3075 (below 25 Hz).

Star of Wonder. Reference RR-38CD (Christmas music, sub-25-Hz organ).

Richard Strauss: *Thus Spake Zarathustra*. Delos 3052 (sub-25-Hz organ).

Samuel Coleridge Taylor: *Ballade in A Minor; Symphonic Variations on an Africa Air*. **George Butterworth:** *Two English Idylls*. Argo 436 401 (sub-35-Hz drum).

Ralph Vaughan Williams: *Symphony No. 7; Toward the Unknown Region*. Chandos 8796 (sub-25-Hz organ).

The Very Best of Erich Kunzel and the Cincinnati Pops. Telarc 80401 (sub-20-Hz synthesizer).

Charles-Marie Widor: *Symphony No. 5*. **Francis Poulenc:** *Concerto for Organ, Strings, and Timpani*.

Felix Guilmant: *Symphony No. 1*. Chandos 9271 (sub-25-Hz organ).

certain amount of spaciousness out in the listening room itself.

Two recordings that have excellent soundstaging and ambience are David Zinman's performance of Berlioz's *Symphonie Fantastique* on Telarc (80271) and the Anonymous 4's "An English Ladymass" (Harmonia Mundi 907080). Bunky Green's "Healing the Pain" (Delos 4020) proves that a jazz recording can convey a night-club-like stage spread and ambience.

The Role of Critical Thinking

A major element of critical listening is critical thinking — that is, formulating clear ideas about what you want your audio system to accomplish. Think about what kind of music you listen to and intelligently determine if the hardware (particularly speakers) you own dovetails with your lifestyle. The listening room is an enormous influence on what you hear. Audition your speakers in a number of locations in the room with a variety of recordings.

Critical thinking is essential when shopping for speakers. It is easy to get caught up in the rhetoric of a sales pitch or to be strongly influenced by the marvelous ads and catalogs printed by manufacturers. Critical thinking involves the ability to deal with those influences while being neither completely skeptical nor utterly naive. If you have borrowed a pair of systems to audition at home, you can experiment intelligently at your leisure. But if you cannot borrow them, it is imperative that you remain disciplined when doing comparisons in a showroom. Take your time, and do not be afraid to ask the salesperson to relocate models you feel are poorly placed, particularly if the manufacturer gives specific instructions about placement.

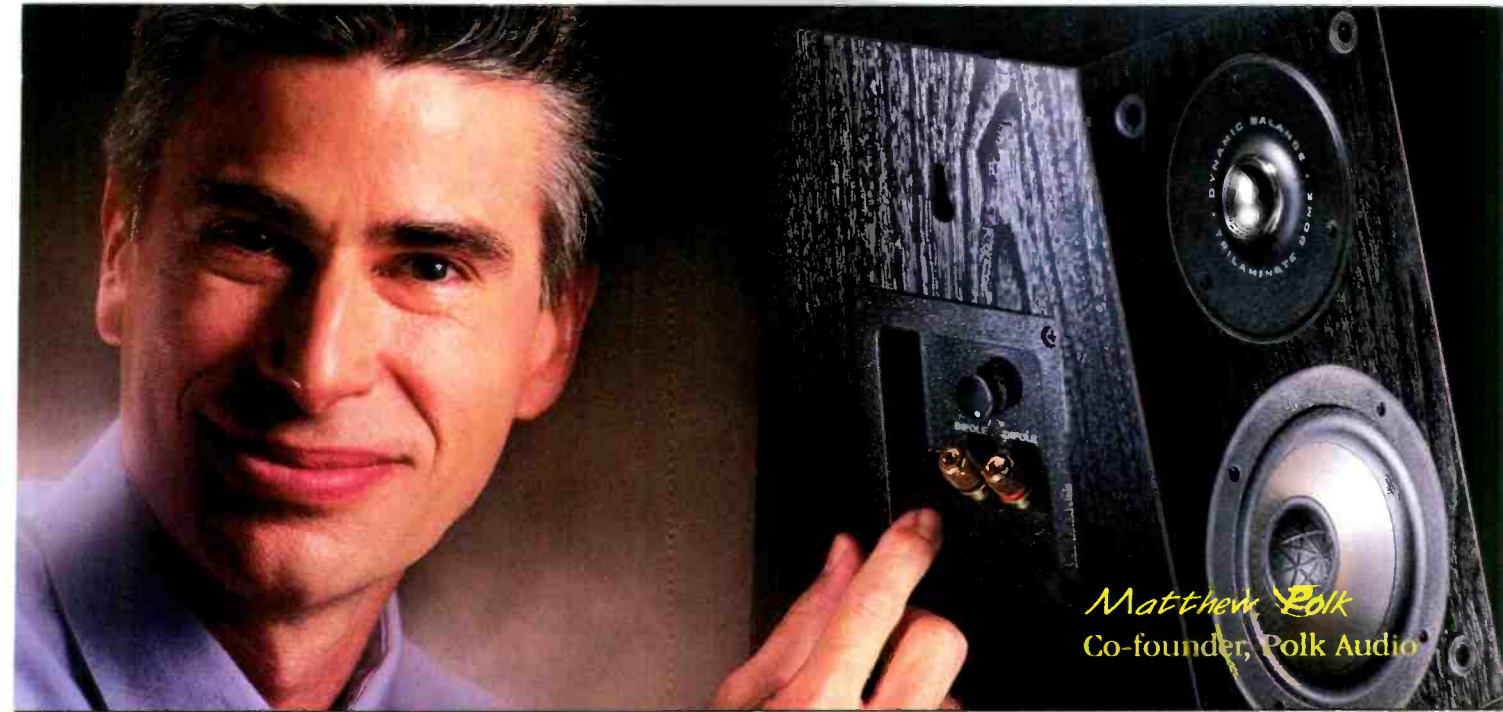
While listening to top-quality recordings, train yourself to pinpoint specific highlights or imperfections in sound-system performance, using live music as your standard. In time, your critical-listening abilities will mature and you will become a bona-fide "golden ear." □

Howard Ferstler has published a book on audio recordings and another on audio/video systems. Between magazine articles and home-improvement projects, he is attempting to finish up two more on the same subjects.

those made with a multitude of mikes and a large mixing console. At the other extreme, while some feel that amplifiers and CD players can also enhance a recording's sense of depth and ambience, their subjective influence is really so small as to be inconsequential or nonexistent. Amps and compact disc players do not "soundstage."

Speakers, on the other hand, do in-

fluence reproduction of image depth and ambience, and systems with wide and uniform dispersion will typically be at an advantage over those with narrower or, especially, less even radiation patterns. With a proper recording and good speakers, well positioned in a good room, you should sense both the front-to-back depth and width of the soundstage and also be aware of a



Matthew Polk
Co-founder, Polk Audio

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"The initial effect with the Polks was simply staggering. The LS f/x's were the best surround experience I have had in my home." *Audio Video, New Zealand, 1995*

"It's the range of these speakers that thrills. They can make the floor vibrate with their low bass and are excellent for space-ships flying overhead or the growls of moving tanks and cranes, just the stuff of which impressive home cinema is made."

What Hi Fi, Great Britain, 1995

"...a speaker of considerable sophistication.... [the LS f/x] can transform the surround channel from a typically flat monochromatic noise to a detached, spacious and coherent soundfield."

HomeEntertainment, Great Britain, 1995

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TV/MONITOR
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RIGHT SURROUND
SPEAKER

CABLE
(CATV)

SURROUND
SOUND

CUTTING
EDGE
AUDIO CASSETTE OPENER

disc one
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SPECTACULAR
DELOS
ORIGINAL DIGITAL RECORDING
DDD
Manufactured by S.L.S. (P.O. Private Dept. 443)

SPS-4 SPEAKER SELECTION SYSTEM

Multimedia Soundpad™
Futuretouch
Shift Line 1 7 CD Music 3 Voice 5 Mic Master
Rew Play FF Pause Eject Mute Volume
Prev Stop Next Rev Store Media Display
Bass Treble
Left Right

CROSSOVER
LEFT

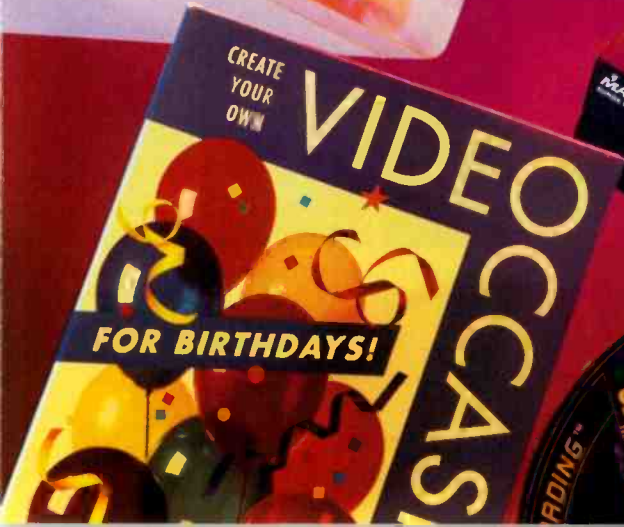
RIGHT SIDE
SPEAKER

VCR RECORD

CUTTING
EDGE
COMPACT DISC OPENER
PIONEER MARKETING BY LOTUS

MAX. 1000+
POWER COMPACT DISC OPENER

ALAN PARSONS &
STEPHEN COURT
SOUND CHECK
SPCD 15



NEAT STUFF

by Rich Warren

ACCESSORIES THAT CAN TURN INTO NECESSITIES

No sooner did the first Victrola reach the market than some enterprising entrepreneur marketed accessories for it. Empires rose and fell based on record cleaners and radio antennas. Some accessories today remain so basic you wish you had patented them, while others demonstrate an amazing degree of complexity. None described here perform black magic. All of these products really work without bending the laws of physics.

I've folded, spindled, and manipulated each accessory, testing for maximum fun and function. Because several of them cross the increasingly nebulous boundaries between audio, video, and multimedia, I'll start this roundup with the simplest products.

Compact disc manufacturers fiendishly developed the ultimate copy-protection scheme: Shrink-wrap the jewel boxes so that opening them requires a Herculean effort, and no one will copy the CD's, let alone play them. However, the Cutting Edge CD opener from SMK Marketing (\$2.99) foils the foil (or in this case, the cellophane). Hold the metal, U-shaped opener in one hand and grasp the CD in the other, run the opener across the edge of the CD, and the shrink wrap peels and withers like a villain out of *Indiana Jones*. What's great for jewel boxes also works for other fingernail-breaking packages, so SMK markets a three-pack of openers (\$7.99) sized for CD, VHS videocassette, and audio cassette. The Cutting Edge works by snagging the shrink wrap with little bumps on the opener's inside corners, so if a child grabs the product, it probably won't open little fingers instead of media wrappers.

PHOTO: JEFFREY KREIN

Steve Kendall calls his SMK Marketing a "virtual company," since it consists solely of an "800" telephone number (1-800-847-7656). Kendall answers the phone personally and farms out production.

CD Essentials also demolishes shrink wrap with its plastic EZ-CD (\$1.99), a smaller opener than the Cutting Edge, with a plastic blade in the center of its groove. The EZ-CD comes with a Velcro holder that allows storage on your CD shelf or player. Also available are openers sized for video and audio tape.

To help you organize your CD collection, CD Essentials offers DiscPickables, laminated cardboard dividers that come in sets of sixteen (\$5.99), including twelve alphabetized tabs and four blank tabs. You can buy DiscPickables in either a vertical or horizontal format, so no matter how you store your collection you can quickly locate a desired disc. As a bonus, the company provides a leaflet about handling and maintaining discs. CD Essentials also manufactures the CD Care cleaning cloths (sixteen for \$3.99), packaged in a jewel box for logical storage, and the CD Super Shelf (\$11.99), a convenient, stackable, 40-disc rack. The EZ-CD, DiscPickables, and CD Care cleaners are available packaged together as the Essential Collection for \$9.99. For additional information, call CD Essentials at 1-800-622-8321.

If the wiring of your audio/video/multi-media system looks like spaghetti, then Ray Kimber, proprietor of Kimber Kable, solves the problem faster than you can say pesto, er, presto. Shmarkers, short for shrinkable tubing markers,



Sony RM-V30 universal remote control

clearly identify each and every cable. Unlike common heat-shrink tubing, which requires almost flame-thrower temperatures, Shmarkers contract under the 190° heat of the household hair dryer. Available shrink ratios range from 2:1 to an unusually generous 4:1, which allows you to easily slip the Shmarkers over connectors before shrinking them tight on the cable.

Shmarker kits come in four varieties: home audio and pre-wire, home theater, mini-theater, and car stereo. In the Shmarker color-code system, blue identifies speaker cables, white indicates interconnects, and yellow denotes video wiring. Kits range from \$12 to \$28 (hair dryer not included), meaning that each Shmarker costs about 75 cents. Kimber will custom make various lengths, widths, colors, and imprints — and the company even offers conductive Shmarkers and luminescent Shmarkers. Think of listening to your stereo at night by the light of glowing cable ends. For details call 1-800-746-2753.

Until recently, nearly all remote controls looked like Hershey bars without the joys of chocolate. The Sony RM-V30 universal remote looks more like a pear (or an egg, according to the Sony photographer) — or if you prefer a more geometric term, an oblate

spheroid. This hand-friendly shape invites holding the remote in your palm and operating the differently shaped buttons with your thumb. Sony weights it to rock back to its bottom and sit upright — sort of like a pear (but not like an egg). The RM-V30 commands a TV, a VCR, and a cable box, with its automatic code search quickly setting it up for your equipment. If you don't need a new remote, think of it as a \$35 conversation piece. Call 1-800-488-7669.

Few receivers and amplifiers provide the convenience of multiroom speaker switching. Normally they limit your choices to A and/or B, inferior even to the menu at a Chinese restaurant. Niles Audio, thriving on the limitations imposed by other manufacturers, makes scores of switching and volume-control devices for whole-house A/V systems. The SPS-4 (\$100) is the company's least expensive example of versatility, a box that will switch four pairs of speakers, allowing you to play any or all at once. You're limited only by the power and stability of your receiver or amp — and in case you demand more than your equipment can deliver, a protection switch in the SPS-4 safeguards it all. Furthermore, isolated signal paths and grounds eliminate the possibility of accidental short-circuits. Niles actually managed to make this box attractive with a recessed area for custom room labels above four of its five front-panel pushbuttons. Self-cleaning, silver-plated switch contacts inside the SPS-4 allow Niles to offer a ten-year parts/labor warranty. Call 1-800-289-4434.

Now that you can send audio to several rooms, have you found places for all the loudspeakers? Most families resist giving over prime table, shelf, or floor space to speaker cabinets. If you'd rather get them up and out of the way, the Universal Mounting Kit from OmniMount attaches speakers to the walls or ceiling. These versatile ball-joint brackets allow angling the speak-

ers for optimum listening, and they distance the speakers from the mounting surface by a few inches to lessen boundary effects. OmniMount provides every screw, anchor, and mounting plate (even a hex wrench, and a drill bit for pilot holes) for affixing the brackets to drywall, wood, brick, or metal. The kits come in basic black or Navajo white and in sizes for a wide range of speakers. (Bose offers a variation for wall-mounting the cube speakers that are part of its Lifestyle Music Systems.) OmniMount's Universal Mounting Kits, which range in



Acoustic Innovations wall panels

price from \$60 to \$80 a pair, may be the greatest boon to home theater since Teflon fabric treatment for the sofa. Call 602-829-8000.

Spending a few hundred dollars adjusting and tuning room acoustics can sometimes yield more impressive results than investing a similar amount in upgrading equipment. Acoustic Innovations manufactures a variety of attractive wall-hanging SoundBoards stuffed with one-inch-thick acoustical fiberglass in a rigid frame covered with your choice of material; you can also choose bullnose, miter, or square edges. All stocks SoundBoards, as well as the related EdgeRunners and CornerBoards, in many sizes, fabrics, and colors — or it will customize panels to your specifications. AI also makes freestanding SoundScreens, framed in natural wood or black lacquer, that offer impressive acoustical and visual flexibility. SoundBoard prices range from \$239, for a set of four boards in standard fabric each measuring 2 x 2 feet, to \$379 for one board measuring 4 x 8 feet. A three-panel, 5-foot-high SoundScreen in standard fabric



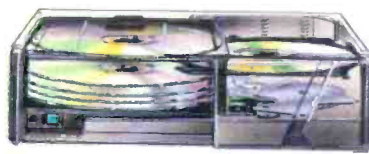
Niles Audio SPS-4 multiroom speaker switcher

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Since the CD only partially extracts during playback, disc change time is faster and less space is required.

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Alpine Shuttles provide cleaner signals, firmer bass and

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Size. Convenience. Speed. Durability. Great Alpine sound. There's only one way this could get better: A sale. But for a limited time only.

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CIRCLE NO. 3 ON READER SERVICE CARD



Recoton
BullsEye antenna

The newest of the test CD's, and the biggest bargain, is "TDK's Ultimate Guide to Great Sound" (CDK 0101), a combination of tones, pink noise, imaging tests, and music selections. Different segments are intended for standard audio, home theater, and car stereo. This \$5 disc is available by mail order only by sending a check (payable to DBA, Inc.) to TDK CD Offer, 24 East 21st St., New York, NY 10010. Prices for the other test CD's range from \$15 to \$50. It's money well spent because the discs can help improve the overall sound quality of your system.

costs \$699. AI soothes your acoustics without upsetting your decor. Call 1-800-983-6233.

The infrared remote control gave rise to the couch potato. Ideally, the couch potato simply curls his or her fingers around the remote, and the electronics across the room snap to attention. However, infrared beams tend to be directional, and many remotes emit a fainter beam than what we see from a red dwarf star on the other side of the galaxy. Just as a better amplified antenna works wonders for FM and TV reception, so too does a more sensitive infrared eye and an amplified emitter for remote operation.

Hot Link from Microsmith allows you to remain totally supine while commanding your electronic empire. This remote-control booster system includes a black box about the size of a bar of bath soap, a sensitive infrared eye, a small AC power supply, and a ribbon cable that splits into six tiny infrared transmitters. You can conceal the black box and power supply and semi-conceal the eye (it can, for example, peek around the rear of a cabinet or from under a lip). You then run the midget emitters to the vicinity of the infrared eyes on your equipment. Whether you use a half-dozen different remotes or a single universal remote, Hot Link will reliably relay your commands to the appropriate gear from up to 65 feet away. No more point and shoot — just shoot. Microsmith supplies small self-adhesive Velcro patches to keep the Hot Link eye and emitters in place. The system's \$49 price empowers even the most timid remote controller. Call 1-800-999-8846.

An audio system without super fidelity test CD's is like a sports car

without a twisting mountain road. Four companies come to the rescue with CD's that take your system for a spin, each providing different test terrains and aural scenery. Delos specializes in Dolby Surround with the two-CD "Surround Spectacular: The Music/The Tests" (DE 3179). One disc offers impressive Delos classical recordings, while the other includes sound effects, reference tones, and setup and imaging tests for stereo, subwoofer, and surround applications. "The Ultimate Demonstration Disc" by Chesky (UD95) uses excerpts from the label's catalog of jazz, contemporary vocal, and classical material, recorded with Chesky's 128-times oversampling high-resolution technology, to demonstrate listening concepts such as naturalness, presence, visceral impact, transients, and bass resonance. Alan Parsons, known for his work with the Alan Parsons Project, and Stephen Court have assembled a high-



Panamax MAX
1000+ surge protector

ly technical test CD for Mobile Fidelity Sound Lab called "Sound Check" (SPCD 15). It's basically a signal generator on a disc, with a broad array of pink noise and test tones. It also contains identification tracks for instruments and vocals, as well as classic sound effects that were once the staple of demo discs, including a steam train and a 1,000-mph jet fly-past.

Bunny. In the real world, systems operate from the juice that comes from an AC outlet, which in turn is connected to miles and miles of power lines to a power plant that might be in another state. Sometimes that juice trickles and sometimes it gushes, rather than flowing at a steady voltage. Too much or too little power can quickly turn your valuable electronic investment into a

pile of fried silicon chips. If lightning strikes a nearby power line, you'll be able to see *Apocalypse Now* without renting the video.

Panamax mounts a front-line defense for home electronics with the MAX 1000+ surge protector and line conditioner. The company believes in its product so strongly that in the event of failure it will replace all of the audio equipment damaged as a result,



Sunsound Straps

up to a value of \$5 million. The MAX 1000+ rear panel has eight AC outlets as well as provisions for a relay that can power up your system when you turn on a key component, such as a preamp or receiver. A several-second delay when powering up and down avoids transient thumps. Coaxial connectors for cable or antenna prevent surges from sneaking in the back door of your system. The front panel of the MAX 1000+ includes power-status indicator LED's. All things considered, the \$299 price is an inexpensive insurance policy. Call 1-800-472-5555.

Going a step beyond a surge protector, an uninterruptible power supply (UPS) uses a box of rechargeable batteries and electronics to block surges and keep a system running should the outside power fail outright. Depending on the demands of your system, a UPS could keep you in music, and possibly video, for up to half an hour while the lights are out. Originally designed to protect PC's from power glitches and failures, a UPS serves an invaluable purpose in the video realm: It keeps your VCR's clock ticking and its memory programmed even if the outside power flickers and quits. Some people endure the notorious flashing "12:00" not because they can't set the time, but because they get tired of having to *reset* it.

American Power Conversion markets a wide range of UPS units, from the basic 130-watt Back-UPS 200

(\$119), enough for most VCR's, to the monster 900-watt Back-UPS 1250 (\$689) that will make you the envy of neighbors when the power company goes south. APC offers a surge-protection guarantee of \$25,000, far more than the cost of any consumer VCR. (Because these UPS units don't produce perfect sine waves when using their batteries, check with APC or your equipment manufacturer to ensure compatibility.) Meanwhile, you'll only need to reset the time on your deck twice a year (or never, if you have a model with auto clock set — see "Hi-Fi VCR's: Brave New World" on page 68). Call 1-800-788-2208.

Some accessories liberate you from your normal listening space. Sunsound solves two problems for joggers, cyclists, and rollerbladers in one product, the Sunsound Straps (\$25). These padded straps, like Croakies, will hold your prescription glasses or sunglasses to your head, but they also sprout earbud earphones from their ends. Once adjusted on your glasses frame, the earpieces will stay in place during your travels. If you prefer, the phones can rest outside your ears so as not to block outside sounds completely. The straps also function without glasses as a more conventional earphone set. A small jack in the yoke in back connects to the supplied 44-inch cable, which plugs into your personal stereo. If you're tired of headbands or floppy earbuds, you can order the Sunsound Straps, in a variety of colors, by calling 1-800-944-2882.

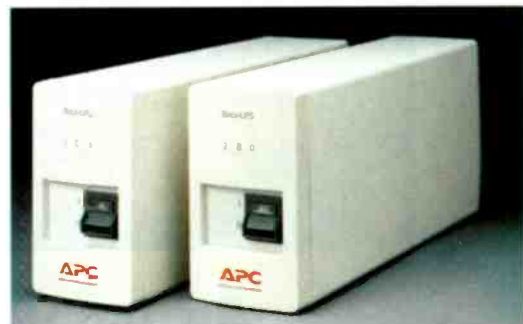
Retire the boombox in your office or den with the help of the Futuretouch Multimedia Soundpad. Most new PC's can play not just CD-ROM's but also the new "enhanced" multimedia CD's as well as strictly audio CD's. Until now, controlling these computer CD's has been as easy as driving a car from the back seat. The Multimedia Soundpad, about the size of a credit card, puts control of every audio aspect of multimedia CD's in the palm of your hand (or you can attach the Soundpad



Futuretouch Multimedia Soundpad

to your keyboard with the supplied Velcro pads). The 21-button keypad mimics that of a CD player, with a few more keys for added capabilities. On-screen displays put you in the MIDI driver's seat of your PC, ready to handle functions such as mixing a variety of inputs and adjusting tone. The Multimedia Soundpad connects to your PC via serial cable and comes with its own software drivers for Windows, Windows95, and DOS. The \$40 price is cheaper than a CD boombox. Call 714-558-6824.

Finally, reach out and tape someone — or more precisely, send a tape to someone. BASF bills its VideOccasions as "the world's most personal greeting card." Each VideOccasions package contains a blank ten-minute VHS videocassette, a festive gift box that doubles as a mailer, decorative labels, a cassette storage sleeve, and a



APC uninterruptible power supplies

tear-off greeting card for display. There are specialized VideOccasions for celebrating a birthday and Christmas. BASF also provides taping tips and suggestions on how to stage the best video greeting. The tape can be used in camcorders that accommodate full-size VHS cassettes, or you can dub onto it from a VHS-C or 8mm cassette. The VideOccasions kit costs \$5 (first-class postage for sending the tape/mailer will run you \$1.90). Call 1-800-225-3326, ext. 4197.

After living with these accessories for a while, you'll find that many of them do become necessities. So lie back on the couch with the Sony pear/egg in one hand, made omnipotent by Hot Link, and the Multimedia Soundpad in the other hand, as you listen to CD's from your computer through the Sunsound Straps while enjoying clear TV reception from the BullsEye antenna — all the time knowing exactly where each cable goes, thanks to its Shmarker. Life can't get much better than this. □

On Location HOME THEATER

Before



After



By Joe Wiesenfelder

When I arrived at the Chicago home of Robert Kenyon, our photographer was wrapping up the “before” shots and two clean-cut installers from United Audio were stacking equipment in the dining room. The voice of Rolland Rahr, United’s director of custom installation, was echoing throughout the neighboring living room: “We *have* to get a rug in here,” he said, obviously concerned about the reverberant character of the room Kenyon had chosen for his home theater. In addition to its tunnel-like 12 x 25-foot dimensions, the room had hardwood floors, a vaulted ceiling, and several bare picture windows. My job was to document the process of installing the components Kenyon had selected for his new home theater. I knew it was going to be an interesting day when I was told that the job had to be completed before he got home from work. It was 9:00 a.m.

The job really began weeks earlier when Kenyon walked into a United

Audio store with a yearning for home theater and a few preconceptions. He knew he wanted to continue using his Definitive Technology BP10 tower speakers and his Mitsubishi VCR, but beyond that he was open to suggestions. “United Audio’s salespeople walked me through the whole thing, making suggestions along the way, which made it pretty easy,” explained the thirtysomething entrepreneur. “They made sure I understood why things cost what they did and why I was buying what I was, and they matched up all of the components.”

Kenyon walked out of United with plans for an A/V lineup comprising a Mitsubishi VS-5051 50-inch rear-projection TV, a Pioneer Elite CLD-59 CD/laserdisc combi-player, a Yamaha RX-V690 A/V receiver (rated to deliver 80 watts to three front speakers and 25 watts each to a pair of surrounds), a Denon DCM-340 five-disc CD changer, and four Definitive Technology speakers to match his BP10’s: a C1 center speaker, a PowerField 1500

PHOTOS BY JAMIE PADGETT

powered subwoofer (which packs a 250-watt amplifier), and a pair of wall-mountable BP2 surrounds. All of the electronics gear would go in an A/V cabinet from Great American Oak.

The system blueprint also included an RCA Digital Satellite System (DSS). “My initial feeling was, ‘Wow, I have to *pay* for the DSS receiver and dish?’” Kenyon said, weighing the up-front costs of DSS against the nominal installation charges of a typical cable-TV hookup. But once he experienced firsthand the laserdisc-like picture and

IN A DAY



A behind-the-scenes look at the making of an A/V system

sound quality of DSS, he gave United Audio the thumbs-up sign. "What's the point in feeding inferior-quality pictures and sound into a system of this caliber? Buying the DSS hardware is no different to me from paying for the laserdisc player," he said.

Scouting Locations

Kenyon's decision to go with a 50-inch TV caused United's installation crew to pause before they even started. Following the original room setup would make for very close viewing.

yet putting the system along one of the short walls had to be ruled out because there was a wood-burning stove on one end and glass doors leading to a breezeway on the other. "The owner was willing to take out that stove," Rahr said, "but when we looked at his equipment and the dimensions of the room, we realized that that orientation was no better." So they decided to put the new system where the old one was, on the long wall below the balcony. Fortunately, like many late-model rear-projection TV's, the Mitsubishi

set has a remarkably shallow cabinet, only 22 $\frac{3}{8}$ inches deep.

The installation plan called for all speaker wiring to be out of sight. That meant the wires running from the Yamaha receiver to the subwoofer and the wall-mounted surround speakers would have to enter the wall behind the equipment stack, run beneath the floor (through the basement), and snake up through openings in the opposite wall — a relatively easy operation if the basement ceiling is unfinished or of the suspended-tile variety. But when Rahr first surveyed the cellar, he was mortified to find a drywall ceiling encasing the area above like a permanent cocoon. On closer inspection, however, he discovered that the home theater room was actually situated directly above a roomy crawlspace; a chest-high panel on one of the basement's finished walls provided easy access. Crisis averted.

With a room depth of only 15 feet and a 50-inch TV screen, which requires a viewing distance of at least 12

On Location



United Audio installers Pete Riehle (left) and Phil Stegman run speaker wires through a crawlspace. Above, Riehle probes the wall cavity with a "fish pole" to find the 1-inch hole through which wire will be fed.



Installer Phil Stegman wires up a Definitive Technology BP2 surround speaker before hanging it on the support bracket. To keep appearances clean from an overhead balcony, he used white speaker wire. Above, the wire emerging from the wall runs through a crawlspace to get to the other side of the room.



All wires running to and from the Definitive Technology PowerField 1500 powered subwoofer are routed through a crawlspace to keep them out of sight. Above, the main-speaker wires coming from the sub's high-pass outputs are tethered to binding posts on a wallplate for a tidy look.



feet, the United crew figured they had no choice but to leave Kenyon's plush leather sofa up against the back wall where it had been — not the ideal spot for surround-sound listening but nonetheless one that's quite common in the real world. Making matters somewhat worse was the two-story-high ceiling. "You've got sound moving around like crazy above the seating area, but not very much of it is getting to your ears," Rahr explained, noting that the ceiling is too far away to reflect sound effectively.

Not to worry, though. Rahr and crew have learned from experience which speakers to use in this type of situation and where to mount them. "You can walk into a room and have a good idea of where speakers should and shouldn't go," Rahr said. In fact, he had to talk Kenyon out of using in-wall speakers for the surrounds, because conventional in-walls would do a poor job of conveying surround-channel ambience and effects in this setting. Instead, he recommended mounting a pair of white Definitive Technology BP2's on the back wall, about 10 feet apart and aligned with the top of the window frames flanking the sofa. White speakers on white walls would be unobtrusive, and their bipolar driver configuration would reproduce realistic ambience for couch sitters by reflecting sound off the side walls, Rahr explained. Kenyon approved.

Before leaving the actual work in the installers' capable hands, Rahr mentioned that in addition to overseeing United Audio's installation work, part of his job is to recommend acoustic treatments when necessary. To help tame the reverberant character of Kenyon's room, he suggested adding a rug, curtains, and maybe even some acoustic paneling to the underside of the balcony that hangs over the A/V cabinet — but at least the rug.

Hanging Surround

Installers Phil Stegman and Pete Riehle (pronounced "really") strapped on their tool belts and drill holsters and put the surround-speaker part of the plan into action. First they determined where each speaker would be mounted, measuring the distance from nearby electrical outlets and ventilation ducts. Then they surveyed the crawlspace below using the ducts and electrical conduits as guide posts to determine exactly where to drill the holes. Each hole had to provide access to the wall cavity directly behind the

speaker, which means it had to come up between the right pair of wall studs. Their motto: Measure three times and drill (or cut) once — a wise approach considering the beautiful natural-wood floors in the room above.

Confident that their measurements were on target, Riehle drilled up through the floorboards. He made the holes just big enough to accommodate the 16-gauge Monster Cable XP wire that would carry the surround signal to the BP2 speakers, a size that's also standard for wooden dowels, just in case Kenyon wants to plug up the holes sometime in the future.

Returning to the main floor, Stegman grabbed a BP2 and held it up against the wall so he could pinpoint where to drill the holes for the small plate-like bracket that would secure the speaker to the wall. He drilled and inserted a vinyl wall anchor into each hole before screwing the brackets in place. Definitive Technology supplies plastic brackets with the BP2's, but the generic metal bracket Stegman used instead "is a little more stable," he explained. If the BP2's were any heavier, they would probably have to be attached directly to a stud to keep them from pulling the wallboard down.

Before you could say Pro Logic, Stegman had chucked a 1-inch spade bit into his rechargeable drill and was boring a hole into the wall just above the bracket. Meanwhile, back in the crawlspace, Riehle was feeding a long fiberglass "fish pole" through one of the holes he had drilled and up into the wall cavity. The pole has a length of small-gauge chain at one end, basically the kind of pullchain you'd find on a bare-bulb light fixture. Back upstairs, Stegman was poking a special magnetic tool called a "wet noodle" (!) through the hole in an attempt to snag the chain. He poked. He probed. He bent the magnet's wire leash into interesting shapes. He probed some more. "You're not timing me, are you?" he asked, glancing in my direction. After five minutes of fishing without a nibble, Stegman went out to his work truck and returned with another sophisticated device. "What's that?" I asked. "A bent coat hanger," he replied. Aaaaah, progress.

Houston, we have a problem . . . Four more minutes passed. "Pete, you down there?" Stegman shouted. Riehle's muffled voice rose through the floor. Somehow Stegman understood

every word. "Well, shove it up and down or something," he replied. As he continued to fish, Stegman explained: "This is why it takes so long to install bracket-mount speakers. In-walls are a lot easier: you just cut a big 6 x 9-inch hole." A few minutes later he finally snared the chain, pulled the end of the pole out through the hole the size of a quarter, taped on some wire, and sent the works back down. After Riehle pulled enough wire down into the crawlspace to make it over to the other side and back up into the equipment side of the room (through an existing hole), Stegman cut it free from the spool and tied a knot "to keep it from taking an express route to the basement." With the wiring complete, it was a simple matter to attach the wires to the speaker terminals and hang the speaker on its bracket.

Stegman used Monster Cable's white-jacketed XP wire because the speaker terminals are plainly visible from the balcony. "We've had customers crawl behind the couch and call us back to change the wire because it wasn't white," he mused. Better safe than sorry. Installing the second surround speaker went much faster.

Sub Situation

Although Rahr recommended putting the subwoofer on the same wall as the front speakers, Kenyon insisted that the shiny black module be placed against the back wall next to the sofa, sort of like an end table. "We have to be willing to make some compromises when it comes to the appearance and placement of the equipment," Rahr conceded. Placing the subwoofer along the wall opposite the equipment meant that the wires running to and from the subwoofer (and its crossover) would have to be snaked through the crawlspace.

Fortunately, two abandoned coaxial jacks from an aerial antenna or cable-TV line just happened to be perfectly situated, one directly behind the subwoofer location, the other next to the equipment stack. Using the holes behind these wall jacks to feed speaker wire from the receiver to the subwoofer would save some cutting and drilling time.

The plan called for using the PowerField 1500's internal crossover to filter the front speakers. That meant running wires from the receiver's front left and right speaker outputs to the subwoofer's high-pass inputs and then *back* to the main speakers — all concealed, of



United Audio installer Jim Ephgrave heads for the roof with the 18-inch dish from RCA's Digital Satellite System (DSS) in hand. Before bolting the dish to its chimney-mounted support bracket, he adjusts its angle. Finally, he uses a portable DSS receiver/signal-strength meter to fine-tune the alignment for optimum signal reception.

On Location



United Audio installers Pete Riehle (left) and Jim Ephgrave get ready to install the top-center span of Great American Oak's three-piece A/V cabinet. In case you're wondering, those black cylinders are lighting fixtures. Phil Stegman polishes the floor in the background (just kidding).



All of the A/V components Robert Kenyon chose for his new home theater are housed in a handsome wall unit from Great American Oak. Mitsubishi's VS-5051 50-inch slim-line rear-projection TV, only 22 $\frac{5}{8}$ inches deep, fits perfectly. Definitive Technology's C1 center speaker sits atop the TV; a BP10 speaker is on the far right.



The components that drive Kenyon's A/V system are, from top, a Yamaha RX-V690 receiver, a Denon DCM-340 CD changer, the receiver in RCA's DS1120RW Digital Satellite System (DSS) package, a Mitsubishi HS-U59 hi-fi VCR, and a Pioneer Elite CLD-59 laserdisc/CD combi-player.

course. To keep the wiring as simple as possible, Riehle would use generic four-conductor speaker cable (for left and right positive and negative) to deliver the stereo signal to the subwoofer; for the run back to the speakers, he would use ordinary two-conductor wires.

Riehle returned to the crawlspace with his pole and fished it up through the hole by the equipment stack (also used for the surround-speaker wires). Back on the ground floor, he pulled all of the generic 16-gauge speaker wire (two- and four-conductor) from boxed spools and attached it to the pole's chain. Returning to the dungeon . . . er, crawlspace, he ran the wire over to the sub side and back up into the room.

Rather than feed the main-speaker leads back through the same hole used to route the subwoofer and surround-speaker wires back to the receiver, Stegman installed a wallplate with binding posts (from Niles Audio) directly behind each speaker location. First he took a few measurements to make sure he was targeting the right spot. Then he whipped out an electronic stud finder, which revealed an obstruction right where he was planning to cut. "You learn pretty quick to check these things," he said. "It only takes a couple of mistakes." Measuring up from the floor, he used the junction box (to which the wallplate attaches) to mark cut lines, fudging a little to one side to avoid the stud. A few strokes using a keyhole-type drywall saw, and the aperture was ready.

After removing the small piece of sheetrock, Stegman slipped the junction box in and turned the two screws that pivoted its locking ears into place. Next he fished the speaker cable out (Riehle had been busy down below drilling more holes up through the floor), attached the wire's plus and minus leads to the binding posts, the posts to a coverplate, and the plate to the wall. *Voilà*. He had the other wallplate in before our photographer could load new film. (We started to think we were holding these guys back.)

For the short run from the binding posts to each speaker, Stegman once again broke out Monster Cable's white stuff. To button up the wiring on the other side of the room, he drilled a hole into a blank coverplate to accommodate the three cables emerging from the wall, then fed the wires through it *before* connecting them to the subwoofer (another lesson quickly learned). To insure proper hookup, he attached a

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On Location

small, battery-operated tone generator to a wire on the subwoofer side and probed the opposite end with an inductive amplifier. When it wailed, he knew he'd hit pay dirt. Finally, he labeled both ends of the wires to simplify hookup.

Doing Dishes

Not to take anything away from Stegman and Riehle, who were supremely efficient and trained to do just about everything, but a third workman, Jim Ephgrave, arrived to install the RCA DSS satellite dish. Wasting no time, he scaled his two-story ladder up to the roof. Our photographer followed, then his assistant. Taking my cue from the late Marlin Perkins, long-time host of Mutual of Omaha's *Wild Kingdom* TV show, I made myself very useful on the ground. ("While my partner Jim is out wrestling alligators, I'll stay here in the tent and make some tea!")

Using the mounting brackets supplied by RCA, Ephgrave secured the 18-inch DSS dish to the chimney so that it was facing south, a job that required drilling holes and tightening screws. Before tightening the bolts, he set the dish's angle to the prescribed 39 degrees (for this part of the globe anyway) and attached a portable DSS receiver/signal-strength meter to fine-tune the alignment. Then he ran a coaxial cable and a separate grounding wire down to the ground. By the time I caught up with Ephgrave again, the cable had emerged on the other side of the house.

While utility entry points can be used to get the DSS cable inside, the installers decided it was best to bring it into the crawlspace. To accomplish that, Ephgrave drilled through the house's rim joist (the concrete foundation just above the ground) and fed the coax cable into the crawlspace and over to the inside wall, where it was fished up through the wallplate (installed earlier) and on to the DSS receiver in the equipment stack. To provide an electrical ground for the system, Ephgrave drove an 8-foot copper rod into the ground next to the foundation and wired it to a grounding block he had mounted to the side of the house; to this he attached the dish's ground wire and the shield of the coaxial signal wire. Finally, he sealed the hole in the foundation wall with patching compound. The whole procedure took about three hours, an hour longer than RCA estimates, mostly because United Audio insists on camou-

EQUIPMENT & PARTS

Mitsubishi VS-5051 50-inch rear-projection TV	\$2,400
Pioneer Elite CLD-59 laserdisc/CD combi-player...	\$500
Mitsubishi HS-U59 VCR... (existing)	
Denon DCM-340 CD changer	\$300
Yamaha RX-V690 A/V receiver	\$700
Definitive Technology BP10 speakers	(existing pair)
Definitive Technology C1 center speaker	\$300
Definitive Technology BP2 surround speakers	\$500
Definitive Technology PowerField 1500 powered subwoofer ..	\$1,000
RCA Model DS1120RW Digital Satellite System	\$700
Great American Oak three-piece A/V cabinet....	\$1,130
Monster Cable interconnect and speaker wire.....	\$350
Miscellaneous parts and wire..	\$75
Total (with tax)...	\$8,572

INSTALLATION

DSS system	\$200
TV and components	\$180
Surround speakers.....	\$135
Subwoofer.....	\$90
Total	\$605
Grand total	\$9,177

flaging the cable, which was indeed invisible over most of its run.

Following the same procedures detailed for the speaker binding posts, Stegman installed a telephone jack in the wall behind the DSS receiver and spliced it into a phone line in the crawlspace. The phone hookup enables the system's automated billing, which kicks in roughly once a month and whenever you order a movie or pay-per-view event. With the last of the connections completed, Stegman and Riehle tidied things up by stapling all of the wires that were dangling in the crawlspace to the floor joists.

Finishing Touches

Now it was time to move in the new furniture and assemble the system — a

job that involved assembling the three-piece A/V cabinet and loading it up with the components, moving the TV and speakers into position, and wiring everything up. The cabinet's left and right sections came preassembled, but the center span across the top had to be attached.

Once everything was in place, Stegman balanced the level of each speaker using the receiver's test-tone mode. Turning his attention to the TV, he selected the "Align Colors" option under the "First-Time Setup" menu and used the cursor keys on the remote to converge the set's picture tubes — a necessary step if you want a sharp picture. It was now 5:00 p.m., and the installers had cleared out so we could shoot the "after" photos. Stegman estimated that the entire installation would have been completed a few hours earlier if they hadn't been required to mug for the camera, and I believe him. Even so, the job was still wrapped up before the owner returned home from work.

The Ultimate Test

Now for the \$64 Million Question: What did Kenyon think? "I'm thrilled with the system," he said. "It had bothered me that the screen was going to be that close, but even at 10 feet it looks great. Also, I can't believe how good the soundstage is in here. I've heard systems that sound a little ping-pongy, but this one is pretty seamless. They [United Audio] kept saying, 'The minute you get a rug down there, it's going to sound a whole lot better.'" Unfortunately, that's not a big priority for this bachelor: "It's a little echoey, but the system is actually in control," he said.

Kenyon was also very happy with the meticulous nature of the installation. "They hid every wire. It's nice because so many times, no matter what you're buying, delivery crews and everybody just let you down. I can't think of anything these guys did wrong." Kenyon also claimed to be pleasantly surprised by the caliber of system he was able to acquire for just over \$9,000. "It seems every time somebody mentions home theater they like to put '\$20,000' after it," he said. "You don't have to spend anywhere near that amount to accommodate just about any feature you would want. With this system I felt I was getting the best value for the money. It seemed like I would have to spend a whole lot more money to get slightly better performance." □



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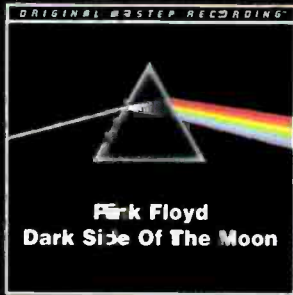
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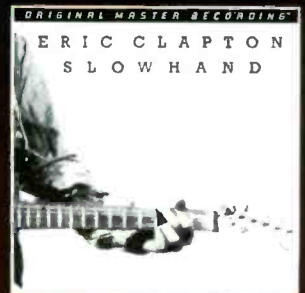
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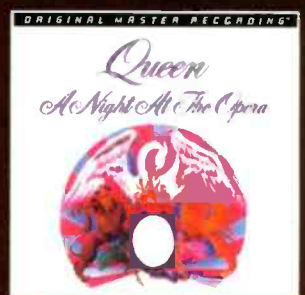
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BEST OF THE MONTH

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



ANDREW ST. INCH/AS/GIANT

Carlene Carter Commits "Treason"

Many women have arrived in country music of late, but Carlene Carter remains the genre's only true female rebel, still rocking almost as hard as she did when she was wedded (legally and creatively) to Britain's Nick Lowe. On "Little Acts of Treason," her first album

since 1993, Carter turns in a plucky set featuring her customary rockabilly hop (*He Will Be Mine*), an autobiographical ballad (*Change*), and feel-good country blues (*Come Here You*). She also simultaneously reveres country traditions and tweaks them on the behind in two salutes to her star-studded family: a duet with

dad Carl Smith in his big hit, *Loose Talk*, and a revisit to the Carter Family classic *The Winding Stream* with today's clan, including Johnny Cash.

Carter's previous album, "Little Love Letters," was somewhat uneven, and that's the situation here — but fortunately "Little Acts of Treason" has more heart and more memorable melodies. Carter also stretches a bit as a songwriter, both in the poignant *Change* (about overcoming her addiction to alcohol and cocaine) and in the uptempo numbers she co-wrote with NRBQ's Al Anderson (*Hurricane*, *He Will Be Mine*, *All Night Long*, and *Go Wild*).

Given Nashville's current dependence on formula, Carter may never become the big star her talent (and even her birthright) would suggest. But it's to her credit that she's chosen to stay true to her own brand of music, while the Shania Twains of this world pass her on the charts. Like the rest of her famous family, Carter is an American original. *Alanna Nash*

CARLENE CARTER: Little Acts of Treason.

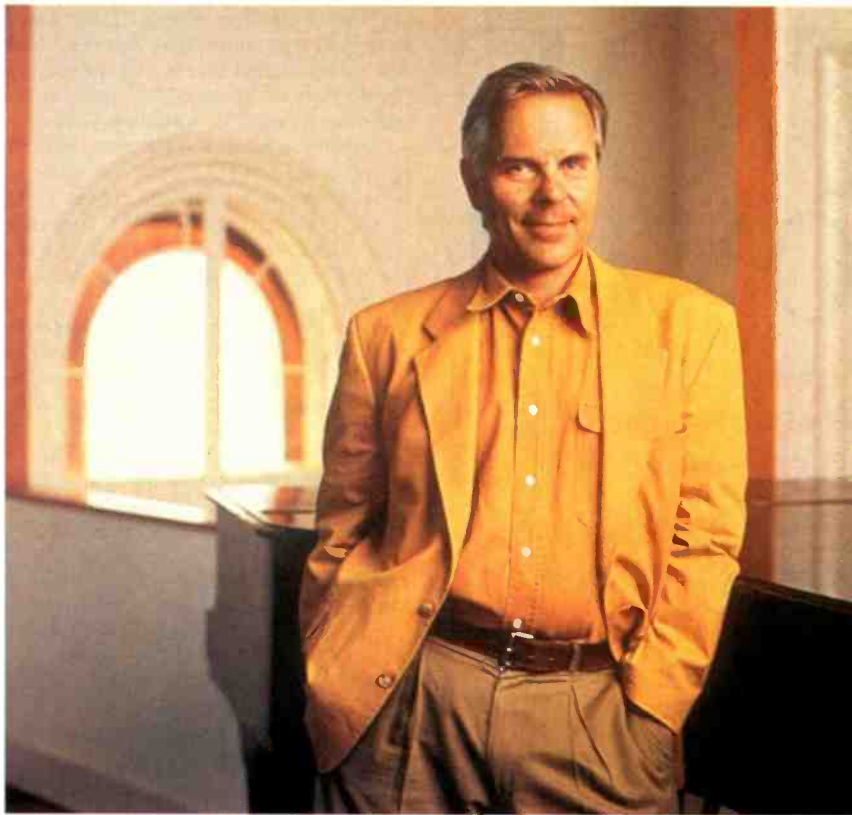
Hurricane; *Love Like This*; *Little Acts of Treason*; *He Will Be Mine*; *Come Here You*; *Change*; *The Lucky Ones*; *All Night Long*; *You'll Be the One*; *Loose Talk*; *Go Wild*; *The Winding Stream*; *Come Here You* (Reprise). GIANT 24581 (46 min).

Kovacevich Plays Schubert's Last Sonata

Unlike those pianists who record a Schubert sonata only as part of a complete cycle, Stephen Kovacevich has recorded only one, the Sonata in B-flat Major (D. 960) — the last and greatest of Schubert's keyboard works. He first recorded it for Hyperion in 1982 and has now remade it for EMI. As with his recent remakes of the two Brahms concertos, the new Schubert is not greatly different in interpretation, but it is also no mere repetition for his new label of the earlier performance. Rather, the EMI version shows that his remarkable insights into the work have deepened, and he communicates them with even more power than before.

Even amid towering performances from the likes of Alfred Brendel, Claudio Arrau, Wilhelm Kempff, Sviatoslav Richter, and Arthur Schnabel, Kovacevich's earlier recording was especially revelatory. He did not merely follow tradition, nor simply challenge it, but found his own path to the heart of the work. He did not allow the darkness and despair that assuredly inform the music to render it an

BEST OF THE MONTH



TIM RICHMOND/EMI

Pianist Stephen Kovacevich

expression of powerlessness: The composer able to create such an edifice was surely powerful enough to do a bit of credibly human thundering, to register protest as well as resignation.

Even more than before, in the EMI version Kovacevich finds intimacy in the thundering and power in some of the most hushed phrases. He goes a bit further in the way of both poignancy and vehemence without ever, in a single phrase or beat, seeming to exaggerate for effect. The listener surely doesn't have to be aware that Schubert was dying painfully when he wrote the sonata, but we ought to find the music at least a little disturbing as well as unspeakably beautiful. Kovacevich takes the first-movement repeat, and when the development section is finally reached the pathos needs no coaxing. The unlabored simplicity and starkness of the slow movement persist in your memory throughout the almost giddy scherzo and the faltering finale, dimming but not denying their radiance.

The sonata is followed by the twelve *Ländler* (D. 790) and the concentratedly poignant *Allegretto in C Minor* (D. 915), which might be regarded as the kernel from which the final sonatas grew. If Kovacevich finds a little more darkness than usual in the dances, he also finds more ra-

diance in the *allegretto*. EMI has given him magnificently realistic sound.

Richard Freed

SCHUBERT: Sonata in B-flat Major (D. 960); Ländler (D. 790); Allegretto in C Minor (D. 915).

Stephen Kovacevich (piano).
EMI 55359 (58 min).

Lloyd Cole: Sixties neoclassicism



NORMAN WATSON/RVCO/DSC

Lloyd Cole Gets Happy

Last time around, on "Bad Vibes," Lloyd Cole sounded bummed out, burnt out, and bedeviled by the bottle. On "Love Story," however, he sounds like a revived and improved version of his old self from his days with the Commotions; once again his songs are lighter than air and graceful even when bittersweet.

As pop stylists go, Cole is a Sixties neoclassicist, crafting songs that show a love for big, dreamy hooks. He remains one of the few figures in this disfigured decade who's stayed on good terms with melody, that lost poster child of the Nineties. And he makes it all sound so easy and natural.

"Love Story" isn't a linear tale of boy meets girl but rather an emotional Ping-Pong match in which blithe tunes and sunny days alternate with material that has a more autumnal cast. Cole's ability to embed sprightly, folkish pop in subtly electrified (even orchestrated) arrangements is evident in songs like the gorgeous and touching *Sentimental Fool*. Then there's the shock of his attitude adjustment in lyrics like these: "Hey hey hey, look at me now / I'm unrecognizable / My trademark frown has grown into this strangest easy smile." As a twelve-string guitar chimes, Cole paraphrases the song's title to cheerfully explain what has happened: "Love ruined everything." And even when he's in the mood to brood, as in kaleidoscopic, slow-turning songs like *Baby* and *Be There*, he is nothing less than mesmerizing.

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BEST OF THE MONTH

By letting down his guard, Cole has freed up his muse. The music here just sparkles with catchy hooks and deft melodies. "Love Story" is prime Lloyd Cole, maybe the sweetest glimpse of pop heaven he's given us. *Parke Puterbaugh*

LLOYD COLE: *Love Story*.

Trigger Happy; Sentimental Fool; I Didn't Know You Cared; Love Ruins Everything; Baby; Be There; Unhappy Song (June Bride); Like Lovers Do; Happy for You; Traffic; Let's Get Lost; For Crying Out Loud. RYKODISC 10327 (44 min).

Heartrending Shostakovich

In 1973, when the profoundly tragic Shostakovich Eighth Symphony was getting precious little attention either in the concert hall or on records, André Previn and the London Symphony Orchestra recorded a performance that still lingers in my memory. Now, more than two decades later, with the same orchestra under his baton, and in top form, he has not only duplicated but surpassed that earlier achievement.

I suspect that there will be objections to his slow pacing of the colossal, viscerally moving first movement and even more to that of the desolate fourth-movement passacaglia. But the Shostakovich Eighth is the most heartrending of the symphonies that came out of World War II — no music for timid souls — and for me it would be hard to go too far with it. Previn's slow tempos in these movements

only heighten the work's overall impact.

His pacing of the two fast movements and the finale, on the other hand, stays well within the norm. The savagery of the third-movement "toccata-scherzo" comes through with devastating power, thanks in no small measure to the handsome acoustic surround of All Saints Church, London. There's no sign of sonic congestion either in the earthshaking climax at the close of that movement or in the complex detail of the big fugato episode in the final movement. Of the half-dozen or more recorded performances I have heard of the Shostakovich Eighth, this one sweeps the field in terms of sound quality.

David Hall

SHOSTAKOVICH: *Symphony No. 8*.

London Symphony Orchestra, André Previn cond. DEUTSCHE GRAMMOPHON 437 819 (68 min).



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Vienna Philharmonic, Wilhelm Furtwängler cond. EMI 65513 (three CD's). A mixture of concert and studio recordings dating from 1947 to 1954.

HINDEMITH: *Mathis der Maler.*

Dietrich Fischer-Dieskau, James King, others: Bavarian Radio Symphony Chorus and Orchestra, Rafael Kubelick cond. EMI 52372 (three CD's). "One of the great operas of the century" (Best of the Month, January 1980).

CLASSICS FOR CHILDREN.

Boston Pops, Arthur Fiedler cond. RCA 68131. Hugh Downs narrates Saint-Saëns's *Carnival of the Animals* and Britten's *The Young Person's Guide to the Orchestra*.

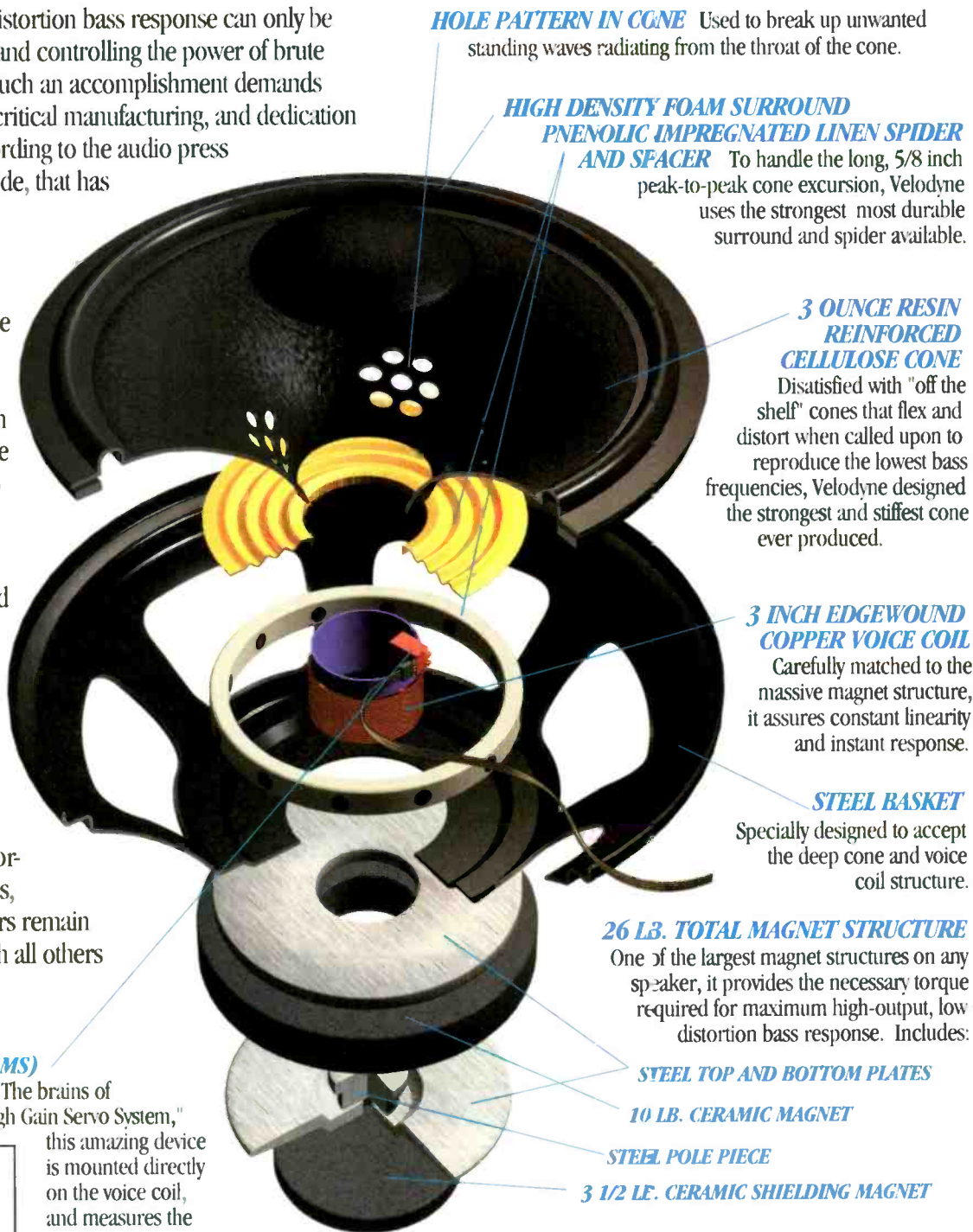
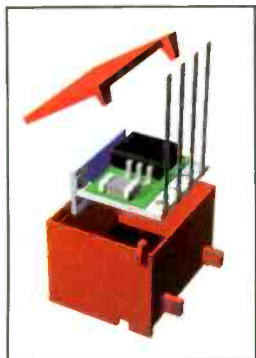
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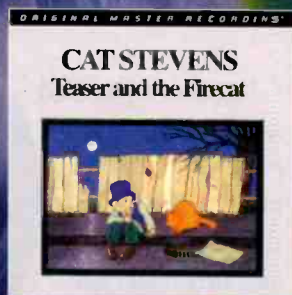
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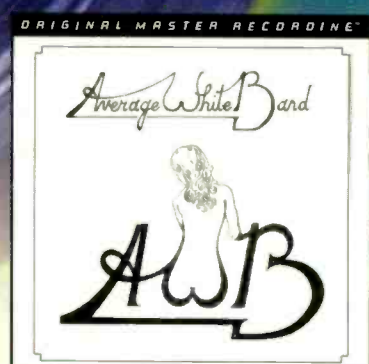
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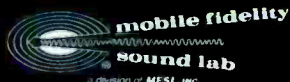


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POPULAR MUSIC

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

AC/DC: Ballbreaker.
EAST/WEST 61780 (50 min).
Performance: Dumb fun
Recording: Serviceable

Quick, name the last three AC/DC albums. If you can, you're either desperate for kicks or paying too much attention to a band that peaked fifteen years ago. Granted, "Back in Black" and "Dirty Deeds Done Dirt Cheap" were as good as arena metal got in the late Seventies and early Eighties, with potent riff-slinging and low-life humor to spare, but it's been a long way down from there. "Ballbreaker" is being promoted as AC/DC's big comeback; it hooks up the band with producer Rick Rubin, who's apparently moving into the Don Was niche of revitalizing old guys' careers. And what they've delivered is... well, another AC/DC album, the same old thing — but the band has done this schtick so many times that it's starting to work again.

Give them credit for realizing that any band their age calling an album "Ballbreaker" is bound to look silly. So they've decided to transcend their limitations and become really silly. *Hard As a Rock* is an exquisite example of life imitating Spinal Tap. In *Cover You in Oil* they manage to find a sex act they haven't already written about, while in *Hail Caesar* and *The Furor* they take big-deal metaphors to new heights of ludicrousness. Rubin, meanwhile, supplies a surprisingly low-key production that's the only tasteful thing about the album. *B.M.*

AUSTIN LOUNGE LIZARDS:
Small Minds.
WATERMELON 1034 (40 min).
Performance: Fun, fun, fun
Recording: Good

Imagine Frank Zappa backed by the banjo-plunking bluegrass band the Dillards and you have a fair idea of what the Austin Lounge Lizards sound like. Professional pundits with a flair for the (wonderfully) perverse, the Lizards go after any and everything, including easy targets like the

Speaker of the House (*Gingrich the Newt*) and far-out fantasies of what it's like to be the girlfriend of a fifty-two-foot-tall mannequin at the Texas State Fair (*Big Tex's Girl*). It doesn't do the satire justice to merely quote the often hilarious lines, because it's the interplay of dead-pan vocal delivery, solid musicianship, mood, and lyric that makes the majority of the material work. Suffice to say that it takes a smart bunch of cookies to concoct a record like this and have it transcend pure novelty status — only a masochist (or the grossly uninformed) would dare pass it up. But, of course, the Lizards already have a song for guys like that: *Life Is Hard, but Life Is Hardest When You're Dumb*. *A.N.*

KENNY CHESNEY: All I Need to Know.
BNA 66562 (30 min).

Performance: Superstar in the making
Recording: Very good

Another of Nashville's talented hopefuls, Kenny Chesney debuted on a different record label last year and got lost in the shuffle. What a difference a label change makes! "All I Need to Know" is the showcase he deserves, with the first single, the uptempo *Fall in Love*, having rushed into the Top 5.

Chesney is so young he gives liner-note thanks to veteran producer Barry Beckett for introducing him to Bob Seger. Yet he writes and sings with self-confidence and presence, giving his honky-tonk rhythm numbers and melodic ballads a lived-in sound beyond his years. As an interpreter (his version of *Paris, Tennessee* is the third such recording), Chesney manages to find something special that other singers have overlooked. His own lyrics may not win any awards for originality — he covers the familiar themes of love and family, adding a dose of humor to the marrying-into-money *Someone Else's Hog* — but he matches a toe-tapping rhythm or a swirl-around-your-head melody with experiences that strike a chord.

There's not a weak cut to be found in "All I Need to Know": Chesney knows the "roots and boots" sound inside out. Welcome a spirited new practitioner. *A.N.*

TERRI CLARK.
MERCURY NASHVILLE 526 991 (40 min).
Performance: Strong voice, mixed material
Recording: Very good

Newcomer Terri Clark is model-pretty and as determined to be a country star as they come. On her self-titled debut she displays a flexible yet sturdy soprano, a gift

All I Want for Christmas

Few American rockers have made music as consistently good as that of Tom Petty and the Heartbreakers for so long a career — and now that career (minus the Warner Bros. release "Wildflowers") gets anthologized in the six-CD "Playback" (MCA 11375). Three discs collect all the best MCA tracks, from *American Girl* in 1976 to *Mary Jane's Last Dance* in 1994, most of which sound fresh as paint. And three more discs are for hardcore fans. One consists entirely of non-album B-sides, such as a killer studio take on Nick Lowe's *Crackin' Up* and the hilarious *Heartbreakers' Beach Party*. The other CD's contain scads of cool unreleased material, including the band's original (and surprisingly poppy) Mudcrutch demos as well as interesting Elvis covers and swell songs Petty gave to other artists (like

Ways to Be Wicked, more familiar by Lone Justice). Petty and company get underrated by rock critics — probably because the band has no obvious agenda beyond making good records — but "Playback" makes a convincing case that these guys are among the best we've got. Not to be missed. *S.S.*



T.P. & Band, 1976: the way they were

SHREVE RECORDS

POPULAR MUSIC

for commercial songwriting, and enough strong-woman attitude to pack a pickup. As is commonplace in Nashville, Clark's label has paired her with more established writing partners (in this case, mostly Chris Waters, who also co-produced the album with Keith Stegall, the man behind Alan Jackson). But these assignments are usually for country dance numbers and typical radio fare, as well as a corny cowboy tune. Clark shines far brighter on her own, as in her woman-to-woman ballad *If I Were You*. Vocally, she sounds like a mix of several folks, particularly Wynonna and Shelby Lynne but without the histrionics. As soon as Clark establishes herself, watch for her to break out of the formula mode and prove there's more under that white cowboy hat than country rock by the numbers. **A.N.**

EVIL STIG.

WARNER BROS./BLACKHEART
45988 (54 min).

Performance: Impassioned punk
Recording: Good live sound

You won't see Joan Jett's name on the cover of "Evil Stig," a live collaboration with the Seattle punk band the Gits, but it's the best thing she's done since "I Love Rock 'N Roll." The Gits were wrapping up an album two years ago when lead singer Mia Zapata was raped and murdered (her killer remains at large). The incident prompted Jett to write *Go Home*, the high point of her last album, the uneven "Pure and Simple" (it's also here as a hidden bonus track). Last March she teamed with the remaining Gits, now called the Dancing

French Liberals of '48, for shows to benefit the investigation into Zapata's murder, and those performances were recorded for "Evil Stig" (spell it backwards).

All but four of the thirteen tracks are Gits songs, and as heard here they point to the band's enormous potential. The Gits made creative use of post-Ramones thrash-with-tunes, and the rage in Zapata's lyrics is smart and perceptive — check out the very tough love expressed in *Guilt Within Your Head*. The real surprise of "Evil Stig," though, is how vital Jett sounds without the formulaic middlebrow-rock slant of her last untept albums. In the Gits' *Spear and Magic Helmet* and her own *You Got a Problem*, Jett shows uncharacteristic venom, and her cover of *Crimson and Clover* is more passionate here than it has been in years.

Maybe this is too much to ask, but Jett's solo career would benefit if she'd ditch her song-doctor cronies and hire a backing band as good as the Gits. What the world needs now is a little more Mia Zapata and a lot less Desmond Child. **B.M.**

LOWELL FULSON: Them Update Blues.

BULLSEYE BLUES 9558 (43 min).

Performance: Way-down blues
Recording: Good

A master of both country blues and urban jump blues, Lowell Fulson has spent his six-decade career in the shadow of others — most notably Elvis Presley, who covered his famous *Reconsider Baby*, and Ray Charles, who was once Fulson's pianist and musical director. Yet Fulson is com-

elling on his own, as "Them Update Blues" confirms. His songs mine traditional blues territory: *Think About It* reworks the vein of *Reconsider Baby* in a way Elvis would have loved all over again, while *Don't Lie* switches gears to a lively jump number with randy horns. As a performer, Fulson isn't into flash. Rather, his electric-guitar playing, juke-joint raw, wastes no notes, and his simultaneously gruff and mellow vocals get the job done with economy. Anyone interested in hearing what an obscure blues legend actually sounds like need look no further: Lowell Fulson is the real deal. **A.N.**

TY HERNDON: What Mattered Most.

EPIC 66397 (35 min).

Performance: Promising
Recording: Very good

Newcomer Ty Herndon has an undistinguished yet serviceable baritone behind his comely face, but he has something else going for him as well — a hit album his first time out of the chute, spurred by the chart-topping country saga of missed opportunity, *What Mattered Most*. Herndon, who grew up on an Alabama farm, displays lots of heart and knows how to make a song throb with emotion, but he's still only as good as his material. Happily for him, the album contains a couple of gems, including Vince Gill and Don Schlitz's vaguely R&B-ish *You Just Get One*, where Gill sings harmony vocals, and the heartbreak ballad *Hat Full of Rain*, with Joe Diffie and Patty Loveless contributing (barely audible) background.

DAVID BOWIE, FOR THOSE WHO THINK YOUNG

At least a few old hands are attempting to bridge the generation gap between the two rock-and-roll audiences best described as Woodstock I and Woodstock II. Neil Young has collaborated with Pearl Jam, Chrissie Hynde has cozied up to Urge Overkill, and now David Bowie has embarked on a tour with Nine Inch Nails as his opening act.

For Bowie, who at one time was an effortless chameleon able to anticipate (if not forecast) ch-ch-changes on the horizon, the task of establishing fresh credentials with a largely disinterested young audience must be frustrating. He was the boldest, most sure-footed and artful rock star of the Seventies and early Eighties, whose impressive fame-on-his-own-terms winning streak culminated in the massive commercial breakthrough of "Let's Dance." Since then, he's lost the knack, releasing inconsistent albums that have been indifferently received. The truth is that today's audience identifies more with a voice of rage such as Nine Inch Nails' Trent Reznor, because the paradigm of Nineties rock has become the shared experience of a crummy upbringing and its attendant psychic wreckage.

Bowie gives it his best shot with "Outside," attempting to out-terrorize all comers

ENRIQUE BADUELSU/VIRGIN



with an overdramatized concept album about the last murder of the millennium. It is noisy, bleak, and in some places virtually unlistenable — which at least places him on equal footing with Nine Inch Nails. There are flashes of Bowie's cold, calculating genius, as in the steady, stentorian march toward awful truths that carry an unbearable weight, felt in numbers like *The Heart's Filthy Lesson* and *No Control*. Working with producer/strategist Brian Eno, Bowie sets up a discordant racket designed to reassert the fact that he broke ground in the realms of industrial, computer, and chance music, long before most of today's disaffected young whizzes were just knee-high to a microchip.

However, the plot line is difficult to follow, the characters' computer-altered between-song recitations are silly, and in the end the music is only superficially foreboding, failing to cut with the jagged-knife sensibility of artists like Hole and Jesus Lizard. For all of the album's conceptual and sonic extremism, Bowie comes off more like a follower than a leader on "Outside."

Parke Puterbaugh

DAVID BOWIE: Outside.

VIRGIN 40711 (75 min).

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POPULAR MUSIC

As new-hunk debuts go, this one aims straight for the radio, with its share of empty dance tunes and the requisite oldie remake (a spirited version of Jim Croce's *You Don't Mess Around with Jim*). But it also has "star" written all over it. Keep an eye on this guy. *A.N.*

TIM O'BRIEN: Rock in My Shoe.

SUGAR HILL 3835 (46 min).

Performance: Dandy
Recording: Very good

From his progressive bluegrass days with Hot Rize to his commercial country songwriting (mostly hits for Kathy Mattea) and impressive solo albums, Tim O'Brien has been a writer/performer who demonstrates flashes of brilliance but retreats all too often into safe melodies, rhythms, and vocals. But on "Rock in My Shoe," his fifth solo album (he also has three records with his sister, Mollie), O'Brien hits his eclectic stride. As a singer, he's never sounded better, his high tenor embracing the bridge of *She's Runnin' Away* like a tender lover. But it's the material that really makes the album fly. Largely forsaking traditional tunes for originals (including two songs co-written with Fred Koller), O'Brien weds his prodigious instrumental talent on guitar, fiddle, and mandolin to songs that make the most of infectious rhythms, poetic imagery, and a sense of humor.

Daddy's on the Roof Again, for example, is a catchy blues wrapped around the conceit of a man so restless he just drives around town in circles. *Climbin' Up a Mountain* is pure bluegrass delight, set on fire by a scratchy fiddle and buck-dance percussion. And *Melancholy Moon (Not)* is a clever send-up of old country song titles and singers (referring to Bob Wills's *Big Balls in Cowtown*, he sings, "Where'd Bob find that cowtown? / Did it really have big balls?"). Only *Long Distance*, the opening foray into Cajun-country wordplay, seems amateurish.

With more albums of this high quality, O'Brien could easily move into the front ranks of solo acoustic acts. *A.N.*

JOHN RAITT: Broadway Legend.

ANGEL 34989 (34 min).

Performance: Broadway blues
Recording: Fine

Here's a father-daughter pairing you never thought you'd hear: John Raitt, stalwart of Broadway musical theater (*Carousel*, *Oklahoma!*), and his slide-guitar-toting offspring Bonnie. Actually, they duet on only three songs on "Broadway Legend" (*They Say It's Wonderful*, *Anything You Can Do*, and *Hey There*), with John soloing on a handful of standards (including *The Impossible Dream*, *Some Enchanted Evening*, and *If I Loved You*), all dressed with typical show-tune orchestration.

Daddy Raitt is pushing 80 now, and as expected he sounds somewhat creaky trying to sustain the top notes. But he's not unlistenable by any means, and he handles some of the less demanding songs with great aplomb. Bonnie does save the day, though, bringing a soulfulness to the stodgy lyrics

while her father retains a boisterous approach. She also employs great tenderness when singing with her father, careful never to show him up — except once, when he asks for it in *Anything You Can Do* for the sake of comedy, in singing the line "I can hold any note longer than you." It's odd to hear Bonnie singing this material, but she does it well, even if her raspiness lends itself more to the blues. And in *Hey There* she's simply magnificent — very sultry, with pinpoint intonation and perfect, languid pacing.

At the very least, "Broadway Legend" is an oddity, a collector's dream. But fans of either father or daughter will likely find something to grab onto, if only for a couple of songs. *A.N.*



JOHN STEWART: Airdream Believer.

SHANACHIE 8015 (53 min).

Performance: Time warp
Recording: Good

Kingston Trio alumna John Stewart has about as checkered a career as you can have in popular music. He moved on from folk to write *Daydream Believer* for the Monkees, record a smash pop hit, *Gold*, with Stevie Nicks, and have his *Runaway Train* taken to number one on the country charts by Rosanne Cash. Stewart looks old enough to be God's uncle these days, but he still plays a blend of rootsy folk, country, and rock-and-roll. And on "Airdream Believer," an album mostly composed of updated versions of his best-known songs (including three from 1979's "Bombs Away Dream Babies"), he shows why his material over three decades has refused to sink.

Never a truly winning vocalist, Stewart needs plenty of help making his records sound like music. He gets it here from both Rosanne and her daddy, Johnny, as well as from folkie Nanci Griffith, Texas wonder Sara Hickman, and guitarist extraordinaire Steuart Smith. Of five new songs, two stand out: *Justiceville*, about a homeless community, and *I Remember America*, in which Stewart yearns for a more innocent age.

"Airdream Believer" proves that old folkies never die — and that sometimes they refuse to even fade away. *A.N.*

BRIAN WILSON AND VAN DYKE PARKS: Orange Crate Art.

WARNER BROS. 45427 (47 min).

Performance: Delightful
Recording: Atmospheric

This will probably get me bounced from rock-critic society, but I never cared for "Song Cycle," the debut album that Van Dyke Parks released in 1968, about a year

after he wrote lyrics for the Beach Boys' legendary unreleased "Smile." "Song Cycle" was hailed as a masterpiece of concept and orchestration. What I heard was Americana on acid, with vocals that verged on the unlistenable.

"Orange Crate Art" marks the first time that Parks and Brian Wilson have worked together since the Sixties, but it descends more from "Song Cycle" than from "Smile." Indeed, despite the collaborative billing, it's a Van Dyke Parks album with Brian Wilson singing. Once again the material evokes turn-of-the-century America as seen through a blurred rear-view mirror. This time, however, the music is as accessible as "Song Cycle" was difficult, and in the end "Orange Crate Art" comes out sounding like a thinking person's Jimmy Buffett album.

Parks devises a charming rogue persona for Wilson, who plays the role to perfection; his vocals have a carefree quality that hasn't been heard from him in eons. On the infectious tropical *Sail Away*, he resolves to "drink a toast to what's left of my memory." Other tunes borrow the spirit of psychedelic-era Beach Boys, and *San Francisco* has an intro that "Smile" buffs will recognize. There are still times when Parks turns esoteric; both the title track and *My Jeanine* have barbershop-quartet overtones I could do without, and the ominous instrumental *Lullaby* makes a too-strange finale. Nevertheless, this is Parks's strongest work to date, and it gives Wilson fans one more reason to celebrate. *B.M.*

COLLECTIONS

SING HOLLIES IN REVERSE.

EGGBERT 80018 (72 min).

Performance: Bliss
Recording: Mostly good

The Hollies were the warmest and fuzziest of all the great Sixties Anglo-pop bands — who else would dare deliver a pickup line (from *Step Inside*, covered here by Bill Lloyd) like "We'll have tea and crumpets toasted by the fireside"? They al-



so had more good songs than they're given credit for, and the tribute album "Sing Hollies in Reverse" is a warm fuzzy from start to finish, with a houseful of terrific pop-obsessed bands digging into material they obviously love.

The Posies' remake of *King Midas in Reverse* has all the beautiful self-doubt of the original, and a better guitar solo to boot. Steve Wynn and E give serial-killer overtones to their respective versions of *The Air*



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POPULAR MUSIC

That I Breathe and *Jennifer Eccles*, while Tommy Keene, backed by the Gin Blossoms, gives a somber slant to *Carrie Anne*. Jon Brion's eight-minute *Sorry Suzanne* starts as a straightforward cover, then takes the big leap into psychedelia that the Hollies never made. But most of the twenty-one contributors take the songs' innocence at face value; the Loud Family's *Look Through Any Window* and the Continental Drifters' *I Can't Let Go*, for example, are just wonderfully, shamelessly giddy.

The album also sheds light on some fine obscurities. Carla Olson pulls *Touch* from the group's country-rock period (with ex-Hollie Mikael Ricklors adding vocals). Andrew covers prime nonhit *Heading for a Fall*, and Cub takes on the *Louie Louie* homage *You Know He Did*.

Of course, a handful of Hollies staples are missing, most importantly *Stop! Stop! Stop!*, and there's a noticeable shortage of late-period album tracks. Volume two, anyone? *B.M.*

JAZZ REVIEWS

DOC CHEATHAM/SAMMY PRICE: Duets and Solos.

SACKVILLE 5002 (two CD's, 125 min).

Performance: Togetherness
Recording: Excellent

There are not many jazz musicians left who were performing in the Twenties, and fewer still who have sustained, but Doc Cheatham is one of them. He recorded with Ma Rainey, toured Europe with Sam Wooding's band in the late Twenties, and became an indispensable addition to Latin brass sections during that postwar boom. The two CD's of "Duets and Solos" combine material from three Sackville LP's that Cheatham recorded in 1976 and 1979 with the late pianist Sammy Price. It's laid-back, intimate music by two deeply rooted pros who worked well together. Price never developed his own style, but he was brilliant at capturing the essence of the masters around him, and few pianists had his flair for the blues. He has several solo tracks in this collection, but it is Cheatham's work that gives the duet tracks their outstanding quality. Highly recommended. *C.A.*

MARTY EHRLICH'S DARK WOODS ENSEMBLE: Just Before the Dawn.

NEW WORLD/COUNTERCURRENTS
80474 (60 min).

Performance: Graceful and taut
Recording: Excellent

A mainstay of such important Eighties and Nineties ensembles as the Julius Hemphill Sextet and Bobby Previte's Weather Clear, Track Fast, Marty Ehrlich is so respected by his fellow musicians that at the Knitting Factory in New York last year, Anthony Braxton chose him as the horn in a quartet in which Braxton himself played piano. Ehrlich's most commendable virtue may be his willingness as an improviser to put himself totally at the service of a composer's vision — in this case, his own. Vincent Chancey's French horn, Erik Friedlander's cello, Mark Helias's bass, and Don Alias's hand drums come and go from track to track, and with Ehrlich switching between alto saxophone and various clarinets and flutes, the end result is an impressive array of moods and colors from a maximum of five instruments. Drawing on both ethnic rhythms and twentieth-century European compositional techniques, this is quiet music of surprising force and complexity, fully consistent with the intelligent musicianship one has come to expect from Ehrlich. *F.D.*

DIZZY GILLESPIE: Copenhagen Concert.

STEEPLECHASE 36024 (69 min).

Performance: Superb
Recording: Excellent remote

Dizzy Gillespie's venturesome spirit played a major part in molding bebop, but by 1959, when "Copenhagen Concert" was recorded, he had settled into a comfortable groove. That's not to say he was tread-

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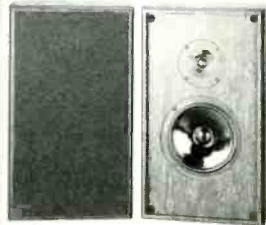
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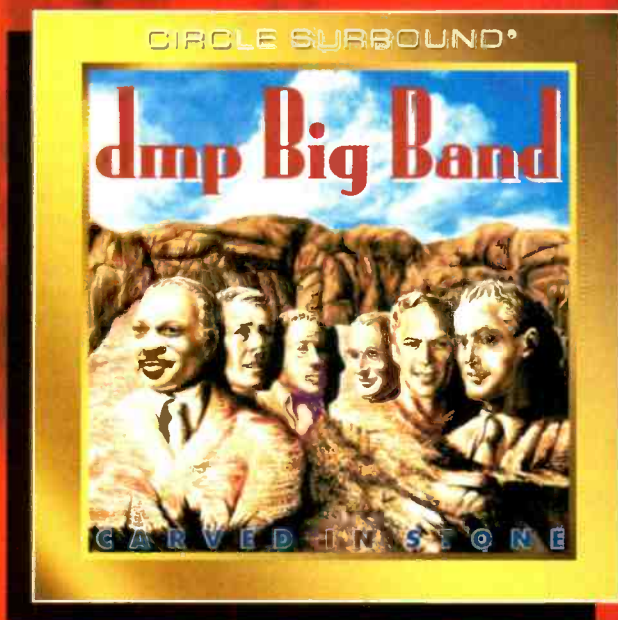
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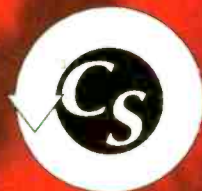
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QUICK FIXES

THE CORRS: *Forgiven, Not Forgotten.*

ATLANTIC 92612 (49 min).

Here's a young Irish band that tries to fuse traditional Celtic influences with the slick L.A. pop personified by their producer, David Foster. Would you be surprised if I told you it doesn't work? S.S.

ENSAMBLE GURRUFIO: *El Cruzao.*

DORIAN 80133 (50 min).

This CD of "New Acoustic Music from Venezuela" is made up of merengues, joropos, and danzas that are mostly upbeat and cheerful, with a few meditative vales for a change of pace. Recommended to spice up Sunday brunch on a sunny winter morning. William Livingstone

HANNAH CRANNA:

Better Lonely Days.

BIG DEAL/CAROLINE 9016 (40 min).

These guys may not be the most original band around, inhabiting as they do the overcrowded space between pop and grunge, but there's no doubt their blend of



winsomeness and distortion is eminently listenable. A good example is a cover of the Kinks' sublime *Waterloo Sunset* that gets to the aching heart of the song despite a chic veneer of fuzz guitar. S.S.

JAZZ AT THE MOVIES BAND:

It's a Wonderful Life.

DISCOVERY 77027 (52 min).

My favorite jazz ensemble has done it again, this time with an album subtitled "Sax at the Movies for Christmas." They restore the sparkle to such trite tunes as *White Christmas*, *My Favorite Things*, and *Winter Wonderland* and add fresh Christmas songs from *Sleepless in Seattle* and *Home Alone*. A nice antidote to all those syrupy carols. W.L.

THE JESUS AND MARY CHAIN

HATE ROCK 'N' ROLL.

AMERICAN 43043 (38 min).

The feeling is mutual, I'm sure. S.S.

THE PRESIDENTS OF THE UNITED STATES OF AMERICA.

COLUMBIA 67291 (38 min).

Raucous, kinetic, and often very funny

minimalist rock (three-string guitar, two-string bass), sort of like Morphine without the beatnik affectations. If you doubt me, check out *We Are Not Going to Make It*, in which the Presidents take grim stock of their commercial potential, or a cover of the MC5's *Kick Out the Jams* that nearly outrocks the original — despite a certain quality of, shall we say, ironic distance. A treat. S.S.



EMITT RHODES:

Listen, Listen.

VARESE SARABANDE 5591 (61 min).

A long-awaited best-of from one of the first and finest American power-poppers, with stuff from his solo albums (the McCartney-esque *Fresh as a Daisy*, still aching melodic after all these years) as well as his earlier stint with the Merry-Go-Round (whence the Bangles memorably covered *Live*). Somebody get this guy on "Yellow Pills Vol. 4." S.S.

THE EDGE OF CHRISTMAS.

OGGIO 81585 (44 min).

In which various Eighties/New Wave figures — the Pretenders, the Cocteau Twins, the Pogues with Kirsty MacColl — sing the praises of the holiday season with unsurprisingly mixed results. Pick hit: the Smithereens' previously unreleased salute to *Rudolph the Red-Nosed Reindeer*. Worst marketing move: that David Bowie duet with Bing Crosby while the Old Groaner was actually alive. S.S.

EVEN SANTA GETS THE BLUES.

POINTBLANK CLASSIC 40654 (37 min).

In which various venerable R&B types — from blues shouter Lowell Fulson to former Black Moses of Soul Isaac Hayes — seem generally hummed out about Christmas and share the feeling most affectingly. Coolest track: Charles Brown's famous original *Merry Christmas Baby*. Most depressed: Hadda Brooks in the Alberta Hunter-ish *LA Christmas Blue*. S.S.

RARE SURF VOLUME 1: THE SOUTH BAY BANDS.

AVI 5009 (57 min).

Most rediscovered genre stuff (in any genre) is of interest only to purist fanatics, but this album's worth of tracks by totally obscure early Sixties surf rockers P.J. & the Galaxies is a revelation: genre-smashing, almost arty instrumentals that look back to the Ventures and ahead to Joe Satriani. The historical find of the year. S.S.

ing the mill — in fact, far from it. Like Louis Armstrong, he had reached a point in his career where he was playing with such authority and brio that even old licks seemed freshly made. With alto saxophonist Leo Wright at his side and pianist Junior Mance leading a rhythm section completed by bassist Art Davis and drummer Teddy Stewart, the ever ebullient Mr. Gillespie is in fine company here, which may explain why he is also in top form throughout. Stewart, whose association with Dizzy dated back to the 1948 big band, takes over *Wheatleigh Hall*, and everybody sparkles in *A Night in Tunisia*. The remaining forty-five minutes of "Copenhagen Concert" are equally absorbing. Great Gillespie, superb group, spirited bop, excellent recording — what more could anyone want? C.A.

AL GREY: *Centerpiece.*

TELARC JAZZ 83379 (59 min).

Performance: Swinging fun

Recording: Excellent remote

Last March, veteran big band trombonist Al Grey assembled a sextet specifically for a one-week booking at New York's Blue Note. Telarc was there with its 20-bit digital equipment, and an hour of the recordings has now been issued as "Centerpiece," a CD that gets my vote as one of the finest jazz albums in a long time.

Grey sounds as robust at 70 as he did in his younger days, when he played with Jimmy Lunceford, Lucky Millinder, Benny Carter, and Lionel Hampton, to mention a few. Trumpeter Harry "Sweets" Edison, a fellow Basie alumnus, is equally amazing at near-80, and the rhythm section is simply superb. Like Grey, pianist Junior Mance and bassist Ben Brown have served in a Dizzy Gillespie group (which may account for the smoothness of the album's opener, *Diz Related*), and both are more than at home with the blues — which, of course, was the main texture of the Basie band.

Edison's crisp muted horn is particularly effective in *I Wish I Knew*; Grey, also muted, is both lyrical and whimsical in *Bewitched*. Mance is his soulful, blues-drenched self in his own *South Side*, and Brown shines in his *S.W.B. Blues* (named in honor of his wife, Sheyvonne Wright Brown). Bobby Durham, the perfect propellant for this elite group, keeps things swinging from beginning to end, and he moves front and center for *Homage to Norman* and *Lester Leaps In*.

We hear much good jazz from young players these days, but I don't care how skilled one is technically or how carefully one has listened to the music that came before — there is a certain quality that only experience can generate. It is present throughout "Centerpiece." C.A.

RON HOLLOWAY: *Struttin'.*

MILESTONE 9238 (62 min).

Performance: His way

Recording: Very good

Washington, D.C.-based Ron Holloway (not to be confused with Red Holloway) has been on the scene for several years, playing with groups that run the

POPULAR MUSIC

gamut from Root Boy Slim and His Sex Change Band to Dizzy Gillespie's quintet. Despite twenty years of such experience, "Struttin'" is only Holloway's second album as a leader. It's an eventful trip through a variety of jazz textures and time zones, in which the saxophonist has surrounded himself with several combinations of fine musicians. Kenny Barron, John Scofield, Lonnie Smith, Larry Willis, David Williams, and Victor Lewis are the most recognizable names, but credit also goes to trumpeter Mac Gollehon and drummer Steve Berrios. "Struttin'" offers an engaging mix, from the quiet beauty and lyricism of *Soultrane*, *How Long*, and *Where Are You?* (a duet with Barron) to the hard hop of *Dr. Free Zeel*, *Mr. X* and the downright funk of *Jungle Strut*. There is also an excellent reading of the Mercer-Arlen classic *Come Rain or Come Shine*, a worthy Middle Eastern-ish original called *Cobra*, and a marvelous Willis arrangement of *I Found a New Baby*. **C.A.**

JOHN McLAUGHLIN: After the Rain.
VERVE 527 467 (57 min).
Performance: High-minded and blistering
Recording: Fine

Although it should come as news to no one that jazz is experiencing a Hammond B-3 revival, who'd have guessed that John McLaughlin would be responsible for one of the most blistering and inventive of latter-day organ jams, and in partnership

with the equally unlikely Joey DeFrancesco? Some will hear "After the Rain" as the long-delayed follow-up to McLaughlin's late-1965 work with Larry Young in the Tony Williams Lifetime, but this program largely devoted to Coltrane incantations is even better — earthier and more disciplined but just as outside. It's as though some of DeFrancesco's grit rubbed off on the guitarist, who then returned the favor by lending some of his high-mindedness to the young organist (who in the past has often been unable to tell the difference between genuine soul and schlock). They sound great together, especially with Elvin Jones's drums sundering the earth beneath them every few bars, just as they did beneath Coltrane. **F.D.**

JOSHUA REDMAN QUARTET: Spirit of the Moment — Live at the Village Vanguard.
WARNER BROS. 45923 (two CD's, 147 min).
Performance: Spread thin
Recording: Excellent

Joshua Redman's fourth album, recorded in concert last spring, clocks in at two hours plus — far more than enough time to showcase the young tenor saxophonist's ample gifts. The most notable of these gifts may be Redman's success in forming a band in his own image (drummer Brian Blade is especially tuned into the leader), his admirable sense of uptempo melodic continuity (*Slapstick* is the best of several

examples here), and his increasing maturity as a balladeer (though I do wonder if it's wise for him to end almost every ballad with an unaccompanied coda that begs invidious comparison to Sonny Rollins).

Such a generous helping of Redman, however, also serves to expose the formulaic and somewhat derivative nature of many of his solos. His tendency to end lines with an upper-register burp is becoming something of a comic trademark, sort of like Marty Allen's "Hello, dere!" or Bill Dana's "My name José Jimenez," and ultimately just as annoying. Redman's debt to Rollins is as evident in Julie Styne's *Just in Time* as it is in Rollins's own *St. Thomas*. But when Rollins recorded the song from *Bells Are Ringing*, he was having fun with a show tune; Redman is playing Rollins, and he's not having very much fun at all. I also don't remember Redman sounding as much like Coltrane as he does in *Lyric* and *Second Snow*, the latter number featuring his uncertain soprano.

Oddly enough, though, the most Coltrane-like performance on "Spirit of the Moment" — *Dialogue*, a folkish dirge reprised from last year's "Moodswings" and similar in design to Coltrane's *Alabama* — is where Redman gives promise of truly finding his own voice. If nothing else, the instrumental shadowplay here demonstrates his knowledge that going "outside" isn't just the latter-day equivalent of getting "hot." **F.D.**



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

**BARTOK: Concerto for Orchestra;
The Miraculous Mandarin.**

Tanglewood Festival Chorus; Boston
Symphony Orchestra, Seiji Ozawa cond.
PHILIPS 442 783 (70 min).

Performance: Good
Recording: Good

Right at the beginning of this live concert recording, I was put off because Philips included applause preceding the Concerto for Orchestra as well as following it, but the big surprise was at the end: Seiji Ozawa, who recorded the work in its familiar form with the Chicago Symphony nearly thirty years ago, this time used Bartok's original ending. One might assume, since this performance took place last year, that

his intention was to let his Symphony Hall audience hear the work exactly as Serge Koussevitzky introduced it there fifty years earlier; it was Koussevitzky, just after the première, who persuaded Bartok to add a few bars so that the ending wouldn't be so abrupt.

I imagine more listeners will be put off by the unfamiliar ending than by the applause, but there is no mention of it in the disc's labeling or annotation, only in a sticker on the shrink-wrap that says, "50th Anniversary Edition of the 'Concerto for Orchestra.' Features Bartok's Never Before Recorded Original Ending." (The claim doesn't stand up, because Leonard Slatkin's recent RCA Victor recording of the work

with the Saint Louis Symphony includes both endings on separate tracks.) In any event, Ozawa offers strong performances of both the concerto and the complete ballet *The Miraculous Mandarin*, in which the orchestra is joined by the Tanglewood Festival Chorus, and they are recorded with care for atmosphere as well as detail. *R.F.*



BRAHMS: Clarinet Trio, Op. 115.
BEETHOVEN: Clarinet Trio, Op. 11.
MOZART: Clarinet Trio (K. 498).

Richard Stoltzman (clarinet);
Emanuel Ax (piano); Yo-Yo Ma (cello).
SONY 57499 (70 min).

Performance: Top-drawer
Recording: Excellent

Even if you take exception to the substitution of cello for the throatier viola in the Mozart E-flat Major Trio, it's pretty hard to resist the enticements of this program. It seems to be the first time this combination of works has been offered on one CD, and Emmanuel Ax, Richard Stoltzman, and Yo-Yo Ma work hand in glove from start to finish. The passion in Brahms's A Minor Trio, first of the four masterpieces he composed for the clarinetist Richard Mühlfeld, is eloquently set forth, most notably in the concluding allegro, and Stoltzman brings a truly soulful elegance to the slow movement. This piece can sound dour, but not in this performance.

The sassiness of the outer movements in Beethoven's B-flat Major Trio comes through in the most delightful manner, and the Mozart is utterly beguiling throughout, with a delicious lilt to the central menuetto. Recording in the New England Conservatory of Music's Jordan Hall, the Sony production team achieved an ideal combination of presence and acoustical breathing room. *D.H.*

**BRANCA: Symphony No. 9 ("L'ève
future"); Freeform.**

Camerata Silesia; Polish Radio National
Symphony (Katowice). Christian von Barries
cond. POINT 446 505 (59 min).

Performance: Strong, bleak
Recording: Not easy listening

I approached the CD player gingerly, cotton in my ears, hand on the volume control. Glenn Branca is best known for his loud, screaming "symphonies" written for entire orchestras of manipulated electric guitars.

As it turns out, I needn't have worried. Branca's Ninth Symphony, a postmodern, post-Apocalyptic work for traditional orchestra and wordless chorus, forms a single big, 47-minute, shifting sonority, sometimes dissonant and threatening, sometimes soft and consoling, mostly strange and

San Francisco Welcome

When Michael Tilson Thomas took over as music director of the San Francisco Symphony at the beginning of the fall season, the city greeted him

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Conductor Michael Tilson Thomas

with a rousing fanfare — complete with giant gongs made from old oxygen tanks — composed for the occasion by Lou Harrison. Thomas's predecessor,

Herbert Blomstedt, was respected but not loved here, but by all appearances the City by the Bay has lost its heart to its new maestro. A massive billboard campaign plastered the streets with his beaky, pouting face, longish hair poking over his collar, and the stark initials "MTT."

The opening concert, with guest artists cellist Yo-Yo Ma and soprano Barbara Hendricks, was a tour de force demonstrating the new music director's versatility, including in addition to the Harrison fanfare works by Britten, Mozart, Saint-Saëns, Villa-Lobos, and Gershwin. Thomas and the orchestra mark their new collaboration with a BMG Classics recording contract. Their first disc, the conductor's own arrangement of Prokofiev's *Romeo and Juliet*, is due out in February 1996. *Jamie James*

CLASSICAL MUSIC

bleak. Subtitled *L'ève future* (you figure it out; I'm not sure I can), it is the musical equivalent of one of those desolate and blighted landscapes around Eastern European industrial cities like Katowice, Poland, where this recording was made. Pollution has destroyed every living thing, so this is a landscape of spirits only, and their music, while curiously beautiful, is very sad and very depressing.

Things pick up a bit on the second track, a work for orchestra (without chorus) that seems to be called *Freeform* (it is barely listed on the box and is otherwise unmentioned). Ironically, its form is much clearer than the symphony's, with a dynamic build-up that gives it a strong presence in what sounds to me much more like the real world. *E.S.*

FRANCK: Violin Sonata.

SZYMANOWSKI: Violin Sonata.

Chee-Yun (violin); Akira Eguchi (piano). DENON 78954 (50 min).

Performance: Impassioned

Recording: Exemplary

The violin sonatas by the 64-year-old Franck and the 22-year-old Szymanowski were composed within eighteen years of each other and share markedly similar aesthetic outlooks; they make very agreeable

discmates — perhaps *too* agreeable. If you wonder whether the two works *ought* to sound quite so much alike, the simple answer is that there is a good deal of the mature Franck in the youthful Szymanowski's early sonata. If that is too obvious here, even though the latter comes first on the disc, it is not Chee-Yun's fault. She serves both works well with rich tone, assured



technique, fine musical impulses, and unquestionable commitment, and her partnership with her keyboard associate Akira Eguchi is an uncommonly sympathetic one. It may be best to avoid listening to the entire disc at a single sitting: Heard one at a time, each performance is a good deal more than agreeable, and Denon's recording is exemplary in its balancing of the two instruments and its overall presence. *R.F.*

HANDEL: Keyboard Suites.

Keith Jarrett (piano). ECM 21530 (74 min).

Performance: Proper

Recording: Elegant

Except for the overworked *The Harmonious Blacksmith*, the keyboard music of George Frederick Handel (or, in ECM's German style, Georg Friedrich Händel) is surprisingly little known or regarded. Keith Jarrett, of all people, sets out to remedy this with seven keyboard suites elegantly played on the modern piano. This is, in many ways, a beautiful recording, but I must confess to decidedly modified rapture.

My big gripe with Jarrett's performances of Baroque music, on the harpsichord or piano, is that he turns off his jazz experience and sensibility when, in fact, that is exactly what he should be drawing on. Baroque music was performers' music, and it has a lot in common with jazz. The written scores are almost always just the bare bones of the music and need the performers' sensibility to flesh them out. The only question is how, and that is where jazz, a living art form, offers us some clues.

Alas, Jarrett's performances, while lively, fresh, accurate, and elegant, are also monochromatic, only lightly ornamented, and, in general, too cautious in matters rhythmic, dynamical, and accentual. In the few places where he steps out a bit — the great E Minor Suite, for example — the results are so strong that I can only wish he'd been willing to try for more. *E.S.*

KANCHELI: Exile.

Maacha Deubner (soprano); Natalia Pshenichnikova (flutes); Catrin Demenga (violin); Ruth Killius (viola); Rebecca Firth (cello); Christian Suter (string bass); Wladimir Jurowski cond. ECM 21535 (47 min).

Performance: Unearthly

Recording: Outer-space ambience

Following the breakup of the Soviet Union, the 60-year-old Georgian composer Giya Kancheli departed his homeland. Here in the West he has cultivated a highly spiritualized musical utterance somewhat akin to that of Arvo Pärt or John Tavener. *Morning Prayers* for voice, alto flute, and chamber orchestra and *Evening Prayers* for voices and chamber orchestra, heard on an earlier ECM release, were his initial efforts to come to terms with being "a stranger in a strange land." That has now found a definitive expression in *Exile*, a song cycle scored for soprano, alto and bass flutes, other instruments, and magnetic tape.

The most elaborate of its five parts is a German-language setting of the 23rd Psalm that is quite unlike anything I have heard before. I would describe it as a voice crying in the wilderness — disembodied, chillingly eerie. Save for an outburst at "Thou shalt prepare a table for me in the presence of my enemies," the musical dynamics are attenuated and the phrasing spaced out. The texts of the three following sections — *Once I heard him, Count the almonds, and Psalm (No one moulds us again out of earth and clay)* — come from the pen of the German-language poet Paul Celan, whose tormented life ended with suicide in the Seine at the

SOUNDS LIKE CHRISTMAS



From carols sung by an operatic soprano or male choir to arrangements for string quartet, this year's assortment of Christmas CD's is particularly wide-ranging, showing the many ways classical musicians interpret these perennial favorites. We're sure you will find something here to musically accompany your holiday season.

CHANTICLEER:

Sing We Christmas.

TELDEC 94563 (70 min). The *a cappella* male choir sings selections dating from the Renaissance through the twentieth century.

CHRISTMAS WITH KIRI TE KANAWA.

TELDEC 99000 (62 min). The soprano is joined by baritone Michael George and trumpeter Jouko Harjanne, with the BBC Philharmonic led by Robin Stapleton, in a program of carols recorded at Coventry Cathedral, England.

REJOICE!

A String Quartet Christmas.

JOHN MARKS JMR 12 (50 min). Violinists Arturo Delmoni and Alexander Romanul, violist Katharine Murdock, and cellist Nathaniel Rosen perform familiar carols in unusual arrangements.

ROYAL PHILHARMONIC ORCHESTRA:

A Nutcracker Christmas.

RCA VICTOR 68149 (61 min). An all-Tchaikovsky program, conducted by Yuri Temirkanov, that includes selections from the famous *Nutcracker* ballet and from the Symphony No. 1, "Winter Dreams."

WELCOME CHRISTMAS!

Carols from Around the World.

RCA VICTOR 68015 (62 min). A mix of the familiar and the new — a 22-minute selection from Conrad Susa's Carols and Lullabies — performed by the Ensemble Singers of the Plymouth Music Series of Minnesota.

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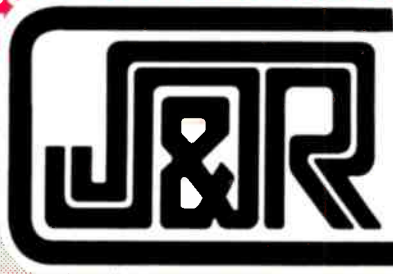
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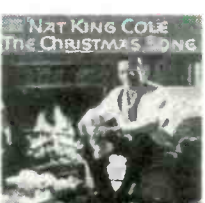
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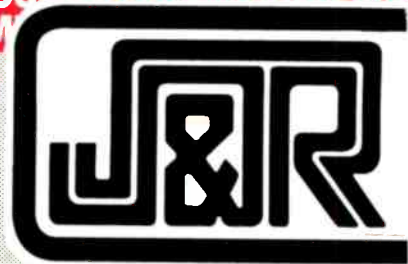
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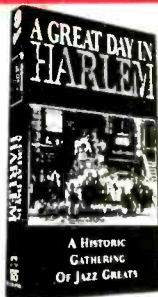
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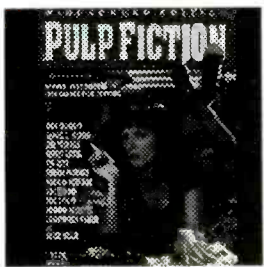
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age of 50. The final poem — *There's really nothing left to say* — is by Hans Sahl, who was for many years U.S. correspondent for the West German newspapers. The concluding words, "Too late," could be said as well these days for many embattled lands. Again the dynamics are attenuated, the phrasing widely spaced, and the vocal line is extraordinarily demanding on the soprano, who sings without vibrato throughout. The effect chilled me to the bone.

Given the church acoustic in which *Exile* was recorded, it is virtually impossible to decipher the words of the poems as heard over loudspeakers amidst normal room noise. For full impact, I strongly recommend using headphones. *D.H.*



**MAHLER: Symphony No. 7.
DIEPENBROCK: Im Grossen
Schweigen.**

Haaken Hagegard (baritone); Royal Concertgebouw Orchestra, Riccardo Chailly cond. LONDON 444 446 (two CD's, 107 min).

**Performance: Expansive
Recording: Opulent**

Riccardo Chailly takes an uninhibitedly opulent view of this most problematic of the Mahler symphonies. The length and complexity of the first movement and the seeming sprawl of the rondo-finale are the sticking points. The conductor's challenge is to keep the rhythm and phrasing taut enough to hold the whole thing together without spoiling the many atmospheric felicities. Leonard Bernstein's two recordings may have been surpassed sonically, but he has come closest to getting the piece right.

That said, if what you want is expansive treatment of the end movements along with sonic opulence, Riccardo Chailly's new recording, which appears to be his first foray into Mahler, provides those qualities in abundance. I would have liked more tension in the night-march *Nachtmusik* as well as in the spooky scherzo. Things fare best in the *Andante amoroso* Night Music II, where the guitar and mandolin are heard to delectable advantage in the chamber-music-like texture of the scoring. The Concertgebouw is a wonderful acoustic venue for this movement and for much else in the Mahler Seventh, but the first and last movements need sharper rhythmic definition than the longish decay time of the hall allows.

The substantial filler piece is a 23-minute vocal tone poem from 1906 by Mahler's longer-lived Dutch contemporary, Alphons Diepenbrock. *Im Grossen Schweigen* ("In the great silence"), to a text from Nietzsche, contrasts the impassiveness of the sea and nature with the emotionality of humankind. The idiom is post-Wagnerian with overtones of Franck on the one hand and the

French Impressionists on the other. The Swedish baritone Haaken Hagegard brings an ample measure of intensity to the music, with a finely honed delivery of Nietzsche's words. *D.H.*

PURCELL: The Fairy Queen.

Catherine Bott (soprano), Jeffrey Thomas (tenor), Michael Schopper (bass), others: Amsterdam Baroque Choir and Orchestra, Ton Koopman cond. ERATO 98507 (two CD's, 120 min).

**Performance: Refreshingly unmannered
Recording: Excellent**

The best recordings of Purcell's celebrated semi-opera *The Fairy Queen* — an elaborate score written to accompany an adaptation of Shakespeare's *A Midsummer Night's Dream* — happen to be led by non-British musicians. William Christie's 1989 recording on Harmonia Mundi with Les Arts Florissants has long been the best around, and now this Dutch rendition under Ton Koopman is an equally viable though very different contender.

Like Christie, Koopman leads a spirited performance, but never at the expense of the music's fine points. To some listeners, the performance may seem subdued. Occasionally the reading misses descriptive details in Purcell's allegorical representations of the seasons, but more often there are subtle revelations. The Drunken Poet is plenty woozy yet never draws attention away from his intricate vocal interplay with the fairies. Purcell's dramatization of the character of Night is clearly conveyed, with the vocal and orchestral lines seeming to float on two different but complementary planes.

The Fairy Queen betrays many influences from French Baroque opera, and Koopman treats it like a less aristocratic English version of Lully, with an odd but strangely sympathetic combination of earthiness and surface elegance. He also chose the perfect singers for such an approach — the smoky-voiced Catherine Bott and that tenor of a thousand voices, Jeffrey Thomas. Those who have always found Purcell a bit twee might be convinced otherwise by this recording. *D.P.S.*

ROSNER: Of Numbers and of Bells.

Timothy Hester, Nancy Weems (pianos). **Horn Sonata; Cello Sonata No. 1.** Heidi Garson (French horn); Maxine Neuman (cello); Yolanda Liepa, Joan Stein (piano). **Nightstone.**

Randolph Lacey (tenor); Timothy Hester (piano). ALBANY TROY 167 (67 min).

**Performance: Excellent
Recording: Very good**

Arnold Rosner, now 50, has been associated for some years with college music faculties in the New York City area. As composer of a hundred-some works, he has steered clear of serialism and the avant-garde, preferring instead to adhere to a more mainstream musical language. As evidenced by the works on this CD, written between 1968 (the Cello Sonata No. 1) and 1983 (*Of Numbers and of Bells*), his music is eclectic in the best sense of that word.

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redolent at times of Hindemith, Vaughan Williams, and Hovhaness.

Of Numbers and of Bells is imbued with a strong modal element and powerful sonorities, all expertly captured in the recording. The Horn Sonata, beautifully written for the instrument, evokes Hindemith and Britten, reaching a peak of brilliance in the toccata-like middle movement. The horn-piano balance is remarkably fine. The Cello Sonata begins with an intense adagio, followed by a rhythmically complex fugue-

textured middle movement and an affecting, strongly modal finale. Both sonata recordings were done originally for LP's in the middle 1980's.

Nightstone is a setting of three excerpts from the Biblical *Song of Songs*, with a musical treatment ranging from the ecstatic to the meditative. Randolph Lacey's tenor is a bit on the reedy side but not obtrusively so. The various instrumentalists all display musicianship of the first order. The recorded sound is eminently satisfying, and I enjoyed

the music thoroughly for its substance and honesty. *D.H.*

SCHUBERT: Schwanengesang and Other Late Songs.

Bo Skovhus (baritone); Helmut Deutsch (piano). SONY 66835 (65 min).

Performance: Fervent
Recording: Very good

Schubert's last lieder collection, posthumously published by Haslinger as *Schwanengesang* (*Swan Song*), was never meant to be a cycle. With the increased capacity of compact discs, it is possible to combine the original collection with several other songs on texts by Johann Seidl, the poet of the last *Schwanengesang* song, *Die Taubenpost*, thereby creating a congenial collection of related Schubert songs without being tied to Haslinger's artificial sequence.

The five Seidl songs here include the deceptively simple but harmonically intricate and provocative *Am Fenster*, the properly gentle *Wiegenlied*, and the wide-ranging and not particularly grateful *Bei Dir Allein*, which seems to call for a more relaxed treatment than it receives from the young Danish baritone Bo (Boje) Skovhus.

Lyrical and intimate songs suit him best, among them *Ihr Bild*, the familiar yet sometimes mistreated *Ständchen*, and the lovely *Herbst*, a Ludwig Rellstab setting not part of the original *Schwanengesang* but, fittingly, composed in Schubert's last year. For *Der Atlas*, more vocal weight is needed and, while the artist's range is impressive, his tone loses luster when forced in loud passages (*Kriegers Ahnung*). Fine accompaniments by Helmut Deutsch, and good notes with texts. *G.J.*

SIBELIUS: Early Chamber Music, Vol. 1.

Ernst Kovacic, Jan Söderblom. Massimo Quarta, Ilaria Miori (violin); Juhani Lagarspetz, Viatcheslav Novikov (piano); Ilari Angervo (viola); Jan-Erik Gustavsson, Martti Rousi (cello). ONDINE 826 (58 min).

Performance: Very good
Recording: Excellent

The Sibelius family's 1982 donation to the Helsinki University Library of the composer's unpublished scores brought to light a substantial body of chamber music, most of which pre-dated the grandiose *Kullervo* Symphony of 1892. Some of the first fruits of that discovery appear on this Ondine CD, performed by a variety of highly capable Finnish artists along with colleagues from Austria, Ukraine, and Italy.

All four of the works here make attractive listening, but none is a masterpiece. The Violin Sonata in F Major is idyllic in a Griegish fashion. The first movement of the A Major Suite for String Trio has a decided nature-impressionist tinge that's unusual for 1889. The corresponding movement of the G Minor String Trio displays a bit of the *crescendo-sforzando* that was to mark Sibelius's later output, beginning with the opening pages of *Finlandia*. The Piano Quartet in C Minor (1891) is unusual both in its scoring, with two violins and cello, and in its variation format — there are seven in all (No. 6 is fascinatingly wayward).

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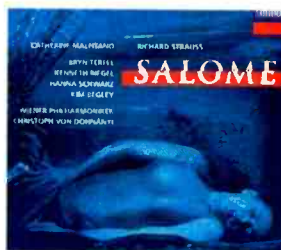
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CLASSICAL MUSIC

preceded by a dramatic introduction and concluding with a subdued coda for solo piano. The performances are just fine, and the recording is A-1. *D.H.*



R. STRAUSS: Salome.

Catherine Malfitano (Salome), Bryn Terfel (Jochanaan), Kenneth Riegel (Herod), Hanna Schwarz (Herodias), Kim Begley (Narraboth), others; Vienna Philharmonic. Christoph von Dohnanyi cond. LONDON 444 178 (100 min).

Performance: Terfel's show
Recording: Powerful

I'm afraid this is a *Salome* totally dominated by John the Baptist. When the executioner's blade heads for that throat, all we can do is wince in horror and wait for the Dance of the Seven Veils. The Jochanaan is Bryn Terfel, and he is simply overpowering. His performance, although not musically impeccable, is so radiant and rich with prophecy that Herod's reluctance to pass sentence is perfectly comprehensible. Anyone with a voice like that *must* have been sent by God.

Salome is not a great role for Catherine Malfitano, at least on a purely vocal basis. The part seems at the same time too light and too heavy for her; she lacks both innocence and lust, and Salome, alas, has to have both. Like a character from *Clueless*, the performer is so wrapped up in her own concerns that she hardly reacts to Jochanaan at all. Their interaction strongly depends on Salome since Jochanaan refuses to recognize her as an individual. Without that interaction, the dramatic force of the piece is blunted.

Kenneth Riegel's Herod and Hanna Schwarz's Herodias are strongly inflected caricatures, and the secondary roles are well sung. The Vienna Philharmonic under Christoph von Dohnanyi gives a large-scale, rather serious performance. *E.S.*

VERDI: Simon Boccanegra.

Miriam Gauci (Amelia), Eduard Tugagian (Boccanegra), Giacomo Aragall (Gabriele), others; choruses: Belgian Radio and TV Philharmonic Orchestra, Alexander Rahbari cond. DISCOVER 920225 (two CD's, 123 min).

Performance: Very good
Recording: Warm, rich

Verdi's tragedy of the doge of Genoa, unsuccessful when first produced in 1857, enjoyed a critical success in 1881 following extensive revisions by the composer, many of which evoke the tonalities of *Otello*, only six years away. Despite its excellences, however, the work has never entered the popular repertory.

While the cast of this recorded performance is largely unknown to U.S. audi-

ences, as are the responsive chorus, the admirable orchestra, and the young Iranian-born conductor, Alexander Rahbari, their collaboration yields an integral and moving performance — in short, an honest reading of Verdi's score. Rahbari's sense of dynamics and pace is laudable; the performance moves without being driven and achieves its climaxes without frenzy.

Baritone Eduard Tugagian brings credibility to Boccanegra's complex character, singing with warmth and convincingly depicting the protagonist's guilt, remorse, joy in the discovery of his daughter, political ambition, and, finally, benevolence in time of death. The touching Recognition Scene between Simon and his love-child is a high-point of the recording. Amelia, sung by soprano Miriam Gauci, emerges as unwavering in her love for Gabriele Adorno as she is steadfast in her allegiance to her father. Her first-appearance solo, "*Come in quest'ora bruna*," is memorably sung; throughout, her clear, well-focused lyric voice is a pleasure. Though somewhat more refined than in previous recordings, the singing of tenor Giacomo Aragall, as Gabriele, is uneven and frequently effortful. Peter Mikulas as Fiesco, father of Maria, who was seduced earlier by Boccanegra, and thus grandfather to Amelia, employs his bass voice with noble sonority, especially in "*Il lacera-to spirito*," the most famous vocal passage of the work. Performances of this caliber and interest at a budget price help the Discover label live up to its name. *R.A.*

Collections

PEDRO AND INES BACAN: De Viva Voz.

AUDIVIS 6812 (47 min).

Performance: Stunning
Recording: Immediate

Anyone who still thinks that flamenco is ladies with spit curls, wearing red dresses and clodhoppers, is about twenty years out of date. Flamenco, like everything in Spain, has undergone profound changes in the post-Franco era, with many artists turning to outside musical idioms for inspiration. Pedro Bacan and his sister, Ines, are among the greatest interpreters of flamenco in its traditional forms, the *bulerias* and *siguiriyas* that date back centuries. That is not to say they are curators of a musical museum — very far from it, for flamenco has always been a personal expression, and the Bacans are passionate artists.

Pedro writes songs based on, but not slavishly following, the ancient canons, and he accompanies his sister's voice with the Spanish guitar. The results are overwhelming. It has become a critical cliché to describe a singer as a force of nature, but Ines Bacan's voice requires stronger language — really, at some moments it sounds like a supernatural force. In a fandango called *De Lejos Lo Vi Pasar* ("I saw him pass by from afar"), she laments her lost love with an intensity that almost makes you feel embarrassed at the intimacy of her self-revelation. And while Pedro Bacan is a master of tradi-

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CLASSICAL MUSIC

QUICK FIXES

BEETHOVEN: Piano Sonatas No. 8 ("Pathétique"), No. 14 ("Moonlight"), No. 21 ("Waldstein"), and No. 26 ("Les Adieux").

Bernard Roberts. NIMBUS 7707 (79 min). Bernard Roberts's sane, musicianly performances of these four familiar sonatas, recorded in the early Eighties, were apparently issued earlier in less generous packages and may have escaped notice. Listeners to whom the music itself matters more than the renown of the performer should find this CD a very pleasant surprise. *R.F.*

THE PURCELL MANUSCRIPT.

Davitt Moroney (virginal, harpsichord). VIRGIN 45166 (67 min). Discovered with great fanfare in 1993, the "Purcell manuscript" joins a mere handful of surviving Purcell autographs. While it promises to reveal plenty about period notation and style, the music itself appears to be exercises for a royal student. Many of the simplistic and short-winded pieces suggest François Couperin on a diet. And although Davitt Moroney could make scale exercises seem interesting, he's saddled with a fairly



clunky virginal throughout much of the recording. Not mainstream listening. *D.P.S.*

ANONYMOUS 4: The Lily & The Lamb.

HARMONIA MUNDI 907124 (67 min). The ethereal quality of the music and the beauty of the pure voices of this quartet of female singers are quite evident in this recording of chant and polyphony from medieval England. There is a sameness to the sound, however, and unless you wish to listen to these selections about the Virgin Mary at the foot of the Cross simply as background music, you'll need to follow the texts closely. *William Livingstone*

ARIETTA.

Prague Chamber Ensemble. VOX 7507 (65 min). As a death-defying opera fan, I'm constitutionally opposed to instrumental versions of

arias without words. This album of Italian arias in salon style, however, is so beautifully arranged and played that it is irresistible. Verdi's passion and Puccini's pathos are well communicated. This CD might attract new audiences to the real thing. *W.L.*

MANUEL BARRUECO:

Plays Lennon and McCartney. London Symphony, Jeremy Lubbock cond. ANGEL 55228 (45 min). All your favorite Beatles tunes are here, in mellow performances by Manuel Barrueco in arrangements for guitar, with or without other instruments, by a number of hands, including the Cuban guitarist and composer Leo Brower and, surprisingly, the Japanese avant-garde composer Toru Takemitsu. My favorites are Brower's duo arrangements, played with the American guitarist David Tannenbaum, which include a sensational version of *Penny Lane* that really hops. *E.S.*

GEOFF SMITH: 15 Wild Decembers.

SONY 66605 (58 min). Awkward, meandering, featureless, and formless settings of fragments of romantic poetry with the grotesquely processed voice of Nicola Walker Smith and the endlessly repetitious keyboard playing of composer Geoff Smith. It's enough to give New Age a bad name. *E.S.*

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CLASSICAL MUSIC

tional forms, he also innovates tastefully. For instance, the disc opens with a lullaby in waltz time — a very bizarre rhythm in flamenco — with two cellos brought in at the conclusion to underline the work's mesmerizing sonorities.

The great pity about this recording is that the booklet does not have English translations of the texts, which are of a very high literary quality. (There are French versions, if that helps.) This is the most emotional music in the world. Give it a listen. *J.J.*

GREENE STRING QUARTET:

Bluegreene.

VIRGIN 45133 (46 min).

Performance: Cool, very cool

Recording: High-energy

Amid the many Kronos and crossover clones, the Greene String Quartet stands out. Richard Greene is a classically trained violinist who has fiddled his way from Bill Monroe and His Bluegrass Boys to Bruce Springsteen and Bob Seger and has subsequently put together his own uli-

mate string band — a jazz string quartet. The Greene Quartet's earlier albums depended mostly on effective arrangements, ranging from *Puttin' on the Ritz* to music of the Doors, and this one similarly leads off with a version of Bernstein's *Cool* from *West Side Story* and Chick Corea and Dick Hyman's fantasy on *Londonderry Air*. But the rest of the album is devoted to original pieces commissioned and premiered by the group, including the wonderful *Blue Deco* by the late Eliot Kaplin and Peter Schickele's amusing *Blue Set* for jazz string quartet.

Jazz string quartet is exactly what the Greene Quartet is. They have defined the genre, created the sound and the repertoire. The energy level is high on "Bluegreene," and musical interest never flags. These players are always on top of everything, but with all their vehement energy, they are never less than cool. *E.S.*

THOMAS HAMPSON:

German Opera Arias.

Munich Radio Orchestra, Fabio Luisi cond. EMI 55233 (79 min).

Performance: Probing and expressive
Recording: Excellent

Thomas Hampson takes us on a panoramic journey through German opera from Weber through Wagner to Schreker and Korngold. While none of the twelve selections here is exactly new to records, at least half of them come from operas virtually unknown to American listeners. That alone should create sufficient interest, but Hampson's superior artistry lifts the program way beyond that threshold.

Not all of these baritone arias are ideally suited to his light, heady, and malleable sound. Weber's *Lysiart* (*Euryanthe*) and Marschner's *Hans Heiling*, to say nothing of his demonic *Vampyr*, demand a "Heldenbariton" sonority from their interpreters, but Korngold's "Mein Sehnen" (from *Die Tote Stadt*) emerges with a gorgeous lyric flow. Lortzing's carefree Count (*Der Wildschütz*) brims with a lusty swagger, and the tragic Epilogue from Humperdinck's *Königskinder* is voiced with deepfelt eloquence. As for the Wagnerian selections, Hampson's "Abendstern" (*Tannhäuser*) suggests a great Wolfram to come, and despite its low tessitura (for a tenor) he intones Siegmund's "Winterstürme" (*Die Walküre*) beautifully — the climaxing high G's are well within his range. The clear and idiomatic enunciation throughout is also admirable, and this intellectually probing artist even wrote part of the excellent annotation. He receives excellent orchestral support under Fabio Luisi's direction. *G.J.*

VLADIMIR HOROWITZ:

The Private Collection, Volume Two.

RCA VICTOR 62644 (67 min).

Performance: Stunning

Recording: Surprisingly good

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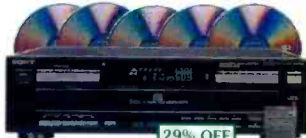
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the legendary pianist never recorded for commercial release. While Volume One ranges through established repertory — Bach, Scarlatti, Rachmaninoff — this one draws on more recent works, including the New York premières of Dmitri Kabalevsky's Second Sonata, from February 1947, and Barber's *Excursions* (omitting No. 3 of the four) from March 1945.

Eight of Kabalevsky's Op. 38 preludes are also included, and some of them — such as the assertive No. 16, in B-flat Major, and the stormy No. 24, in D Minor — are really quite remarkable pieces. The sound quality is even more remarkable considering the date (April 1947) and the conditions under which the recordings were made. Actually, the sound is quite fine (and the audiences consistently well behaved) throughout the disc, which also contains three Debussy etudes drawn from two different recitals, two pieces from the piano suite Prokofiev fashioned from the score of his ballet *Cinderella*, and Poulenc's two intermezzos.

As for the performances — well, they more than justify the effort of bringing them to the public. Perhaps another pianist would have conveyed as much substance as well as power in the Kabalevsky sonata, or found as much unlabored eloquence in the Poulenc pieces, but it is hard to imagine. Far more consistently than Volume One, the 67 minutes of this "Private Collection" add up to quite a stunning illustration of what the Horowitz legend is all about. R.F.

MOSCOW VIRTUOSI:

Stalin Cocktail.

Vladimir Spivakov cond. RCA VICTOR 68061 (68 min).

Performance: Neat

Recording: Bright, clean

Quite a concoction, this "Stalin Cocktail"! It leads off with Vladimir Milman's string-orchestra arrangement of Shostakovich's String Quartet No. 3 as Chamber Symphony No. 2, with five movements ranging from the deliberately trivial to the searingly tragic. Vladimir Spivakov leads his Moscow Virtuosi in a highly polished reading, immaculate and cool, but I find the music packs more wallop in its original format. The high point of the CD comes with Edison Denisov's powerful, nightmarish variations on Haydn's canon *Tod Ist ein Langer Schlaf* ("Death is a long sleep"). The virtuosic solo-cello part is ably handled by Mikhail Milman.

There are two sharply contrasting works from Estonia's Arvo Pärt, the fascinating, dissonance-flavored three-movement *Collage on the Theme B-A-C-H* from 1964, pre-dating his current mystical-spiritual idiom, and the famous and always moving 1976 *Cantus in Memory of Benjamin Britten*. As in the Shostakovich, I find Spivakov's treatment on the cool side. The title piece, *Stalin Cocktail*, is a savagely sarcastic little essay by Rodion Schedrin from 1992. Toward the close Spivakov supplies a solo-violin obbligato on *Black Eyes*; I won't reveal the ending — you have to hear it for yourself. The sonics throughout are spick-and-span. D.H.

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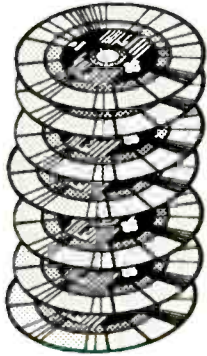
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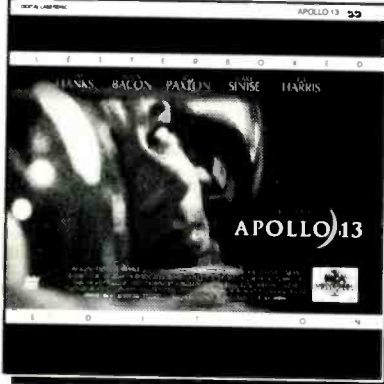
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December

THE HIGH END

PETER W. MITCHELL

A Measure of Bass Quality

Considered as a listening room, a car's interior is nothing at all like the "free-air" environment that loudspeaker-design programs assume. To make things worse, engineers habitually make measurements in an anechoic chamber — precisely the sort of free-air space that design programs assume. So the measurements confirm what the design program predicts, but neither corresponds to the environment where the speaker will be used.

In a lab the response of a typical 10-inch woofer in a sealed box rolls off below 60 Hz. But in a car the same 10-inch woofer becomes a powerful subwoofer. The woofer's low-end rolloff is neatly compensated for by the car's small-space acoustic boost, with the result that the in-car response remains flat to below 20 Hz.

Thus, contrary to what lab measurements imply, in a car any woofer in a sealed enclosure can deliver uniform response to below 20 Hz. Larger woofer cones may produce higher levels of bass, but in-car frequency response is substantially the same for woofers of any size.

So getting powerful bass is easy in a car. But what about the quality of that bass? For many years I have suspected that the subjective quality of bass reproduction is closely correlated with something called "group delay."

Technically, group delay is a measure of how sharply the phase of a signal changes from one frequency to the next. Any rapid change in phase within a narrow frequency range may produce excessive group delay. This can occur at the fundamental resonance of a woofer in its enclosure, or in a speaker's crossover network, or when a narrow band of frequencies is boosted or cut by an equalizer, or when response is rolled off steeply by a sharp filter. In loudspeakers the measured group delay is typically less than 1 millisecond at most frequencies except in the bass region, where the group delay may rise to dozens of milliseconds around the woofer/cabinet resonance.

I became aware of how group delay can affect sound quality nearly fifteen years ago when I was helping a manufacturer set up an exhibit at a Consumer Electronics Show. During the LP era, clever manufacturers often included a sharp infrasonic filter in their amplifiers

and preamps in order to minimize problems caused by the record player's cartridge/turntable resonance. In this case both the preamp and the power amp contained infrasonic filters, while the speakers were popular bass-reflex models.

In our first setup for the exhibit, low-frequency transients (bass drum and plucked bass fiddles) sounded unexpectedly thick and sluggish and lacked real impact. I suspected that the problem might be excessive group delay caused by the combined phase shift of the two infrasonic filters plus the inherent group delay of the bass-reflex speaker design. When I bypassed the infrasonic filter in the power amp, the system's bass improved dramatically. Bass transients became clearer, deeper, and subjectively more powerful.

Back then, the relationship between group delay and bass quality was intriguing but unproven, partly because mea-

**The subjective quality of
bass reproduction
is closely correlated with
group delay.**

surements of group delay were rare. Moreover, in living-room systems the quality of the bass is so severely affected by standing waves that people have little incentive to examine other bass problems.

In recent years, in the course of testing dozens of car subwoofers, I have often heard large differences in bass quality. (The car is an ideal environment for such testing, since its small-space boost insures that the bass is consistently strong but uncorrupted by standing waves.) In many cases I have been able to correlate my subjective impressions of bass quality with predicted group-delay curves that came from such computer enclosure-design programs as LEAP and MacSpeakerz.

Sealed-box (acoustic-suspension) speaker systems consistently have the least group delay (under 10 milliseconds), and they usually deliver the tautest bass transients, the deepest-sounding bass tones, and the most clearly resolved bass textures. Bass-reflex and bandpass systems

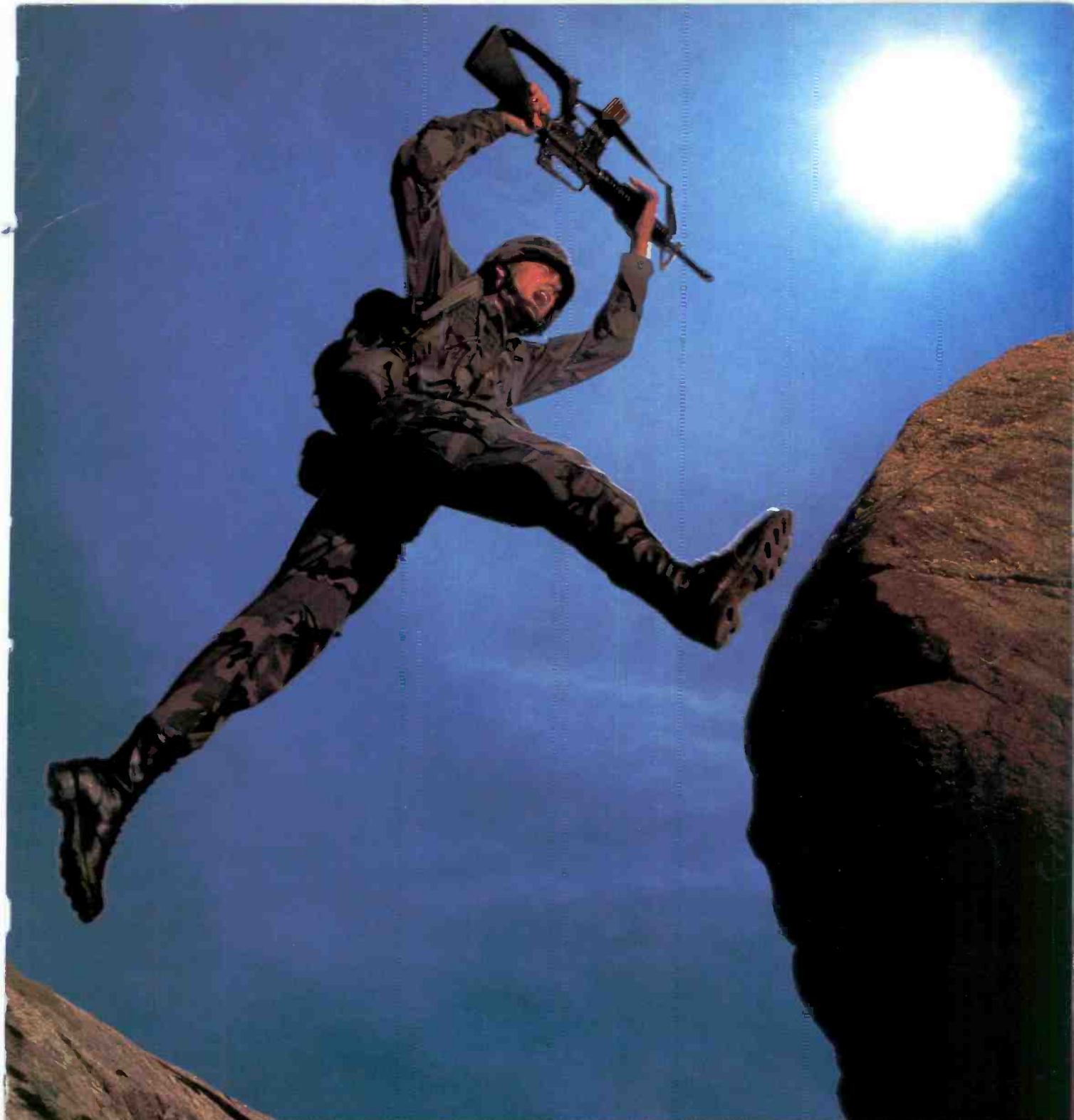
can deliver higher levels of bass energy, but they often exhibit a substantial amount of group delay (40 milliseconds or more) at the cabinet tuning frequency, and their sound tends to be thicker, fuller, and "slower." Psychoacoustic studies have shown that 20 milliseconds is the critical threshold at low frequencies: the subjective character of the bass is altered if the group delay exceeds that threshold at often-heard bass frequencies.

It would be tempting to conclude from this that sealed enclosures always deliver the best bass quality, but further listening tests contradicted that prejudice. Two years ago, in an in-car comparison of nine 10-inch subwoofers in manufacturer-built enclosures (half sealed and half bass-reflex), I found that two systems delivered particularly impressive performance. The deep thunder-like textures produced by the layered synthesizers in Enya's popular "Watermark" CD were resolved by these subwoofers with a remarkable combination of clarity and seat-shaking impact, while a bass-drum roll on the Telarc "Star Tracks" CD shook the car with awesome pressure waves. Surprisingly, these were bass-reflex systems, but they had been designed for unusually low group delay.

When I tested a subwoofer system that had dual bass-reflex ports, the sounds of kick-drum and synthesizer were particularly thick, boomy, and ill-defined. When I altered the cabinet tuning by blocking one port, the bass sounded much better — stronger, deeper, tauter, and clearer. Conventional measurements (distortion, frequency response, and so on) did not explain the improvement. Last year I purchased a new computer-based testing system that measures group delay, and I used it to remeasure the dual-port subwoofer. It revealed high group delay from 40 to 60 Hz, peaking at nearly 55 milliseconds at 50 Hz — precisely where the kick drum in rock music has its maximum energy. Blocking one port returned the enclosure so that excessive group delay occurred only in a narrow band around 34 Hz, which may explain the dramatic improvement in sound.

In my most recent comparative test of eight in-car subwoofers, after evaluating sound quality in the vehicle I measured the group delay of each system. In the subs that had the best subjective quality the maximum group delay was 20 milliseconds or less. The subs with the poorest sound (thickening transients while robbing the bass of impact and power) exhibited more than 40 milliseconds of group delay, and the delay peaked near 50 Hz where it affected many bass sounds.

With subwoofers playing an increasingly important role in car stereo and in home theater, all manufacturers should include group delay in their design calculations, and group-delay specs should become an industry standard. □



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