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Adcom's multi-channel power amplifier is a multi-purpose component. An ideal foundation for an authentic surround-sound, home theater system, it can also serve as a centralized power source for a multi-room, multi-speaker audio system. This unique versatility together with Adcom's legendary sound quality made it the choice of the audio industry at its introduction at the 1992 Consumer Electronics Show.

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CIRCLE NO. 1 ON READER SERVICE CARD
35 Years Ago

In the October 1958 issue, editor Oliver P. Ferrell described several "synthetic" stereo systems designed to improve the sound of mono recordings. Ferrell's conclusion: "No enhancing device, however excellent, is a substitute for genuine stereo."

Equipment tested this month included the Eico HTF-90 FM tuner, which was available as a kit ($39.95) or factory assembled ($65.95), and the Bell Model 2521 15-watt receiver, described as "one of the smallest combination units available to the hi-fi consumer." Among the new products noted were the Gonset FM converter for AM car radios. Fly in the ointment: A small halo antenna, not then available, was necessary to improve reception.

If it's so good, how come it's not on CD? Reviewing Ernest Ansermet's recording of Stravinsky's Petrouchka, on London, critic John Thornton called it "the most startling stereo recording yet heard... a historic release."

20 Years Ago

In Best of the Month, Eric Salzman beat the drum for a Turnabout release of Biedermeier-period Romantic works by Kalkbrenner and Spohr ("What sweetness! What melancholy! What mastery!"). James Goodfriend proclaimed a BASF recording of Schubert's "Trout" Quintet with Jorg Demus and the Collegium Aureum on period instruments "one of the most important records of the year." And Joel Vance, vastly (too vastly) taken with "Rigor Mortis Sets In," by the Who's bassist, John Entwhistle, declared, "I wish that listening to it might be made mandatory."

Elsewhere in the review sections, Noel Coppage considered a solo album by Steppenwolf's frontman John Kay and noted, "As a harmonica player, Kay isn't even a threat to me." And a despairing Peter Reilly concluded his critique of Jimmy Buffett's "A White Sport Coat and a Pink Crustacean" with the observation, "It has about as much chance of survival in the current marketplace as a blonde ingenue overnight guest at a Transylvanian castle."

New products this month included the Sylvania RQ3748 four-channel receiver with built-in SQ decoder ($550), the Elac/Miracord 760 three-speed automatic turntable, and the Applied Physics APL-9 speaker, a pentagonal column with three driver arrays. In test reports, Julian Hirsch examined the Perpetuum-Ehner PE 3060 turntable, which had an automatic record-sensing system to prevent the tonearm from leaving its rest unless a record was on the platter. He called the feature "analogous to an especially tasty icing on an already well-baked cake."

Who does he think he is—Kreskin? Reporting on the first World Record Congress, a critic-and-industry get-together in Italy, William Livingstone quoted a Polydor exec who announced that "the future of recordings lies in the video disc."

10 Years Ago

Letters to the Editor: Response to August's "Speaker Cables: Can You Hear the Difference?"—controlled listening tests showing that expensive Monster Cable offered no audible advantage over standard zip cord—was passionate and mostly outraged. Typical was this reaction from four stereo salesmen from Rochester, Minnesota, who advised us to run the test again: "This time, please use Johnson & Johnson Safety Swabs. Enclosed are twelve, marked for left and right ears!"

New products this month included the Jensen AVS-2100 video tuner ($590) and Philips's Sound Series 2000 car speaker system with rotatable driver panels. In test reports, Julian Hirsch put the Fosgate Research 101A Tate II surround stereo system through its paces, concluding, "If you have long since relegated multichannel sound to the dim past, the Fosgate 101A could give you a pleasant surprise."

Aural Sex? In an ad for the discount equipment seller Stereo Corporation of America, a model with a low-cut dress and a come-hither look was pictured urging readers to call a toll-free number because "I've got something you've always wanted to get your hands on!" —Steve Simels
WITH TECHNICS THE MUSIC NEVER STOPS. EVEN WHEN YOU STOP TO CHANGE DISCS.

Thanks to Technics you can change up to four discs while still listening to Beethoven's Fifth.

Here's the inside story. We isolate the laser pickup from the disc tray. Simple but very effective.

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Technics 5-disc rotary CD changers. The music never stops even when you stop to change discs.
Digital music sources and home theater have heated up the home entertainment scene. To meet the challenge, the all-new Infinity Reference Standard Series speakers employ exclusive technologies to deliver hotter performance without burning a hole in your wallet.

At Infinity, we believe it's not how much you spend, it's how well you spend it.

HOTTER SAX.
JBL's modular SoundEffects line includes the Take 2 RF transmitter, Center center-channel speaker, Sat 2 satellite speaker, and BassWave subwoofer (shown here with a 27-inch RCA Home Theater monitor/receiver and a Technics SA-GX650 A/V receiver). For details see the special test report beginning on page 62.

Cover

Photograph by Roberto Brosan
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We could claim that the Bose® Acoustic Wave® music system is for everyone. After all, it sounds like much larger, more expensive stereos. It fits almost anywhere you can put a briefcase. And it’s as easy to use as your telephone.

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But we think you’re the one to decide if the only stereo system we know to be named Invention of the Year is for you. Because, with all the patented technology on the inside and all the simplicity on the outside, the Acoustic Wave® system is so advanced it may seem technically impossible. It also looks unlike any other stereo system you’ve ever seen. And its compact disc player, AM/FM radio, and built-in patented Active Noise Reduction Headset.

NoiseBuster can reduce annoying noise by 50-95%, while leaving desired sounds such as speech, music and warning signals clearly audible. Use the comfortable, lightweight NoiseBuster:

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Visa/MasterCard accepted
When Denon, with the audio industry's longest heritage of digital design and music recording, charged its most talented engineers to create a range of cost-no-object components, clearly the goal was not for immediate sales. Instead, Denon applied the most advanced technologies to improve the resolution, integrity and stability of digital data transmission to achieve accurate, transparent sound reproduction and pure musicality.

What uniquely qualifies Denon in this endeavor is that the Company shares the same dedication to music of many esoteric manufacturers, but combines this fervor with the technology and resources gained through 83 years of recording music and building record/playback components. No other high-end or mainstream audio manufacturer can make this claim.

The intensive research and design that has gone into the very limited edition of S-Series components could never be recouped through sales, even at their seemingly lofty prices. Instead, Denon, in keeping with its "Design Integrity" philosophy, will explore ways to incorporate many of these advances in future Denon components. But, for those of you who can afford not to wait...
DYNAMIC BALANCE. WITHOUT IT BRIDGES FALL DOWN AND SPEAKERS FALL SHORT.

In 1940 the Tacoma Narrows Bridge shook itself to death. As a 42 mile-an-hour wind blew across the bridge, the steel, macadam and concrete began to resonate uncontrollably, and turned this 2,800 foot centerspan into instant jello.

This notion, that materials produce an amplified resonance when in motion, has been explored in everything from skyscrapers to the spaceshuttle.

Two years ago, we at Polk decided to look at it in speakers. Working in partnership with the Johns Hopkins University, we made discoveries that led us to undertake the most ambitious engineering and speaker design development program in our history.

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THE NEW LS & S SERIES FROM THE SPEAKER SPECIALISTS OF polkaudio
Used CD's

I've had about enough of the music industry's constant whining. One time they're carping about home taping, the next it's used CD's. Where did they believe used CD's would end up? In some landfill?

Now I read that Garth Brooks has come to tilt at this new windmill, refusing to sell his CD's to stores that also carry used CD's. So what's the gripe? Nobody else is reimbursed for sales of used items—not Chrysler, Maytag, John Deere, Levi-Strauss, etc. Americans hold garage sales every week of the year. Used-book stores have been around for decades. What makes music recordings exempt from disposal when they're no longer desired?

And if Brooks is such a "good old boy," how come he's siding with the corporate giants instead of the little guy?

H. J. Ellis
Veradale, WA

Recording Rights

Now that we are paying royalties on blank digital tape, we have the right to record what we want to, don't we? If a friend or relative will lend me 300 CD's, I can record them, can I not?

ROH CAVE
Princeton, TX

Yes, for your personal, private use. You cannot legally sell copies, however.

A Better Bargain

All of us at Celestion appreciate Julian Hirsch's enthusiastic test report on the Celestion Trinity three-piece loudspeaker system in August. The prices quoted, however, were for the Trinity's component parts—Celestion One, $199 a pair; CS135 subwoofer, $259 (the actual price is $249)—for a total of $458, rather than the Trinity's "system" price of $399.

Mr. Hirsch said that the Trinity is "one of the most economical three-piece systems, yet ranks close to the top in sound." We can't help but be curious what his reaction to the Trinity's price/performance ratio might have been if he'd considered the system at its correct suggested retail price of $399.

PETER WELLIKOFF
President, Celestion Industries
Holliston, MA

More Corroding CD's

Like Gerald V. DeOreo (July "Letters"), I have experienced corrosion of the silvery finish on compact discs—about six months after I moved to Dar es Salaam in Tanzania, East Africa, where my apartment was a scant four blocks from the Indian Ocean. It happened with both new CD's and those I had owned for years. The thin sponge-plastic pads in multidisc sets also turned yellow and decayed over time. I believe these effects could have been caused by a combination of high heat, high humidity, and high salt content of the air.

PATRICK L. HARGROVE
Miami, OK

The "CD rot" reported by Gerald V. DeOreo sounds like what's been happening to my CD's over the past four years or so. Out of a total of eighty-eight discs, ten are now slightly damaged, four moderately damaged, and three heavily damaged. Two of the last are completely unplayable—one looks like someone shot a .22-caliber bullet through it!

Interestingly enough, the effect has noticeably slowed down since I relocated from Marine Jalous (more humid) to the Lagoon Road area (less humid). The lesson? If you want to keep your CD's forever, move to the Sahara, or perhaps California. BRIAN STEELE
St. George's, Grenada

Manufacturing standards for CD's are under discussion by the industry in an effort to prevent such problems, which should be very rare among current CD's.

D-d-d-d-DAD

I purchased the new Front 247 album, "06:21:03:11 Up Evil" (Epic), and noticed on the back, under the total time, the letters "DDAD." Is this a new code to describe the recording/mastering technology? If so, how long has it been in use? It is new to me.

GARY C. RUISINGER
Kirkville, MO

According to Epic, the "DDAD" means that the album's vocals were recorded by analog equipment, but everything else was digital. There is no industry-wide standard for this type of code.

The Last Obstacle

Compliments to Julian Hirsch for the down-to-earth views in his August "Technical Talk" column, "Is Distortion Desirable?" On the issue of live vs. recorded sound, I strongly believe that high fidelity has reached the point where the only obstacle to perfect reproduction is acoustics. I vaguely recall an experiment where speakers were placed directly on the stage in a concert hall along with the members of a string quartet. The music was switched back and forth between live and recorded, with minimal if any noticeable difference. If near-perfect reproduction can be achieved under identical acoustic conditions, then the recorded and live music must be nearly identical, and only the acoustics must be recreated.

Why can't that be done by picking up the sound in the home listening room through a microphone and adjusting it, in real time, until the recorded and played-back signals match? Wouldn't that be similar to error correction in a CD player?

PETER WELLIKOFF
President, Celestion Industries
Holliston, MA

Correction

In the special offer of Legacy's "The Beauty of the Blues" CD in September, the cost was incorrectly given in the text as $33, but the amount stated in the coupon, $4, was correct. We regret any confusion caused by this proof-reading error.

We welcome your letters. Please address correspondence to Editor, Stereo Review, 1632 Broadway, New York, NY 10019. You should include your address and telephone number for verification. Letters may be edited for clarity and length.
Here's a great way to build a collection of your favorite movies—on laserdisc! Just write in the numbers of the 3 laserdiscs you want for $1.00 each, plus shipping and handling. In exchange, you simply agree to buy two more laserdiscs in the next year, at regular Club prices—or cancel the obligation. If you remain satisfied, return everything within 10 days for a full refund and no further obligation.

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Fosgate Audionics' four-channel Model 4125 amplifier is rated to deliver 75 watts per channel into 8 ohms or 125 watts into 4 ohms from 20 Hz to 20 kHz with 0.15 percent distortion. Either or both pairs of channels can be bridged for 225 watts into 8 ohms or 275 watts into 4 ohms. Price: $1,099. Fosgate Audionics, Dept. SR, P.O. Box 70, Heber, UT 84032.

CELESTION

Celestion's six-model Shield Series includes the AVC-1 center speaker (above, $179) and the 34-inch-tall AV-6 (right, $699 a pair), which features two 5-inch woofers and a low-frequency limit of 44 Hz. Both speakers are magnetically shielded. Celestion, Dept. SR, 89 Doug Brown Way, Holliston, MA 01746.

DYNACO

Dynaco's Stereo 400 Series II amp, successor to the classic Stereo 400, is rated to deliver 205 watts per channel into 8 ohms and 300 watts into 4 ohms with 0.05 percent distortion. It can be bridged to 600 watts mono and has a high-current mode. Price: $995. Dynaco, Dept. SR, 125 Cabot Ct., Hauppauge, NY 11788.

BLAUPUNKT

The detachable faceplate (left) of Blaupunkt's Monterey CDM83 car CD receiver is contoured so that the primary controls are oriented toward the driver. The head has CD-changer controls, a memory bank for CD or radio-station names, and a four-channel amp that delivers 80 watts. Price: $550. Blaupunkt, Dept. SR, 2800 So. 25th Ave., Broadview, IL 60153.
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BBE's patented Audio Restoration System is said to enhance the clarity of musical recordings by correcting phase anomalies and restoring the proper balance between middle and high frequencies. It has a Definition control to adjust the degree of processing and a Lo Contour knob to boost or cut low frequencies. Price: $229. BBE Sound, Dept. SR, 5500 Bolsa Ave., #245, Huntington Beach, CA 92649.

**TEMA**
Stereo sound from a single enclosure is the aim of Tema's Stereolith Duetto 500, one of four models in a series. Geometric positioning of the left and right speaker complements—a 1-inch tweeter and two 5¼-inch woofers—is said to produce a smooth, concentric dispersion pattern. Bandwidth is given as 70 Hz to 18 kHz. The 14½-inch-tall cabinet is finished in black-ash veneer. Price: $1,980. Tema Corp., Dept. SR, 301 E. Forest Lane, Palatine, IL 60067.

**ALTEC LANSING**
The Model 96 speaker from Altec Lansing is a two-way minitower system using two 6½-inch woofers and a ¾-inch dome tweeter. Frequency response is given as 39 Hz to 20 kHz ±3 dB, power handling as 150 watts maximum, and sensitivity as 91 dB. The 32-inch-tall cabinet is finished in black-oak or dark-oak vinyl. Price: $440 a pair. Altec Lansing, Dept. SR, P.O. Box 277, Milford, PA 18337-0277.

**DENON**
Denon's TU-650RD AM/FM tuner is able to receive the supplementary Radio Data System (RDS) broadcasts being transmitted by some sixty stations nationwide. A large display shows the call letters of a tuned RDS station or a user-created tag for a non-RDS station, and you can search for RDS stations by format or music type. Price: $375. Denon, Dept. SR, 222 New Rd., Parsippany, NJ 07054.

**DIGITAL PHASE**
The patented design of Digital Phase's AP-5 two-way speaker, which couples a 3-inch woofer with a network of "acoustic reeds" to cancel its back wave, is said to achieve 30-Hz response from an 8½ x 13 x 9-inch ported box. Finish is black or oak. Price: $650 a pair. Digital Phase, Dept. SR, 2841 Hickory Valley Rd., Chattanooga, TN 37421.

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Red Hot Chili Peppers: What Hits!? (EMI) 00144
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(1993 BMG Inc.)
**NEW PRODUCTS**

**JVC**

JVC says it has extended the operating range of its HA-W75 cordless headphone system to 33 feet—a 40-percent improvement over previous models. The system includes cushioned headphones with a single built-in volume control and a battery/AC-powered infrared transmitter that accepts standard RCA plugs or a stereo miniplug. Price: $250.

JVC, Dept. SR, 41 Slater Dr., Elmwood Park, NJ 07407.

- Circle 129 on reader service card

**SONY**

Sony’s CDP-CX100 CD changer solves the hassles of storing, retrieving, and handling numerous CD’s with a jukebox-like 100-disc carousel. Highlights include facilities to select discs by music genre, to create multisdisc sequences, and to store preferred track sequences for individual CD’s. Price: $1,200.

Sony, Dept. SR, 1 Sony Dr., Park Ridge, NJ 07656.

- Circle 130 on reader service card

**COGNEO DESIGNS**

Forget which CD’s are in your changer? Cogneo offers five- and six-disc versions of its 17-inch-wide, solid-oak Changer Minder rack. Available by mail order for $15.95 plus $4.50 shipping.

Cogneo Designs, Dept. SR, P.O. Box 1338, Boulder, CO 80306.

- Circle 131 on reader service card

**WIRE TAPE**

No more unsightly wires: Wire Tape is an 18-gauge-equivalent flat speaker cable with a peel-back adhesive surface. It’s designed to be applied directly to sheetrock or plaster walls and can be wallpapered over or painted, making it ideal for concealing wire runs to wall speakers. Price: $20 for a 16-foot roll and eight crimp connectors.

Wire Tape, Dept. SR, 640 N. Cypress, Orange, CA 92667.

- Circle 131 on reader service card

**EPIK MONITOR**

Epik’s 43-inch-tall Ultima X is a transmission-line speaker system with a 7-inch woofer and a 1-inch inverted-dome ceramic tweeter. Frequency response is given as 34 Hz to 27 kHz —3, +1.5 dB, sensitivity as 88 dB, and nominal impedance as 10 ohms. Recommended power is 50 to 200 watts. Cabinet is part solid light or dark cherry, part veneer; other finishes, including oak, are available at extra cost. Price: $5,450 a pair.

Epik Monitor Systems, Dept. SR, 1720 Lilac Dr., Walnut Creek, CA 94595.

- Circle 132 on reader service card
NEW PRODUCTS

HARMAN KARDON
Harman Kardon's compact Festival 500 system comprises a CD player, cassette deck, tuner, and 60-watt-per-channel integrated amp—all discrete components linked together by precut, labeled cables and controlled by a simple thirteen-button remote control. The component stack measures 10⅜ x 14⅛ x 13¼ inches. Price: $1,499. Harman Kardon, Dept. SR, 8380 Balboa Blvd., Northridge, CA 91325.

PINNACLE
Part of Pinnacle’s Audio Cinema line, the 25¼-inch-tall AC 850 speaker is a magnetically shielded, rear-vented system with an 8-inch woofer and an aluminum-dome tweeter. Maximum power handling is given as 125 watts continuous, 375 watts peak, and the low-frequency limit as 30 Hz. Finished in cherry or black woodgrain vinyl. Price: $429 a pair. Pinnacle, Dept. SR, 255 Executive Dr., Suite 310, Plainview, NY 11803.

SAMSUNG
In addition to playing music CD’s and 8- and 12-inch laserdiscs, Samsung’s DV710K VideOrche combi-player has elaborate karaoke (sing-along) facilities, including two microphone inputs, an echo control, a nine-step pitch controller to adjust the key of the singer’s voice, and voice cancellation to delete recorded vocals. Price: $700. Samsung, Dept. SR, 105 Challenger Rd., Ridgefield Park, NJ 07660.

AMC
AMC’s B1-20 powered subwoofer combines an 8-inch woofer, a two-way electronic crossover, and a 55-watt amplifier in a 12 x 15 x 12-inch cabinet. It features an input-sensitivity control, which can be adjusted to accommodate line-level or speaker-level inputs, and an amplifier feedback loop, which is said to limit distortion. Bass output at 30 Hz is said to exceed 103 dB. Price: $750. Weltronics, Dept. SR, 1414 So. Fair Oaks Ave., Suite 7, Pasadena, CA 91030.

STIMULI
Stimuli’s Half-Moon wall-mount storage rack (shown in a multitrack grouping) holds thirty-six CD's; capacity triples when two units are properly spaced. It also accommodates audio cassettes and VHS videotapes. Available by mail order for $50 to $92 plus shipping in a variety of colors and finishes. Smaller racks are also available. Stimuli Inc., Dept. SR, 184 Lexington Ave., #15E, New York, NY 10016.

18 STEREO REVIEW OCTOBER 1993
You've probably heard a lot about THX. Now we'll see how well you were listening.

What the heck is this THX thing?
But here's the skinny. THX is a system designed by the folks at Lucas Entertainment. Its aim:
to make a film sound just as impressive from your easy chair as it did from the director's chair in his fancy high-tech dubbing suite.

The system consists of six THX speakers, and a THX controller/amplifier combo. Boston Acoustics THX speakers offer a great deal more than conventional speakers when it comes to home theater. Specifically, dialog is clearer, effects are more readily localized on and off screen, and panning is more natural (a horse galloping across the screen sounds as such, with a smooth transition from side to side). All of this thanks to the 555x speaker's narrow vertical dispersion pattern. Sound travels to your ears without ricocheting off the floor or ceiling, which can blur crucial dialog and effects.

Another advantage: a sense of true space is achieved with Boston 575x surrounds. These dipolar speakers, unlike conventional ones, use walls to reflect sound several times before it reaches your ears. So the sound envelops you and you feel like you're right in the middle of the scene. And finally, what's a movie without an explosion or two? So we built the tight, powerful Boston 595x subwoofers to deliver the visceral side of a movie's sound effects and music. All of which can be heard at your local Boston dealer. Stop by for a demo. Now that you know what you're listening to.

Bos ton Acoustics
Just what's important

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ALICE COOPER AND MOM.
Seeds for Home Theater

Q I currently have quite an elaborate stereo system, and I want to use it as the basis for a home theater system, but so far I have been unable to get the proper sort of direction at the audio shops I have visited. Is upgrading practical? If so, how do I go about it?

Dennis Windmuller Southlake, TX

A The retailer would no doubt prefer it if you ditched what you’ve got and started over. But building a home theater system around an existing two-channel stereo setup is an eminently practical way of going about it, as it means that the facility can grow gradually as your budget allows. Actually, if you are able to feed the signal from your VCR or TV to your audio system you might be said to have a home theater system already—there’s no rule that says a home theater can’t be two-channel.

Assuming, however, that you ultimately want multichannel Dolby Pro Logic surround capability, your first step should probably be to add a surround decoder and a small pair of surround speakers. Many decoders have a built-in surround-channel amplifier, otherwise, a low-power external amp can be added at little cost. Be sure the decoder has line outputs for the main front channels so that you can simply feed those signals to your existing stereo system. Later, you can add a shielded center-channel speaker; again, it can be driven by an amplifier included in the decoder or by an outboard power amp. The main consideration in buying a center speaker is that it matches the main front speakers as closely as possible in terms of tonal balance, so that sounds don’t change character as they move about the soundstage.

Eventually you may decide to trash everything and put together a home theater system from scratch, a system in which matching is a must. But if you’re careful with the step-by-step approach, that shouldn’t be necessary.

DSP Magic?

Q A number of my CD’s sound very strident when I play them normally, but when I use the “Hall” mode of my digital signal processor, the harshness magically disappears. Is there something in the acoustics of the hall this mode emulates that counteracts the unpleasant frequency peaks in your speakers, which may not have been audible with older LP’s and cassettes but are emphasized when you play a CD. If you’re not sure, browse the record reviews for comments on well-recorded discs and buy or borrow one or two, if they sound harsh as well, it’s probably not the discs.

A Unless there is a malfunction in your machine, nothing comes in contact with the disc’s playing surface, so spinning indefinitely is not likely to cause it any harm. The same may not be true of the player mechanism, however—any device that incorporates moving parts will wear out over time, and letting the player run in the pause mode for long periods will hasten that process.

Sheel System Salvage

Q I am planning to upgrade from a bookshelf system to a much larger setup using a separate preamplifier, power amplifiers, and a CD changer. I mostly listen to compact discs and am not interested in having a separate tuner or tape deck to go with my new system, but I would like to be able to listen to tapes or the radio occasionally. I have thought of connecting my present small system to the new components for this purpose, but I’m not sure how to go about it; the bookshelf unit doesn’t have line-out jacks. Is there another way to feed my old equipment into the new preamp?

Benjamin J. DiFabio Avon, CT

A Even though the shelf system has a built-in cassette deck, there may be provision for connecting a second recorder for copying. If so, its record-out jacks are ideal for feeding a signal to your new system because it means that the facility can grow gradually as your budget allows. Actually, if you are able to feed the signal from your VCR or TV to your audio system you might be said to have a home theater system already—there’s no rule that says a home theater can’t be two-channel.

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No purchase necessary. To enter sweepstakes, complete an official entry form found at participating Fisher retailers and at Musicland and Sam Goody stores and deposit in sweepstakes entry boxes at participating Fisher dealers. Or to enter by mail, print your name, full address and daytime phone number on an official entry form or a 3” x 5” piece of paper along with the words “Fisher Family Harmony” and mail in a stamped, hand-addressed envelope to Fisher Home Theater Sweepstakes, P.O. Box 6780, Monticello, MN 55361-6780. Entries must be received by 12/31/93. Limit one entry per envelope. No mechanical reproductions. Void where prohibited. Sweepstakes open to residents of the U.S. 12 and older. Entrants bound by additional restrictions contained in the official rules, which may be obtained at entry boxes or by sending a stamped, self-addressed envelope to Fisher Home Theater Sweepstakes, P.O. Box 6780, Monticello, MN 55361-6780. Odds of winning depend upon number of eligible entries received. Sweepstakes ends 12/31/93.
that the shelf system's volume control is turned all the way down and that its tone controls are in the flat position, then switch the input to FM and tune in a clear station. Play a CD on the new system, and switch the preamp input back and forth between the CD and the input receiving the shelf system's tuner, gradually increase the shelf system's level until the two signals match. Mark the setting on the shelf system's level control and check periodically that it hasn't been disturbed. Use the shelf system's input selector to switch between tuner and cassette deck.

DIY Speaker Repair

The foam surrounds on all four of my speakers disintegrated in the past year. I have seen ads for new surrounds in all sizes, and replacing mine is tempting as the enclaves and drivers appear to be in good condition otherwise. Is there a replacement for a relatively skilled do-it-yourself, or is maintaining voice-coil centering and so forth too critical for an amateur?

EUGENE ALEXANDER
Burton, VT

FM Maneuvers

I'm having a problem picking up a distant FM signal that is covered by a strong local station. I bought an amplified stereo antenna, but it has had no effect on the reception. Is there any inexpensive way to separate those two signals?

CHRIS PARSLEY
Baltimore, MD

Surround Opera

I recently bought a couple of operas on laserdisc and noticed that they were not encoded in Dolby Surround. I assume this means they won't benefit from Dolby Pro Logic decoding. If I play them in one of the ambience modes, such as "Hall" or "Opera," will the applause and vocals come through realistically? How about Monday Night Football in the "Stadium" mode?

STACEY MCFINTURF
Dublin, OH

Crawl or Wall?

I need advice on wiring my home stereo. I have the option of running about 30 feet of speaker wire through a crawl space, which gets very cold in the winter, or about 60 feet through the walls, where the wires would have to cross several power lines and would probably have to run parallel with them for several feet, maybe 12 inches away. Which would have more adverse effect on my sound: the cold of the crawl space or the power lines in the wall?

DANIEL B. REIDER
Bowling Green, OH

As for sports in the Stadium mode, that would make it sound as though the announcers (and the commercials) were being played through the stadium's public-address system—probably the only thing it wants. But most sports broadcasts, encoded or not, decode terrifically in normal Pro Logic, with the announcers firmly anchored at the screen and the crowd all around.

FM Meanderings

The solution, if there is one, depends largely on the specific nature of the interference. Your attempt to fix things by amplifying the low-level signal was a step in the right direction, but you probably amplified the local signal as well. Increasing the height of your antenna might bring in the weaker station strongly enough to allow your tuner's rejection circuits to work, and if the two stations come from different compass points, a directional antenna might help. If worse comes to worst and you have to upgrade your tuner, look for one with excellent adjacent-channel selectivity—the tuner's ability to discriminate between stations only one channel apart on the dial (not to be confused with alternate-channel selectivity). Look for a rating of 20 dB or more and expect that you will still need a directional antenna. And don't put your money on the counter without arranging to try the tuner at home, or at least getting assurance that you can return it if it doesn't cure your problem.

If you have a question about hi-fi, send it to Q&A, Stereo Review, 1633 Broadway, New York, NY 10019. Sorry, only questions chosen for publication can be answered.
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CIRCLE NO. 15 ON READER SERVICE CARD
PC Sound: More Than Beeps and Buzzes  
by Paul Worthington

You've probably never thought of your personal computer as a medium for high-quality sound reproduction. That's understandable. Most PC's have a very simple audio circuit and a tiny speaker that were never intended to reproduce complex sounds, let alone music. Beeps and buzzes are about all they can handle.

That may be fine if you use your computer only for word processing or spreadsheets. But what if you or someone in your family wants to explore some of those new multimedia CD-ROM titles (Dinosaurs or Time Table of History, for example), a growing number of which have enhanced soundtracks? Or run a program that lets you create your own computer music? Or play the latest arcade-like computer games? Or produce a multimedia presentation that includes music, sound effects, and narration?

Thanks to an add-on device known as a sound card (or board), it is possible to upgrade the sonic capabilities of your PC. In the past year dozens of cards have become available, offering a range of features and options at affordable prices. The best cards can enable your computer to sound as good as your stereo system—provided you use a decent pair of speakers and run the right software.

Think of a sound board as an audio adaptor: You plug it into an empty expansion slot inside your computer, and it processes sound from the hard disk drive or a CD-ROM. Many cards can also be used to record a stereo signal from analog inputs or a microphone, or straight from a CD-ROM, and store it on the computer's hard drive. These recordings can later be used in PC-based multimedia presentations, or they can even be attached to an electronic-mail file to give your message some vocal "punch."

Sound quality varies from card to card, mostly because of variations in technical design. The best use a 16-bit architecture with a sampling rate of 44.1 kHz (that's right, the same as CD) or higher. In fact, only such cards are capable of sound reproduction that approaches CD quality, despite bold advertising claims to the contrary. A word on recording: Before you get any big ideas, bear in mind that one minute of CD-quality stereo sound consumes a whopping 10 megabytes of hard drive space. In other words, serious PC-based recording requires massive storage capacity.

Although the number of 16-bit sound cards is growing, most cards use 8-bit or 12-bit designs with a 22-kHz sampling rate. They're okay for recording voices and some sound effects, but they aren't much good when it comes to music. On the bright side, recording at lower bit/sampling rates substantially reduces storage space. In terms of available software, most PC-based games incorporate 8-bit sound, and some CD-ROM-based games use CD audio clips.

Sound cards also vary in terms of the features they offer. Two or three stereo line-level inputs are standard. And when it comes to the speaker outputs, most are powered to the tune of 2 to 4 watts, but a few boards put out as much as 8 watts or as little as 0.25 watt. The typical card is also equipped with recording and playback mixers, which can be used to combine two or more sound sources into a single recording or output. Volume is adjusted by a rotary dial on the card or via software. Many sound cards are also equipped with an interface for a CD-ROM drive, and most of those can play standard music CD's as well as an array of CD-ROM's from games to educational programs.

Another common sound-board feature is a MIDI (Musical Instrument Digital Interface) synthesizer, which plays music and sound effects that are stored as MIDI computer files. Instead of an actual recording, a MIDI file contains a set of instructions that tells the synthesizer which of the sounds in its palette it must play to create the desired sound effects and musical passages. (The General MIDI standard, which most MIDI devices now conform to, gives you 128 instruments and sounds to play with.)

MIDI files are a popular method of storing PC-game soundtracks or music files created with a MIDI keyboard. Unlike standard digital audio recording, which requires an immense amount of hard-disk storage space, MIDI files are very compact.

There are two basic types of MIDI synthesizers: those that use FM (frequency-modulation) synthesis technology and those that use wave-table synthesis. FM synthesis cards are more widely available, but their sound quality is somewhat cheesy. Wave-table synthesis, on the other hand, delivers better sound quality because it uses digital samples of actual instrumental sounds. The resulting output can give a surprisingly good simulation of a large band sitting on your desktop.

Ready to hear what you've been missing from your PC? A good 8-bit board can be yours for less than $200, or you can drop another $100 and get a 16-bit board. Whatever your choice, be prepared to spend more time with your PC—the power a sound card gives you is addictive.

Paul Worthington is senior editor of Multimedia World, from the publisher of PC World.
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Edison’s Failure

In the late nineteenth century, perhaps half of all American homes had a piano; it was the focus of family entertainment and interaction. The invention of the phonograph heralded a profound change. People stopped making music and started simply listening to it. Thomas Edison had invented passive audio-only entertainment.

Clearly, the force of change is all around us, sweeping us into the future. We are like sticks of wood caught in a river—we feel the turbulence, but fail to understand how quickly the current is really moving. Too often we are lulled into the notion that constancy is the norm. We forget that it is change that is the norm. We are fooled into thinking that the longer things have persisted, the more secure their existence is. We forget that the opposite is true; the older something is, the more likely it will be superseded.

Edison’s phonograph was invented in 1877. It effectively ended the age-old tradition of making and sharing musical experiences as folk entertainment. Why bother to learn to play an instrument when you could buy a recording of a vastly more talented musician? Day or night, anytime you wanted, over and over—the world’s best performers. Simply wind the spring. Some people resisted passive music; they said it wasn’t as good as real music making.

Radio, that once-great passive musical medium, has become as stale as the concert hall; in many respects, both have become museums in which (mainly) old music is recycled endlessly for the amusement of older listeners. That’s because many youngsters aren’t listening. Who can blame them for turning elsewhere for entertainment? Playing a video game is infinitely more exciting than simply listening to music. As that young generation grows older, do you think it will lay aside its multimedia toys and be content with passive music instead? Or will it continue to shun passive music and demand newer, more sophisticated multimedia products?

The signs of such a change are everywhere in our society. According to the Wall Street Journal, the videogame industry grossed $5.3 billion in 1992, surpassing the revenue collected from movie theaters. And according to the Electronic Industries Association, factory sales of home computers that retail for less than $1,250 are expected to hit $4.9 billion this year, up from $3.8 billion in 1990—figures that represent the cost of goods before wholesale and retail markups and say nothing about software and accessories. In comparison, factory sales of separate audio-only components are expected to slip to $1.5 billion this year, down from $1.9 billion in 1990.

In a future world dominated by virtual reality, audio will be only one part of intense entertainment experiences.

Many of today’s established performers have already sensed these trends. Peter Gabriel, U2, David Bowie, Prince, Billy Idol, Mötley Crüe, Madonna, and Michael Jackson are all working on multimedia projects of one form or another. Todd Rundgren’s first interactive album, “No World Order,” contains a 4-hour musical database representing countless variations of the album. “Users would have to play the CD-I disc for 24 hours a day, seven days a week well into the next millennium in order to hear the same version of a song twice,” Rundgren says. Kids of the future sitting down and simply listening to a recording for a whole hour, straight through? I don’t think so.

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IN THE SMALL TOWN of Lynchburg, Tennessee, nothing seems to change but the seasons.

Folks spend easy October evenings on the porch like they always have. The conversation is much like it's always been. And over in Jack Daniel's Hollow, we still make our Tennessee Whiskey in the very manner our founder perfected—the way our friends have always liked it. A sip, we believe, and you'll be glad the only thing changing here is the color of the trees.

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DG Enters the Fourth Dimension

This fall Deutsche Grammophon is releasing on CD its first recordings made in what the company calls "4D," a new method of digital recording intended to bring an added dimension of clarity and realism to compact discs. To participate in STEREO REVIEW's program of special CD offers, expanded for our thirty-fifth anniversary year, Deutsche Grammophon has produced a limited-edition sampler made up of excerpts from the first 4D recordings, most of which have not yet been released. To get your copy all you have to do is fill out the coupon below and send it in with your check or money order for $2.

According to Klaus Hiemann, the director of DG's recording center in Hanover, Germany, "The sole aim of recording technology is that it should become inaudible." Hiemann has worked with engineers at Yamaha to design and manufacture the equipment needed to make recordings that "eliminate the listener's awareness of the technical medium, allowing the enjoyment of a completely natural sound quality."

Deutsche Grammophon's explanation of the 4D system dwells primarily on four areas of technical improvement. They are: a remote-controlled microphone preamplifier, a 21-bit analog-to-digital converter, the "Stagebox principle" (making the A/D conversion on the recording stage, thus eliminating the long analog pathway, which was formerly a major source of noise and distortion), and all-digital mixing. This last step employs the Yamaha DMC 1000 mixing console and DG's proprietary software for a mastering procedure called Authentic Bit Imaging.

To give you the best opportunity to judge the results of these 4D technological innovations for yourself Deutsche Grammophon has chosen a wide range of music for this special STEREO REVIEW sampler. The performances are by some of the most distinguished artists on the DG roster. They include the Adagietto from Mahler's Fifth Symphony played by the Berlin Philharmonic under Claudio Abbado, the final trio from Strauss's Rosenkavalier Suite by the Vienna Philharmonic conducted by André Previn, the third Movement of Tchaikovsky's Fifth Symphony played by the Philharmonia Orchestra with Giuseppe Sinopoli, two of Brahms's Hungarian Dances by the NDR Symphony under John Eliot Gardiner, an excerpt from Rimsky-Korsakov's Scheherazade played by the Orchestre de l'Opéra Bastille conducted by Myung-Whun Chung, and two excerpts from Stravinsky's Firebird played by the Chicago Symphony under Pierre Boulez. The violinist Anne-Sophie Mutter plays Sarasate's Zigeunerweisen with the Vienna Philharmonic conducted by James Levine.

In addition to these large orchestral works, there are such intimate pieces as Grieg's piano solo To Spring played by Andrei Gavrilov and the first movement of a Beethoven sonata for cello and piano played by Mischa Maisky and Martha Argerich. Early music is represented by the Gloria from a Palestrina Mass performed by the Gabrieli Consort and Players conducted by Paul McCreech, and there is an excerpt from the new recording of Bernstein's On the Town with Tyne Daly and the London Symphony Orchestra conducted by Michael Tilson Thomas. The total playing time is 73 minutes.

The editors of STEREO REVIEW are especially pleased to cooperate with Deutsche Grammophon in making this generous exclusive offer to our readers. This 4D CD sampler will permit you to judge the technical results of the work of DG's engineers while you preview new recordings by some of the world's leading musicians. The $2 fee for postage and handling brings you this CD below cost! Remember, this is a limited edition. When the supply runs out, the sampler will not be re-pressed. So don't miss out. Order today.

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How Do I Know It’s Right?

That is a recurrent question posed to me in letters from readers. It is usually the final question asked by someone who wants his music system to sound “right” but is not sure he will be able to recognize that result if he hears it. Sometimes the question is presented in more specific terms, such as: “How do I know how much bass to have? When it sounds right to me, my friend says there is too much (or not enough).”

Actually, the writer of the latest such letter to reach me answers the basic question pretty much as I would. After telling me that his technically minded friend thinks that because “music is recorded flat” it should be played back with the tone controls set “flat” and that loudness compensation should never be used, my correspondent says that he prefers more bass, which he gets from his tone controls. He concludes his letter with these questions: Is bass boost less accurate? Does it matter? Is most music recorded flat, and should it be reproduced the same way?

First of all, a major feature of today’s highly versatile audio components is the degree of control they provide over such matters as frequency response and listening level. It is generally recognized that personal tastes differ widely, even in respect to what the original “live” performance should sound like. The controls provided by a modern amplifier let the listener modify the original in an effort to suit his own taste, and there is nothing wrong with that.

But there is more to the matter than frequency response (at least, the kind you can modify with tone controls). If you have heard a number of different music systems in as many different locations, you are probably aware that rooms-and-loudspeakers (the two cannot really be separated) simply sound different from each other, and usually no amount of juggling the amplifier’s frequency response will make them sound alike.

Experimenting with the room layout (both the furnishings and the loudspeakers), which is likely to involve considerably more time and energy, may be worthwhile if simpler actions do not produce satisfactory performance. “Perfectionist” audiophiles often go to surprising lengths to “tweak” their systems to the nth degree, and if they have a high degree of hearing acuity and a corresponding level of perseverance this approach can result in truly outstanding sound. If you are not fortunate enough to hit the right combination of conditions with a reasonable expenditure of time and money, however, it can be a frustrating procedure.

On the other hand, some people (me included) enjoy hearing classical instrumental music and are fortunate enough to be able to do so in a reasonably good concert environment. I would prefer that my reproduced music at home remind me as much as possible of a live concert experience.

As to that end, I almost never use a tone control (simply because they don’t improve the things I am interested in hearing) and prefer to listen through speakers whose qualities suggest those of a concert hall (not any specific one, just a believable environment for a musical performance).

For me, that is “right.” For my son, who has spent some years on the road as a rock musician, my musical and sonic tastes are probably difficult to understand, but then the reverse is equally true. One audiophile’s meat is another’s poison.

And to answer another of my correspondent’s questions—“Is it right?”—I have to say once more that there is no such thing as “right” in the sense of duplicating an original listening experience in a different environment. Who is to say what is “flat” in a recording made through a couple of dozen microphones? Certainly their combined outputs are in no way representative of what anyone in the audience is hearing during the performance, nor is any playback of a resulting tape or CD going to duplicate the original experience exactly.

The best we can expect is a reasonable approximation.

Even if some ideal tone control (whatever that might be) were to be invented, it would go only part of the way toward recreating the original sound. Your listening room, its furnishings, and the placement of speakers and listeners will probably have a far greater effect on what finally reaches your eardrums than anything that can be done by the electronic components of the music system.

So my advice is to adjust your system’s controls to obtain whatever results appeal to you, and enjoy the music.

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The Carver SD/A-390t five-disc carousel-type CD changer offers an exceptionally large complement of operating features, including such unusual items as vacuum-tube output stages and a Soft EQ circuit that is said to make some discs sound much like top-quality vinyl LP records played with an audiophile-grade turntable/arm/cartridge combination.

Basically, however, the SD/A-390t resembles and operates like a number of other carousel CD changers. It has a relatively deep chassis, necessary to accommodate the large drawer with its five shallow disc wells. When the drawer is opened by a touch of a button on the panel (or on the supplied remote control), three of the disc wells are readily accessible, but the two rearmost ones (Nos. 1 and 5) are partly blocked by the front edge of the cabinet. Some care may be needed when loading or unloading discs from the rearmost positions to avoid scratching them.

Conveniently, the drawer can be opened during operation without disturbing playback of the currently selected disc (which is effectively removed from contact with the carousel). That makes it possible to change up to four of the discs while still playing the fifth.

The changer can be programmed to play as many as twenty tracks, in any order, from any of the five discs. It can also be set to repeat indefinitely any single track, any disc, or all of the discs. Its random-play mode can be applied to all the tracks on a disc, to all the discs, or to a group of programmed selections on any or all discs.

For all its versatility, the SD/A-390t presents a relatively uncluttered appearance. The disc drawer occupies most of the upper part of the front panel (not unlike that of a videodisc player). Below it is the display window and a row of small buttons used for track selection and programming. The right end of the panel contains five more small buttons, for disc selection, and larger ones for opening and closing the drawer, advancing the disc-tray position in either direction, and the conventional stop, pause, and play functions. This area also contains the Soft EQ button and the receiving sensor for the infrared remote control. At the left side of the panel are a stereo...
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Neil Diamond — Hit Hits (Warner Bros.) 442-109
Celine Dion — (Epic) 436-782
Wynonna Judd — Wynonna (MCA/Curb) (A&M) 435-909

Levi—For Real Tho (Atlantic) 434-333
Duran Duran (Capitol) 445-550

“Phantom Of The Opera” Highlights (Org. London Cast) (Polydor) 445-333

Stone Temple Pilots—Core (Atlantic) 454-043
Judas Priest — Metal Works '73-'83 (Columbia) 454-12399-410
“Who’s The Man?” — Original Soundtrack (Uptown/MCA) 458-492
R.E.M. — Automatic For The People (Warner Bros.) 440-122
Inner Circle — Bad Boys (Big Beat/Atlantic) 445-5810
Midnight Oil—Earth And Sun And Moon (Columbia) 458-1460
Clannad—Anam (Atlantic) 459-513

CONTAINS EXPLICIT LYRICS WHICH MAY BE OBJECTIONABLE TO SOME MEMBERS.

Paul McCartney — Off The Ground (Capitol) 459-874
Paul McCartney — All The Beat (Capitol) 459-776

Marc Cohn — The Rainy Bros.)

Onginal Soundtrack

“Jurassic Park” — 481485 (Epic Soundtrax/NDM)

Original Soundtrack

“Poetic Justice” — The Face of Rock.

Inner Circle — Bad Boys (Warner Bros.)

R.E.M. — Automatic For The People (Atlantic)

Clannad — Anam

House of Pain (Tommy Boy) (edited) 453-373
Shai—It’s All Over Now (Epic/Atlantic)
AC/DC—Live (ATCO) 453-217
Bon Jovi—Keep The Faith (Epix/Liberty) 451-310
Elton John—Greatest Hits 1970-86 (EMI) 450-353
Neil Young—Harvest (Geffen) 457-753

Bartocks—Beyond The Sea (Atlantic)

The Face Of Rock.

Dave Grusin—Homage To Duke (GRP) 458-471
New Order—Republic (Qwest/Warner Bros.) 458-915
Jimmy Buffet—Before The Beach (MCA) 458-414
Toby Keith—Whiskey In My Vein (Warner Bros.) 458-315
Jerry Garcia—In My Time (Phallic Vein) 458-018
Aaronsville—Grand Tour (A&M) 457-270
Primitus—Pork Soda (interescope) 457-192
Vince Neil—Exposed (Warner Bros.) 457-473

Dave Dré — The Chronic (Deathrow/Interscope) 451-970

“Poetic Justice”—Original Soundtrack (Epic Soundtrax/NDM) 451-665

“The Jurassic Park”—Original Soundtrack (MCA) 460-915

The Waterboys—Dream Harder (Geffen) 460-681

Tears For Fears—Elemental (Reprise) 460-608

Air Supply—The Vanishing Race (Warner Bros.) 460-212

Branford Marsalis—Bloomington (Columbia) 460-009

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Robert Plant—Fate Of Nations. Calling To You; If I Were A Carpenter; and more (Es Paranza) 459-024

Aerosmith—Get A Grip. Title Cut; Livin’ On The Edge; Walk On Down; Cryin’; Fever; others. (Geffen) 459-027

Dre Strata—On The Night (Warner Bros.) 458-448

Oozy Osborne—Live & Loud (Epic) 459-2298-420

Natalie Cole—Take A Look (Epic) 460-741

Big Daddy Kane—Lovesick And Liking It (Cold Chillin’) 458-287
Gloria Estefan—Give Me One Reason (Epic) 459-636
Wreckx-N-EFx—Hard Or Smooth (MCA) 448-118

Foreigner—The Very Best. And Beyond (Columbia) 447-524
Alan Jackson—A Lot About Livin’ (& A Little Bout Love) (Arista) 448-5458

Pam Tillis—Homeward Angel (Arista) 448-536

Red Company—Here Comes Trouble (ATCO) 446-203
Alice In Chains—Dirt (Fleetwood) 459-131

The Pharcyde—Bizarre Ride To The Pharcyde (Def Jam) 459-753

Regina Belle—Passion (Atlantic) 459-619

4 Non Blondes—Bigger! Better! Faster! (Epic) 454-042
Coverdale/Page—(Geffen) 457-986
Mary J. Blige—What’s The 411? (Uptown/MCA) 445-197

The Fabulous Thunderbirds—Hot Stuff: The Greatest Hits (Epic/Associated) 445-009

George Thorogood & The Destroyers—Baddest Of The Bad (Hits) (EMI) 444-505
Megalith—Countdown To Extinction (Capitol) 444-880

Elton John—The One (MCA) 442-772
Najee—Just An Illusion (Epic) 442-251
Guns N’Roses—Use Your Illusion I (Geffen) 442-187

Nirvana—Nevermind (DGC) 442-046
Guns N’Roses—Use Your Illusion II (Epic) 442-038

Confederate Railroad (Atlantic) 439-158

Mariah Carey — MTV Unplugged (Columbia) 441-790
Mary Chapin Carpenter — Come On, Come On (Columbia) 440-560
Neil Diamond—Greatest Hits 1960-92 (Columbia) 439-778-39977
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k.d. lang—Ingenue (Warner Bros./Sire) 434-404
Enya—Shepherd Moons (Reprise) 434-718
JJ—Austen Baby (Island) 434-213
Frank Sinatra—Reprise/The Very Good Years (Reprise) 430-363
John Mellencamp—Whenever We Wanted (Mercury) 430-231

Naughty By Nature (Tommy Boy) 429-993

Steve Ray Vaughan & Double Trouble—The Sky Is Crying (Epic) 429-258
Red Hot Chili Peppers—Bridt Sugar Sex Magic (Warner Bros.) 428-367
Barry White—Gut Hits (Casablanca) 428-102
Vanessa Williams—The Comfort Zone (Wing) 426-510

SNOW—12 Inches Of Snow (eastwest) 455-011
L.L. Cool J—14 Shots To The Dome (Def Jam/Columbia) 456-525
Boyz II Men—Cooley—highharmony (Motown) 424-754
Bryan Adams—Walking On The Ceiling (A&M) 427-779

Kris Kros—Totally Krossed Out (RuffHouse/Columbia) 453-742
TLC—Oooooohhh... (Lafayette) 453-621
Michael Jackson—Dangerous (Epix) 433-920

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C & C Music Factory—Gonna Make You Sweat (Soda Pop) 416-923
Janelle Jackson—Rhythm Nation 1814 (A&M) 386-918

K. Dela—Love Deluxe (Epic) 449-439
Brooks & Dunn—Hard Workin’ Man (Arista) 454-025
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Van Halen—For Unlawful Carnal Knowledge (Warner Bros.) 420-273
Don Henley—The End of The Innocence (Epic) 383-802
Patsy Cline—Grit Hts (MCA) 395-924
George Michael—Faith (Columbia) 362-228
Guns N' Roses—Appetite For Destruction (Effen) 399-984
U2—The Joshua Tree (Island) 354-449

Ike Turner—Every Breath You Take The Singles (A&M) 348-318
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headphone jack, its volume control, and a large, square power button.

The display window’s dominant feature is a row of seven numerals. Except for the leftmost, which is slightly larger, they are the same size (about 1/4 inch high) and very close together. To their right, five smaller numerals enclosed in circles indicate the presence of discs in the carousel’s wells. Other words and symbols appear in the window as required to show the changer’s current operating mode.

The program level at one pair of rear-apron analog output jacks is fixed, but another pair carries a variable-level signal. There is also a standard coaxial digital output that is unaffected by any of the user controls.

The remote control’s thirty-six buttons duplicate the front-panel controls and add quite a few more. Among these are buttons for the programming, repeat, and random-play functions, plus one that switches the time display to show the time remaining on the current track or on the disc (the default display is the elapsed time on the current track). Besides up and down buttons to control the level at the player’s variable output, the remote has a Level File button that can be used to store volume settings for as many as a hundred discs. When any of these discs is subsequently played, the changer automatically adjusts the variable output level to the stored value (any stored level can easily be erased). Operating the level controls or pressing the Level File button temporarily replaces the normal elapsed-time indication with a volume display.

With Soft EQ off, the SD/A-390t’s frequency response was quite flat, with just a small (0.2-dB) bump centered at 14 kHz. Switching on the Soft EQ boosted the output below 2 kHz, with a broad maximum of +1.8 dB (relative to the 1-kHz level) in the range below 100 Hz. Although that response variation appears large relative to the normal deviations of this and other CD players, it is actually rather small in the context of overall system response. All other measurements were made with Soft EQ off.

Distortion across the audio frequency range was higher than for most CD players we have tested, but not by what we would consider a significant amount. Below a −20-dB recorded level, the 1-kHz total harmonic distortion plus noise (THD + N) was a constant (and negligible) −93 dB, but it rose rapidly at higher levels, to a maximum of −66 dB (0.05 percent) at or near the 0-dB (maximum) level. Although that reading is markedly higher than average for a CD player, it is still well below the threshold of audibility. Noise was typical for a good CD player and thus also completely inaudible.

The low-level linearity of the SD/A-390t’s dual MASH digital-to-analog (D/A) converters was as good as we have come to expect from CD players using this and other single-bit converters. The linearity error at levels between −60 and −90 dB did not exceed a fraction of a decibel.

Channel separation was identical in both directions (left to right and right to left) and much more than adequate. The output level was slightly (negligibly) lower than the 2-volt standard for CD players.

The SD/A-390t performed flawlessly in our listening tests. It was relatively insensitive to physical shock, requiring a rather hard slap on either the top or side to induce skipping while playing a disc. It was able to track through disc defects of 1,500 micrometers without audible errors, although a 2,000-micrometer flaw produced audible mistracking ticks. Slewing between tracks was reasonably fast (2.5 seconds from Track 1 to Track 15 of the Philips TS4 test disc), and a disc change required 8 to 9 seconds. As with most other CD changers we have used, a disc change is accompanied by quite audible mechanical noise. The headphone volume was good.

Although the SD/A-390t is one of the most versatile CD players we have tested, it has its idiosyncrasies. Probably its most annoying characteristic was the close spacing of the identical-size numerals in its display. From a distance of more than a few feet, it was difficult to interpret the string of six numbers all jumbled together. Another annoyance concerned the use of the remote control, which is essential for operating many of the changer’s features. The infrared receiving window on the player’s front panel is at the extreme right end, and we found that simply pointing the remote at the panel in general (especially when close to the player) was not always effective; it was sometimes necessary to carefully aim the handset at the window.

On the plus side, despite the SD/A-390t’s exceptional (and not always conventional) versatility, its instruction manual was a model of clarity, explaining in plain English the effect of each control and how to use the player’s numerous special functions. With its aid, we confirmed that everything worked as claimed.

What about the Soft EQ? Its purpose is to compensate for poor master-
The Carver SD/A-390t performed flawlessly in our listening tests, tracked disc defects well, and was relatively insensitive to shock.

Cambridge SoundWorks Model Six Loudspeaker System

In a career spanning four decades, Henry Kloss has been responsible for the design or production of some of the most successful and trend-setting loudspeakers of their times, including the AR-1, AR-2, and AR-3, the KLH Model Six, and the original Large Advent.

Most recently he has been associated with Cambridge SoundWorks, where he has developed a line of loudspeakers that carry on the tradition of offering exceptional performance for a modest price. The new Model Six, named for Kloss’s KLH Model Six of the 1960’s, brings that speaker’s design approach into the 1990’s.

Like most Kloss speakers, the Model Six is a two-way system. It is based on a newly designed 8-inch acoustic-suspension woofer that crosses over at 2kHz to a 1½-inch cone tweeter with a ½-inch center dome (the same tweeter used in Cambridge SoundWorks’ costlier Ensemble systems). Not a speaker that needs to be hidden from view, the Model Six has an attractive simulated-woodgrain finish in a choice of oak, teak, or black ash, and a nonremovable cloth grille in medium charcoal gray further enhances its appearance. Heavy-duty binding-post input termi-
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Test Reports

nals, compatible with single or dual banana plugs, lugs, or wire ends, are recessed into the back of the cabinet.

Although the Model Six comes with none of the usual speaker performance specifications, a couple of pages of its installation instructions contain more meaningful and useful information about speakers than a comparable amount of acoustic-measurement data or even many far longer treatises. In addition to the usual suggestions on placement and connection—18-gauge or thicker wire is recommended, with a refreshing note that "there is no audible benefit with these or other speakers from very heavy (and expensive) 'audiophile' speaker cable"—other universally applicable statements inform the user that "the apparent fullness of the sound is a function of mid-bass rather than low bass" and that the "subjective openness is not so much a function of the high treble as it is of the lower midrange." Finally, there is the relatively obvious (but often overlooked) suggestion that "program material varies greatly, so be sure to listen to a variety of recordings. This will prevent your being misled by the particular characteristics of a particular recording." That is valid advice for judging any speaker, and I could not have said it better myself.

Our averaged room-response curve from the two speakers spliced to the close-miked woofer response with an octave of overlap, producing a composite curve that was unusually uniform from 1 to 20 kHz. It had a few ±0.75-dB variations and an overall downward shift of about 1 dB above 1 kHz, but those were the only anomalies in that range.

The woofer response, flat within 2.5 dB from 75 to 600 Hz, sloped down by about 3 or 4 dB above that point as it overlapped the room curve. Overall, the woofer response seemed to be 3 to 5 dB higher than the averaged tweeter output. The bass output dropped at 12 dB per octave below 80 Hz in the composite curve, the overall response was a very good ±4 dB from 56 Hz to 20 kHz.

We also made a number of quasi-anechoic frequency-response measurements using the MLS program of our Audio Precision System One test set, with microphone distances of 1 and 2 meters, and some ground-plane measurements to minimize the effect of floor reflections. Although there were some differences between the resulting measurements (because of unavoidable reflections), certain key features appeared in all the MLS response curves. (Our MLS measurements are not valid below 300 Hz, but above that frequency they give information that is pretty much independent of the speaker's environment.) Typically, there was a 3-dB peak (relative to the lower frequencies) at 3 kHz, followed by a drop of 5 to 6 dB to a minimum between 6 and 7 kHz, a return to the 3-kHz level from 7 to 8 kHz, and a 3-dB drop to a plateau ending at 13 kHz, above which the response fell about 5 dB as the frequency approached 20 kHz. Describing these curves in words may make them seem rather ragged, but in fact they're quite good for a loudspeaker, and they confirmed the impression from our listening tests that the Model Six is truly a high-quality speaker.

The tweeter's dispersion was satisfactory, with the response 45 degrees off its axis down 3 dB at 6 kHz, 5 dB at 9 kHz, and 18 dB at 20 kHz. The system impedance reached a maximum of 18 ohms at the bass resonance frequency of 75 Hz. There was a broad peak of 12 ohms at 1 kHz and two minimum impedance readings of 6.6 ohms at 180 Hz and 8 kHz (plus one of 6.2 ohms at 20 Hz). All in all, we would call the nominal impedance 8 ohms.

Sensitivity, with a 2.83-volt input of random noise, was 91 dB sound-pressure level (SPL) at 1 meter. Woofer distortion was measured at 2.53 volts, corresponding to our reference level of 90 dB SPL. The distortion was between 1.5 and 3 percent from 2 kHz down to 75 Hz, rising at lower frequencies to 4.5 percent at 50 Hz, 8.5 percent at 40 Hz, and 12 percent at 30 Hz.

Despite its small size, the Model Six handled very large transient power levels without damage or even serious audible effects. The woofer cone hit its limits with a thump (but without damage) at a single-cycle 100-Hz input of 470 watts. At 1 kHz, where the cone movement for the same SPL is much smaller, the driving amplifier clipped at 550 watts, and the tweeter absorbed the full amplifier output of 950 watts at 10 kHz without difficulty.

From these measurements, one would expect the Cambridge Sound Works Model Six to be a very finesounding speaker, and one would be right. Its clarity and precise imaging reflect Kloss's extensive "voicing" of the speaker to give it the optimum octave-to-octave balance. As for the lows, although the Model Six won't rattle the windows or make your ears pop with the pressure of low organ notes, you will know when they are present. It has an "all there" sound quality that belies its amazingly low price and does credit to its heritage. It even has a vinyl finish that looks and feels like real wood! Our test samples were finished like teak and simply did not look as if they belonged in a bargain-basement price class. At only $119 each, the Model Six is an exceptional value.
The Next Best Thing To Front Row Seats

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We bring the music to you.
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It's a digital disc that you create. The revolutionary Sony MiniDisc:
It's recordable. Portable. And virtually unshockable. It gives you instant random access to mixes you make. And to hundreds of prerecorded titles from your favorite artists.

Sony MiniDisc. For making your music your way, it's absolutely priceless.
Advent Legacy III Loudspeaker System

The Advent Legacy III is a two-way floor-standing speaker system using a 10-inch woofer and a 1-inch soft-dome tweeter with magnetic-fluid damping. The woofer is unusual in having a dual voice coil that enables the system impedance to be set at either 6 or 8 ohms by means of a toggle switch on the back of the cabinet near the input terminals.

The manufacturer recommends using the 6-ohm setting when the amplifier is driving a single pair of speakers, since that will deliver the system's maximum sensitivity (efficiency). If two or more pairs of speakers are driven in parallel, as they might be in a multiroom installation, for example, the 8-ohm setting lightens the load on the amplifier.

The Legacy III's cabinet is made of ¾-inch particle board covered with black textured vinyl, with a solid pecan top plate and base trim. The front is covered by a removable black cloth grille. The woofer, operating in a sealed enclosure, is at the midpoint of the front grille, with the tweeter above it, near the top of the front panel. The input connectors, spring clips designed to accept only wire ends, are recessed into the rear panel, together with the impedance switch.

Advent's specifications for the Legacy III include a bandwidth of 40 Hz to 23 kHz, sensitivity (6-ohm setting) of 90 dB sound-pressure level (SPL) at 1 meter with a 2.83-volt input, and a crossover frequency of 2.5 kHz. The woofer's resonant frequency is given as 50 Hz, ± 5 Hz.

Our room-response measurements showed relatively flat output from 100 Hz to about 1 kHz and another flat range from 1 to 20 kHz at a 4-dB lower level. The close-miked woofer response was flat within 1 dB from 55 to 170 Hz, sloping down gently above that frequency to ~3.5 dB at 800 Hz. Below 60 Hz, its response fell off at 12 dB per octave, to ~5 dB at 40 Hz and ~9 dB at 30 Hz.

Close-miked response measurements of a 10-inch cone are invalid above a few hundred hertz, where its dimensions become comparable to the wavelength of the radiated sound. It was nonetheless possible to splice the close-miked and room-response measurements to form a believable composite response curve. It showed relatively uniform output (2.5 dB overall variation) from 50 Hz to 1 kHz, where there was an abrupt downward step of 4 dB, and a ±2-dB variation from 1.2 to 20 kHz. The tweeter's horizontal dispersion over a 45-degree angle was good, with on- and off-axis outputs diverging by about 2 dB at 5 kHz, 4.5 dB (Continued on page 49)
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The power to teach. With CDs, learning becomes more than looking at words and pictures. Interactive programs like the Discs books series use movies, music, animation and sound to stimulate children with new discoveries. The continual interplay makes reading, math and other subjects fun and involving.

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The most exciting software available today is only on CD-ROM discs. That's because CDs can hold an incredible amount of audio-visual information, making possible software that would be too impractical or too expensive with floppy disks, or even with a hard drive. Right now there are thousands of titles for Macintosh® and PCs running Windows. They cover virtually every conceivable...
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The AppleCD Multimedia Kit gets you off to a great start. It includes:
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is the drive.

Recently, the AppleCD 300 disc drive was named *Macworld*'s Editor's Choice for Overall Value. Why? This double-speed drive is significantly faster than many other CD-ROM drives available today, yet it's still quite affordably priced. At $429,* the AppleCD 300 is a great deal. And to get it, all you have to do is call the phone number above.

*All prices are manufacturer's suggested retail price as of 6/93. Dealer prices may vary.
If there's a computer in your future, make sure there's a future in your computer.

Integrated Apple CD-ROM. From this point on, a computer without a CD-ROM drive won't allow you to take advantage of the best computing has to offer. So if you're thinking about a new computer, consider one of the many Macintosh® models with the AppleCD™ 300i already built in. That's the easiest way to start exploring the vast array of CD titles available for Macintosh, and the many more to come. Call 800-732-5151, ext. 100, to locate an authorized Apple reseller, and stop in for a demonstration. With a CD-ROM drive inside it, you'll find that a new Macintosh delivers the most impactful kind of power. The power to be your best. Apple®
We also made a number of quasi-anechoic response measurements, using the MLS (maximum-length sequence) program of the Audio Precision test system. These showed the abrupt drop in output above 1 kHz, with an amplitude of 3 to 6 dB, that appeared in the room curves, but did not match their smoothness at higher frequencies.

The system's sensitivity varied from a high 92 dB to a rather low 86 dB, depending on the setting of the impedance switch. Our tests revealed that the shape of the impedance curve altered dramatically between the two switch settings. The shape of the nominally 6-ohm impedance curve was like that of many speakers, with a bass-resonance peak of 23 ohms at 48 Hz and a broad minimum of less than 4.6 ohms between 100 and 200 Hz. There was a broad rise to 14 ohms at 1.5 kHz and a drop to just under 6 ohms at 20 kHz. In contrast, the 8-ohm setting gave a much more uniform curve, varying between 7 and 13 ohms over the full audio range.

It is hard to generalize about the audible effects of these differences, except to note that in some unusual cases the combined effect of an amplifier's internal impedance and the speaker-cable resistance can imprint the shape of a speaker's impedance curve on the system's frequency response, for better or worse. From that standpoint, the more uniform impedance with the 8-ohm setting would seem to be preferable.

We measured woofer distortion at an input of 4.5 volts (equivalent to a 90-dB SPL at the lower sensitivity). From a maximum of 9 percent at 20 Hz, the distortion dropped to 1.5 percent at 35 Hz and remained between there and 2 percent up to 900 Hz. The woofer absorbed a single-cycle 1-kHz burst input of 550 watts before the driving amplifier overloaded, without audible complaint from the speaker. At 100 Hz, the cone bottomed noisily (but without damage) at a 1,000-watt input, and at 10 kHz, the amplifier reached its limit of 1,050 watts into the impedance at that frequency without evidence of distress to the speaker.

But measurements do not unambiguously define the sound of a speaker (in fact, they can tell you almost everything you want to know except how it sounds). For that, you have to listen.

The Advent Legacy III is unquestionably an excellent value for its price. It is a good-looking speaker, well finished, and its overall sound was balanced and musical. All the other loudspeakers we had on hand during our tests were more expensive than the Legacy III, and though it didn't outclass any of them, it didn't come off a clear second to most of them either.

The Legacy III had the deepest low-bass output we have heard from currently available speakers in its price range, or from many at considerably higher prices. It delivered honest, sole-tickling bass to somewhere under 40 Hz (my best guess is the low 30's). Nor has the rest of the audio range been neglected. I had to keep reminding myself that the speaker costs only $450 a pair.

Advent's Legacy III had the lowest deep-bass output we have heard from current speakers in its price range. I had to keep reminding myself it is only $450 a pair.

The one weakness we found in the Legacy III's performance was a noticeable boxiness imparted to the voices of male radio announcers, especially apparent in an A/B comparison with a somewhat costlier speaker that happened to be particularly free of this type of coloration. In fairness, I should say that the Legacy III shares this quality with many other speakers we have tested, in all price ranges.

It is rare to find a two-way speaker with a 10-inch woofer and a 2.5-kHz crossover frequency. It is difficult, if not impossible, to obtain a seamless transition from a relatively large woofer to a small tweeter at that high a frequency, but it is also impractical to work such a tweeter down to a significantly lower frequency. That design dilemma almost certainly accounts for my criticism. On the other hand, the large woofer helps the speaker achieve its fantastic bass performance. There is no free lunch—compromise is always necessary—but not too many speakers in this price range will give you the overall performance and the handsome appearance of the Advent Legacy III.

"John, I believe the price of that speaker is twelve thousand dollars a pair, not twelve million."
An important milestone in the evolution of any new format is the introduction of a product by a company other than the developer. It signifies that someone else, besides the originating company, has confidence in the new technology. The more partners, the better the chances for success, but the first is always the most important. The original Sony MiniDisc products have now been joined by two portable MD players from Sharp that define what MD is all about—small size. Specifically, the MD-D10 reviewed here is only about one-half to two-thirds the size of a typical portable CD player (though at 11.6 ounces it weighs only slightly less than many CD portables).

The MD-D10’s disc-loading system is unlike the powered loading slot used in the Sony MD portables or the direct disc placement used in CD portables, and in fact is akin to a typical cassette loading mechanism. The MD-D10’s upper case forms a clamshell that rises slightly when you press a mechanical release button. Then you can grasp the shell and raise it about a half-inch so that you can slip in an MD before closing it again. When you release the shell to retrieve an MD, the shell opens slightly, you raise it further by grasping it, and the disc is nudged forward by an internal spring.

The top shell contains seven controls. The play/play-mode selector button initiates playback and engages disc repeat and random track playback. The off button stops playback and turns the unit off; if left in the stop mode for more than 5 minutes, the player turns itself off automatically. Forward and backward skip/search buttons move the laser pickup from track to track when tapped and engage audible fast search when held down.

The X-Bass/NC button changes the frequency response of the audio output signal. The X-Bass setting effectively provides a slight bass boost (actually by slightly cutting middle frequencies), whereas the NC (Noise Control) setting reduces audible sound leakage from headphones, which may annoy other people, by dramatically cutting high frequencies (a 9-dB reduction at 7 kHz).

The display button is used to view disc and track titles as well as total disc time and elapsed track time. A slide switch marked Hold is used to disable the other buttons to prevent accidental changes. Unlike many CD portables with similar features, the MD-D10 does not flash HOLD on its display—when you try to use locked buttons—that would be a nice enhancement. Button-pushing is confirmed by a beep tone in the audio output; fortunately, you can defeat the tone by holding down the X-Bass/NC button.

The player’s dot-matrix LCD can show as many as ten alphanumeric characters on one line. It flashes a POWER ON message when the play button is first pushed, then the track title scrolls across the display, followed by the elapsed track time. The track number is displayed simultaneously below the scrolling messages. This display sequence is repeated each time a new track is selected. When the stop button is pressed, the player displays the disc title, followed by the total number of tracks and total disc time. When the stop button is pressed again, a POWER OFF message comes up briefly. Other LCD indicators include symbols and labels for play, repeat play, random play, Noise Control, X-Bass, and low battery, as well as diagnostic messages for troubleshooting. The display contrast can be varied to suit lighting conditions.

There is a volume-control knob on the right side of the player and a mini-jack output on the back, which can be used both for headphone listening and for connecting the player to an external stereo system. The left side of the player holds a DC-power input jack. Underneath is a door to a compartment holding a rechargeable nickel-cadmium battery.

A 6-volt AC adaptor/battery charger is supplied; although there is no charging-status display on the MD-D10 it-
Introducing The Next Best-Selling Loudspeaker Of All Time.

More than 30 years ago, Henry Kloss designed the now-legendary KLH Model Six, the first speaker to fully exploit the potential of two-way design. By using the then-new principle of the acoustic suspension woofer, as well as creating a new type of long-throw integral-dome tweeter, he was able to make a speaker that provided outstanding performance at a moderate cost. A decade later, he took these principles still further with the Advent loudspeaker, one of the best selling speaker models of all time. Both speakers were considered industry benchmarks for price/performance.

We are now pleased to announce Cambridge SoundWorks' Model Six, a two-way system named in honor of Henry Kloss' first ground-breaking two-way system.

Not An "Extension Speaker."

Model Six is not an "extension speaker." It's a serious main speaker with sufficient frequency range and power-handling to satisfy serious listeners. Model Six speakers, when combined with a good receiver and CD player, comprise a music system for $500-$600 that seriously outperforms typical pre-packaged "shelf" or "rack" systems.

Two-Way Design Advantages.

We believe that when lowest cost is not the ultimate consideration, the best speaker design is a subwoofer-satellite system like our Ensemble® and Ensemble II systems. But a properly designed subwoofer-satellite system requires three-way design, which entails the cost of two more drivers and a third cabinet. While neither Ensemble system is "high end" in price, a complete stereo system starts at about $800, still too much for music lovers on a budget.

What does Model Six give up compared to our Ensemble systems? With big amplifiers in large rooms, Ensemble and Ensemble II can play louder, and they have greater low-bass extension. They also give you tremendous room-placement flexibility, which allows you to optimize performance, with little impact on the decor of your room.

Elegant Cabinet Design.

We devoted considerable time and effort to making Model Six visually appealing. Convincing simulated wood finishes were chosen—in oak, teak and black ash. A subtly rounded "bullnose" molding frames a medium charcoal grey grill that was custom-woven for Model Six.

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The Country's Best Value In A Stereo System?

We've matched Model Six speakers with a best-selling stereo receiver and CD player to create what may be the best value ever in a stereo system. The receiver has 40 watts a channel and a remote. The CD player uses 1-bit technology for accurate, natural sound. Priced at only $499, this is a serious music system for serious listeners.

Fine-tuning the octave-to-octave balance. This is the most important factor in determining the overall sound of a speaker.

Costly Components. Thoughtful Design.

At the heart of Model Six are its drivers, a 1 1/2" cone tweeter with center 1/2" dome (the same tweeter we use in Ensemble), and a newly-designed 8" acoustic suspension woofer. While classic in their simplicity, these drivers differ greatly from other moderate-cost speakers.

Model Six's crossover frequency is 2,000 Hz, much lower than many other two-way designs. This makes it possible to ensure smooth, uncolored upper midrange with wide dispersion. Such a low crossover frequency would not work with conventional tweeters. But Model Six's tweeter uses a suspension that allows the "long throws" necessary to reproduce music in this range.

The 8" woofer cone is larger than those usually found in speakers of Model Six's size and price, allowing it to move substantial amounts of air at low frequencies. And Model Six puts emphasis on very low frequencies instead of the mid-bass "rise" common in many speakers. The result is bass that is more accurate and extended than similar systems.

But most important is how Henry Kloss went on to "voice" the system—painstakingly

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We Know How To Make Loudspeakers.
The Critics Love Ensemble And Ensemble II. What's The Difference, Anyway?

Cambridge SoundWorks changed the audio world when we began direct-marketing Ensemble* by Henry Kloss. Ensemble is a revolutionary dual-subwoofer/satellite speaker system offering all-out performance, without cluttering up your room with huge speaker cabinets. Available only factory-direct from Cambridge SoundWorks, with no expensive middle-men, Ensemble is priced at hundreds less than it would have sold for in stores. "Audio" magazine says Ensemble "may be the best value in the world."

And Then There Were Two.

Now Cambridge SoundWorks has introduced Ensemble II, a more affordable version of Ensemble using only one cabinet to hold both subwoofer drivers. Ensemble II has joined Ensemble in the ranks of the country's best-selling speakers. We believe Ensemble II is a better system than its best-known competitor. And because we sell it factory-direct, it's half the price. "Stereo Review" said "Ensemble II performs so far beyond its price and size that it can be compared only with much larger speakers at substantially higher prices." We agree with the writer who said, "It's hard to imagine going wrong with Ensemble." The question is, which Ensemble system is right for you?

The Same Satellite Speakers.

When you listen to either Ensemble system, almost 90% of the music you hear is being reproduced by the satellite speakers. Both Ensemble and Ensemble II use satellite speakers that are virtually identical.* Unlike many competing systems, Ensemble's satellites are true two-way speaker systems, each containing a high performance tweeter and a 4-inch woofer. "Stereo Review" said, "The Ensemble satellites delivered a smoother output than due to acoustic suspension, sealed subwoofer cavity.

Cavity acts as acoustic band-pass filter.
many larger and more expensive speakers.” Small (8¼" x 5½" x 4") and unobtrusive, they’ll fit into the decor of any room. They’re available in scratch-resistant gunmetal grey Nextel, or primed so you can paint them any color you wish.

**The Same Overall Sound.**

In many rooms, Ensemble II sounds virtually the same as Ensemble, especially when Ensemble’s two subwoofers are placed right next to each other. The real difference between the two systems is that Ensemble, with its two ultra-compact subwoofers (12" x 21" x 4¼"), gives you ultimate placement flexibility.

**The Same Attention To Detail.**

Ensemble and Ensemble II are constructed with the very best materials and no-compromise workmanship. Their subwoofers use heavy-duty woofers in true acoustic suspension enclosures. The satellites are genuine two-way systems with very high quality speaker components. Individual crossover networks are built into every cabinet for maximum wiring flexibility. Robust construction is used throughout, featuring solid MDF cabinets and solid metal grilles.

**The Same Factory-Direct Savings.**

Cambridge SoundWorks products are available only factory-direct. By eliminating the middle-men, we’re able to sell Ensemble and Ensemble II for hundreds less than if they were sold in stores.

**The Same 30-Day Total Satisfaction Guarantee.**

Choosing a loudspeaker after a brief listen at a dealer’s showroom is like deciding on a car after one quick trip around the block. So we make it possible to audition our speakers the right way—

in your own home. You get to listen for hours without a salesman hovering nearby. If within 30 days you’re not happy, return your speaker system for a full re-

**Stereo Review**

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

**Fund.** We even reimburse original UPS ground shipping charges in the continental United States.

**The Real Difference: The Ultimate Placement Flexibility Of Dual Subwoofers.**

Placement of bass and high-frequency speakers in a room—and how those speakers interact with the acoustics of the room—has more influence on the overall sound quality of a stereo system than just about anything. As an alternative to spending hundreds (or thousands) of dollars on this or that “latest” amplifier or CD player design, you should invest some of your time experimenting with various speaker positioning schemes. Ensemble’s two ultra-slim (4¼") subwoofers give you more placement flexibility than any speaker system we know of (including Ensemble II), and is most likely to provide the performance you want in the real world...in your room.

**How To Order.**

The dual-subwoofer Ensemble system is available in two versions. With handsome black-laminate subwoofers for $599. Or with black vinyl-clad subwoofers for $499. Ensemble II is priced at $399. For more information or to order call our audio experts, 24 hours a day, 365 days a year. We’ll send you our 64 page color catalog with stereo and surround sound components and systems from Cambridge SoundWorks, Pioneer, Philips, Denon and others. Because we sell factory-direct, eliminating expensive middle-men, you can save hundreds of dollars.

For A Free Catalog, Call 1-800-FOR-HIFI

We Know How To Make Loudspeakers.

**CAMBRIDGE SOUNDWORKS**
self, a small red LED on the wall-plug module lights while the player’s battery is charging and goes out when charging is completed. Charging takes about 5 hours, and the battery can be recharged approximately 500 times. Using a fully charged battery, maximum playback time is about 100 minutes for prerecorded MD’s and about 90 minutes for user-recorded MD’s. That’s one characteristic I definitely think needs improvement: Listening to one 74-minute user-recorded disc pretty much kills your battery.) Also included with the MD-D10 is a pair of inexpensive but serviceable headphones; a plastic carrying pouch, and an adaptor cable for connecting the MD-D10’s mini-jack output to phono-jack inputs.

The MD-D10’s dramatically diminutive size (much smaller than earlier MD players) is made possible by a trio of new Sharp-developed chips that consolidate a lot of the necessary circuitry and reduce power consumption. Like other MD players, the MD-D10 has an antishock buffer memory—in this case, a 1-megabit chip that holds 3.1 seconds of audio data—to help prevent vibration from disrupting playback. Following ATRAC decoding, the digital data stream is converted to analog audio by a 1-bit D/A converter.

Lab tests revealed no apparent weaknesses in audio performance. Frequency response, signal-to-noise ratio (S/N), dynamic range, distortion, and low-level linearity were all good to excellent. The only audio products we’ve encountered that rival this performance in such a small package are portable CD-3 (3-inch CD) players, which, like the discs themselves, are rare in this country.

But with any system based on perceptual coding—ATRAC in the case of MD—traditional measurements tell only part of the story; the sound quality of a perceptual coder cannot be estimated directly from such tests. The best way to evaluate sound quality is to listen carefully. I auditioned the MD-D10 both with headphones and over a high-end sound system. Using the supplied headphones, I was quite satisfied with the sound quality, which to my ears was essentially indistinguishable from that of portable CD players with their headphones. In other words, I suspect the limiting factors in each case were the headphones and the internal amplifiers.

When I played the MD-D10 in a high-quality home audio system, however, in which fidelity is much higher and direct A/B comparisons between CD and MD are possible, I could hear slight differences between the two. It’s hard to describe, and certainly not immediately obvious, but in the MD playback the imaging was altered, with shifts of high-frequency sources, and high-frequency timbre was altered as well, with a blurring and hardening of the sound, particularly in transient material. The MD-D10’s sound was not bad—not bad at all, in fact—but for new MD simply ain’t no CD.

Perhaps more important, any portable product must be evaluated on its portability. I therefore conducted my own highly scientific vibration test, in which I put on shorts and run around the block carrying the player. No CD or MD player that I have evaluated in the past has ever successfully completed this jog test. But after considerable exertion I decided to give the MD-D10 a passing grade. Although it moaned momentarily a few times, it was decidedly capable of shrugging off shock and vibration. Given that this player uses only a 1-megabit buffer (about 3 seconds) and that a 4-megabit buffer (about 12 seconds) could easily be designed into future models, I am confident that MD will eventually achieve full joggable status.

While playing the MD-D10, I made certain that it handled both 60- and 74-minute user-recorded discs as well as prerecorded discs (no problem). I was also happy to note its speedy track access—not as fast as the fastest CD players I’ve seen, but very fast. On the other hand, the LCD message scrolling was too slow (even small children, just learning to read, would become impatient). It was so slow that I rarely waited around to read it, and that effectively defeats its purpose.

Buying an MD player ultimately comes down to two questions: portability and repertory. The MD-D10 measures 3⅛ x 4⅞ x 1⅞ inches, weighs 11.6 ounces, and plays for 100 minutes. A portable CD player—the Technics SL-XPS900, for example—might measure 5 x 5 x 1⅛ inches, weigh 12.2 ounces, and play for 2½ hours (10 hours with supplementary battery pack). The MD wins on size, the CD wins on playing time, and they tie on weight (depending on how many batteries you’re toting). The difference, of course, is the MD’s superior shock resistance (although some portable CD players now incorporate similar shock-proofing systems). Repertory is another tough call. Many thousands of CD titles are now available, whereas MD is exactly where CD was in the beginning—about 300 titles. Of course, you can record your own MD’s, but the blank discs cost as much as prerecorded CD’s (or more), and you’ll have to invest in an MD recorder. Bottom line: If you intend to use your player in a very active environment (such as jogging) and are content with the selection of prerecorded MD’s, then the MD-D10 meets your needs. Otherwise, you can’t ignore CD. And, despite inferior sound, you can’t ignore analog cassette either—very cheap and a vast repertory.

Whatever your decision, it is evident that the MD format is gaining a foothold in the market. With recorders from Sony and players such as the Sharp MD-D10, the MD choices, applications, and price range are expanding. In particular, if you want to be amazed by big-time sound from a small-time portable package, the MD-D10 is ready to run with you.
DESIGNS BY HENRY KLOSS

Our new Center Channel and Center Channel Plus speakers are magnetically shielded, so they won't cause video interference, even when placed very near a TV screen.

Our Center Channel Speakers Deliver Optimum Pro Logic Performance At Factory-Direct Prices.

Cambridge SoundWorks sells two speakers designed by Henry Kloss specifically for use as center channel speakers in Dolby Surround Pro Logic systems—the Center Channel and Center Channel Plus. Our experience with Dolby Surround Pro Logic systems has shown that the center channel is very important. A significant portion of movie soundtracks is directed to the center channel. It's crucial to use a speaker that reproduces that material accurately, with the proper volume level and dispersion pattern.

Center Channel by Henry Kloss.

Center Channel is a compact, two-way acoustic suspension speaker with a 4" woofer and a ring radiator tweeter. Because of its compact size (8½" x 5½" x 4"), it's simple to place Center Channel directly on top of or below your TV screen, so that dialog and sound effects will seem to emanate from their on-screen source.

Center Channel is well shielded magnetically so that it can be placed very close to your TV without causing video interference. Acoustically identical to our Ensemble satellite speakers, it's ideal for center channel use in a Pro Logic system. The factory-direct price of Center Channel is $149.

Center Channel Plus by Henry Kloss.

The Center Channel Plus is a larger speaker recommended for achieving theater-like playback levels in the most sophisticated and powerful home theater systems. It uses four 3" long-throw woofers and a tweeter that perfectly matches the acoustics of our Ensemble® and Ensemble II systems. The frequency range of the outer pair of 3" woofers is intentionally limited to maintain proper dispersion characteristics.

Because of its wide, low profile (25" wide, 4" high, 6½" deep), Center Channel Plus is ideal for placement directly on top of or, uniquely for a product of its type, beneath a TV—with optional support unit, it can act as a base for your TV. We don't know of any speaker, at any price, that outperforms Center Channel Plus. The factory-direct price of Center Channel Plus is $219.

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We Know How To Make Loudspeakers.
Teac V-8000S Cassette Deck

Top-of-the-line in every respect, Teac's V-8000S cassette deck combines a solidly engineered tape transport with a complete range of performance and convenience features. In addition to Dolby B and Dolby C, the V-8000S includes the newer and sonically superior Dolby S noise-reduction system. Calibrated user-selectable bias and sensitivity adjustments enable accurate performance optimization for virtually any tape formulation, and Dolby HX Pro circuitry extends the deck's treble response with high-level signals. For convenience, the tape counter reads directly in minutes and seconds, and a fifteen-selection search facility enables rapid location of any selection on the tape. And the wireless remote control even includes a button for turning the display-panel lighting on and off.

In designing the V-8000S, Teac's engineers paid particular attention to preventing mechanical vibrations, which can degrade the sound by producing either wow-and-flutter or modulation noise. Heavy steel chassis sub-assemblies provide not only electrical shielding but an unusually rigid interior structure as well. The transport mechanism is attached to a vibration-deadening structure of its own, and a spring-loaded cassette stabilizer and three-point mounting system prevent shell vibrations from being transmitted to the tape. Even the top cover is secured with five additional screws to prevent any possibility of resonant rattling.

The dual-capstan tape transport uses a direct-drive, phase-locked-loop (PLL) DC capstan motor (the lagging capstan is belt-coupled). The rubber pinch-rollers are of slightly different diameters to prevent buildup of resonant vibrations from a common rotational frequency. Three additional DC motors operate the reel drives, the mechanism that pulls the head assembly and pinch-rollers into position, and the damped cassette-well door.

The tape heads have separate recording and playback elements in a common housing, insuring accurate alignment while enabling optimum design for each function and instant comparison between the incoming and the recorded signals during recording. The head cores are made of a multilayer amorphous cobalt compound and have oxygen-free-copper windings.

The cassette well contains sensors that automatically set the equalization and bias for Type I (ferrie), Type II (chrome or chrome-equivalent), or...
The Powered Subwoofer
That Has The Audio And Video Press Jumping Out Of Their Seats.

A jet roaring in *Top Gun*. The heavy-footed killer robot in *Robocop*. A semi hitting concrete after a 20 foot fall in *Terminator 2*. These are examples of the substantial, very low-frequency effects on the soundtracks of today's movies. Such frequencies are rare in music, and are beyond the capabilities of most speakers designed for music.

The Cambridge SoundWorks Powered Subwoofer by Henry Kloss was created to reproduce those ultra-low, ultra-strong bass signals with the power and impact you would experience in movie theaters with the very best sound systems. It's designed to supplement (not replace) the subwoofer(s) of Ensemble or Ensemble II. It will also work with speakers from other companies.

**Remarkable bass performance.**

The Powered Subwoofer consists of a heavy-duty, 12 inch long-throw acoustic suspension woofer integrated with a 140-watt amplifier—all in a high-pressure black laminate cabinet. Its control panel includes a bass level control and an 18dB per octave, four-position electronic crossover frequency selector (to match the subwoofer to your other speakers).

Additionally, an optional electronic crossover* will provide 18 dB per octave, high-pass, line-level filters for the main and center amplifiers. These filters allow you to keep strong, low frequencies of sound effects out of the front speakers. These signals can cause distortion, even in speakers designed for full-range music.

The Powered Subwoofer's bass performance is simply **awesome**. It reproduces accurate bass to below 30 Hz. You'll hear soundtracks the way they were meant to be heard. In fact the bass is **better** than most theaters! At the press event when we introduced our Powered Subwoofer, we had startled members of the audio and video press literally "jumping out of their seats" during demonstrations of movie soundtracks. The factory-direct price of the Powered Subwoofer is $599.

Optional "slave" subwoofer.

For all-out home theater performance, you can add our optional Slave Subwoofer, which is identical to our Powered Subwoofer except that it lacks the amplifier and controls. It uses the amplifier and controls built into the Powered Subwoofer. Amplifier output jumps from 140 to 200 watts when the Slave Subwoofer is connected.

The combination of the two speakers can reproduce a 30 Hz signal cleanly to a sound pressure level of over 100 dB in a 3,000 cubic foot room! That's enough clean, deep bass for the largest home theaters, and the most demanding listeners. The factory-direct price of the Slave Subwoofer is $299.

**No compromises. No apologies.**

The combination of our Ensemble speaker system, Center Channel Plus speaker, The Surround rear/side speakers, Powered Subwoofer and Slave Subwoofer (see photo at left) creates a home theater speaker system that we believe is the best of its kind.

Although you can spend thousands more on competing systems, we don't know of any that outperform this $1,999 package. If you'd like more information, a free catalog or our new booklet, "Getting The Most From Your Dolby Surround System," call our toll-free number any time.

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We Know How
To Make Loudspeakers.
No Other Loudspeaker Company Can Run This Ad.

Cambridge SoundWorks is a new kind of audio company, with factory-direct savings, and much, much more...

We eliminated the expensive middle-men. By selling factory-direct to the public, we eliminate huge distribution expenses. Don't be fooled by our reasonable prices. Our products are very well designed and made.

Audio Hall of Fame member Henry Kloss. Cambridge SoundWorks products are designed by our co-founder, Henry Kloss, who created the dominant speakers of the '50s (AR), '60s (KLH) and '70s (Advent).

High performance dipole radiating surround speakers. The Surround ($399 pr) & The Surround II ($249 pr) use dipole radiator technology for surround sound the way it was meant to be heard. Hundreds less than competing speakers.

Five year limited parts and labor speaker warranty. All of our speakers are backed by a five year parts and labor warranty. In some cases, we'll even send you a replacement speaker before we've received your defective unit.


High performance in-Wall high performance speaker system. We don't know of any other in-Wall speakers that match its performance, value and ease of installation. Includes acoustical suspension cabinet, gold plated speaker terminals. $329 pr.

NEW: The Cambridge SoundWorks Charge Card. Qualified customers can now charge items from our catalog without tying up the credit lines of their other charge cards. Call for your application today!

NEW: Ambiance ultra-compact speaker system. We think Ambiance is the best "mini" speaker available, regardless of price. Bass and high-frequency dispersion are unmatched in its category. $175-$200 each.

Ambiance In-Wall high performance speaker system. We don't know of any other in-Wall speakers that match its performance, value and ease of installation. Includes acoustical suspension cabinet, gold plated speaker terminals. $329 pr.

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Cambridge SoundWorks

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customary -20-dB level was within ±1 dB from 24 Hz to 20 kHz. The response was equally flat at a 0-dB recording level when we used Dolby C noise reduction, whose somewhat lessened high-frequency pre-emphasis helps prevent tape saturation at the treble end. The overall response with TDK AD and SA, while not as superbly flat, was also good, being down by just a little over 2 dB at 18.5 kHz and 17 kHz, respectively.

The wow-and-flutter figures we obtained from the V-8000S were among the lowest we have ever measured, and tape-speed error was practically nonexistent. Clearly, Teac's engineers have succeeded spectacularly in achieving their goal of steady, accurate tape motion. Signal-to-noise-ratio (S/N) performance was no less impressive, measuring 78.1, 77.3, and 80.7 dB, respectively, for the three tapes (with Dolby C).

High-speed winding in either direction was very fast, and input and output levels were entirely normal. Dolby noise-reduction tracking error was within +1, −0.5 dB for Dolby B and +3, −2 dB for Dolby C and S. The Teac V-8000S was in every respect all we could desire in a cassette deck. Silent and solid in operation, its controls are well laid-out and easy to use. Save for the omission of a main playback-level control (almost never found on cassette decks these days), it lacks no convenience or performance feature that we would want to have.

Sonically, it was superb. Good heads, good electronics, and a transport with negligible wow-and-flutter all contribute to a deck that can challenge the most critical ear to distinguish between original and copy when the levels are carefully matched. Frequency response and imaging were impeccable, and Dolby S proved able to remove the last traces of the low-frequency "grunge" that usually accompanies the dubbing process. In short, then, we found the Teac V-8000S to be one of the few decks we can recommend without reservation to the most serious listener.
SoundEffects is the umbrella name given by JBL to a new line of speakers and related products designed to serve a multitude of domestic sound-reproduction needs. There are components for home theater and surround sound, for remote and multiroom listening, even for quasi-portable operation. And a couple of them are extraordinarily innovative.

Although most SoundEffects components can be bought separately, they are also more conveniently available in preselected packages at slight price breaks. The key to the package deals is that they add up in well-thought-out stages to a complete matched-component home theater speaker system without product duplication and with a lot of versatility. Buying more than one of certain packages can add flexibility, however (more on this later). You can start small and end up with multiroom, multichannel sound as your budget permits.

There are two sets of SoundEffects product packages, split basically along price/performance lines, though there is some overlap in the electronic components included with each set. We tested the higher-priced set, which comprises the Music 2, Movies 2, and Magic 2 packages. (The other set, less...
expensive but similarly structured, consists of the Music 1, Movies 1, and Magic 1 packages.)

Music 2 ($949) is a satellite/powered-subwoofer system suitable for audio or audio/video installations. The satellites, called Sat 2's ($399 a pair if bought separately), are magnetically shielded two-way speakers, each with two 3½-inch neodymium-magnet midrange drivers and a titanium-dome tweeter in a slender, wedge-shaped, molded-plastic enclosure 4⅞ inches wide, 14 inches tall, and 6⅛ inches deep. Sat 2 grilles are removable, and the JBL logos rotate for horizontal or vertical operation, though the in-line driver layout suggests that the speakers will have better horizontal dispersion if used vertically (as they indeed did in my tests).

Each Sat 2 comes with a couple of mounting options. A wall-mounting bracket is provided that is held in place by twist-on knobs at the top and bottom of each enclosure. The knobs themselves are removable so that the speakers can also be screwed onto optional adjustable stands (called "Stand" by JBL, even though they are sold in $199 pairs) or simply placed on a shelf.

BassWave ($599 if bought separately) is the name given to the subwoofer, which incorporates two 5¾-inch drivers operating into a triple-chamber ported bandpass enclosure. It is driven by a bridged 100-watt amplifier built into its base. The enclosure stands 27⅛ inches tall, spans 10⅞ inches at its widest, and has the horizontal cross section of a quarter-circle, which accounts for the rounded front panel. The BassWave's 90-degree corner enables it to be placed right up against a wall or deep into a corner in either vertical or horizontal operation. JBL recommends that if it is used vertically, it should be placed close to a wall, a suggestion I would agree with.

An audio system can drive a BassWave in a couple of ways. You can run a stereo line-level signal into its phono-jack inputs, or you can connect it in parallel with the satellite speakers, via spring-loaded connectors, to the speaker outputs of your amplifier (the BassWave places no significant load on the amp). From either of these stereo signals it derives a mono signal and feeds it through an electronic crossover before final amplification. The nominal crossover point between the BassWave and the Sat 2's is 120 Hz. The BassWave's amplifier plugs directly into a wall socket and constantly monitors its inputs for a signal to see whether it should turn on (indicated by a green LED on the amplifier section at the base of the speaker). There is a level-control knob next to the pilot light for adjusting low-bass balance. The subwoofer has no grille, removable or otherwise. The ports you get are the ports you see, unless you put the BassWave behind a couch or some other piece of furniture (a feasible option).

Supplied with each BassWave are two accessories: (1) a hookup block that attaches with its own leads to the main-amplifier speaker outputs and to which the satellites and subwoofer are in turn connected by standard stripped-wire speaker cable, and (2) a ⅛-inch-high stabilizing base to which the satellites and subwoofer when it is operated standing up. The base serves two functions: It makes it more difficult to tip the subwoofer over, and it can hide excess lengths of power cord or speaker cable.

Movies 2 ($599) is a prepackaging of the components needed to turn a Music 2 speaker system into a home theater system, provided you already have an A/V receiver or amplifier. It consists of another pair of Sat 2's, this pair to be used as surround speakers, and a center-channel speaker (called Center, $259 if bought separately). Except for a horizontally oriented grille, making it suitable for above- or below-screen placement, the Center is exactly the same speaker as a Sat 2, which is good for matching the sound across the front during surround programs. Why it costs $60 more than half the price of a pair of Sat 2's we don't know.

Magic 2 ($649) encompasses the remaining—and most unusual—components of this set of SoundEffects products. Included are the Power 20 ($139 if bought separately), a 20-watt-per-channel stereo amplifier with built-in (nondefeatable) bass-extension circuitry intended for driving Sat 2's, and the Take 2 ($499 if bought separately), a long-range (150-foot) wireless stereo transmission system consisting of a special 900-MHz transmitter and receiver. The Take 2 was, in fact, sufficiently unusual to merit separate measurement and evaluation (see "A Double Take on Take 2," page 66).

Holding all this together, literally, is the Taxi (not available separately), a combination component-mount and dual-speaker stand that has a built-in
handle for relatively easy movement. As you can see in the picture on page 65, the flying-saucer-shaped wireless receiver sits on top of the finned Power 20 amplifier, which in turn nestles into a cutout in the Taxi. Speaker cables can be fed up the Taxi's central tube to a pair of Sat 2's (not supplied as part of Magic 2). The whole setup is then ready to serve as an easily movable home hi-fi system, with the signal being supplied by the wireless transmitter back at the main audio setup. You can listen to the Magic 2 components anywhere within the relatively large transmitter coverage area, provided you have house current to power the amplifier and the receiver.

In addition to the above products, we were also able to play with a couple of separately available SoundEffects devices. The SoundEffects Director ($299) is a very basic Dolby Pro Logic decoder (using the Analog Devices Dolby Pro Logic decoder chip and a delta-modulation digital delay line). It has a 25-watt power amplifier for the surround speakers and another for a center-channel speaker, and they can be bridged to 50 watts if you don't need to drive surround speakers from the unit. The controls are very rudimentary (on/off, center/surround balance, overall volume, bypass, and test signal), since the Director is intended for hookup in a tape-monitor loop of a standard (non-A/V) receiver or amplifier. Its performance was okay (meaning average among units we've used that have the same Dolby and delay circuits).

Finally, the Power 50 power amplifier ($175) is a larger brother to the Power 20, but without its bass-extension equalization. Its output is bridgeable, presumably to provide 100 watts of power in mono operation. It, too, was okay, though it didn't have the lowest distortion or noise or the highest dynamic headroom we have seen.

**SoundEffects' Effectiveness**

After that lengthy description—which, endless as it may seem, omits mention of the pleasantly futuristic look of most of the SoundEffects components—it would be not a little anticlimactic to report that the works didn't sound up to snuff. I'm pleased to say that Music 2 is as fine a moderately priced three-piece speaker system as I have ever heard. My listening tests—with the satellites at ear level and placed away from the walls on SoundEffects stands—revealed that the horizontal dispersion was wide, the imaging very precise and stable, and the frequency response smooth and mostly uncolored. There was only a slight tendency toward sibilance or steeliness with some recordings. The "sweet spot"—the optimum listening area—was at least two persons wide.

After some experimentation with the subwoofer's placement and output level, we achieved a smooth "join" between the subwoofer and satellite outputs, with neither a spectral "black hole" between them nor a boomy upper bass, both common faults with subwoofer/satellite systems. There was firm and fairly clean output to below 30 Hz. As we found, however, you might have to fool around a bit with subwoofer location and level to obtain this class of performance. (When is some speaker company going to supply a setup CD with each subwoofer to enable you to set sub/sat level, we achieved a smooth "join"? Accurate level-setting is not an impossible task, but to save time I cheated by using a microphone and a spectrum analyzer.)

If you have the extra bucks for a second BassWave, JBL recommends a stereo subwoofer configuration in which you feed one BassWave with just the left-channel signal (leaving the other input unconnected) and the other with the right-channel signal. I tried it and found that it made subwoofer placement less critical in terms of frequency balance and yielded a more spacious low-frequency sound quality (that probably has to do with how multiple woofers interact with room resonances).

In-line driver mounting like that used in the Sat 2's usually results in somewhat restricted vertical dispersion in the direction of that line. That did occur with the Sat 2's: When they were in their normal vertical orientation, each time I sat down I could easily hear the effect as a distinct change in tone color as my ears moved from off-axis while standing to on-axis while sitting. I'd therefore also recommend satellite placements that position the tweeters approximately at seated ear level (unless you normally listen standing up).

**Surrounded by Effects**

When Sat 2's are used as surround speakers, as they are when you add a Movies 2 package to a Music 2 package, such considerations are less important. In fact, for Dolby Surround playback, the surrounds should if possible go to the sides of the primary...
In terms of technical achievement, the most interesting members of the broad array of SoundEffects components are its radio-frequency (RF) stereo transmitter and remote receiver, both designed by the justly famous RF engineer Larry Schotz. The receiver (at top in the photo on page 64, above the transmitter and the SoundEffects Director Dolby Pro Logic decoder) is enclosed in a 7-inch-wide case reminiscent of the Martian flying saucers in the 1952 sci-fi movie classic War of the Worlds. It's available separately as the Take 1 ($249) or together with a transmitter as the Take 2 ($499). The Take 2, in turn, is included in Magic 2 ($649), which adds the Power 20 stereo power amplifier and the Taxi stand.

Take 2 operates in a section of the radio spectrum around 900 MHz that was recently opened up by the FCC for this type of application. This happens to be the same band in which the new extended-range portable telephones operate. But don't worry about JBL-assisted eavesdropping: The Take 2 system looks for its own special pilot signal and mutes unless it is present.

To further reduce the possibility of interference, every transmitter and receiver has a small dial on its back panel that selects among ten different "house codes" (specific combinations of radio-carrier frequencies). A receiver is supposed to have its house code set to that of its intended transmitter. If you do get interference from other 900-MHz devices, you change house codes on both transmitter and receiver to the same new setting. If you are in an interference-free environment (one in which your signals won't interfere with your neighbor's, nor his with yours), you can simultaneously use as many as ten transmitters, each set to a different house code, to send lots of stereo signals to multiple receivers. And you can have any number of receivers picking up the same transmitter, provided they are set to the same house code.

In fact, the system is even more versatile than that, for with each house-code setting you get four channels of audio transmission/reception. They come in two stereo pairs, labeled A and B. A pair is selected on the transmitter by simply plugging a stereo source into either the A or B inputs (line-level phone jacks); both pairs are always active, and if you use both the transmitter will send all four channels simultaneously. Three-position slide switches next to each input adjust the transmitter's sensitivity. To prevent overload when driving the transmitter directly from a CD player without an intervening volume adjustment, I'd recommend the lowest sensitivity setting, which goes into overmodulation at a bit over 3 volts (at 1 kHz), a safe level considering that CD players don't ever get much above 2 volts full output. At the receiver end, A/B selection is via a small slide switch at the right front of the saucer. (The receiver's transparent window has no function; the same housing will be used in other SoundEffects products that require an infrared window.) Each receiver has two pairs of phono-jack outputs, driven in parallel. Output at 100-percent modulation is a tad less than 500 milliwatts—a line-level output, in other words. Both the transmitter and receiver are powered by external AC-adaptor modules.

Let's go over the hookup options of a Take 2 system. In a surround setup, you could use the Take 2 to eliminate long, unsightly, or impractical wiring runs to the surround speakers by transmitting the surround signals to a receiver at the back of the room, there to be amplified, JBL hopes, by a Power 20 power amp and fed to two JBL Sat 2 speakers attached to a Taxi stand. This is precisely the combination illustrated on page 65.

I gets more interesting when you have more than one receiver. With the system's ability to transmit two independent stereo signals at once, you could, for example, feed your audio system's CD-player output to a remote receiver elsewhere in your house while still transmitting surround-channel information to the back of your home theater room. If you choose to feed one input of the transmitter from the tape outputs of an amplifier or receiver—probably the most convenient hookup—this multiple-transmission function is an excellent reason to prefer receivers and amplifiers that let you separately select the source being listened to and the source being recorded (which in this case would be the source fed to the transmitter).

All this multichannel versatility would be pointless if the system didn't sound good. I'm happy to report that except for the most serious, ultra-critical auditioning, the kind where you'd probably not want to listen remotely anyway, the Take 2 transmitter/receiver combination sounded excellent—much like a good cassette deck operated with Dolby C or Dolby S. It certainly more than meets the demands of surround-channel signals.

The residual noise level was extremely low (-88 dB, A-weighted) thanks to the use of a wide-band companding noise-reduction system. Left/right separation was more than adequate at 50 dB, while A/B transmitter-channel separation was essentially infinite (the crosstalk was buried in the background noise, as was leakage from different house-code settings). Total harmonic distortion plus noise (THD + N) at first looked rather high at close to 1 percent, but spectrum analysis revealed that most of that figure was attributable to relatively innocuous background noise and that true distortion didn't become a factor until overload was approached. Linearity (the accuracy with which output level tracks input level) was about the same as a typical cassette deck's at 1 kHz. At full modulation, frequency response was essentially flat up to around 15 kHz, above which it started to roll off. At lower input levels the equalization of the companding system gradually introduced mild low- and high-frequency rolloffs (reaching 6 dB per octave above and below 1 kHz at very low levels) when measured using a swept sine-wave test signal. Response will vary with signal content, however, and we did not notice these rolloffs when listening to music.
In listening tests, the Take 2 system was audibly benign except with the same kinds of difficult signals that would be tough for a tape noise-reduction system such as Dolby B or dbx: solo flutes, harpsichords, and music with lots of high-level high frequencies or exposed single low-frequency tones. On these I could detect either a slight “pumping” of the background noise or the harshness that comes from distortion. Both effects were rare, becoming apparent only with specially selected source material. With typical pop and symphonic music, the system was very, though not completely, transparent.

These data and the listening-test results were obtained with a transmitter/receiver separation of 40 feet through five walls on the forty-fifth floor of a concrete-and-steel New York City skyscraper suffused with the potentially interfering RF emissions from dozens of personal computers and from the TV and radio antennas atop the Empire State Building just 1.5 miles away. In a typical home I’d expect to get much greater range out of the system at the same performance level, perhaps even to its 150-foot specification. Care might have to be taken with receiver and transmitter orientation and placement at longer distances, however. In most homes, even 40 feet is more than sufficient to get upstairs, down to the basement, and out on the deck, not to mention reaching the relatively few feet to your listening room’s surround speakers. If you live in the city, 40 feet would probably extend into your neighbor’s house!

The SoundEffects 900-MHz transmitter and receiver are such nifty devices, and provide such obvious versatility and convenience, that I fully expect other implementations of the circuitry to appear elsewhere soon. I can foresee immediate applications in wireless intercom and public-address systems. Meanwhile, you can take advantage of this leading-edge technology to enhance your surround-sound system and to fill not only your home theater with music but also your bedrooms, the basement, the garage, the tool shed, the apartment next door . . . . —D.R.

listening position, up on the walls above head height—the same relative position that movie-theater surrounds are in.

Followers of home theater technology may be concerned that Sat 2’s are not dipole radiators of the type regarded by many (most prominently, Lucasfilm’s THX group) as the best design for home surround-channel speakers. Although a dipole radiation pattern can facilitate production of the desired diffuse sound field—the surround speakers are supposed to create an ambient wash of sound in the room, not discrete, localizable sources—it is often possible to get very good results with careful placement of more conventional speakers. A trick that worked well with the Sat 2’s was to aim them away from the listening position—easy to do, as they rotate in their mounting brackets. I never found the Sat 2’s radiation pattern a drawback with any surround material I fed to them. In fact, with surround-encoded music CD’s, the flatter response of Sat 2’s, compared to that of many dipoles, produced a superior result, with less apparent muffling of high frequencies. Certainly with the music-enhancement digital-processing modes of many A/V receivers and amplifiers, speakers with a more normal radiation pattern might produce better results than dipoles.

The Center speaker, being internally identical to a Sat 2, also sounds that way, even when mounted horizontally, provided you aren’t seated too far off-axis. This similarity yielded a precision and consistency of sound movement across the front when I was playing Dolby Surround soundtracks that simply cannot be obtained with a nonmatched center speaker. In all, the Music 2/Movies 2 combination provided excellent home theater speaker performance.

It remains for me only to re-emphasize the versatility of the matched-component modular design approach JBL has taken with SoundEffects, even for applications not directly related to music listening or home theater. For example, I found that a pair of Sat 2’s driven by a Power 20 make a dandy multimedia speaker system for computer hookup, with more bass, flatter response, and less distortion (and, it must be said, a higher price) than most speakers sold expressly for that purpose. And the ear-opening sound quality of the Take 2 900-MHz transmitter/receiver combo makes multroom audio more enticing than ever—you don’t even need wires!
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FIND OUT MORE. YOU'LL LIKE WHAT YOU HEAR.
Shopping strategy No. 1: Take $500 to your favorite electronics store and pick out a compact disc player you like at that price. Now move down two shelves, buy the $250 player from the same manufacturer, and head for the nearest record shop to buy twenty CD's to expand or start your collection.

The above recommendation is only partly tongue-in-cheek. CD player performance has reached near-commodity status, and unless your system (and budget) is more than a little high-end, it's unlikely you'll encounter much in the way of dramatic performance distinctions among players in any price range. Which is not to say that differences don't exist—they do. But they may not be immediately obvious to the ear or eye—especially as you approach the $1,000 mark.

You may glean slight (and we do mean slight) refinements in sonic performance from big-ticket players, and you will almost certainly find more sophistication in controls, features, and fit-and-finish. Beyond this point lies true high-end country, a land of claim and counter-claim by engineers and audiophiles alike. Enter at your own risk: High-end hi-fi is vastly entertaining, but it can be addictive and

BY
DANIEL KUMIN
Sony's CDP-C910 changer ($480 with remote) features a ten-disc cartridge and a memory mode that lets you create display names and store preferred track sequences for 184 discs.

Fisher's Studio 24 changer ($500 with remote) has a jukebox-like carousel that holds twenty-four CD's. Discs are loaded one at a time and can be classified under preprogrammed labels (Jazz, Rock, etc.) or assigned display names.

Denon's LA-3100 combi-player ($1,200) has a drawer-type platter that accepts an 8- or 12-inch laserdisc or a CD. The LA-3100 plays both sides of a laserdisc automatically and has a jog/shuttle dial.

The Technics SL-PD847 five-disc carousel changer ($230) lets you swap four discs while the fifth is playing. An ID Scan mode previews each track on a disc, playing the loudest (and most easily recognized) passage of each song for 10 seconds.

very expensive (see "High Hopes" on page 73).

The first question any shopper must answer is, what sort of player do I need? A single-disc model or one that handles five or more discs at a time? That depends on your listening habits and your lifestyle. If you're a connoisseur who regularly listens to musical works from start to finish, a single-disc player should suit you just fine. But if you do a fair amount of entertaining, listen to many different styles of music, or enjoy having background music on while you're putting around the house, skip the single-play models and head for the changer shelf.

More than half of all home CD players purchased today are multidisc changers. Five- and six-disc "carousel" changers, which load CD's onto a top-loading or drawer platter that rotates each disc successively into place, are the most popular. Disc-access time is generally a little shorter than with "magazine"-style changers, and often you can swap some discs while another is playing—a very convenient feature.

Magazine changers, which typically accept six or ten discs in a pull-out magazine (or cartridge), offer different advantages: compatibility with a car changer of the same brand (or a similar one), long-term storage (additional magazines cost about $25 apiece), and greater capacity. Pioneer, for example, makes changers that accept two or three six-disc magazines for twelve- or eighteen-disc hands-off play.

In fact, high-capacity changers are a coming thing. Fisher has a machine that ingests twenty-four discs in a jukebox-like carousel, yet preserves easy single-disc playback. Sony just introduced a hundred-disc model, and NSM's computer-controlled hundred-count player has been on the market for well over a year.

If you're leaning toward the changer option, keep in mind that some models—particularly magazine players—make it tough to load a single disc quickly for instant gratification. If that's a problem, check out a hybrid model that has a single-disc drawer and a six-disc magazine (available from JVC, Kenwood, and others). Also pay attention to disc-access time, which varies according to changer type and disc capacity. Finally, disc-handling mechanisms can be somewhat noisy while swapping discs, so be sure to listen between songs from different discs.

In any guise, changers offer the allure of extended, hands-off play, and
there is a tremendous variety of magazine and carousel models to choose from in the $200 to $500 range.

Another fetching option is the "combi-player," which handles ordinary music CD’s and laserdisc movies and videos. Most combis offer audio performance and CD features equal to those of fine audio-only models, but at about twice the price. From an audio standpoint, about the only combi-player drawbacks are large size, relatively slow track access, (typically) higher mechanical noise, and, of course, price. On the other hand, when it comes to video reproduction, laserdisc is clearly superior to VHS tape in picture and sound quality. If you need a CD player and feel strongly that a home theater is in your future, visit the combi-player shelf first.

Then there’s the portable pantheon. Handheld, battery-powered CD players from many manufacturers offer mobility and, in the case of higher-end models, at least, near home-player performance. Some subtle audible differences may show up in portables that sell for, say, $250 or less when they are compared with the best home players, but these are largely the result of compromises inherent in miniaturization and the low-power-consumption design needed to extend battery life. The best portables, however, are nearly free of compromise when it comes to sound quality.

A portable CD player has obvious attractions, principally . . . well, portability: You can use it at home, in the car, at the office, and on planes, trains, and buses (many models include headphones). But portables can be harder to use than home machines because of their small, fussy controls and displays, and they may fall a bit short in the features department. They also, as a class, tend to have a shorter lifespan than their home counterparts, often the result of their hazardous, every-which-way-but-loose duty. It’s a tough call. Many buyers solve the dilemma by purchasing a good portable for multimode use, adding a permanent shelf player when the budget permits.

As the twentieth century sinks slowly beneath the horizon, another CD option is rising in the east: interactive CD. The Philips CD-Interactive (CD-I) system, Sega CD, Panasonic’s 3DO Interactive Multiplayer, and Pioneer’s

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EXTRAS! EXTRAS!

Marantz’s CD-11 Mk 2 CD player ($2,500) employs the latest-generation Bitsream 1-bit D/A converter from Philips and features preferred-track-sequence memory for up to 195 discs.

CD players offer a bewildering thicket of features and functions. Virtually any player should include such basics as full transport controls (play, pause, track skip, etc.), audible fast search, simple track and time displays, and rudimentary programming (track-reordering) abilities. Then there are the extras that many, but far from all players offer: They include:

- **Full-function remote control.** Wireless remotes are common fare, but the ultimate coach-potato tool is one that has a volume control and duplicates all major front-panel controls.
- **Digital output.** A must for serious systems, this special output—more common in fiber-optic than coaxial form—lets you bypass the player’s D/A converter and pass digitized music signals directly to a digital recorder, preamp, or signal processor. It may also be your ticket to future add-on features—maybe even video!
- **Library/programming functions.** Although programming can be tedious, the ability to create tag lines for individual discs, which are displayed whenever they’re loaded, is a nice touch. Some players also store your favorite track sequences for individual discs (or a load of discs in some cases).
- **Headphone jack.** Beware: Not all headphone jacks have a dedicated volume knob, which can be handy.
- **Visual displays.** A comprehensive, easy-to-read display is a valuable aid. Some players do not offer all of the possible time displays, such as elapsed or remaining disc and track time. Onscreen (TV) display is a worthwhile combi-player feature, provided there’s also a front-panel display for CD-only playback.
- **Shuffle play, or random play.** This handy, one-button feature lends a fresh sound to old music by playing the tracks on a disc in a random order. Changers that can randomly select tracks from all of the discs in the tray or magazine, rather than from one disc at a time, produce a more interesting mix.
- **Integrated remote functions.** Some players can be connected to a same-brand receiver or integrated amp (via a rear-panel cable) for coordinated control from one remote handset—for example, hitting the play button turns on the CD player and the receiver as well as selecting the receiver’s CD input.
- **Tape-recording aids.** Many players offer features that automate analog taping. One example is peak search, which scans the disc for the highest-level passage. Another is automatic editing: You key in the tape length, and the player selects tracks to fit as many as possible on each side of the tape.

—D.K.
Onkyo's DX-C210 six-disc carousel changer ($350) lets you change up to three discs without interrupting playback. You can also create your own forty-track playback sequence, selecting songs in any order from any of the discs in the platter.

NAD's Model 502 CD player ($299) features 1-bit MASH D/A converters, a coaxial digital output, and the ability to program a twenty-one-track playback sequence.

Kenwood's DP-R5750 five-disc carousel changer ($299) offers repeat modes for a single track, a single disc, or a programmed sequence from one or all of the discs. You can switch two of the discs in the platter while another is playing.

JVC's XL-M509TN ($380) is a “6 + 1” changer that combines a six-disc cartridge and a single-play drawer for on-the-fly operation. You can assign eight-character labels to 156 discs (in twenty-six cartridges) and search for them by those names.

Pioneer's PD-TM3 changer ($510) accepts three six-disc cartridges. It has a built-in digital signal processor with five ambience settings and a headphone jack with a dedicated volume control.

LaserActive system represent a new generation of CD players, which not only play standard music discs but also play interactive, visually oriented discs of one form or another. (All require a video monitor, of course, and the LaserActive system also plays conventional laserdiscs.)

The Panasonic and Pioneer players are just now beginning to hit store shelves. The game-oriented Sega CD has been around for about a year, but, strictly speaking, it offers less than audiophile-grade CD playback. Philips CD-I players have been available for well over a year, and CD-I is currently the only interactive format with a substantial library of titles—about a hundred at last count.

Which, if any, of these formats will set the interactive-multimedia standard of the twenty-first century? It's anybody's guess. (If you know the answer to that question, go out and buy a lottery ticket—immediately!) Should you invest in one of these first-generation interactive players? Experience says probably not—at least as a primary CD player. But for secondary systems, video-game and computer junkies will be hard pressed to resist at least checking out this new form of home entertainment.

Digital Details

The technology of digital audio has evolved along several different paths since 1981, and manufacturers frequently boast of improved performance resulting from one refinement or another. Most such claims are technically legitimate, but few translate directly to appreciable sonic gains. The most prominent (and frequently trumpeted) refinement is in the type of digital-to-analog (D/A) conversion circuitry employed. Multibit (16-, 18-, or even 20-bit) D/A converters were the only game in town up until a few years ago, and they are still widely used to decode CD data. An 18-bit or higher-bit-rate chip theoretically offers some-
what greater accuracy than 16-bit conversion, though in practice a carefully engineered and calibrated 16-bit design can be equally precise.

Nowadays, "1-bit" converters such as those in the Philips Bitstream and Technics/Panasonic MASH chips dominate the field. Instead of using complex resistor networks to model each of CD audio's 65,000-odd possible values, they use very fast, very accurate digital clocking circuits. (For more detail, take a third-year electrical-engineering course at your local university.)

It's tough to generalize, but 1-bit converters tend to be more stable over time and to offer slightly better performance for the dollar—at least in the case of inexpensive players. Once you move beyond the $500 level, sophisticated multibit designs are nearly as common as 1-bit converters, however, and the performance balance is quite even. At any price point, it's far from certain that even an experienced audiophile could identify audible differences between competing 1-bit and multibit players, so making a purchase based solely on the marketing hype of one technology or the other is not a wise strategy.

The same can be said of oversampling, another technological wrinkle of digital audio. Virtually every CD player today employs oversampling to permit digital filtering; four-times (or "4X"), eight-times ("8X"), and higher rates are widespread, and 1-bit players by definition include high resampling rates. Once again, these numbers provide little if any clue to audible performance.

Today's CD player specifications are a jungle of largely meaningless numbers: Flat frequency response, one-part-in-10,000 distortion (0.01 percent), and 90-dB or greater signal-to-noise ratios are typical. One specification, which expresses the headroom a design provides between a null ("digital zero") signal and a maximum-level signal—may provide a useful shorthand indication of overall digital and analog performance. A player rated for a 98-dB dynamic range yields reproduction that's clearly superior—at least on paper—to that of one specified at 88 dB.

But even dynamic-range specs are tough to compare, as different measurement techniques and tools may yield numbers varying 6 dB or more from the same player. In short, specs are of little use in picking a player, beyond confirming that a particular model meets today's standard performance levels, as most players on the market in fact do.

A player's ability to handle disc defects is one performance area worth investigating. The ideal is a combination of disc transport, laser pickup, and error-correction circuitry robust enough to handle scratched, dirty, or marginally defective CD's without so much as a hiccup. The best way to determine a player's worthiness in this area is to play a test CD that puts its error-correction system to the test, enabling you to quantify its ability to handle increasingly egregious errors. (The excellent "Digital Test" two-CD set on the Pierre Verany label, 788031/32, can be ordered from Allegro Imports: call toll-free, 1-800-288-2007.)

All other things being equal, a player that can handle severe disc errors without audibly pausing or skipping is preferable. (Performance can vary from sample to sample, however, so confirm that the actual player you plan to purchase meets the standard of the demo unit you tested.)

Once you determine the type of player you need, and the features you want (see " Extras! Extras!" on page 7), what else matters? Ergonomics, or ease of use, is very important. The design and layout of controls, the size and legibility of displays, and the complexity and feel of remotes may seem like nits to pick now, but in six months' time they often loom large as worthwhile benefits—or aggravating flaws. Be sure to spend enough hands-on time with a prospective player to get a solid feel for it, and be a tough critic.

Finally, though it may seem self-evident, don't be afraid to trust your own instincts. If a player "sounds better" to you, buy it. You may be fooling yourself, but if you're happy with the sound, isn't that the whole point? More important, be sure to look, touch, and feel. A player that looks and feels well-made, has smooth-operating, high-quality controls and mechanics, and pleases your eyes is a better choice than one less carefully crafted or attractive (if it looks, walks, and quacks like a duck, it's probably a duck). Put another way, it's your money: Spend it on a player that pleases all your senses, including your sense of value, and you'll be happy with it for years to come.

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**HIGH HOPES**

Okay, you've budgeted more than $1,000 to spend on a CD player. What should you expect from high-end models?

- **Better sound?** Maybe—but it'll be tough (or impossible) to confirm. Most high-end designs employ top-shelf D/A converter chips and associated circuitry, high-quality, tight-tolerance analog components, and advanced oversampling circuits with superior analog filters and output sections. All of this should add up to superior performance—but there's no guarantee that you, I, or anyone else will actually hear it. One sound argument in favor of high-end players is that disc-production techniques and standards are constantly evolving, resulting in subtle sonic improvements that top-shelf players are more likely to pass on to your ears.

- **Excellent disc handling?** Absolutely. Any player in the $1,000-and-up range should handle errors caused by lightly scratched or dirty CD's without complaint. It should also provide above-average isolation from bumps and airborne vibration.

- **More features?** Maybe, but probably not. Paradoxically, high-end CD players (like other high-end hi-fi components) tend to offer fewer features in a quest for simplicity, which some feel enhances audio quality.

- **High-end appearance, finish, and construction?** Beyond doubt. Any kilobuck-plus CD player should look good, feel nice, and be crafted with obvious care from top-quality materials. If you're contemplating this level of expenditure, accept nothing less. —D.K.
It’s a clear dilemma. Your lifestyle has changed, but not your speakers. What used to fit well into your dorm or first apartment looks out of place in your living room now.

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The cover of Cecilia Bartoli’s first recording for London Records, a collection of Rossini arias, presented her as a femme fatale, with heavily painted lips and eyebrows, a mass of teased black hair, and a haughty stare. Nothing could be further from the real thing. In person she is more like a teenager with a galloping case of the giggles.

She is twenty-six, Italian, and filled to the brim with life. She seems too good to be true. Offstage, there are no demands, no attitudes, and certainly no vamping. She is unaffected, and everyone and everything seems to interest her. You might call her the prima donna next door.

But onstage there is no mistaking her importance and magnetism. You can’t take your eyes off of her. She is a seductive creature who has it all—voice, looks, technique, musicality, and the ability to set fires by simply smiling at an audience or launching into skyrocketing coloratura.

In the four short years since that first record was issued, she has become opera’s most talked-about diva and darling. Her recent CD “If You
Love Me” soared to the top of the Billboard classical chart and at this writing remains high on the chart along with three of her other recordings. Stores that normally don’t even stock classical recordings have Bartoli CD’s for sale.

Yet, amazingly enough, she has so far been heard in only a handful of concerts in the United States. Last April she made her official American opera-house debut in Houston, Texas, as Rosina in Rossini’s The Barber of Seville. She made the irrationalities of opera seem entirely believable, and she quenched the thirst of opera fans who’d been longing for an authentic heroine and personality.

She has made her mark so far primarily with the lighthearted operas of Rossini and Mozart. She is to comedy what Maria Callas was to tragedy—a Presence, a singer whose sound and being are a mirror held up to the music. For Bartoli, as it was for Callas, music is the bottom line. It is her power source, the generator that has made her opera’s new superstar.

As incredible as it now seems, Bartoli’s manager had difficulty booking recitals for her first season in America in 1991. No one knew who she was, and only a few were willing to gamble on her. She went back to Italy with about $1,000 after expenses.

That was just a temporary setback. As more of her records followed, the demand for her live appearances increased, and her fee began to rise. Opera companies and concert promoters now line up to reserve one or two of the thirty-five to forty dates she limits herself to each season. While she is delighted by her sudden fame, it seems to have made little difference in her lifestyle or her outlook. She remains a spirited, uncomplicated person—a natural in every sense.

"Who is Cecilia?" I asked her after a matinee performance of The Barber in Houston.

"Chi e Cecilia?" she repeated. After a slight pause she answered:

"I think Cecilia is a person who above all else takes great pleasure in music. She is not preoccupied with success, only music. As a performer, the most wonderful thing that has happened to me, and also the biggest surprise, is being able to make such a direct contact with my audience. It’s something God gave me along with my voice. I am able to forget Cecilia and become Rosina, or Cherubino, or Dorabella.

"Also, Cecilia is very lucky, because she gets to work with the top musicians, like Daniel Barenboim and James Levine. The best compliment I have had came from Barenboim. He told me that when I sang ‘Voi che sapete’ in Figaro with him, my voice was an extension of his arm. E bello, vero? [That’s beautiful, isn’t it?]"

Although she is nominally a mezzo-soprano, Bartoli prefers not to be typecast. She has temporarily traded the role of Dorabella in Mozart’s Così Fan Tutte for the soprano part of Despina (with which she makes her Metropolitan Opera-house debut in 1996). She recently sang Zerlina, another traditionally soprano role, in Don Giovanni at La Scala, and she would like to take on Susanna in The Marriage of Figaro—"at least," she says, "for a few performances to see how it fits my voice."

She is quick to tell you that the big Verdi mezzo-soprano “money” roles—Eboli, Amneris, Azucena—are not and never will be for her. The role of Carmen tempts her, but it is a temptation she will not give in to for a long time to come, if ever.

Because she is so happy and so successful in her current niche, it is easy for her to say no to offers that are not right for her voice. What interests her most for the immediate future are certain Rossini tragic operas, such as Otello and La Donna del Lago.

"But now is a good time and a good age to spend a lot of time with comedy," she says. "It is important to be believable in a role, and there are certain parts that you do best when you are young. In five years, I think, I will be more suited to dramatic roles."

Music was always an integral part of Bartoli’s life. Both her parents sang in the Rome Opera Chorus, and because they could not afford a baby sitter, Cecilia, her younger sister, and her older brother were taken to the opera every night when the elder Bartoli were performing. Backstage became their nursery.

"My baby sitters," she says, "were Verdi, Mascagni, and Rossini! I remember especially the summer, when the opera moved outdoors to the Baths of Caracalla. My brother and I crawled all over the scenery for Aida. It was our playground."

At first she wanted to be a dancer and for a while studied flamenco. It
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was when she was sixteen that she began to study singing seriously; this was only three years before her operatic debut as Rosina in Rome. Before that she had only sung pop music around the house. It was her mother who began training her voice, and she remains Bartoli's only teacher.

In the beginning, Bartoli says, her voice was very limited in range; it now rises seamlessly over two octaves to an easy high C and beyond. It has taken on more weight and color since she began, though where it will go in the years ahead is anyone's guess, including hers.

"At first my mother forbade me even to sing a simple song. We worked on just one note at a time. I know many singers begin with something like Se Tu M'Ami (If You Love Me), but my mother told me that was a very difficult song if you sing it correctly—with purity, meaning, nuance, and line. 'This you will not do,' she said, 'until you know how to sing correctly.'

"What she taught me was that the most important part of singing was to have the same sound, the same color, in all registers. She worked very hard on the passaggio, where the voice goes from one register to the next. She believes, and she is right, that managing the passaggio is the most difficult thing in singing."

Despite her secure, spontaneous way of performing, Bartoli maintains, "Not everything is easy for me. Dorabella, for example, was a big challenge. When a role is just here [touching her throat], it is not easy. But when it is here and here [touching her throat and her heart], like Rosina, it is very easy.

"What is the most difficult for me are my concerts, because there I sing so many different types of music. But my concerts are what I love best. They are the most important part of my career. I have just done a new record with the marvelous pianist András Schiff—music of Haydn and Mozart and the only songs Schubert and Beethoven wrote in Italian. I would love to sing in German, but it scares me. I know my limits.

"I could never be as idiomatic in German as a great artist such as Christa Ludwig. You see, I care about words and being understood. Words are the key to a performance, and this frightens me when it comes to German songs. But I have just started working on Ravel and Berlioz songs in French, and I would like to add some Fauré as well."

What about nerves? Do they exist for her?

"Oh yes," she sighs. "They are always there before a performance. But nerves can be good. They produce the adrenalin that can make a performance exciting."

"And if you think I am always happy, come to a rehearsal and you will see that I am not. If something happens I don't like, I am not so good, not so nice. Cecilia is a prima donna when she has to fight for the music. Also, I worry a lot. In fact, if I don't worry, it bothers me. Then I worry because I'm not worried!"

When she's not singing, Bartoli studies repertory and indulges herself in movies, theater, sun, and food. "For me," she has said, "food is almost sexual. The most difficult thing when I am traveling is to be without a good bowl of pasta or a good cup of cappuccino."

Will there be room for marriage and children in her life?

"I don't know, though I hope so. It is so hard to balance a career with a family. Sometimes I think it is impossible. But I don't want to think of myself without a family, with just a dog for company when I stop singing."

When I suggested that she should marry either a conductor or a millionaire, there was another volley of laughter. "Oh, give me the millionaire. Marriage with a musician is always a battle, I think. Perhaps a millionaire who likes music is the answer!"

What has fame meant to her?

"Shoes, lots of shoes! And an Alfa-Romeo. I don't like fur coats, and I don't want more jewelry, unless it is a gift from that millionaire! I think I would like soon to have a nice farm in the country, perhaps in Tuscany, with lots of animals and near the sea."

As anyone who has heard her can testify, Cecilia Bartoli is not only a major artist but a breath of fresh air, a fine antidote for the sterile kind of vocal performance that too often passes for singing these days. Small wonder the cry "Brava Cecilia!" is being heard loudly across the land.

John Ardoin is music critic of the Dallas Morning News and author of The Callas Legacy (Scribner's) and The Furtwangler Record, which is scheduled to be published next summer by the Amadeus Press.
It's the little things that keep you home.

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Audio/video receivers come in a wide range of prices, and perhaps the most interesting category right now is the one represented by the Onkyo, Pioneer, and Yamaha models tested for this comparison. Much below $500, the constraints imposed by the sheer number of functions necessary in a Dolby Pro Logic A/V receiver—a stereo FM tuner, a surround-sound decoder, and at least five channels of power amplification—can severely limit the number of features or (more usually) the receiver’s performance. At higher prices, the number of features tends to grow rapidly, if often not usefully, and the question typically is not so much of performance as of convenience and flexibility.

An A/V receiver designer works hardest when designing a model in the $500 range. This is the range where truly adequate amounts of amplifier power can be balanced against the performance and complexity of the surround-sound circuitry and the inclusion of various convenience features. And it is the range where such tradeoffs can show up most clearly.

The receivers we chose to test happen to illustrate these points very well. As you can see from “Features” on page 85, they are almost evenly matched in their functionality. For instance, all come with infrared remote controls and have one video-monitor output, connections and switching for two sets of main speakers, a headphone output, and so forth. Even large apparent differences in features often won’t prove to be significant in actual use. For example, with “only” thirty radio presets in the Pioneer receiver you can program one out of every three available FM stations. Many—but not all—of the lab test results (see the measurements tables on pages 86 and 88) are equivalently similar or irrelevantly dissimilar.

So far, these three receivers may seem to be created equal, but their equality is unequally distributed. Their designers have opted for slightly

BY DAVID RANADA
different mixes of features, performance, and operating convenience, playing these factors off each other to slightly different effect in each model. You can't tell that from a cursory glance at either lab results or lists of features. But if you roll up your sleeves and put the receivers to work in a system, as we did, you'll quickly discover each one's personality.

**Onkyo TX-SV515PRO**

Despite the number of buttons on the front panel, Onkyo's TX-SV515PRO is fairly easy to use. That's because many of those buttons are devoted to tuner functions (such as numerical frequency selection and categorizing and memorizing station presets) and have a clear, nearly self-explanatory logic to them. The only feature that might be tricky to use at first is the ability to select separate sources for listening and recording, which is complicated by the number of different sources that can be selected. The TX-SV515PRO can also be used in a dual-zone mode, in which the surround-channel amplifiers drive a pair of remote stereo speakers. This scheme enables not only separate volume control of the remote speakers, but also selection of a different source from the one playing in the main room. You lose surround sound in the main room when the dual-zone mode is activated, however.

Onkyo's Dolby Pro Logic circuitry comes with the standard complement of outputs and level-adjustment features (although there's no mono output for driving a subwoofer). The digital indications of center- and surround-channel level were accurate within 1 dB from +16 dB (the highest setting) to -16 dB, enough range for almost anybody.

When it comes to music-enhancement modes, the Onkyo really has only one, called Hall. Tests showed that it operates by generating a series of about nine delayed "reflections" through the surround speakers, each reflection approximately 7.4 dB lower than the preceding one. The delay-time control, which has a span of 15 to 30 milliseconds (in 5-millisecond increments) for the single delay in Dolby Pro Logic operation, in this case serves to set the interval between the multiple delays.
In some ways, Onkyo's Hall mode is similar to the first delay-line ambience-enhancement systems from AudioPulse and ADS, which also generated simple reflection patterns. The austerity of such schemes has always had its good and bad sides, and this one is no exception. On the positive side, because none of the added reflections is sent through the front speakers it is difficult to make pop music sound too spacy, even with the delay time set to the maximum. On the down side, the Hall mode is really beneficial only for jazz, classical music, and pop recordings that contain substantial amounts of reverberation.

Back-panel layout is clear and simple, with the inputs and outputs horizontally arranged across the span and with video connections directly above their related audio ones. Together these characteristics make for easier cable hookup by feel alone, especially after the receiver has been installed. The binding-post connectors for the main speakers take either stripped cable ends or banana plugs (single or dual). Supplied accessories include simple AM and FM antennas, a special cable that enables the receiver's remote to control compatible Onkyo components, and the remote handset. The remote itself is commendably self-explanatory and simple to use. It includes switching for the main speakers, which is always helpful in checking whether the surround-sound decoder or the music-enhancement modes is operating properly.

In many ways, Onkyo's TX-SV515PRO was the best performer sonically. We detected no anomalous behavior in any operating mode. Noise was low, output power was on the high side (though with not much dynamic headroom), and Pro Logic operation was fine in terms of stability and accuracy of sound steering in our standard movie-clip torture tests. In the lab tests, the flatness of the Pro Logic frequency responses was unusually good. In all, the TX-SV515PRO is a solid performer with middle-of-the-road features.

**Pioneer VSX-502**

Flashier in features, the Pioneer VSX-502 has capabilities not shared by either of the other models. Especially noteworthy are its provisions for selecting playback video and audio signals separately, memorizing settings of the button-controlled bass and treble controls, memorizing volume settings for individual source selections, and decoding in Dolby 3 Ste-

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**Features**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Pioneer VSX-502</th>
<th>RX-V470</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music surround modes (not Pro Logic)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>AM/FM presets</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td>Remote-control speaker switching</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Provisions for multroom remote control</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>A/V inputs (including videodisc)</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>VCR record/play connections</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>TV-monitor outputs</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Audio line-level inputs (including CD)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Audio-recorder connections</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>AC convenience outlets</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Mono line-level output</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Surround-channel line-level outputs</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Speaker connectors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>main/remote</td>
<td>binding-post</td>
<td>snap-grip</td>
</tr>
<tr>
<td>center</td>
<td>snap-grip</td>
<td>snap-grip</td>
</tr>
<tr>
<td>surround</td>
<td>snap-grip</td>
<td>snap-grip</td>
</tr>
<tr>
<td>Dimensions (inches)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>width</td>
<td>18</td>
<td>16%</td>
</tr>
<tr>
<td>height</td>
<td>6½</td>
<td>6%</td>
</tr>
<tr>
<td>depth</td>
<td>15½</td>
<td>16</td>
</tr>
<tr>
<td>Weight (pounds)</td>
<td>30</td>
<td>21¼</td>
</tr>
</tbody>
</table>

*All three models have a Dolby Pro Logic surround-sound decoder and a sleep timer. Connections and switching for two sets of main speakers, and an infrared remote-control handset.*

---

The remote control supplied with the VSX-502 was one of the more bewildering ones I have encountered. In addition to a stripped-down set of receiver controls, it has basic function buttons for a CD player, laserdisc player, TV, cassette deck, and VCR, all in a handset with only thirty-six buttons. (No word from the manual as to what brands of auxiliary equip-

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**STEREO REVIEW OCTOBER 1993**

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LABORATORY MEASUREMENTS
(Julian Hirsch, Hirsch-Houck Labs)

<table>
<thead>
<tr>
<th>TUNER SECTION</th>
<th>ONKYO</th>
<th>PIONEER</th>
<th>YAMAHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-dB quieting sensitivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mono</td>
<td>15 dBf</td>
<td>16 dBf</td>
<td>13 dBf</td>
</tr>
<tr>
<td>stereo</td>
<td>37 dBf</td>
<td>38.5 dBf</td>
<td>42 dBf</td>
</tr>
<tr>
<td>Signal-to-noise ratio (at 65 dBf)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mono</td>
<td>79.5 dB</td>
<td>80 dB</td>
<td>78 dB</td>
</tr>
<tr>
<td>stereo</td>
<td>73.2 dB</td>
<td>73 dB</td>
<td>20 dB</td>
</tr>
<tr>
<td>Distortion (THD + N at 65 dBf)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mono</td>
<td>0.145%</td>
<td>0.26%</td>
<td>0.135%</td>
</tr>
<tr>
<td>stereo</td>
<td>0.12%</td>
<td>N/A*</td>
<td>0.43%</td>
</tr>
<tr>
<td>Capture ratio (at 65 dBf)</td>
<td>1 dB</td>
<td>1.1 dB</td>
<td>2.5 dB</td>
</tr>
<tr>
<td>AM rejection</td>
<td>63 dB</td>
<td>57 dB</td>
<td>62 dB</td>
</tr>
<tr>
<td>Selectivity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>alternate-channel</td>
<td>68 dB</td>
<td>73 dB</td>
<td>70 dB</td>
</tr>
<tr>
<td>adjacent-channel</td>
<td>10.5 dB</td>
<td>9.5 dB</td>
<td>10 dB</td>
</tr>
<tr>
<td>Pilot-carrier leakage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19-kHz leakage</td>
<td>-70 dB</td>
<td>-35 dB</td>
<td>-47 dB</td>
</tr>
<tr>
<td>38-kHz</td>
<td>-74 dB</td>
<td>-45 dB</td>
<td>-50 dB</td>
</tr>
<tr>
<td>Hum</td>
<td>-75 dB</td>
<td>-72 dB</td>
<td>-78 dB</td>
</tr>
<tr>
<td>Channel separation (1 kHz)</td>
<td>51.5 dB</td>
<td>42 dB</td>
<td>49 dB</td>
</tr>
<tr>
<td>Frequency response</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FM, 30 Hz to 15 kHz</td>
<td>+1.5, -0.0 dB</td>
<td>+1.1, -0.0 dB</td>
<td>+0.0, -3.7 dB</td>
</tr>
<tr>
<td>AM (bandwidth varies)</td>
<td>+0.7, -6.0 dB</td>
<td>+0.7, -6.0 dB</td>
<td>+1.7, -3.0 dB</td>
</tr>
<tr>
<td>73 Hz to 2.7 kHz</td>
<td>90 Hz to 2.5 kHz</td>
<td>60 Hz to 2 kHz</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AMPLIFIER SECTION</th>
<th>ONKYO</th>
<th>PIONEER</th>
<th>YAMAHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency response (20 Hz to 20 kHz)</td>
<td>±0.3 dB</td>
<td>±0.0, -0.5 dB</td>
<td>±0.2, -1.0 dB</td>
</tr>
<tr>
<td>1-kHz output at clipping</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 ohms</td>
<td>101 watts</td>
<td>165 watts</td>
<td>63 watts</td>
</tr>
<tr>
<td>4 ohms</td>
<td>83 watts</td>
<td>222 watts</td>
<td>83 watts</td>
</tr>
<tr>
<td>Clipping headroom (referred to rated output, 8-ohm load)</td>
<td>1.0 dB</td>
<td>2.2 dB</td>
<td>1.0 dB</td>
</tr>
<tr>
<td>Dynamic power output</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 ohms</td>
<td>120 watts</td>
<td>182 watts</td>
<td>138 watts</td>
</tr>
<tr>
<td>4 ohms</td>
<td>200 watts</td>
<td>278 watts</td>
<td>128 watts</td>
</tr>
<tr>
<td>2 ohms</td>
<td>138 watts</td>
<td>400 watts</td>
<td>156 watts</td>
</tr>
<tr>
<td>Dynamic headroom (referred to rated output, 8-ohm load)</td>
<td>1.76 dB</td>
<td>2.6 dB</td>
<td>4.4 dB</td>
</tr>
<tr>
<td>Distortion (at rated power)</td>
<td>0.03</td>
<td>0.08%</td>
<td>0.0075%</td>
</tr>
<tr>
<td>Sensitivity (for 1 watt output into 8 ohms)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CD</td>
<td>21 mV</td>
<td>15 mV</td>
<td>23 mV</td>
</tr>
<tr>
<td>phono</td>
<td>0.35 mV</td>
<td>0.24 mV</td>
<td>0.72 mV</td>
</tr>
<tr>
<td>A-weighted noise (referred to 1 watt output)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CD</td>
<td>-82.6</td>
<td>-77.5 dB</td>
<td>-86 dB</td>
</tr>
<tr>
<td>phono</td>
<td>-75.8</td>
<td>-77.5 dB</td>
<td>-79 dB</td>
</tr>
<tr>
<td>Phono section</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>input overload (at 1 kHz)</td>
<td>121 mV</td>
<td>122 mV</td>
<td>98 mV</td>
</tr>
<tr>
<td>input impedance</td>
<td>44 kilohms, 60 pF</td>
<td>50 kilohms, 160 pF</td>
<td>45 kilohms, 195 pF</td>
</tr>
<tr>
<td>equalization error</td>
<td>+0.8 dB, -0.0 dB</td>
<td>+0.2, -0.5 dB</td>
<td>+0.0, -1.0 dB</td>
</tr>
<tr>
<td>Tone-control range</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100 Hz</td>
<td>±8 dB</td>
<td>±9 dB</td>
<td>±7.5 dB</td>
</tr>
<tr>
<td>10 kHz</td>
<td>±9 dB</td>
<td>±7.5, -8.5 dB</td>
<td>±8 dB</td>
</tr>
</tbody>
</table>

Notes: All tuner figures are for FM only except frequency response. All amplifier figures are for main front channels only.
* Stereo distortion masked by multiplex carrier.

All the receiver-oriented buttons worked fine, but several of them have two different functions determined by the infrared equivalent of a typewriter or computer shift key, here a switch sliding between AUDIO and VIDEO positions. To balance channel outputs in a Dolby Pro Logic setup, for example, you have to keep sliding that switch back and forth while making adjustments with the single pair of plus and minus buttons. That wouldn’t be half so bad if the labeling on the handset weren’t so vague about which label belongs to which button with which shift setting. Don’t expect to figure this remote out quickly. I’d have gladly given up all ability to control other components with this handset to have had a separate button for every vital receiver function.

The lab results show that the VSX-502 was the powerhouse of the three models tested, delivering more than 4 dB greater continuous output than either of the others into 4-ohm loads. Its dynamic headroom was also quite respectable. But there was a problem at the other end of the dynamic range: Even without Dolby Pro Logic or any other signal processing switched in, the VSX-502’s noise level was great enough to be clearly audible in a moderately quiet listening room. Even more obvious was the hissy 10-dB worsening of the noise level when we switched in either Simulated Surround or Simulated Stereo. Noise in Pro Logic mode was about 10 dB higher than in the other two receivers, but because movie soundtracks tend to be somewhat noise-prone themselves, that difference was less apparent in use than on the test bench. The Pioneer’s Pro Logic steering performance seemed to be fine.

Stereo FM pilot-carrier leakage was also on the high side, and we would have preferred a horizontal arrangement of the back-panel connections rather than a vertical one, but these are minor matters. The main question you face with the VSX-502 is whether its substantial power advantage over the other two receivers (especially into low impedances) is worth the sacrifice in signal-to-noise ratio, which, with music at least, is likely to be more noticeable most of the time than differences in maximum output power.

Yamaha RX-V470

To my eyes, the RX-V470 is the best looking of these three receivers. It is certainly much the smallest, and that,
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The designers have opted for slightly different mixes of performance, features, and convenience.

combined with its refreshing lack of front-panel button clutter, makes for a less imposing, more "friendly" feel. After the heft of the other two receivers, the RX-V470's light weight is immediately striking. The difference stems primarily from its smaller power transformer, which in turn indicates that it is a lower-powered receiver than the other two. This is visible in the lab results for 1-kHz output at clipping. But don't concentrate too much on this measurement. A more important one is actually the dynamic power output, which at 138 watts into 8 ohms indicates that the RX-V470 is capable of playing music peaks quite loud enough for most purposes with speakers of typical efficiency (for example, it can generate peaks of 111 dB sound-pressure level at 1 meter with speakers rated at 90-dB sensitivity).

The RX-V470 has slightly fewer basic features than the other models, but the main sacrifices, only one VCR and one audio recorder hookup, aren't significant unless you plan to hook up more than one of each of those components. The remote control is okay. Although the buttons are all the same size and arrayed in too regular a pattern, the markings are clear and fairly legible even under dim lighting conditions. And there is a logical pattern to the button layout that helps in memorizing the functions.

I sorely missed a couple of functions on the handset: level setting for the center and surround speakers. Although you ordinarily have to make a front/center/surround balance adjustment only when you replace any of the speakers or make substantial changes in speaker positions or room acoustics, it is always best to make the level-matching judgments from the prime listening position. With the RX-V470 you need a partner, or a sound-level meter, to listen while you turn the front-panel center and "rear" level knobs. (Yamaha definitely recommends putting the surround speakers at the rear rather than on the sides of the listening room.)

More significant, especially given the receiver's four music-enhancement modes, is the remote's lack of control over the surround-speaker level and the amount of enhancement signal fed to the front channels. For best results with any of the music-enhancement modes (which add different complex clusters of delay-generated "reflections" to the front and rear surround channels when activated), you should have control over the level of the synthesized reflections, their front-to-rear balance, and the delay until the first reflection is generated. The Yamaha remote has only the last of those controls, making the most creative and sonically apt use of the music modes just about impossible without a lot of scurrying back and forth between the receiver and the primary listening position.

Nevertheless, the mode settings we wound up with after carefully performing the Dolby Pro Logic setup procedure were good, if not ideal. At times, the echoes that the music modes added to the front-speaker sound made the front image too spacy or distant. Such a result can be alleviated simply by turning the Front Effect control down or all the way off.

Each music-enhancement mode produced a slightly different effect,
These are the qualities 9 out of 10 employers look for in the people they hire, according to a national survey. These same employers say that one of the best places to develop these qualities is in the Army.

Whether you're leading a fire team or driving a tank, you'll learn how to make decisions, work with others, and solve problems—abilities that today's employers are looking for. So when it's your first day on the job, you'll already know how to hit the ground running. To find out more about how the Army can get your career—and your life—moving, call 1-800-USA-ARMY. ARMY. BE ALL YOU CAN BE.
and the effects often worked well with musical genres other than those implied by their names: Concert Video, Mono Movie, Rock, and Hall. I'd encourage experimentation with different modes and delay times. The slight "cognitive dissonance" caused by placing the surround speakers at the rear can be cured by putting them where they should be, on the sides, and letting the music-mode reflections fall where they may. When we tried that, the sonic results weren't bad at all. I found the "enhanced" Dolby Pro Logic mode—which adds reflections to simulate the acoustics of a large movie theater—distracting and unnecessary, as I've always found similar settings on other models. You're better off sticking with straight Pro Logic for surround-encoded soundtracks and using the music modes where appropriate for standard two-channel stereo recordings.

Aside from the "missing" controls on the remote, the RX-V470 is very easy to use, and its multiple surround options provide great flexibility in shaping the sound field. And, though not the powerhouse of the group, it delivers adequate output, especially for small or medium-size listening rooms.

B

y now it should be clear how the design tradeoffs shake out among these products. The Onkyo TX-SV515PRO combines relatively high power with a good array of input connections and fine surround performance, but it has only one rather staid, safe, and unexciting music-enhancement mode. The Yamaha RX-V470's more complex digital circuitry provides four well-crafted music modes (the best selection in this group of receivers), which can make for interesting musical experimentation, but the power available is modest, and the remote is under-equipped to take full advantage of the processing circuitry. I'd recommend the RX-V470 for those who are primarily interested in listening to music but occasionally want to hear an episode of Saturday Night Live or a rented movie in surround sound. Pioneer's well-appointed and truly high-powered VSX-502 is noisier than we'd like in this age of the CD, but if your main interest is hearing movie soundtracks played loud, it could be a good choice.

Most regular readers of STEREO REVIEW already know the basics of using a Dolby Pro Logic decoder for reproducing Dolby Surround soundtracks. Just follow these simple guidelines:

- If possible, use a center-channel speaker for maximum clarity and solid dialogue placement at the screen.
- Place the surround speakers above and to the sides of your prime listening position rather than in back of it. (Despite the nomenclature often adopted in manuals, equipment labeling, and promotional literature, the sound of the "rear" channels is supposed to come primarily from the sides, as it does in a movie theater).
- Balance loudspeaker levels very carefully—even to the extent of employing a sound-level meter (Radio Shack has one for $31.95, catalog number 33-2050)—using the test-signal generator required in all Dolby Pro Logic devices. You can make a great difference in the overall sonic impression of a soundtrack by very slight adjustments in the front/center/surround balance.
- There is another point that has not been emphasized enough and that our lab tests have revealed as a potential problem: Dolby Pro Logic circuits are susceptible to overload. In itself, that's no cause for great alarm. All circuits, if driven hard enough, will overload. The important point is that you can do nothing about a Pro Logic circuit's overload point by changing any of the normal front-panel settings. Neither the overall volume control nor the individual level controls for the center and surround speakers have any effect on the Pro Logic overload point, because those controls all come after the decoder in the signal path.

In general, Pro Logic overload points are set high enough so that the full output of a laserdisc player (approximately 2 volts) will not strain the system. But you should never insert into the signal path between a laserdisc player and a Dolby Pro Logic circuit any device that changes the level of even part of the signal. Equalizers in particular are best switched out or placed somewhere later in the signal chain. The manual for Pioneer's VSX-502 can speak for them all when it clearly states that "Dolby Surround will not operate correctly if the signal passes through a graphic equalizer." VCR and TV receiver audio outputs are usually lower in level than those of laserdisc players. But even though overload potential would be less of a consideration with such components, the same restriction applies to them, too, since the directional enhancement that Pro Logic is designed to provide can be thrown off by the response changes introduced by equalizers.

One last point: The use of the word "digital" with regard to Dolby Pro Logic decoders has become a little too loose lately. Of the three receivers reviewed here, only one, the Yamaha RX-V470, actually incorporates what might truly be called a digital Pro Logic circuit—one in which the signal steering to the various channels is controlled by numerical calculation. The other two receivers use good analog circuitry for signal steering in conjunction with delta-modulation digital delay lines for the required surround-channel delay and their music-enhancement modes. Even the Yamaha Pro Logic system, although more fully digital than the others covered here, doesn't seem to use CD-type 16-bit PCM analog-to-digital conversion in its delay circuit. Lab tests have indicated that fewer than 16 bits are used in a "floating-point" conversion system, and that was evident in the rise and fall of the surround-channel noise levels as the input signal changed level. And Yamaha's Pro Logic steering is accomplished not by adding and subtracting signals in digital form but by mixing them in analog form through digitally controlled attenuation circuits. The use of the word "digital" to describe this circuitry is technically correct, then, but it does not mean what you might ordinarily expect.

-D.R.
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John Hiatt’s Pith and Vinegar

John Hiatt’s detractors have their points. Sometimes he does a hell of a lot of thrashing around before he gets to the meat of things, musically and lyrically. And then there’s his singing—you have to cultivate the sound of a dying black man, especially if your legs are whiter than duck down. But Hiatt usually comes through in the clutch, something you need to hear his new album, “Perfectly Good Guitar,” only once to know.

This is a slight album compared with some of his others—there is nothing as get-down-and-greasy as Memphis in the Meantime, nor as devastating as Icy Blue Heart. But there is Loving a Hurricane, about the spoils of falling for a natural disaster of a human, where churning guitars swell over a steady, rub-it-in beat. And there’s Angel, a woman’s head-spinning realization that somebody important just stopped calling her endearing names. There’s also Buffalo River Home, with the lines, “Now there’s only two things in life / But I forget what they are / It seems we’re either hanging on a moonbeam’s coat tails / Or wishing on stars.”

Hiatt shines brightest while exploring lost dreams (Blue Telescope), and at moments when everything blows up in your face or, as on The Wreck of the Barbie, when you want to blow off somebody’s face. That song, one of Hiatt’s angry, narrative vignettes, lacks the heart that beats at the center of his other like-minded tunes, just as Perfectly Good Guitar, his protest against rock stars smashing their instruments, seems mild while calling for well-placed barbs. But Hiatt still knows how to get pithy in a sneakily seductive way—how to administer the medicine before you ever see the needle. After that, he can thrash around all he wants.

Alanna Nash
A Worthy "Pathétique" for Tchaikovsky's Centenary

His fall we observe the hundredth anniversary of the death of Tchaikovsky, which followed the première of his last and greatest symphony, No. 6, the "Pathétique," by a little more than a week. Last spring the Bournemouth Symphony Orchestra celebrated the hundredth anniversary of its first concert. A new Virgin Classics CD of the Tchaikovsky Sixth and his Romeo and Juliet by the Bournemouth Symphony under Andrew Litton brings together all three of these centenaries—though no such intent is indicated in the labeling, and the stunning performances surely need not be received in that context to be enjoyed.

It was perhaps surprising that Virgin decided on Bournemouth for something as competitive as a full-price Tchaikovsky cycle when Litton took over there in 1988, at the age of twenty-nine. But the cycle has proved to be a good deal more than respectable, with a particularly strong account of the Manfred Symphony and possibly the most fetching "Little Russian" (the Symphony No. 2) since Igor Markevitch's. The cycle has now reached its conclusion with what may be the all-around most persuasive true-digital recordings to date of both the "Pathétique" and Romeo.

That's a strong claim, but returning to this disc frequently has only deepened my initial enthusiasm for it. These performances sing, and they lack nothing in the way of drama. Litton's tempos in the symphony are unhurried, his instincts for the shaping of a phrase unfailing. He lets the big tune in the first movement roll itself out at what seems to be its own self-determined pace; the accents that give shape to it, but tend to get lost in so many of today's readings, are in place without calling undue attention to themselves. Every facet of Tchaikovsky's ingenious design and imaginative coloring registers in full, again without gratuitous spotlighting or in any way impeding the superbly maintained momentum. The third movement is neither headlong nor unduly restrained, but unswerving in its cumulative impact, and the remarkable nobility and genuineness of the final adagio are drawn from the music's own emotional core.

No less apparent is Litton's ability to get the orchestra to respond at the very top of its form. Romeo and Juliet, sensibly placed before the symphony on this sumptuously recorded disc, has never been more compelling, or more downspicuous enrichment of the Tchaikovsky discography as well as Litton's own—and quite a mark to shoot for when he succeeds Eduardo Mata as music director of the Dallas Symphony Orchestra next year.

Richard Freed

TCHAIKOVSKY: Romeo and Juliet; Symphony No. 6 ("Pathétique")
Bournemouth Symphony Orchestra. Litton
VIRGIN 59239 (67 min)

Oh, Those Latin Dances!

The New World Symphony was founded in 1988 by the conductor Michael Tilson Thomas as a kind of training or apprentice orchestra for young professionals. Its youthfulness and its location in Miami make it a logical vehicle for a program of exuberant Latin American music on a new Argo CD. The material, from Mexico, Cuba, and Argentina, includes Carlos Chávez's delicate Sinfonia India and Silvestre Revueltas's pagan Sensenaya, both evoking Mexico's pre-Columbian culture; the Cuban composer Amadeo Roldán's brash, jazzy scores for the theater (a suite from La Rebanbaramba) and for an all-percussion ensemble (Ritmica V); impressions of Cuban dance music by Alejandro Garcia Caturla and Aaron Copland (Dansón Cubano); and, from Argentina, music from Alberto Ginastera's early ballet, Estancia, and one of the last creations of the great modern tanguero (tango artist) Astor Piazzolla, whose deliciously symphonic Tangazo gives the album its name.

Much of this material is not new; these works are, in fact, classics of Latin American music, mostly dating from the 1930's and 1940's. But the composers—most of them audaciously talented and several having died tragically young—brought fresh ideas into the concert hall, and a lot of their music is as fresh-sounding as ever, particularly in these jump-up performances and recordings.

Michael Tilson Thomas

Andrew Litton
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SW 8  SW 10  SW 12  SW 15
Paul Westerberg Takes It Easy

It's taken a while, but former Replacement leader Paul Westerberg has landed on his feet in the wake of the band's fractious, highly public disassembly. His new "14 Songs" is as artless and honest as its title, just a guy sitting around singing some songs he wrote. No Major Statements, no Next Big Thing. No grand slams, really, just a home run or two, a string of solid base hits, and a few grounders that don't leave the infield.

Like Ray Davies, to whom he bears more than a passing resemblance (physically and artistically), Westerberg writes about everyday things without pretense, taking comfort in the ordinary and passing on wisdom in small doses. Perhaps consequently, if anything rings a little hollow here it's rockers like Silver Naked Ladies; A Few Minutes of Silence; Someone I Once Knew: Silver Naked Ladies; A Few Minutes of Silence; Someone I Once Knew: First Glimmer; World Class Fad; Runaway Wind: Dice Behind Your Shades; Even Here We Are; Silver Naked Ladies; A Few Minutes of Silence; Someone I Once Knew: Black Eyed Susan; Things; Something Is Me; Mannequin Shop; Down Love

PAUL WESTERBERG
14 Songs

Knocked on Mine: First Glimmer; World Class Fad; Runaway Wind: Dice Behind Your Shades; Even Here We Are; Silver Naked Ladies; A Few Minutes of Silence; Someone I Once Knew: Black Eyed Susan; Things; Something Is Me; Mannequin Shop; Down Love

SIRE/REPRISE 45255 (49 min)
The magazine that knocks you on your ear

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JEFF BECK AND THE BIG TOWN PLAYBOYS
Crazy Legs
EPIC 53562 (41 min)
Performance: Lifeless
Recording: Period-perfect
Jeff Beck is arguably the greatest living rock guitarist, but for whatever reasons—lack of ambition, disillusion with the form—he hasn't made a particularly interesting record in what seems like ages. This new one, although entertaining in a low-key way, is no exception. A tribute to Fifties rocker Gene Vincent—or, more specifically, to Vincent's pioneering lead guitarist, Cliff Gallup—it features Beck and friends performing ultra-authentic covers of Vincent numbers ranging from the well known (Lotta Lovin') to the obscure (Who Slapped John?). As you might expect, it all sounds fine—Beck has Gallup's twang-bar swagger down cold, of course—but it's essentially a TV-movie version of the real thing, all but indistinguishable from any of those early-Eighties rockabilly revival records—Levi and the Rockats, anyone?—that up in the of the New Wave. A disappointment.

DICK DALE
Tribal Thunder
HIGHTONE 8046 (48 min)
Performance: Salty
Recording: Good
The surf has come in again! Dick Dale, the first man to twang and reverb his guitar into a surfing frenzy, has returned with an album that sounds as if he's tripped back to 1961. On tune after tune, he produces the shivering, larger-than-life guitar runs that made him a Southern California god. Maybe a few of these songs don't quite grab the way his early stuff did, but Dick Dale can still catch a riff and ride it all the way home.

TERENCE TRENT D'ARBY
Symphony or Damn
COLUMBIA 53616 (65 min)
Performance: Audacious soul symphony
Recording: Excellent
Welcome home, Terence Trent D'Arby. all is forgiven. Critically and commercially deep-sixed after an initial bout of success for all the messianic hubris he subsequently displayed, D'Arby has bounced back with a third album that glistens and sizzles in a high-energy display of soul and passion. True to its title, it plays through like a soul symphony, one song blending into another in a heady swirl of earthy sweat and tears and sweet, orchestrate
d Idyls—a classic dichotomy of spirit and flesh that moves artists like Prince and D'Arby to the heights of expression.
"Symphony or Damn" opens with a great pun ("Welcome to my monasteryo," chants D'Arby, ushering the listener into a hermetic world where emotions are played out with a feverish intensity) and closes with the singer counseling compassion in a more reflective mode (Let Her Down Easy). In between he brings to life a gallery of pieces that illuminate the stages in a love affair as a kind of extended biological metaphor. His energy level is ferocious—witness the gravely soul delivery and animal fury of his guitar playing on She Kissed Me or the jittery funk and shouted importun

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sunny bubblegum-pop of Penelope Please, and the detailed, declamatory singing of Are You Happy?, so reminiscent of Marvin Gaye circa "What's Going On?" D'Arby both honors his mentors and stakes out his own territory on "Symphony or Damn," and he at all but one-ups Prince at his own baroque soul-pop game. Not to be missed.

Billy Idol
Cyberpunk
CHRYSLALIS 26000 (72 min)
Performance: Future shock
Recording: Hi-tech
I have seen the future of rock and roll, and his name is Billy Idol. That statement is meant quite literally. Idol has seized the technological bull by the horns and put it to use in a programmatic way to comment on the hazards of the present and horizons of the future. "Cyberpunk" is ambitious and boundary-breaking in the manner of Todd Rundgren's "No World Order," with which it stands allied as a futurist broadside.

"Cyberpunk" addresses modern-day apocalypse, urban violence, environmental decay, the epidemic lust for greed and power, helpless capitulation to drugs and escapism, and, finally, faith that a democratizing wave of computerized knowledge will help redeem and unify humankind. It's pretty heady stuff, and that narrowly telescoped summary hardly does justice to Idol's synthesis of computer cool and rock-and-roll heat. He is onto something, and none really fits. Most of these songs try to make order out of events always slightly out of kilter and out of grasp. Often, they begin as lightweight pop but take unexpected melodic turns, especially to minor chords, that impart a different dimension to the lyrics than they'd have simply laid out on the page. Two songs, Death of Stars and For a Lost Key, meld into each other in a kind of Beatles/British-pop symbiosis, while Caroline takes a different tack altogether, hearkening to country music's perennial The Wildwood Flower. The biggest surprise: a reworking of The Wichita Lineman that reads volumes into Glen Campbell's sappy Sixties version and makes the fabled wireworker a hip, existential hero. Get hold of this one at any cost.

Freddy Johnston
Unlucky
BAR/NONE 028 (21 min)
Performance: Mesmerizing
Recording: Good
Freddy Johnston's second album, "Can You Fly," was a surprise hit of 1992, an independent-label wonder that revealed Johnston's extraordinary talent for melding Sixties Brit-pop, Seventies R&B, and the kind of common-sense realism and intense dreaminess that could only come from a boy from Kansas who grew up, as Johnston did, watching people exterminate prairie dogs by pouring gasoline down their holes. Now comes "Unlucky," a five-song EP (six if you count the two versions of The Lucky One) that's both seductive and transporting. Like its predecessor it is hard to categorize other than to say that Johnston's high, earnest tenor imparts its own sweet style and seeks its own path. Post-punk, neo-country, Hollies-esque—they all apply, and none really fits. Most of these songs try to make order out of events always slightly out of kilter and out of grasp. Often, they begin as lightweight pop but take unexpected melodic turns, especially to minor chords, that impart a different dimension to the lyrics than they'd have simply laid out on the page. Two songs, Death of Stars and For a Lost Key, meld into each other in a kind of Beatles/British-pop symbiosis, while Caroline takes a different tack altogether, hearkening to country music's perennial The Wildwood Flower. The biggest surprise: a reworking of The Wichita Lineman that reads volumes into Glen Campbell's sappy Sixties version and makes the fabled wireworker a hip, existential hero. Get hold of this one at any cost.

Lucinda Williams
Sweet Old World
CHAMELEON 61351
"A great-sounding record, and she's one of the few original singer/songwriters to emerge in the last ten years."

Djivan Gasparyan
I Will Not Be Sad in This World
OPAL/WARNER BROS. 25885
"Duduk [flute] music from Armenia that's played along with a dam [a drone instrument]. I find it almost prayerful... it's good music to work against if I'm writing."

Buck Owens
Together Again/My Heart Skips a Beat
TOSHIBA/EMI 6656 (Japanese import)
"From the days when country music had a heart... West Coast-hillbilly jukebox music that'll rip the top of your head off."
should actually be stocked in a music shop or Madame Tussaud's Wax Museum. Still, there's kicks to be had doing the Bron-Y-Aur stomp to numbers like Shake My Tree and Feeling Hot, and "Coverdale-Page" may well be the next best thing to having been there.

While Page approaches the Zeppelin legacy like a sonic photo realist, Plant tries to tap into the creative spark that ignited the band. Backing away from the au courant sampling frenzy that typified his last few records, Plant returns to something more organic on "Fate of Nations." Apparently inspired by a slew of Sixties West Coast bands whose records he's been revisiting of late, Plant and company ride an unexpectedly dreamy groove to nirvana. Pillowy waves of sound bolster such ethereal creations as Come into My Life, 29 Palms, and the soulful, mellow invocation Great Spirit. He even covers Tim Hardin's If I Were a Carpenter, a song he used to perform in a band that predated Led Zeppelin.

Hmm . . . can a Page/Plant reunion really be that far beyond the realm of possibility after all these years? P.P.

PORNO FOR PYROS
WARNER BROS. 45228 (40 min)
Performance: Grating
Recording: Good

Porno for Pyros is the Van Halen of the alternative-music scene: fronted by an obnoxious, posturing nincompoop; self-involved, flippanent, and tattooed, with a perpetual smirk; fixation upon juvenile jerk-off fantasies; compiling a musical identity out of what has become a stockpile of clichés retrieved from the respective "alternative" and "mainstream" rock bins. And while Perry Farrell, the erstwhile Jane's Addiction frontman, has a knack for heretical platitudes and a flair for shock value, the novelty swiftly wears thin. "Ever since the riots / All I really wanted / Was a black girlfriend," he sings in his smarmy, offhand way in the specious Black Girlfriend. In the title song, which is also about the L.A. riots, Farrell is driven to masturbation by the televised carnage and sees the whole sordid bloodletting as a kind of mass sexual release. The songs all sound like backstage jams to which Farrell has appended his clouded stream-of-consciousness, and the details of this libertine's daily existence are about as interesting as the parade of fetishists whose confessions foul the TV talk shows. P.P.

TOM RUSSELL
Box of Visions
PHILO 1158 (50 min)
Performance: Very good
Recording: Great

Tom Russell, who specializes in literate songs about Americans at the breaking point, has enjoyed a high profile lately with well-received albums he made with Katy Moffatt and Barrence Whitfield. Still, he's found time to write what may be his most consistent record. Russell excels at novelistic detail and setting, and in poetic description of mundane events ("the eyelids of morning, they flutter a warning"). But his greatest gift is in humanizing political situations and social class struggles. He does it best here on the folktish Manzanar, in which an elderly Japanese man reflects on his time in an American internment camp during World War II, and on Waterloo, a bleak portrait of an unemployed factory worker in Iowa—wrist-slit depression set to a Bo Diddley-style beat. Think of "Box of Visions" as Roger and Me turned inward. A.N.

CHRIS SMITHER
Happier Blue
FLYING FISH 70622 (51 mint)
Performance: Virtuoso
Recording: Very good

For the uninitiated, Chris Smither is an acoustic-guitar wizard with a streak of sadness that stretches from the equator to the North Pole and back again, with stops in New Orleans for brief and doomed glimpses of joy. Imagine Doc Watson twenty years younger as a New Age mystic, shrouded in mystery. A hip Louisiana poet with a trademark blue guitar, Smither is capable of all the lightning-fast, single-note flat-picking and squeeze-fingering of the Delta-blues style, as well as the most delicate of chord-and-strum, finger-pick interplay. Mostly, Smither is an emotional tour

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**Popular Music**

*guide*, his voice soaked in deep, dark, incontrovertible misery, a blues so filled with pain that not even the sensual sax, optimistic strings, or get-along bass that accompany him here (his first album with full backing in more than a dozen years) can hope to lift him from his doldrums. This is no pretense. Not when you can write a song like *The Devil's Real*, or claim Roly Salley's *Killing the Blues*, a song of palpable, wrenching despair, as your own. Smither is already a cult titan. Just wait til the rest of 'em hear this.

A.N.

**Rod Stewart**

_Unplugged . . . and Seated_  
WARNER BROS. 45289 (70 min)  
Performance: Warm  
Recording: Balanced  
Old rock-and-roll soldiers never die, they just make "Unplugged" specials for MTV. Rod Stewart's "Unplugged . . . and Seated" ranks with McCartney's and Clapton's in terms of obesiance to the basic premise (going acoustic), and in the way that less turns out to be a whole lot more. The album is an unbridled joy, especially if you're partial to Stewart's work prior to his transatlantic crossing. Songs three through seven constitute a mini-set drawn from his breathlessly wonderful early albums. With Ron Wood on hand to strum and slide, even old _Maggie May_ seems as spry as she ever did. Tunes of a more recent vintage are kept to a well-selected minimum, and Stewart's heartfelt return to roots is a dewy-eyed homecoming for performer and audience alike.

P.P.

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**Track Records**

**Rod Stewart**

Since his early-Sixties incarnation as lead singer of Steampacket, Rod Stewart has made scads of records—some brilliant, some godawful. Here are a few of both.

**Beck-Olio**  
EPIC 47411  
With the Jeff Beck Group (1969), including astounding versions of _Elvis's All Shook Up_ and the Yardbirds' _Shapes of Things._

**Every Picture Tells a Story**  
MERCURY 82385  
Still his solo peak (1971), featuring _Maggie May_ and the ineffably gorgeous Mandolin Wind.

**Blondes Have More Fun**  
WARNER BROS. 3261  
From 1978, the sound of self-parody (*Do Ya Think I'm Sexy?*) setting in, apparently for good.

**Absolutely Live**  
WARNER BROS. 23743  

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**Tina Turner**

_What's Love Got to Do with It_  
VIRGIN 88189 (52 min)  
Performance: Not getting older, getting . . .  
Recording: Excellent  
This soundtrack to the better-than-run-of-the-mill Tina Turner bio-pic is memorable for two reasons. First, no matter how well you know these powerful songs from Turner's Ike and Tina days (*Proud Mary, Nutbush City Limits*), all newly recorded, there's nothing to prepare you for how much a little age, wisdom,
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QUICK FIXES

LAURA BRANIGAN

Over My Heart
ATLANTIC 82489 (54 min)
The dance beats are more muffled than in Branigan's Gloria days, but otherwise this collection of tinkling, synth-pop ditties offers nothing new besides the singer's eerie vocal resemblance to Carly Simon on How Can I Help You to Say Goodbye. Frankly, it all sounds like the kind of dreck that plays over the closing credits of a buddy-cop movie released straight to cable. S.S.

ROSEMARY CLOONEY

Do You Miss New York?
CONCORD JAZZ 4537 (48 min)
Rosemary Clooney remains one of the three or four best singers straddling traditional pop and jazz, but her voice is so innately sunny that sometimes you can't believe her when she sings downbeat lyrics. Fortunately, most of the songs here fit her just fine, especially It's Only a Paper Moon, done as an easy-swinging duet with John Pizzarelli. And her backing sextet—including tenor saxophonist Scott Hamilton—has room to shine as well. R.H.

JULIAN COPE

Jehovah Kill
ISLAND 514 052 (70 min)
In which Cope proselytizes, at weary length, about his pet concerns—Druidism, female Earth Goddess energy, Judeo-Christian spiritual vapidity, and so on. Pools of energy coalesce at various spots, but otherwise this is a swan dive into the weird that tests even a fan's patience. P.P.

MICHAEL FRACASSO

Love and Trust
DEJADISC 3205 (48 min)
Michael Fracasso has an authentic, instantly memorable American voice, like a more wistful Roy Orbison or a less self-important Marty Balin, and at its best his songwriting has the melodic charm and artful simplicity of vintage Buddy Holly. Pick hit: Thing About You. Great opening line: "Her politics were unattractive." An auspicious debut. S.S.

BRIAN GARI

Songs for Future Musicals
ORIGINAL CAST 9218 (42 min)
Brian Gari is one of the rare non-Limey writers to have had a musical on Broadway recently (1987's Late Night Comic). He thus deserves our respect and gratitude, as does this bunch of songs—by turns clever, catchy, and touching—from some of his as-yet-unproduced shows. Of course, Gari sings like a composer, but I'm loath on principal to criticize anybody who also has the wit to record a heartfelt (if un-p.c.) paean to porn diva Kym Wilde. S.S.

BERNARD HERRMANN

Film Scores/From Citizen Kane to Taxi Driver
MILAN 35643 (70 min)
Conducted by Herrmann's contemporary and friend Elmer Bernstein, this smartly programmed tribute features some of the composer's most evocative movie music, including excerpts from The Devil and Daniel Webster, Psycho, Vertigo, The Man Who Knew Too Much, and the surprisingly Ravelian Fahrenheit 451. Great stuff, beautifully recorded. S.S.

TONY PRICE

Swim Away
DISCOVERY/ANTONES 77003 (45 min)
This big-voiced Austin singer offers the de rigueur Texas musical mix (country, blues-rock, R&B), aided by superior songs from Thieves leader Gwil Owen and impressive work by Joe Ely guitar-whiz David Grissom. Very tasty, like Bonnie Raitt without the I'm-a-Survivor affectations. S.S.

JULIS SHEAR

Horse of a Different Color/The Jules Shear Collection (1976-1989)
RAZOR & TIE 2017 (56 min)
Jules Shear has written a bunch of deserved hit songs for other people over the years, so it's a mystery why his own albums have never really clicked. Or perhaps not, because as this retrospective makes clear, Shear's nasal whine nearly always misses his material. If you doubt it check out the original version of If She Knew What She Wants, which is so irritating that you'll wonder how the Bangles ever tumbled to its underlying gorgeousness. S.S.

SHONEN KNIFE

Let's Knife
VIRGIN 86638 (53 min)
Fans—including Kurt Cobain of Nirvana—truly believe that these three Japanese women, who combine ludicrously simple flotsam from pop culture with punky-garage guitar rock, are geniuses. Me, I can't help wondering if in the larger world of international artistic exchange they're a revenge on us for our exportation of Jerry Lewis. R.G.
JOHN COLTRANE
The Last Giant
RHINO 71255 (two CD’s, 128 min)
Performance: Great Trane ride
Recording: Very good

Let’s hope that John Coltrane was not the “Last Giant,” as this two-disc reissue implies. However, twenty-six years after his death, he appears to be just that, the last in an illustrious line of artists who gave jazz a new direction. Since 1967, others have sought to forge new paths, but the so-called avant-garde of the Sixties and Seventies was mostly a strained attempt at breaking away from convention. Coltrane’s style, which continues to evolve, gradually, and this collection illustrates that.

The set begins with a 1946 private recording made while Coltrane was in the Navy, jumps to a previously unreleased 1951 broadcast with Dizzy Gillespie’s sextet, and moves through the Fifties via another Gillespie track, a 1952 Nashville recording by Gay Crosse and His Good Humor Six, an unissued Johnny Hodges selection, a Prestige side by the Miles Davis Quintet, and some of Coltrane’s early efforts as a leader. Then it’s on to the Sixties and a number of tracks that demonstrate the saxophonist’s seeming reluctance to bring selections to an end. If you are a Coltrane fan, the remainder of the collection probably includes some of your favorites, not to mention two different versions of “My Favorite Things.”

This set is part of Rhino’s Atlantic Jazz Gallery series, but the producers have broadened its scope by licensing material from other labels, including two of Atlantic’s former rivals, Prestige and Riverside. The accompanying booklet is attractive, well illustrated, and packed with fifty pages of information plus brief essays by Coltrane devotees Amiri Baraka, Ira Gitler, Ed Bradley (of 60 Minutes), and Lewis Porter. Throw in technical excellence and you have a Coltrane box that should please any lover of modern jazz.

Sergio Salvatore
GRP 9720 (54 min)
Performance: Splendid
Recording: Very good

Sergio Salvatore has one advantage over fellow pianists like, say, McCoy Tyner or Oscar Peterson: he is barely twelve. That automatically gives him the special allowance reserved for child artists or performers who are otherwise “handicapped.” That said, Salvatore’s debut album reveals an approach to jazz—both as composer and player—that belies his youth and is as mature as anything we might expect to hear from someone two or three times his age. This young man is impressive throughout, whether going it alone, as on the extraordinary reading of “Like Someone in Love,” cooking hard or softly simmering with saxophonist Bob Mintzer, vibraphonist Dave Samuels, and drummer Danny Gottlieb, or engaging his father, Luciano Salvatore, in a piano duet. By playing up his tender age, I suppose I’ve undermined my objectivity, but Sergio Salvatore’s performances would be equally impressive at any age. Remember that name.

HORACE SILVER
It’s Got to Be Funky
COLUMBIA 53812 (76 min)
Performance: Brassy, too
Recording: Excellent

Back in his Blue Note days a few decades ago, Horace Silver practically wrote the book on how to sound funky and finger-snapping hip. Now he’s on Columbia, looking younger than ever and making youthful music with a six-piece brass section including guest horn players Red Holloway, Branford Marsalis, and Eddie Harris, a solid rhythm section, and his own distinguished piano. Wisely, the sixty-five-year-old Silver does not try to re-capture past glories by reworking such tried-and-true hit material as “Se Or Blues,” “The Preacher,” or “Opus De Funk.” He does include “Song for My Father,” which has one of four slightly dated vocals by Andy Bey (a name from Silver’s past). But these Dave Lambert-like songs are dotted and underlined by the leader’s excellent brass arrangements and wrapped ever-so-neatly in funk. There are also superb reed solos by Holloway, Harris, and Marsalis, plus a healthy sprinkling of Silver’s piano. It all adds up to another enjoyable Silver serving.

MULGREW MILLER
Hand in Hand
NOVUS 63153 (62 min)
Performance: Miller’s best
Recording: Fine

Mulgrew Miller has made a series of fine albums for the Landmark label, but he’s never sounded better than on his Novus debut, “Hand in Hand,” for which he has surrounded himself with as fine a group of sidemen as he’s ever had. Actually, “sidemen” is an inappropriate tag for the likes of trumpeter Eddie Henderson and saxophonist Joe Henderson (who appear on five of the nine tracks), or saxophonist Kenny Garrett, vibist Steve Nelson, bassist Christian McBride, and drummer Lewis Nash. With the exception of Donald Brown’s “Waltz for Monk”—which has an engaging, muted trumpet solo by Henderson and a very un-Monkish statement from Miller—the program consists of the pianist’s own compositions. He is an interesting writer with a flair for short, catchy melodic phrases, and his music seems to bring out the best in his fellow musicians. If this is an indication of what’s in store for Miller at Novus, we should all wish him a long stay at his new label.

C.A.
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BEETHOVEN: Violin Concerto; Romances
Kremer (violin). Chamber Orchestra of Europe.
Harnoncourt
TELDEC 74881 (57 min)
Performance: Noble, but . . .
Recording: Excellent

In his earlier recording of the Beethoven Violin Concerto, with Neville Marriner on Philips, Gidon Kremer played a cadenza composed for him by Alfred Schnittke that clashed jarringly with the work itself. This time his even finer collaboration with Nikolaus Harnoncourt is spoiled by a cadenza Kremer himself arranged from the one Beethoven wrote for his piano arrangement of the concerto—introducing an offstage piano for a still more incongruous effect. It’s a shame, for this is otherwise a noble presentation of the work, throughout, is the sort of thing that would be more than satisfying in the course of a concert, particularly with such fine orchestral playing (captured in rich, full-bodied sound). Considering the other recordings available, however, this new entry, for all its virtues, is not terribly competitive. While I would find Ashkenazy’s fluent, straightforward account easier to live with than the tiresome pulling and tugging to which this symphony is all too often subject—there is a bit more drama in the score than he cares to bring out. Curiously, he finds every spot of drama in Dvořák’s seldom heard (if no longer seldom recorded) Othello.

BRUCKNER: Symphony No. 7
Berlin Philharmonic. Barenboim
TELDEC 77118 (71 min)
Performance: Luxuriant
Recording: Very good

Daniel Barenboim’s current Bruckner cycle, handsomely recorded at Berlin’s Deutsches Schauspielhaus, has brought us impressive versions of the valedictory Ninth and the formidable Fifth, notable both for his command of the big lines and for the superb orchestral execution. Those standards are upheld splendidly in the Seventh, but his interpretive choices may raise a few eyebrows. The serene opening melody of the first movement here achieves an almost Tristan-esque voluptuousness in its little swells of phrase. The sublime slow movement boasts some of the most gorgeous string tone this side of the Philadelphia Orchestra under Stokowski or Ormandy, and, as might be expected, the mighty climax includes all the percussive embellishments (cymbals, timpani, triangle) that the composer added reluctantly for the 1884 world premiere under Artur Nikisch. The finale is a curiously stop-and-go affair, with heavy underlining of the recitative episodes. The gear-shifting suggests that Barenboim adopted Nikisch’s “conductor’s markings.”

Choosing between these two fine but polar-opposite interpretations is a matter of taste—some like it hot, some don’t. They’re both well recorded, too, with spacious sound, though Teldec’s recording has just a shade more presence than RCA’s.

GOULD: Fall River Legend—Suite
THOMPSON: Symphony No. 1
New Zealand Symphony. Sedares
KOCH 3-7182 (52 min)
Performance: Excellent
Recording: Excellent

Morton Gould’s complete 1947 score for Agnes de Mille’s ballet Fall River Legend—based on the 1892 Lizzie Borden murder case—is available on an Albany Records CD, but this is the first digital recording of the six-movement suite he later extracted (CD reissues of two analog recordings, one conducted by the composer and one by Howard Hanson, have also appeared). Focusing less on the story of the ballet than on the social milieu of Fall River in the 1890s, the suite adds up to a set of highly stylized dances—bittersweet with menacing undertones—decked out with Gould’s brilliantly effective instrumentation. The New Zealand Symphony under James Sedares turns in a highly capable performance, beautifully recorded.

Randall Thompson’s 1929 First Symphony, composed during his sojourn in Italy as a Rome Prize laureate, started as a baritone-and-orchestra setting of one of the odes of Horace but finally turned into an amiable free-form symphony in three movements with organ playing a curious supporting role. The best part is the nocturne-like slow movement, and again we have an excellent performance and recording. A better example of Thompson as symphonist, however, is his Second, also recorded for Koch (along with his Third) by the New Zealand Symphony, then under the direction of the late Andrew Schenc. But if you want Thompson at his best, turn to his beautifully fashioned choral works.
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The conventional wisdom depicts Kurt Weill (1900-1950) as a relentless German radical and innovator concerned with issues of social justice and operatic reform who heard the corrupting siren song of Broadway and turned into an early Andrew Lloyd Webber.

As is often the case, the conventional wisdom is wrong. Weill continued to innovate and to be concerned with artistic and social reform throughout his American career, from the anti-war Johnny Johnson (1936) to Lost in the Stars (1949), a Broadway musical in the form of a chorale play about racial injustice in South Africa.

The material of Lost in the Stars—which has now received its first recording since the original-cast album—is taken from Cry, the Beloved Country, a famous (or once-famous) novel by the South African writer Alan Paton about the tragic relations between a black family and a white family in South Africa in the 1940's. For Weill and his librettist, Maxwell Anderson, it was a not very subtle parable about the American racial scene as well. The racial story is personified in the symphonic characters of the preacher Stephan Kumalo (played on Broadway by Todd Duncan, who was Gershwin's original Porgy) and the white landowner James Jarvis. Most of the best-known numbers are scolds: Trouble Man, Stay Well, and, of course, the title song (for the preacher and the chorus). But in many ways the heart of the work is in the ensembles—Train to Johannesburg, The Search by Kumalo for his missing son, Murder In Parkwold and the subsequent Fear chorus, Cry, the Beloved Country, and the final scenes of Act II—which help to set the stage as well as comment on the action, giving it an epic/tragic dimension.

Julius Rudel, the former artistic director of the New York City Opera, has a long history with Weill's music. He first produced and directed Lost in the Stars in 1958, initiating its second life in the opera house. He assembled an excellent operatic cast for the new recording, including Arthur Woodley as Stephen Kumalo, Cynthia Clarey as his son's girl friend, Irina, and Gregory Hopkins as the chorus leader, a major singing role. The orchestra (using Weill's original scoring, which does not include violins) and the chorus give a capable reading under Rudel's leadership.

I, for one, am happy to have this recording, but it must be said that it is, in fact, a bit lost in the stars. The playing is solid but unstylish in the way that good musicians, capably led, turn out work without enough rehearsal. The recorded sound is an ugly show-style close-up; that can work in a strong, dramatic reading, but here it only serves to emphasize the dryness and lack of dramatic depth in the performance. This is a rare example of a music-theater recording that did not emanate from a stage production, and the lack of a stage director's hand is evident in the awkwardness of the spoken lines and the general blandness of the dramatic interpretation.

In a decade or so, when we have really come to terms with Weill's German and American legacy, someone will do it better. For now, this recording fills a big gap in an adequate if not inspired manner.  

E.S.
ly attractive disc that could definitely win him new admirers. Though the performances don’t necessarily surpass all others available, they have the obvious advantage of letting us hear the sleek, virtuosic Chicago Symphony Orchestra in a live recording. And Barenboim turns out to be a thoughtful interpreter, with the Furtwängler-live recording. And Barenboim turns out to be a thoughtful interpreter, with the Furtwängler-

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(The Barber of Seville)
Battle, Domingo, Lopardo, Raimondi, others; Chamber Orchestra of Europe, Abbado
DEUTSCHE GRAMMOPHON 435 753
(two CDs, 154 min)
Performance: Excellent
Recording: Particularly fine
Everybody seems to be having a good time on this recording. The conductor, Claudio Abbado, seems to be thoroughly enjoying himself, so zestful is the masterly performance. The Chamber Orchestra of Europe plays Rossini's bubbly score with accuracy and style, and the singers contribute effectively, for the most part, to the delightful goings-on. The recording itself is especially well engineered.

The casting of the two principal roles, Figaro and Rosina, seems at first somewhat strange. One might consider the tenor Plácido Domingo's undertaking the high-baritone role of Figaro at this juncture in his career something of an ego trip. Yet he has recently been working on the lower end of his voice and has repeatedly proven, both on records and in performance, his ability to distinguish himself in diverse repertory. Here he makes a vocally fluent and dramatically appealing Figaro.

Kathleen Battle's pure and silvery voice is well suited to a soprano Rosina (the role was written for Rossini's favorite voice, the mezzo-soprano), and she copes agilely with the roulades and cadenzas, tastefully eschewing unnecessary high notes and creating a thoroughly attractive heroine. In addition to "Una voce poco fa" and the Lesson Scene, she offers "Ah se è vero," a rare selection in performance today because it was written for a particular singer today.

Recording: Particularly fine

SCHUBERT: Symphony No. 5; Symphony No. 8 (completed by Newbould); Rosamunde excerpts
Orchestra of the Age of Enlightenment, Mackerras
VIRGIN 59273 (74 min)
Performance: Workmanlike
Recording: Attractive, neat sound
Would you believe Schubert's Symphony No. 5 in B Minor, the "Finished"? Charles Mackerras and this fine early-instrument orchestra manage that remarkable feat thanks to the efforts of Brian Newbould, who completed and orchestrated Schubert's own sketch for the third movement and proposed that the Entr'acte No. 1—in B Minor—from Schubert's incidental music for Rosamunde is the originally intended finale. Just to hedge the bet, the entr'acte is followed here by the Rosamunde Ballet No. 2, so you can listen to it either as the finale of the symphony or the opening of the Rosamunde music.

Has the unfinished indeed been finished? The scherzo section of the third movement works fine, and its trio (mostly by Newbould) is almost more Schubertian than Schubert. The Rosamunde music is in the right key for the finale and has the right sound, but the shape is wrong. It comes off as dramatic not symphonic music, and, in this version at least, it does not do what finales are supposed to do—carry us down to the finish line. Without that, the "Unfinished" stays stubbornly unfinished. If Schubert ever actually intended this music to go with the symphony, he must have been delighted to find a more appropriate use for it in the theater.

Did I mention the Symphony No. 5? There is nothing controversial about it. I wish I could say these are superb performances, but they must, I'm afraid, be relegated to that old dustbin marked "workmanlike." Not bad, mind you, but, aside from the beautiful playing, neatly and clearly recorded, there are no great revelations.

E.S.

TCHAIKOVSKY: String Sextet, "Souvenir de Florence"; Serenade for Strings
Orchestre d'Auvergne, Kantorow
DENON 75026 (62 min)
Performance: Sensitive
Recording: Lovely
Tchaikovsky's D Minor String Sextet, Op. 70, subtitled "Souvenir de Florence," is a late work, appearing in the composer's catalog just before The Nutcracker. By no means a negligible score, it has gained currency in recent years thanks to the efforts of Brian Newbould, who sketched for the third movement and proposed that the Entr'acte No. 1—in B Minor—from Schubert's incidental music for Rosamunde is the originally intended finale. Just to hedge the bet, the entr'acte is followed here by the Rosamunde Ballet No. 2, so you can listen to it either as the finale of the symphony or the opening of the Rosamunde music.

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E.S.
years by way of string-orchestra performances, as on the present disc. A sweeping waltz measure gets the music off to a spirited start. The lovely slow movement, a song without words in the composer’s best manner, is followed by a plaintive theme with a lively central episode, and the dance finale is complete with a “big” tune.

The sextet certainly makes a fine companion for the better-known C Major String Serenade, composed at the same time as the 1812 Overture. Tchaikovsky envisioned a large body of strings, but the music works just as well played by a chamber orchestra, especially one with the combination of elegance and vitality offered by conductor Jean-Jacques Kantorow and his Orchestre d’Auvergne. The famous waltz is a special delight. The CD has the pleasing ambience of the small French church where it was recorded.

Leonard Slatkin’s reading of A London Symphony is somewhat unsettling. The fast tempos he adopts for the main body of the opening movement and for the outer sections of the nocturnal scherzo seem to evoke the hectic London of today rather than that of 1913, when the music was written. The slow sections come off effectively—the first-movement introduction, the whole of the fog-drenched slow movement, and the epiphanies of the finale with its glorious concluding “sunrise” chord—but the “social protest” music constituting the main body of the finale is surprisingly low-voltage.

The performance of the early Norfolk Rhapsody is nicely turned, and that of the Tallis Fantasia is splendid—it’s especially well recorded, too, conveying the varied acoustic perspectives of the separate string bodies and the solo players. This definitely supplants Slatkin’s 1982 St. Louis recording of the fantasia on Tdarc.

Slatkin seems thoroughly at home with the works on the second disc, which Vaughan Williams composed in his middle eighties, offering a first recording of the handsomely scored Flourish for Glorious John (the conductor John Barbirolli) by way of opener. In the Eighth, the most extroverted of his symphonies, the composer gives us a mercurial set of

“Variations in Search of a Theme” as an opening movement, a pert scherzo for winds alone, a cavatina for strings, and a toccata finale using literally all the ‘phones and ‘spiels available to an orchestral percussion section in 1958. Slatkin gives a fine account of the work
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**BACH:** Brandenburg Concertos Nos. 4-6
Boston Baroque, Pearman
TELARC 80354 (52 min)
This is one of the best authentic-instrument recordings of the last three "Brandenburg" Concertos (the same performers have also recorded the first three), and Telarc has outdone itself in the engineering. The sound of the harpsichord and recorders has an almost tactile immediacy, and the strands of counterpoint have rarely been rendered more clearly. **D.P.S.**

**BRAHMS:** Symphony No. 2; Academic Festival Overture
New York Philharmonic, Masur
TELED 77291 (49 min)
The attraction here resides more in the unusually refined playing of the New York Philharmonic under Kurt Masur’s baton—in the middle movements especially—than in any unusual interpretive insights. The Academic Festival Overture gets a brisk, no-nonsense treatment, with little exhilaration. Good honest sonics. **D.H.**

**DEBUSSY:** Preludes, Book 2
**MILHAUD:** Saudades do Brasil
**ANTONIO BARBOSA** (piano)
CONNOISSEUR SOCIETY 4190 (59 min)
The Brazilian pianist Antonio Barbosa plays Debussy with a vivid sense of color and an aggressive rhythmic snap, showing how tough and extroverted his music can be. Approach this way, the preludes seem perfectly at home with Milhaud’s twelve little reminiscences of Brazil, which can’t compare in terms of quality but are typically full of extroverted charm. **D.P.S.**

**LISZT:** Sonata in B Minor;
Paraphrases of Verdi’s “Aida” and “Rigoletto”;
Vallée d’Obermann
Emanuel Ax (piano)
SONY 48484 (59 min)
Liszt might be the last composer one would associate with Emanuel Ax, but he brings a fresh, thoughtful focus to these works. There are exquisite, soft-lit revelations in Vallée d’Obermann, and he finds poetry beneath the glitter in the three Verdi “paraphrases” (two are on different bits from *Aida*). His emphasis on the meditative qualities of the sonata, though, plays down its dramatic gestures and thus its wonderful contrasts. Thought-provoking nonetheless, and beautifully recorded. **R.F.**

**RAVEL:** Daphnis et Chloé
London Symphony, Nagano
ERATO 91712
Another triumph for the Japanese-American conductor Kent Nagano—a first-rate version of the complete Daphnis ballet score for a major French label with a major English orchestra. Ravel was certainly influenced by Eastern art, so it is perhaps not farfetched to describe this low-key but seductive performance as made out of the most highly refined orchestral brush strokes, all beautifully captured on the wide-range CD. **E.S.**

**SCHUBERT:** Violin Sonatas
Oleg; Paraskivesco
DENON 75027 (73 min)
Schubert’s four violin sonatas (the three called “sonatinas,” Op. 137, and the one called “Duò,” Op. 162) fill a CD as if by design, and Raphaël Oleg (violin) and Théodor Paraskivesco (piano) respond to the music as if by instinct, with both elegance and affection. With the advantage of Denon’s handsome sound, this is as appealing a presentation of these works as any now available. **R.F.**

**WAGNER:** The Compact “Ring”
Soloists; Metropolitan Opera Orchestra, Levine
DEUTSCHE GRAMMOPHON 437 825 (77 min)
The complete Ring cycle, which requires fifteen CDs, cannot really be “highlighted” on only one. Nonetheless, DG has succeeded in creating an effective sampling of its riches in ten selections. While the Metropolitan Opera Orchestra and its conductor, James Levine, are the real stars here, praise is also due the commanding Wotan of James Morris, the imposing Sieglinde of Jessye Norman, and the menacing Alberich of Ekkehard Wlaschicha, as well as the fine performances by others in the Met’s ensemble. The recorded sound is superlative. **G.J.**

**YOLANDA KONDONASSIS**
Scintillation
TELARC 80361 (58 min)
Light, luscious, Impressionistic and Neo-classical music by Debussy and Ravel makes up this delightful program, along with dollops of Grandjany, Salzedo, and Gershwin. The harpist Yolanda Kondonassis is supported by flute, clarinet, and strings, and the resulting performance should lift your spirits. It’s especially good for late-night listening. The recording quality is excellent. **William Livingstone**

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As a whole, and he has the Philharmonia winds at the top of their form in the scherzo.

The ruminative Ninth Symphony also features unusual scoring, including the mellow-toned flugelhorn—normally associated with brass bands—and three saxophones. The tonal palette is darkly burnished, and the tempos are predominantly on the slow side except for the marvelously sardonic scherzo, where at one point the saxophones are meant to sound, as the composer put it, “like demented cats.” Achieving just the right amalgam of massive sonority and genuine momentum in this music is a formidable challenge. While I would have liked a shade more weight in the scherzo, for the most part Slatkin does very well.

The sound on both of these discs, recorded at EMI’s Abbey Road Studio 1, is good, with ample acoustical elbow room, but Slatkin’s earlier recordings of Vaughan Williams’s Symphonies Nos. 5 and 6 at Warford Town Hall have better string presence. **D.H.**

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**LUJA ORGONASOVA**
Favourite Soprano Arias by Bellini, Donizetti, Verdi, and Puccini
Czecho-Slovak Radio Symphony, Piatkova
NAXOS 8.550605 (58 min)
**Performance:** Outstanding **Recording:** Good

Here is an unexpected and delightful discovery. Luba Orgonasova, a native of Bratislava, has already appeared in Vienna and Salzburg, but except for her participation in earlier Naxos releases, she appears to be unknown in America. She has a lovely tone in this recital, clearly articulated and finely tuned. Her singing is accurate and technically assured, soaring confidently up to several E-flats, often the hard way—by a legato slur instead of a special attack. The chromatic runs in “Qua la voce” from Bellini’s *I Puritani* are all in place, and the Mad Scene from Donizetti’s *Lucia*, though somewhat restrained emotionally, is perfectly controlled. To the Puccini arias—which are sensibly alternated with the bravura pieces—she brings lovely diminuendos (*Turandot*), sensitive portamentos (*Gianni Schicchi*), and a youthful, spontaneous delivery (*La Rondine*).

The conductor Will Humburg leads briskly but not unfeeling. Naxos may be faulted for not including texts and for tolerating sub-par notes; it’s a budget label, though, so one should not be overcritical. **G.J.**
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October
Hollywood has been calling, and it has not been to offer me a role in the forthcoming *Indiana Jones and the Shoe Closet of Imelda Marcos*. It has been to administer a semi-severe drubbing for incautious remarks made in “Movie Sound at Home,” the August installment of this column. Actually, I had expected this sort of response and was looking forward to it. The remarks attributed to John Kellogg of Dolby Labs were certainly destined to be inflammatory. Let me share with you the artillery fire that has been coming my way.

Practically the first words out of the mouth of Tomlinson Holman, the technical director of Lucasfilm and the TH of THX, were, “They’re not going to do that with Jurassic Park.” Just what “that” is I’ll get to in a moment. First, I’d like to refer to a paper Holman recently prepared for a technical conference in Europe, dealing in detail with the vagaries of getting a soundtrack to sound the same in different rooms. One of its central assertions is that, in typical domestic listening rooms and with the loudspeakers typically found in them, audio is not, as I had stated, a near-field experience (some authorities prefer the term “direct field”) but a reverberant-field one.

Actually, even that is not the full story. Holman finds that the experience is reverberant-field for most of the spectrum, but, because of the narrowing directivity patterns of most loudspeakers at high frequencies, it becomes near-field above about 8 kHz. Such is not so much the case in the normal mixing/monitoring situation, where efforts are usually made to provide near-field listening over as much of the spectrum as possible, and hence we have one up-front reason your listening experience diverges from the filmmaker’s listening experience. Also, we have a strong argument for the use of controlled-directivity loudspeakers in home settings, which tend to reduce this discrepancy and to minimize early reflections.

Now for *Jurassic Park*. In the August column I used the video mixing for the film *1492*, as described by Dolby’s John Kellogg, as a springboard for a discussion of video mixing procedures in general. Holman is emphatic that what Kellogg described to me—principally, remixing from the six-track 70mm masters in a space smaller than a normal dubbing stage, equalization, and dynamic-range compression—is in no way typical practice, and he says that the top five post-production transfer houses in Los Angeles agree with him. He is especially adamant about high-frequency equalization, which he says is almost never employed.

To quote Holman, “Transfers usually proceed along the lines we’ve seen in many audiophile releases: ‘No equalization, filtering, limiting, or compression was used for this soundtrack.’” So does that mean the soundtrack you take home is identical to the one played at the theater? Maybe not.

“On more recent titles, a separate video master is [emphasis added] sometimes made because the soundtrack headroom of, say, laserdisc, is so much greater than that of optical soundtracks [for theater exhibition], and there is no point in limiting the headroom of a wide-dynamic-range medium to the capabilities of a narrow-dynamic-range one.” The thrust here, as I read it, is that your home soundtrack may actually be better than the Bijou’s, even when it originated from the same mix.

Now let’s have a look at what Dolby’s Roger Dressler has to say: “The example given by Mr. Kellogg for *1492* is not an isolated event, but when concerns were raised about the quality of the L/R [left-total, right-total] mag master, better elements were sought. Since the 70mm master was not mixed with the same constraints as the optical L/R master, it provided greater dynamics and more bass than ideal for home video. These were adjusted exactly as explained in your article . . . .” Nothing about high frequencies here, however.

Well, it begins to look as if there are some grounds for agreement between what looked to be very contrary views, although dispute clearly remains on the matter of “adjustments” and how common they actually might be. But there is something I must take a hit for: the statement that home speakers were used for the *1492* mix. The thing is, I didn’t say it. Someone between me and the printing press said it. [Editing error. Sorry. —Ed.] What I said was that something more akin to home speakers was used—reportedly moderate-size JBL studio monitors, which are more like home speakers than theater ones.

Holman’s main concern, I think, is avoiding the impression that great ef-
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