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7 TOP CD CHANGERS AND HOW THEY PLAY

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Cove The JVC XL-M417TN.

Nakamichi MB-2s, and Harman Kardon FL8450 are among the seven CD changers that went head to head in our comparison tests: see page 54.

Photograph by Dan Wagner

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The Upgrade Game

Just follow the arrows that lead to better A/V performance, by David Ranada

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The elements of a good surround-sound system and how they work together, by Peter W. Mitchell

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Power amplifiers for every system, by Daniel Kumin

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New products at the CES Specialty Audio & Home Theater Show, by Bob Ankosko

83 **Best Recordings of the Month**

Joan Osborne's "Relish," Barbara Hendricks sings Barber and Copland songs, Mozart quintets from L'Archibudelli, and live Phish for phanatics



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The Abyss



A/V DIGEST

Terk Technologies is working on a multiroom signal-distribution system that would enable A/V signals to be transmitted over existing twisted-pair phone wiring. Terming the current 16-bit CD system "inadequate," a group of British audio engineers dubbed the Acoustic Renaissance for Audio (ARA) is calling for the development of a multichannel 24-bit high-guality audio disc (HQAD) that does not use data-reduction techniques.

... In October Panasonic's PV-DV1000 will become the first Digital Videocassette (DVC) camcorder to hit U.S. store shelves. Slated to retail for \$3,500 to \$4,000, the handheld device records digital video and CD-quality audio on a 30- or 60-minute cassette that's only one-twelfth the size of a VHS videocassette.

PASSING BATONS

Kurt Masur, music director of the Leipzig Gewandhaus Orchestra and the New York Philharmonic. announced that he will relinquish the Leipzig position in 1998.... Pierre Boulez has been named principal quest conductor of the Chicago Symphony Orchestra... The Norwegian conductor Mariss Jansons has been named to succeed Lorin Maazel as music director of the Pittsburgh Symphony Orchestra in 1996.

GOLDEN EAR CONTEST

To prove that "it's not easy" to tell the difference between a CD and a high-quality tape recording, TDK is staging the TDK \$1,000,000 Challenge during the upcoming Winter Consumer Electronics Show in Las Vegas next January. Up to twenty first-prize winners of an ongoing nationwide TDK sweepstakes will be flown to Vegas to participate in a "rigorously supervised double-blind listening test" to see if they can hear the

8

STEREO REVIEW OCTOBER 1995

difference between a CD and a TDK SA-X audio tape of the same music. To win the \$1 million prize, contestants must correctly identify the mystery sound source as CD or SA-X tape in ten consecutive trials. Sweepstakes entry forms will be available at participating TDK retailers through December.

MUSIC NOTES

After many postponements, the multimillion-dollar Rock and Roll Hall of Fame was scheduled to open in Cleveland, Ohio, on September 2 with a concert featuring (among others) Bruce Springsteen, Dr. Dre, and Johnny Cash. Sales of tickets priced from \$30 to \$540 were less than brisk, however, causing promoters to drop prices on many seats. . . . There's a new star in Hollywood's Walk of Fame, honoring singer/ dancer/actress Rita Moreno.

... Recognizing the blues as the foundation for all styles of rock and guitar-oriented music, Capitol is launching a new series of blues reissues including recordings by Roy Brown, Lightnin' Hopkins, Son House, Lil' Son Jackson, Brownie McGhee, Sonny Terry, T-Bone Walker, and Big Joe Williams.

V-CHIP VICTORY?

Recent telecommunications deregulation legislation passed by both houses of Congress includes a provision that would require TV makers to include a socalled V-chip circuit in TV's that would let parents block shows deemed unsuitable for children. The circuit would be activated by a ratings signal transmitted along with the programming. Just who would be responsible for defining which programs are too racy or violent? The House version of the measure would give programmers a year to establish a voluntary ratings system. Failing that, the FCC would be empow-



THE SCOOP ON TV

Everybody knows that watching TV is habit-forming, and a survey made by United States Satellite Broadcasting (USSB), of St. Paul. Minnesota, has revealed some habits associated with the average American's use of TV. For example, there are at least two TV sets in the typical home, and 25 percent of those surveyed admitted that they fall asleep in front of the TV at least three times a week. Pajamas are the costume of choice for 40 percent of American couch potatoes, and 1 percent of the survey's respondents said they watch TV in the nude (only men admitted this). There is at least one VCR in 88 percent of American homes. 33 percent have at least two, and 17 percent of our nation's VCR clocks are flashing "12:00." I Love Lucy still ranks fifth among Americans' all-time favorite shows, after Home Improvement, M*A*S*H, Star Trek, and Murder She Wrote. USSB provides programming to satellite-dish owners.

ered to appoint an advisory committee. V-chip opponents argue that major TV makers already offer sets with channel-blockout systems.

FOR THE VCR

The independent videocassette publisher Kultur/White Star has celebrated its fifteenth anniversary by publishing a catalog of its more than 400 performingarts programs. With emphasis on music and ballet, Kultur features such superstars as Luciano Pavarotti, Joan Sutherland, Mikhail Baryshnikov, and Rudolph Nureyev. Its White Star division ranges from Hollywood legends to country music, rock, and war documentaries. For a free copy of the catalog call Kultur/White Star, 1-800-4KULTUR (1-800-458-5887).

CONTINUING ED.

Toshiba is sponsoring a series of home theater seminars in cities across the country through next April that will provide tips on selecting and installing components and upgrading. Call 1-800-709-4400 for schedule details.



Pete Sampras. The youngest male to win the U.S. Open. Now the winner of five grand slam titles: Australia,1994; Wimbledon,1993 and 1994; the U.S. Open, 1993 and 1990.

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

9

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1" thick high density medite tront baffle_

Sonopure ™ fiber internal dampening_ _____ Pian<mark>o</mark> gloss **black** p**r** gloss chemy end**ca**ps

> "" thick near medite baffle

High definition pure

Multi-layered dampening ____pads line entire cabinet

17 cm mineralfled polymer hgh-deficition bass/midrange drivers

Rear mirror-imaged D'Appolito bipplar arrey in ________non-resonant charrber

15° high-power long-throw bHaminate polymer subwoofer driver

Complete built-in powered

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

> Gold-plated tri-wireble ____speaker level inputs

High current 300-watt FMS subwocfer ampilier

Torroidal gransformer

1/4" thick high-density medite cabinet sidewall

"I doubt that you can get a better sounding system for less than several times the price of the BP2000."

-Julian H.rsch, Stereo Keview

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

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

"Frankly, if circumstances allowed, I would choose these speakers for myself." –Julian Hirsch, Stereo Review

Speaker of the Decade

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

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



Each revolutionary bipolar BP2000 (\$1499 ea.) has a built-in 300-watt RMS powered 15" subwoofer for ultimate performance. CIRCLE NO. 15 ON READER SERVICE CARD See our dealer list on page 12

-Julian Hirsch, Stereo Review

The Ultimate Home Theater

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

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



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LETTERS

Surround Sound Hookups

There was very little I couldn't agree with in Bryan Little's "Surround Sound Problem Solver" article in August except for the wiring diagram on page 58. I fail to see the need to route the line-level audio from the VCR to the TV, then to the A/V receiver, when the TV is already getting audio from the cable splitter. Sending the VCR audio "straight out" to the receiver would eliminate one potential signal degradation, in keeping with the maxim. "straight wire with gain." (The VCR's video line output should still go to the TV, unless picture-inpicture is involved.) STEVEN L. PAXSTON Des Moines, IA

The hookup shown with the article simplifies the setup and insures that whenever a stereo tape is played it is heard in stereo. Going straight to the receiver may indeed give slightly cleaner reproduction, but it will also complicate switching just a tad, and the degree of improvement will depend greatly on the quality of the audio electronics in the TV and of the soundtrack on the tape. Either approach will work, however.

Recordable CD's

Kudos to Ken Pohlmann for his August "Signals" column about CD-R recorders ("Recordaphobia"). I am a professional disc jockey, a digital audio engineer, and a CD collector. The concept of being able to record onto CD makes me drool with anticipation. I was very disappointed to read that even though Pioneer is coming out with an inexpensive CD recorder, the discs themselves are expensive, write-once only, and record only 63 minutes of audio. To make matters worse, they will have the Serial Copy Management System (SCMS) as well. Why bother to promote the recordable CD if there are so many limitations on it?

The music industry does not have to worry about CD-R's being purchased by the general public. For a mass format to succeed, it has to be cheap and "idiot proof"; CD-R is neither. It's far cheaper and easier to tape a CD, or to buy it for \$11 or \$12, than to buy a CD-R and duplicate it.

People in the "black market" industry are not going to use CD-R's, either. If you were illegally duplicating CD's, you wouldn't make them one by one at a cost of \$15 each; you'd mass-duplicate them in a factory. To make a profit on CD-R copies, you'd have to sell them for about \$20 each! Who would buy a copy at that price?

Just who would be using CD-R machines? People in the music industry musicians, audio engineers, radio broadcasters — and collectors like myself. Musicians could use them to make demo CD's. Radio stations could archive commercials and make custom music CD's: they already pay ASCAP and BMI anyway. Audio engineers could use the discs in production and for distributing rough mixes of albums to the artists. I would be using them to transfer long-lost music from vinyl or to create custom compilations from CD's I already own. We are intelligent and honest people who know better than to sell the silly things! What's the problem here?

The music industry is going to shoot itself in the foot again just like they did with DAT. An unrestricted CD-R format is long overdue. PAUL B. ADAMS Centerville, MA

All digital audio recorders sold in the consumer market are required by law to incorporate SCMS. As with DAT, though, CD-R recorders for the professional market can be sold without SCMS or with defeatable SCMS. Prices of blank discs are high now in part because sales volume is very low, so they will probably come down over time.

Zapping Commercials

August "Bulletin" reports on a "commercial-free" VCR from RCA that skips over commercials while it's recording. There's no way a tape recorder can "skip" something while it's in record mode, so what does the thing actually do? Record the commercials and skip over them in playback? Or kick into record-pause mode when it senses more than a few frames of black (which is typical going into or out of a commercial break)? ANTHONY KREMER Las Vegas, NV

Sorry we weren't clear on that. RCA's new "Commercial Free" VCR's record electronic markers before and after each commercial segment. When the tape is played back, the deck automatically fast-forwards through the marked segments, displaying a blue screen while doing so. According to RCA it takes about 10 seconds to zip through a 3minute commercial (in SLP mode).

The Patio Challenge

Tom Nousaine's "The Patio Challenge," comparison tests of outdoor speakers, in July was interesting, but there are a couple of points 1 am not clear on. He recommends "soffit-mounting" the speakers, but nowhere does he explain what that is. Also, none of the speakers in the review appeared to have any kind of volume control. It seems to me that having to go into the house every time you want to adjust the volume would be terribly inconvenient. Are there outdoor speakers with built-in volume controls? Or watertight potentiometers suitable for this application? CHRIS MUNSON Sunnyvale, CA

"Soffit mounting" refers to affixing a speaker (usually with a bracket) to the soffit (or

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underside) of the eaves of a house. But Tom Nousaine didn't recommend soffit mounting; he simply said "most people find [it] appealing because it puts the speakers up and out of the way and shields them from direct rain and sunlight."

As for controlling the volume of outdoor speakers, one solution is to install a wallmountable volume control either inside or outside the house. Niles (1-800-289-4434) and Sonance (1-800-582-7777) offer a variety of such controllers, including weatherresistant models. Another option, if you have a clear line of sight (through a window or sliding-glass door) to the main system, is to use an infrared remote control.

Near-Field Speakers

Peter Mitchell's "Exploring the Near Field" (August, "The High End") was interesting and provocative: reference to multimediacomputer audio output might seem unnecessarily *low*-end. 1 infer from several points



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in the description of "near-field" speakers that they would need to use small, singleelement drivers in small enclosures. If so, I can see how they could reproduce the "harmonic overtone structures" of instruments playing bass fundamentals, but how would the fundamentals themselves be reproduced? Did Mr. Mitchell forget to mention a third bit of "bad news," the requirement for a subwoofer (or even just an ordinary woofer)? GLENN E. MERRITT Homewood, IL

No, quite ordinary multidriver loudspeakers can be used, though for the setup to be practical they would need to be relatively compact.

"Bright" AR-3a's

I cannot dispute Mr. Edward S. Garner's comments, in his letter in August, about how his AR-3a's sound in his listening environment, but I *can* say that the AR-3a's I sent Julian Hirsch for his comparison with the new AR-303 were in original working order and, yes, in mint condition. They are also very uniform throughout the midrange and treble all the way out to 20 kHz, with a predictable rolloff in the extreme treble of about 6-7 dB on-axis. There is no response peak at 700 Hz.

Mr. Hirsch's reference to the AR-3a as being "too bright" is, in fact, correct. With the midrange and tweeter level controls set to maximum, there is too much midrange output relative to the overall response. Once the controls are adjusted closer to the dots (on the midrange), the balance is normal. With the level controls adjusted this way, the sound of the AR-3a is very similar to that of the AR-303, as Mr. Hirsch reported, which is precisely what Acoustic Research had in mind in designing the AR-303.

> THOMAS TYSON High Point, NC

Corrections

August "Bulletin" gave an incorrect telephone number for Tracer Technologies, maker of the Digital Audio Reconstruction Technology (DART) computer program to remove pops, clicks, and other noise from older audio sources. The correct number is 717-747-0200.

The September "Best of the Month" review of Charpentier's *Medea* misstated the total time of the three-CD set. It is 3 hours, 15 minutes.

August Popular Music "Quick Fixes" misstated the name of a recording group. It is Little Charlie and the Nightcars (not the Nightcaps).

The photo of pianist Charles Rosen on page 106 in September was wrongly credited. The photographer was Peter Schaaf.

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TIME DELAY



30 YEARS AGO

Mandolin mania! The October cover story surveyed the (very) small repertoire of concert music for mandolin. "When listening to a mandolin," author James Goodfriend noted, "it is extremely difficult to get the Bay of Naples out of one's head."

New products this month included Ercona's miniature $(2^{3}/4 \times \frac{3}{4} \text{ inches})$ condenser microphone, with a frequency response of 30 Hz to 18 kHz ±3 dB, and Oki's AS-888 twospeed transistorized tape recorder (\$490, with speakers).



Installation of the Month, 1965

In test reports, Julian Hirsch examined the new Acoustic Research AR-2ax speaker, with a smaller but better midrange than the AR-2a had, and the KLH Model 16 all-transistor stereo integrated amplifier, rated at 70 watts continuous output.

Installation of the Month featured reader Vincent Marascio's movable (on casters) custom-designed teak console with room for two Crown open-reel tape machines, a Rek-O-Kut turntable, a McIntosh preamp and power amp, and a Scott stereo tuner.

But you're making that sound negative: In letters, Chicago reader George W. Gilmore described our favorable reviews of recent Beatles albums as "a monstrous perversion of values."

20 YEARS AGO

The big technical story in October 1975 was Julian Hirsch's "Turntable Basics," a primer for fledgling component shoppers that combined a glossary of turntable terms with recommended features to look for. Among the month's new products were the SAE Mark XXV power amplifier, a 300-watt-per-channel behemoth priced at \$1,250, the Garrard Z2000B automatic turntable, with a belt driven by an intermediate idler rather than directly by the motor pulley, and 3M's audio-cassette edit/repair kit. Elsewhere, Hirsch-Houck Laboratories tested Shure's MM95ED phono cartridge (billed as the



company's "second-best") and the Hitachi D-3500 cassette deck (\$399).

In Best of the Month, George Jellinek hailed a Philips disc of *Der Mond*, a lesser-known work by Carl *Carmina Burana* Orff, and Noel Coppage endorsed folkie Steve Goodman's "Jessie's Jig & Other Favorites" on Asylum. In other reviews, Peter Reilly knocked "Bankrupt" by Dr. Hook ("as lively and interesting to listen to as the sounds of the Invisible Man jogging"), Eric Salzman found a piano recital by avant-gardist



The McCartneys, 1975

George Flynn on Finnadar "simply overwhelming," and Joel Vance dissed "Desolation Boulevard" by Sweet ("I recommend a year in Her Majesty's Merchant Marine for this quartet. If that fails, surgery may be necessary").

But you're making that sound negative, Part Two: Rock critic Lester Bangs, reviewing Wings' "Venus and Mars are Alright Tonight," said of the album's stars, Paul and Linda McCartney, "Let's face it: Will and Ariel Durant they ain't."



Leading off the tape-themed issue of October 1985, Craig Stark explained "How to Choose the Right Tape," and Peter Mitchell contributed a buyer's guide to "The Hi-Fi VCR." Among new products were Akai's GX-9 tape deck and the dbx Soundfield Ten speaker system. Julian Hirsch tested the NAD 2000 power amplifier, a radical new design capable of delivering up to 400 watts per channel in short bursts, and Toshiba's XR-V22 CD player, the first model ever with two CD drawers.



Toshiba's dual CD player, 1985

In Best of the Month, Robert Ackart hailed Philips's new recording of Mussorgsky's *Boris Godounov* starring Alexander Vedernikov, and Mark Peel characterized Talking Heads' "Little Creatures" as the band's "Yuppie album."

Wiseguys: Responding to an August High End column on CD's versus LP's, readers Rusinski, Raczynski, and Rhoads. of Dinosaur Audio, Inc., in Rome, New York, announced plans to market "a line of rim-drive turntables; we believe that no one should be deprived of the undeniably 'human experience' of rumble, wow, and flutter." — Steve Simels



Ireen Day: Dookie 02753 Reprise) Sheryl Crow: Tuesday light Music Club A&M) 03061 he Sound Of Music/Sdtrk RCA) 00046 lórecki, Symphony No. 3 Joshaw, Zinman. 00110 Nonesuch) oni Braxton (LaFace) 00420 The Bonnie Raitt Collection Warner Bros.) 00569 Best Of Dire Straits: Aoney For Nothing Warner Bros.) 00713 leetwood Mac; Greatest fits (Warner Bros.) 00796

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racked Rear View 05872 BMG HUSK SERVICES 1 0 \bigcirc The Lion King/Sdtrk. (Walt Dieney) 03533 Seal (1994) Bros /Sire) 05907 Bonnie Baitt:

Longing In Their Hearts Conitol) 02742 For Nine Inch Nails: The Downward Spiral 02767 \$ (Interscope) Chant: The Seperintine Monks of Santo Domingo de Silos (Angel) 02957 Incognito: Positivity (Corecast) 02989 (Verve/Forecast)

Frank Sinatra: Duets (Conitol) 03039 (Capitol) 030. Beethoven, Symphonies Nos. 5 & 6 "Pastorale" BPO/Karajan (DG 4D "Karajan Gokd") 031. 03127 The Joy Of Bernstein (DG) 03212

Norman Brown: After The Storm (Mojazz) 03282



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Jimi Hendrix Experience: Electric Ladyland (MCA) 25440 Frank Zappa: Apostrophe/ Overnight Sensation (Rykodisc) 43832 David Bowie: The Singles 1969-1993 (Rykodisc) 01659 ☆

Jon Secada: Heart, Soul & A Voice (SBK) 03323 Tracy Byrd: No Ordinary Man (MCA) 03323 Vince Gill: When Love Finds You (MCA) 03350 You (MCA) You (MCA) 00000 Carpenters: The Singles 1969-1973 (A&M) 04393 Supertramp: Classics (14 Greatest Hits) (A&M) 04891 Greates. The Police: Live 08551 ☆ (A&M) Cecilia Bartoli: Mozart Portraits (London) 04923

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NEW PRODUCTS

MARANTZ

Dne of a shrinking number of standard stereo receivers, Marantz's SR-45 is rated to deliver 40 watts per channel into 8 ohms and 50 watts into 4 ohms. It has thirty AM/FM presets, a system bus for interfacing with other Marantz components, a full-function remote control, and inputs for CD, tape, phono, VCR, and laserdisc. Price: \$330. Marantz, Dept. SR, 440 Medinah Rd., Roselle, IL 60172. • Circle 120 on reader service card



THIEL

Built around a 6½-inch woofer with a coaxially mounted 1-inch tweeter, Thiel's 19-inch-tall SCS2 speaker is magnetically shielded and can be used in a stereo or surround pair or turned on its side for center-channel duties. Both drivers have a short-coil/long-gap magnet system for reduced distortion. Low-frequency limit is given as 46 Hz. Standard finishes of the SCS2 are walnut and black wood. Price: \$925. Thiel, Dept. SR, 1026 Nandino Blvd., Lexington, KY 40511.



NHT 🕨

Characterized as a technological relative of NHT's flagship Model 3.3 speaker, the 4-foot-tall VT-2 has a switch on its front panel that toggles between two crossover settings - one that's said to deliver "pinpoint imaging" for music and one that's said to produce a more diffuse ambience for video. The speaker combines a side-mounted 10-inch woofer, two 51/4-inch midrange drivers, and a 1-inch soft-dome tweeter in a vented enclosure with a high-gloss black-laminate finish. Frequency response is given as 25 Hz to 21 kHz ±3 dB. Price: \$1,750 a pair. NHT, Dept. SR, 535 Getty Ct., Suite A, Benicia, CA 94510. · Circle 121 on reader service card

V SONOGRAPHE

The heart of the Sonographe SC26 preamplifier from Conrad-Johnson is a microprocessor-based level-control circuit that's said to allow a 100-dB range of volume and balance adjustment in 0.5-dB increments. The preamp features six line-level inputs (including a tape/external-processor loop), a mute switch, a full-function remote control that can be operated over a wider than usual angle, and a champagne gold brushed-aluminum front panel. Maximum output is given as 3.5 volts rms and gain as 20 dB. Price: \$995. Sonographe by Conrad-Johnson, Dept. SR, 2733 Merrilee Dr., Fairfax, VA 22031. • Circle 122 on reader service card







NEW PRODUCTS

V SHARP

Hailed as the lowest-price LCD video projector, Sharp's 13-pound XV-P15U can project images as large as 100 inches (diagonal). The 14 x 8 x 13¹/2-inch unit, which can be ceiling mounted, uses a new optical system that's said to deliver brighter images than previous single-LCD models. The XV-P15U has a remote control, A/V inputs, and a built-in speaker. Price: \$2,500. Sharp, Dept. SR, Sharp Plaza, Mahwah, NJ 07430. • Circle 123 on reader service card



3M 🔺

The STV ("surround sound for TV") package from 3M includes a processor/amp with four surround modes (including Dolby Pro Logic), five 7-inch-tall two-way speakers, a bass module rated down to 40 Hz, a remote control, RCA cables, and speaker wire. Power output is given as 25 watts each into six channels. The system is said to hit sound-pressure levels exceeding 100 dB. Price: \$600. 3M Center, Dept. SR, Building 223, STV Products, St. Paul, MN 55114. • Circle 124 on reader service card

ATLANTIC TECHNOLOGY

Atlantic Technology's 7-inch-tall M110 powered speakers (\$119 a pair) and M105 powered Bass Toaster (\$229) are designed for use with multimedia computers, video-game consoles, and compact audio systems. One of the speakers contains a 6-watt stereo amplifier as well as two inputs, volume and treble controls, and a headphone jack. The Bass Toaster combines a 6½-inch dual-voice-coil woofer, a 45-watt amplifier, and a twoposition crossover, all in a 7 x 6½ x 10-inch enclosure. The M110's can be driven via the supplied DC adaptor or the M105's power supply. Atlantic Technology, Dept. SR, 343 Vanderbilt Ave., Norwood, MA 02062.

Circle 125 on reader service card





SAUDER

Sauder Woodworking's Model 2577 Coventry cabinet is made of particleboard finished in washed pine vinyl. It holds a 35-inch TV and also has four concealed storage nooks, two adjustable shelves on each side of the TV compartment (behind the sliding doors in photo), two component shelves, and two media storage cubbies. Dimensions are 771/4 x 221/4 x 70 inches, Price: \$500, Sauder Woodworking, Dept. SR, P.O. Box 156, Archbold, OH 43502. • Circle 126 on reader service card

V DYNACLEAR

Designed specifically for dome tweeters, Dynaclear's selfadhesive-backed Tweeter Lenses are said to improve imaging by absorbing high-frequency sounds that would otherwise be diffracted. Price: \$11.95 a pair. Dynaclear, distributed by Artech, Dept. SR, P.O. Box 1980, Champlain, NY 12919.

• Circle 127 on reader service card



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RECOTON

The Recoton W410 wireless speaker system includes one weather-resistant dome speaker with a rechargeable battery and a 10-watt mono amp, a 900-MHz stereo transmitter (which can also be used with Recoton's wireless headphones), two AC adaptors, and an RCA cable. Operating range is given as 150 feet. Price: \$280. Recoton, Dept. SR, 2950 Lake Emma Rd., Lake Mary, FL 32746. • Circle 128 on reader service card



MAGNAVOX

Magnavox's FP5251 52-inch projection TV features an onscreen display with a help menu, as well as a 20-watt sound system with automatic volume leveling to tame loud commercials, a number of picture-in-picture options, a remote-locator system (hit the power button and your

lost remote beeps), and a VCR/storage compartment. The set, which is 44 inches wide, also has special jacks for connecting an optional ghost-cancellation device. Price: \$2,700. Magnavox, Dept. SR, P.O. Box 14810, Knoxville, TN 37914-1810. • Circle 129 on reader service card



GOLDSTAR

The GVR-E469 four-head VHS Hi-Fi VCR from Goldstar is equipped to receive the StarSight over-the-air on-screen program guide, available by subscription for a monthly fee. The service provides a colorful grid that lists a week of program details, as well as



PROAC

automatic clock setting and

TV/VCR remote with a shuttle control is included. Price: \$550.

Dept. SR, 1000 Sylvan Ave.,

Englewood Cliffs, NJ 07632.

· Circle 130 on reader service card

features. A multi-brand

LG Electronics U.S.A.,

The fourth iteration of ProAc's popular Tablette speaker, the Tablette 50 teams a 5-inch woofer and a 3/4-inch soft-dome tweeter in an 11-inch-tall cabinet with twin ports. Low-frequency limit is given as 38 Hz and sensitivity as 89 dB. Standard finishes include walnut (shown), cherry, oak, black ash, and mahogany. Price: \$975 a pair. ProAc, distributed by Modern Audio, Dept. SR, 112 Swanhill Ct., Baltimore, MD 21208. • Circle 131 on reader service card



SONEX

Sonex Classic (left) and Valueline (right) acoustical panels, made of Class 1 fire-rated melamine, come in 2 x 4-foot sheets. Classic panels are 2 inches thick (\$169 for eight), while Valueline panels are available in thicknesses of 11/2 inches (\$169 for eight), 17/s inches (\$167 for six), and

21/2 inches (\$175 for four). All prices are for white; charcoal, beige, brown, and blue panels are available at extra cost. Sonex, distributed by Acoustical Solutions, Dept. SR, 2720 Enterprise Parkway, Suite 101, Richmond, VA 23294. · Circle 132 on reader service card

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BRUISWICK ATLANTIC STEREO - FREEHOLD ATLANTIC STEREO - MIDLETOWN; STEREO TREED OTAWAIKS -NUR INMMP ION. INEMP ENVIRAND DERT. AND BERNARDSVILLES STEVENS AUDIO: BLOOKINKODALE: SOUDD CITY - CHRIPT MILL: HI FI SALES - E BERNARDSVILLES STEVENS AUDIO: BLOOKINKODALE: SOUDD CITY - CHRIPT MILL: HI FI SALES - E BRINSWICK LILES STEVENS CONTROL PLANS. SOUND CITY - SOMERVILLE: SOUND EXCHANGE - WEST NEW VORK, PARK PLACE - NM, ALBOUEROUE ASSOLUTE AUDIO - LAS CRUESS DESERT SOUND - NM, RENO WILD WISH PARK PLACE - NM, ALBOUEROUE ASSOLUTE AUDIO - LAS CRUESS DESERT SOUND - NM, RENO WILD WISH PARK, PLACE - NM, ALBOUEROUE ASSOLUTE AUDIO - LAS CRUESS DESERT SOUND - NM, RENO WILD WISH PARK, BLORE SOUTHTOWN AV - JOHNSON WISH PARK, BLORE SOUTHTOWN AV - JOHNSON WISH PARK, ALBOY, ALBOUEROUE ASSOLUTE AUDIO - LAS CRUESS DESERT SOUND - NM, RENO WILD WISH PARK, ALBOY, ALBODO - COMANCE, SOUND CREEN, MILLE: AUDIO SECULENCE - ROCKISTEN: POESANTUELE AUDIO SECULENCE - ROCKISTEN: WISCO NUBO CUTET - NEW VEST BABYLON: NUID ENCOUNTERS - TOLEDO, JAMESON BIOTHESS - WATERTOWN HAPPV EAR - WEST BABYLON: NUID ENCOUNTERS - TOLEDO, JAMESON SISTEREO - OK SERVICE - SALEM ADVANCED AUDIO SIGNAR - WEST BABYLON WISCONES - OM - WRONG OHO SOUND - CONCINNED UNDEST - STILLWATER: AUDIO SIV. - OR: EUGENEI : CHAMBERSBURG: LINCOLN NECTONNES - EPHARTA ADVANCED AUDIO - PORTLAND, FREDS MAY, GOX SERVICE - SALEM ADVANCED AUDIO HEAR NO EVIL - CHAMBERSBURG: LINCOLN LECTRONICS - EPHARTA SUFFED BARN - GREENBURG STEREO SHOP - HARRISBURG HIEI HOUSE - JENKINTOWN. 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CIRCLE NO. 47 ON READER SERVICE CARD



AUDIO Q & A

Theater vs. Home Surround

In Dolby Stereo-equipped movie theaters, the surround speakers seem to be directional designs angled down toward the audience. Some home surround models, on the other hand, use dipole radiators to diffuse the sound and create a nondirectional effect. Does that mean the Dolby processing in a movie theater is different from home Dolby Pro Logic? JON WAGNER Yorba Linda, CA

No. In the matrix-based Dolby Pro Logic system (or Dolby Stereo, as it's called in theatrical parlance), the aim is to create a diffuse surround field so that specific sounds can't be located at the loudspeakers themselves. In the sort of small rooms that most of us listen in, this is often accomplished by the use of dipole surround loudspeakers, bouncing the sound off at least one wall before it then goes on to reach the prime listening area.

Movie theaters present a different acoustic challenge. Most are cavernous compared with a domestic listening room, yet the surround speakers must provide even coverage. This is achieved with multiple speakers arrayed along the side and back walls, which at the same time diffuse the sound.

Sonic Avenger!

I live in an apartment building, and the tenant below me plays his stereo system so loud the floors and windows vibrate. I have asked him to keep it down and have even called the police, but he continues. Is there a device I could use that would cause static or some other form of interference with his system? STEVEN LINSEY Bronx, NY Well, we've certainly all had that fanta-Sy! To my knowledge, however, there is no such device — and if there were, its use would probably be illegal. In my apartment-dwelling days I sometimes found a well-timed blast of my own audio system was effective (the theme from *Shaft* worked particularly well), but this wasn't really fair to the other tenants. Failing that, if repeated visits from the police don't work, take the matter to your landlord; in some jurisdictions, such disturbance of neighbors is grounds for eviction.

TV Nuisance

When I play audio cassettes. I notice a buzz from my speakers between songs when the TV is on, even though it is not connected to my audio system. Switch to FM or VCR and the buzz goes away. Turn the TV off and the buzz goes away. I've tried powering the TV from a different electrical circuit, but that doesn't work. What's causing this problem? STEFAN WILBUR Hanford, CA

Every TV has an oscillator that generates a signal to sweep the electron beam back and forth across the screen. The waveform of this signal is ramp-shaped and rich in harmonics that can radiate from the



set. These can sometimes be picked up by audio components that have relatively little shielding, resulting in the buzz that you describe. There's unfortunately not much you can do about it, short of replacing one or other of the components, but changing their relative positions may help. Otherwise, simply turning off the TV when you wish to listen to tapes is the best solution.

Slow Bootleg

I bought a bootleg LP that seems to have been recorded slower than 33¹/3 rpm. My direct-drive turntable has a built-in stroboscope: a red light illuminates four bands on the edge of the platter to show whether or not the speed is correct. Two of the bands are obviously for 33¹/3 and 45 rpm. What about the other two bands? Could I use another speed that would come closer to the speed of my LP? JIM MILETI Cleveland, OH

That's what you get for buying a bootleg! Seriously, unless your turntable has a continuously variable speed control few do — it's difficult to correct a faulty recording. The two extra strobe bands you mention are also indicators of $33\frac{1}{3}$ and 45rpm, but they come into play in those parts of the world where the electrical line frequency is 50 Hz rather than 60. They don't indicate that there are other, hidden speeds you could use.

CD Lens Cleaning

I have noticed many laser lens cleaners on the market. most of which seem to be a CD with brushes on it. They seem overpriced, so I wondered whether I could accomplish the same thing by taking a cotton swab and eyeglass cleaner and gently rubbing it over the lens. Would you recommend this procedure? KENNETH HALL Highland Park, MI

Only if the lens is easily accessible. I wouldn't ever recommend you open up an audio component to get at its innards. For one thing, you'd almost certainly void the warranty (if any): for another, it can pose a shock hazard. In any event, most CD players (portables being a possible exception) rarely need such a cleaning. I have a couple of players more than ten years old, and they still perform perfectly.

Subwoofer in Parallel

You've addressed this subject before, but I'm afraid I still don't understand it. Do I risk damaging my existing amplifier by wiring a powered subwoofer in parallel with my speakers? LARRY MARQUEZ Huntingburg, IN

No. First, the impedance presented to your amplifier's output stages by the powered subwoofer's inputs should be high enough that it won't have any adverse effect on the overall impedance. Second, the amount of power drawn by the subwoofer is

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Passive subwoofers are different in that they don't contain their own power amp and must be driven by either the main system's amplifiers or an outboard amp. But even so, they are usually designed to be connected in parallel with regular loudspeakers, so you shouldn't have any problems.

Timed Audio Taping

I would like to tape radio programs when I'm not home, the way I can tape TV shows. Is there equipment that will allow timed recording for up to two hours? Does the equipment offer fast-forward audible scanning of the tapes? GARY LARSON Fargo, ND

At one time, virtually every Japanesemade cassette deck allowed for timed recording, with the addition of an external timer, and many still do. If it's an autoreverse model and you use C-120 cassettes, you should be able to make the two-hour recordings you want.

Better still, use your VCR, just as you would for TV recording. If it's a Hi-Fi recorder (forget about stereo recordings if it isn't), you can use its internal timer, and a T-120 cassette will give you the two-hour recording time at the SP speed (or six hours at EP, with negligible degradation of sound quality). I haven't encountered a VCR that allows you to audibly scan through the recordings, however.

If you're interested only in recording talk shows, Reel-Talk of Irvine, California, sells the Radio Talk Show Timer-Recorder (\$119 plus \$10 shipping), which combines an AM/FM radio, a cassette recorder, and a VCR-like timer. The company says up to four hours of continuous recording time is possible on one side of a C-120 tape. Reel-Talk's phone number is 1-800-766-8255.

A New "Stereo-Wide"?

I have seen some ads for "3D" stereo processors, which apparently create a surround-like sound field with only two speakers. How do these differ from the old "stereo-wide" systems? MATT TUOZZO Nottingham, PA

Very little. Such phase-manipulating circuits have been around for years under various names, and they can sometimes be effective in broadening the perceived image when speakers are very close together or in cramped spaces. But I have always found them quite dependent on the location of both the listener and the equipment. Also, they often alter the tonal quality of the sound, and I believe any effect of that sort is deleterious. Still, the spaciousness they provide can sometimes be novel and pleasant.

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



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system A/V sources from another listening room. • The RX-V2090 has 7-channel amplification with 100w mains and center, and 35w front and rear effects. Pre-outs on all channels. 5 audio and 4 audio/video inputs with S-Video terminals. Yamaha linear damping circuitry. Plus discrete 5.1 channel line inputs for AC-3. And 10 DSP programs including 70mm movie theater. • Of course, not everyone has the need for a component this comprehensive. That's why we offer a full line of six new A/V receivers. So you can choose the one that's best for you. • Which means now all you have to worry about is cleaning up after those elephants before your next trip.

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SIGNALS KEN C. POHLMANN

The Dogs of War

he invention of the atomic bomb in 1945 changed everything. Suddenly, military strategists were confronted with a weapon capable of such mass destruction that the concepts of battlefields, troop strength, and civilian casualties were forever altered. A few years later, when the Soviet Union built its bomb, the possibility of a nuclear exchange prompted a complete rethinking of the basic concept of warfare itself. The Cold War had begun.

Strategists devised a defense against nuclear attack that was both simple and powerful: Mutually Assured Destruction, which taught that the best defense is a strong offense. The United States and the Soviet Union built vast arsenals of nuclear warheads that were poised to answer a first strike with cataclysmic retaliation. Because both the attacker and the defender would be annihilated, no rational adversary would dare to launch that first strike.

Thankfully, the consumer audio industry is a good deal less antagonistic than global geopolitics. Still, competition in the marketplace occasionally causes companies to engage in curious forms of warfare. In fact, audio companies have been known to embrace their own kind of weboth-lose mentality. This happens when two competing and incompatible formats are launched, causing rampant consumer confusion and, ultimately, the demise of both formats. Audio history is littered with examples. Remember the quadraphonic battles of the Seventies in which competing LP formats fought each other to the death? It took twenty years for the industry to recover and profit from multichannel sound, now in the guise of home theater. More recently, the MiniDisc and the Digital Compact Cassette were mutually savaged when their sponsors insisted on launching them simultaneously.

Today, perhaps the biggest battle in the history of consumer electronics is at hand. There are literally billions of dollars at stake as technology promises to revolutionize the way the world watches video programs. Moreover, there is almost no question that the technology can succeed; the benefits it offers are uncontested. With a concerted effort and cooperation between manufacturers, both consumer lives and company profit margins could be enriched. But instead, it appears that the corporate forces are preparing to wage war. The companies will lose, and you will lose.

The technology to which I am referring, of course, is the digital videodisc (DVD), and it will make analog videotape obsolete for several reasons: DVD is more convenient, it looks and sounds better, it's compatible with CD, and it can be manufactured more cheaply. A single DVD will easily hold a full-length motion picture with six-channel sound. Picture quality will equal or surpass that of laserdisc, and sound quality will equal or surpass that of CD. DVD players, which will probably sell for \$500 or so, will also play CD-ROM discs, and manufacturers have already begun to design recordable models. Sound like something you'd like to buy? Me too.

But there's a problem. Sony and Philips have proposed a DVD format called MMCD (MultiMedia CD). Toshiba and UA movies, you can't play your favorite TriStar films. Faced with these circumstances, you'll probably do what most people would do: simply ignore both formats and buy nothing.

Clearly, that's not acceptable - which is why a number of interested parties (IBM, Apple, Compaq, Hewlett-Packard, and Microsoft) have issued a press release strongly urging both sides to merge their technologies and adopt a single DVD format. Playing a sort of United Nations role, these computer companies stated they would not choose sides. They did offer a list of requirements they feel the new format should meet: support for both TV and PC applications, high performance for both sequential and nonsequential files, backward compatibility with existing CD's, forward compatibility with write-once and erasable discs, reliable storage and retrieval (with the average number of errors equal to or less than that of current CD's), high capacity, and extendability to enhancements such as multiple data layers and shorter laser wavelengths. The computer companies also recommended that the DVD format be low-cost and not require the use of protective disc caddies.

The two DVD camps replied independently, each voicing its appreciation of the press release and coolly noting that its format already met the proposed requirements. If you have ever experienced

Perhaps the biggest battle in the history of consumer electronics is at hand. Billions of dollars are at stake as corporate forces prepare for war over the DVD format.

Time Warner have proposed another format, called SD-DVD (Super Density Digital Video Disc). Based on existing CD standards, the two DVD formats are similar in many ways. They use identicallooking 5-inch discs (with a very similar pit size and track pitch) and variations of the CD's EFM (eight-to-fourteen modulation) encoding and CIRC error-correction techniques. Both formats also use MPEG-2 data-compression coding with variable data rates, and both support multiple aspect ratios for full-screen, letterbox, and 16:9 widescreen video displays. Finally, the MMCD and SD-DVD formats accommodate both two-channel and 5.1channel audio

The problem? The formats are incompatible. If you buy an MMCD player, it won't play SD-DVD discs. Likewise, an SD-DVD player won't play MMCD discs. Many of the film and software companies have already chosen sides. If you buy an SD-DVD player to see MGM/ high-level diplomatic iciness or a messy divorce, the attitude is familiar to you.

Meanwhile, both sides have announced plans to begin marketing their DVD systems in the middle of 1996. Given the lead time needed to design the players, manufacture the chips and other components, and bring the products to stores, it may already be too late for a peace agreement. There's also the question of stockpiling ammunition. Speaking off the record, a Deep Throat in the manufacturing sector told me that his pressing plant has already made hundreds of thousands of DVD's adhering to his company's format.

The specter of Mutually Assured Destruction looms before us, the greed of the combatants preventing them from sharing the much larger profits that would result from cooperation. I hope that by the time you read this, warfare will have been averted. In the meantime, I appeal to all: Make peace before it is too late. The Cold War is over. Don't start it again.



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Home Theater Made Easy

[The Bose® Lifestyle® 12 home theater system]

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Movie theater drama, concert hall excitement. Surround sound from five Virtually Invisible[®] cube speakers for left, center, right, and rear channels. Each about 6" high. So simple it comes in one box. Within minutes you'll be enjoying your favorite movies and music more than ever.

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SPECIAL CD OFFER

Modem Jazz For Today's Connoisseur

he distinguished jazz recording company Blue Note is offering you a CD sampler of selections from its new Connoisseur Series. It contains ten tracks (60 minutes playing time) of jazz by some of the most important artists in Blue Note's long history. The latest remastering technology has been used in producing this sampler, which is offered exclusively to STEREO REVIEW readers. To get your copy clip the coupon below, fill it out, and send it in with a check for \$2.99 to cover postage and handling.

Founded back in 1939, Blue Note quickly revealed its devotion to high technical and musical standards. Its producers created an atmosphere of sympathy and respect for jazz musicians that encouraged them to play their best, and the company became famous for the sound quality of its recordings.

In 1994, Blue Note began its top-line reissue program, the Connoisseur Series, to make available recordings from certain sessions that have considerable musical importance and have often been requested by collectors. Releases in this series are issued in limited editions, however, and when they are sold out, they will be dropped from the catalog.

By October of this year the number of releases in the Connoisseur Series will reach thirty. They are mostly taken from the decade 1955-1965, Blue Note's golden years of modern jazz. In addition to the work of stars like Tina Brooks (tenor saxophone), Lou Donaldson (alto saxophone), and Freddie Hubbard (trumpet), the series also embraces the music of some less widely celebrated artists, such as the drummer Pete La Roca.

Blue Note releases items in the Connoisseur Series in two forms: as LP records and as compact discs, both derived from the original analog masters. According to Blue Note, the LP's are 180-gram virgin vinyl records of audiophile quality and often sound better than the original releases. The CD's are produced using 20-bit digital technology as



well as the Super Bit Mapping process to create the best possible CD master.

The sampler includes *Status Quo* (Clifford Jordan & John Gilmore), *Wigglin*' (Freddie Redd), *Little B's Poem* (Bobby Hutcherson), *Arietis* (Freddie Hubbard), *Theme for Doris* (Tina Brooks), *Lazy Afternoon* (Pete La Roca), *Tom Thumb* (Wayne Shorter), *Whistle Stop* (Kenny Dorham), *Politely* (Lou Donaldson), and *The Procrastinator* (Lee Morgan).

The editors of STEREO REVIEW cooperate in making these CD samplers available to help our readers expand their musical tastes and pleasure at nominal cost. We admire the artists on this Blue Note sampler and think they will please you. The sampler is only issued in a limited edition. So don't miss out — order yours while supplies last.

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TECHNICAL TALK

JULIAN HIRSCH

Is Concert-Hall Realism Possible in the Home?

o avoid unnecessary suspense, let me answer the question I have asked above with the most definite and unequivocal statement I can think of: "Maybe, sometimes, under certain conditions." Perhaps some further explanation is in order.

To me, the much overworked phrase "concert-hall realism" (or variations on that theme) means audio reproduction of such a quality that, with eyes closed, you can believe you are present at the original performance. The overall acoustic character of the performing environment is also convincingly reproduced, but I do not consider that to be of equal importance to the reproduction of the music itself.

It's a tall order, but it can sometimes be closely approached for certain types of musical performances (and for the spoken word). In general, the smaller the size of the performing force, the better your chances of reproducing it at home with reasonable fidelity. Vocal and small chamber-music programs are the only ones I can think of that qualify — and even then, only under the most ideal conditions of recording and playback.

A major concern is to avoid the mingling of two different acoustic environments: the recording and playback locations. The most successful A/B comparison that I have experienced was Edgar Villchur's "live vs. recorded" demonstration of the Acoustic Research AR-3 loudspeakers at audio shows in the 1960's, for which a string quartet was recorded in the world's largest anechoic chamber - outdoors, on Villchur's lawn. The subsequent playback through a pair of the AR-3's was compared with the original ensemble performing live on the same stage, and in the end it was quite impossible, even when sitting close to the musicians, to detect the transition from the recording to the live performers (who, as I recall, sometimes faked their bowing to enhance the illusion).

Another demonstration — a bit more ambitious and correspondingly less successful — was one in which I directly participated, together with several colleagues of the "Audio League," in the spring of 1956, around the time of my entry into the world of audio equipment testing. We conducted an A/B comparison between live and recorded performances on the Aeolian-Skinner pipe organ installed in St. Mark's Episcopal Church of Mount Kisco, New York.

For the recording, we set up microphones close to the several groups of pipes, to minimize the "hall" sound of the church. For playback, the loudspeakers — four AR-1's plus a Bozak B-305 and a Janszen electrostatic model, each driven by a Fairchild 275 75-watt power amplifier — were located as close as possible to the original microphone positions. All of the components, except for the Ampex 350 tape recorder, were standard audiophile models.

The result exceeded our wildest expectations: Virtually none of the transitions between recorded and live sound could be detected by the audience of some 650 people. Even the organist, Edgar Hilliar, could not consistently distinguish the two from the position of his console! When tration. Pick a type of music that could believably be performed in your listening room, such as chamber music or vocals (but not a chorus of dozens!). For best results, the environment in which the recording was made should be reasonably "dead" (at least, not audibly reverberant). Try to play the program at a realistic level, although this may not be as easy as it first seems. A solo soprano, singing in an average-size living room, can be surprisingly loud!

If your taste runs to more ambitious programming, you will certainly have to make some major compromises. You can't squeeze a quart into a pint bottle, and a recording of an ensemble too large for your listening room will never sound the way the performers did at the recording session.

This is not necessarily bad, since the built-in ambience of a good recording can often give a sense of believability to playback at home. After all, that is the case with virtually every recording we play, and it seems to satisfy the vast majority of listeners. Furthermore, today's audio/ video receivers provide a certain degree of control over the apparent ambience of a normal stereo recording, but don't expect miracles.

There is another aspect of reality that is not so easily achieved. The dynamic range (level difference between the loudest and softest passages) of much music is simply too great to be reproduced comfortably at home. That is one good reason to go out and attend live performances, which can be a humbling experience for anyone who likes to think that his music system (no matter how large or expensive) rivals the "real thing." The best

The result exceeded our wildest expectations: Virtually none of the transitions between recorded and live sound could be detected by the audience.

transitions were detected, the major clue was the faint but audible hiss from the tape recorder.

Unfortunately, this kind of experience cannot be duplicated at home unless you choose to convert your listening room to an anechoic chamber, which normally sounds pretty terrible. If it really is so difficult — even impossible — to attain perfect facsimile reproduction of live musical performances in your home, then what can you do to circumvent the laws of nature that stand in the path of success?

I suggest lowering your sights a bit, for starters. Anyone who expects perfection in our imperfect world is doomed to frussystem doesn't even come close to a live performance, though it is still fun to keep trying, hoping to uncover the Holy Grail of hi-fi.

Of course, there are also many things you can do to your listening room itself to improve music reproduction at home. Just don't expect that you will ever mistake the sound you achieve there with what you hear from a full symphony orchestra performing in a concert hall. If you want to maximize your enjoyment of your home music system, by all means set your sonic goals high and work to attain them, but at the same time, maintain a realistic perspective on what you can actually achieve.
SURGECN GENERAL'S WARNING: Cigarette Smoke Contains Carbon Monoxide. C Philip Morris

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Sound and Image Magazine , Winter 1995



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TEST REPORTS



Technics SA-GX790 A/V Receiver

DAVID RANADA . TECHNICAL EDITOR

s you might expect from a model standing secondfrom-the-top of the Technics receiver lineup, the SA-GX790 is blessed with many impressive features and ratings. Perhaps the most impressive is the specification for amplifier power, something you can never have too much of: 120 watts per channel in two-channel stereo operation (with no more than 0.05 percent distortion) and 100 watts each for the three front channels *and* a pair of surround speakers in Dolby Pro Logic operation.

Although the Pro Logic power specs are pegged to a distortion level of 0.8 percent, they're still impressive. And it's most unusual for an A/V receiver to have equal power ratings for all channels in surround operation (a theoretically desirable characteristic, even if it's seldom really necessary). There is, however, a little fudging going on since the surround speakers are actually driven in series by a single amplifier channel (which means both speakers must be hooked up in order for either one to operate). Assuming that the surrounds are identical, the surround-channel power will divide equally into the two speakers, so on a five-channel basis the SA-GX790's rating would be a still-ample 50 watts each to the surround speakers, which is only 3 dB less than 100 watts per speaker.

But however it is rated, this receiver is more than simply a powerhouse. It also has a well-chosen array of stereo and home theater features. The tuner section, for example, will memorize thirty station presets in any combination of AM and FM frequencies. There are four sound-processing modes in

DIMENSIONS: 17 inches wide, 61/4 inches high. 137/8 inches deep WEIGHT: 22 pounds PRICE: \$500 MANUFACTURER: Technics, Dept. SR. One Panasonic Way, Secaucus, NJ 07094 addition to Dolby Pro Logic, and the Pro Logic decoder itself has a Theater mode that the receiver's manual says "spreads out the sound as actually happens at the theater."

Inputs and switching are provided for two VCR's, a laserdisc player, a CD player, one audio-only tape deck, and a moving-magnet phono cartridge. There is one video-monitor output. One of the VCR inputs can be switched between rear- and front-panel connectors, the latter being convenient for temporary hookup of a camcorder.

The left side of the rear panel (as viewed from the back) has a thumbscrew 75-ohm connection for the supplied single-wire FM antenna. A special connector is provided for the supplied AM loop antenna as well as a thumbscrew for a long-wire AM antenna. To the right of these connections are the line-level audio jacks in vertical array. The video connections - all phono jacks for composite-video — are next but, confusingly, they are not directly adjacent to their corresponding audio connections. Read the labeling for this portion of the rear panel very carefully. The speaker connections, in the middle of the panel, are all snap clips best used for stripped wire ends. Next to the speaker connectors is a pair of phono-jack line-level subwoofer outputs. There are two switched AC convenience outlets.

ST REPORT

The infrared remote control comes preprogrammed to operate many other Technics and Panasonic components. It also carries the operating codes for TV's, VCR's, and laserdisc players from other manufacturers. The receiver-only buttons are scattered over the face of the handset, with little differentiation in size, shape, spacing, or feel and none whatsoever in color. Still, the light coloration behind the surround-decoder buttons makes them highly visible in a dark room, a nice touch on an otherwise only serviceable remote.

he manual is not quite as usable, since it confusingly covers five receiver models at the same time and must be supplemented with multipage auxiliary publications detailing the use of the remote and the contents of the on-screen display. That display, by the way, can be too much of a good thing sometimes, since you can't keep it from turning on and its contents are mostly redundant with the receiver's front-panel display.

Lab measurements showed that the

SA-GX790 follows in the tradition of other Technics receivers we've tested recently: average overall FM and Dolby Pro Logic performance combined with distinctly above-average poweramplifier characteristics. The only anomalous result in the FM tests was the high reading for total harmonic distortion plus noise (THD+N) in stereo, which mostly reflects the tuner's rather high pilot-carrier leakage; true audio-range distortion is probably much lower. The AM frequency response was abominable, as has been the case with essentially every receiver and tuner that STEREO REVIEW has tested in recent years.

Measured Dolby Pro Logic performance was fine except for the surround- and center-channel noise levels, which could use considerable improvement (especially the latter). The high noise also worsened the surroundchannel distortion figure, since it is a THD+N measurement. In our listening tests the noise, which was present only during operation of the surround modes, was sometimes distractingly audible when there was little or no signal, depending on the volume setting.

It is in its ample power reserves that the SA-GX790 really scores high. Especially impressive are the stereomode figures for clipping power and dynamic power into 4-ohm loads, both of which exceed what we measured for Technics' first Home THX receiver (the SA-TX1000 in January). And given the high outputs available in surround operation, the SA-GX790 will have enough oomph for the most outrageous movie sound effects in any reasonably sized room, as well as for stereo music recordings with wide dynamic range.

There was one blot on the amplifier section's performance, however. The frequency response of the front left and right channels flattened out only when the receiver's bass control was turned down from its center detent to approximately the 11 o'clock position. (This type of error seems so widespread now among A/V receivers as to be almost standard practice.) The deviation, a broad hump starting below 200 Hz that reached about +1 dB at 40 Hz (relative to the level at 1 kHz), was

AMPLIFIER SECTION

Except as noted, all data for two-channel stereo
operation
OUTPUT AT CLIPPING (at kHz)
8 ohms
4 ohms
CLIPPING HEADROOM (re rated output)
8 ohms
DYNAMIC POWER
8 ohms
4 ohms
DYNAMIC HEADROOM (re rated output)
8 ohms
4 ohms
DISTORTION AT RATED POWER
(120 watts, 1 kHz) 0.009%
SENSITIVITY (for 1-watt output into 8 ohms)
C D
phono
NOISE (re 1 watt, A-wtd)
CD
phono
PHONO-INPUT OVERLOAD
(1-kHz equivalent levels)
20 Hz
1 kHz
20 kHz
PHONO-INPUT IMPEDANCE
RIAA PHONO-EQUALIZATION ERROR
20 Hz to 20 kHz +0.2, -1.4 dB
FREQUENCY RESPONSE (tone controls centered)
20 Hz to 20 kHz +1.10.5 dB

MEASUREMENTS

т

TONE-CONTROL RANGE	
100 Hz +10	-II dB
10 kHz +9	-11 d B
TUNER SECTION	
TONER SECTION	
All data for FM only except frequency res	ponse
SENSITIVITY (50-dB quieting)	
mono	21 dBf
stereo	
NOISE (at 65 dBf)	
mono	-72 dB

stereo -70 dB
DISTORTION (THD+N at 65 dBf) mono 0.52%
stereo (see text) 3.2%
CAPTURE RATIO (at 65 dBf)
AM REJECTION
SELECTIVITY alternate-channel 68 dB adjacent-channel 11 dB
PILOT-CARRIER LEAKAGE
38-khz
HUM (120 Hz)
CHANNEL SEPARATION
100 Hz
10 kHz
FREQUENCY RESPONSE
FM 30 Hz to 15 kHz +0, -0.4 dB AM 75 to 2.8 kHz +1, -6 dB

DOLBY PRO LOGIC PERFORMANCE

FREQUENCY RESPONSE (tone controls centered)
left, right
center
surround
OUTPUT AT CLIPPING (1 kHz, 8 ohms)
front left, center, and right
surround (0.7% THD+N)
surround (3% THD+N) 100 watts
NOISE (re 1-watt output, A-wtd)
left. right
center
surround
DISTORTION (THD+N, 1 kHz, 1-watt output)
left, right
center 0.057%
surround
SURROUND-DECODER INPUT-OVERLOAD
SURROUND-DECODER INPUT-OVERLOAD MARGINS (at 1 kHz)
MARGINS (at 1 kHz)
MARGINS (at 1 kHz) left, right (re 2-volt input) -1 dB
MARGINS (at 1 kHz) left, right (re 2-volt input) center (re 1.414-volt input) +3 dB surround (re 1.414-volt input) 0 dB
MARGINS (at 1 kHz) left, right (re 2-volt input) center (re 1.414-volt input) +3 dB surround (re 1.414-volt input) 0 dB SURROUND-CHANNEL NOISE-REDUCTION
MARGINS (at 1 kHz) left, right (re 2-volt input) center (re 1.414-volt input) +3 dB surround (re 1.414-volt input) 0 dB SURROUND-CHANNEL NOISE-REDUCTION CALIBRATION ERROR
MARGINS (at 1 kHz) left, right (re 2-volt input) center (re 1.414-volt input) +3 dB surround (re 1.414-volt input) 0 dB SURROUND-CHANNEL NOISE-REDUCTION CALIBRATION ERROR re Dolby level (247.5 mV)
MARGINS (at 1 kHz) left, right (re 2-volt input) -1 dB center (re 1.414-volt input) +3 dB surround (re 1.414-volt input) 0 dB SURROUND-CHANNEL NOISE-REDUCTION CALIBRATION ERROR re Dolby level (247.5 mV) +1 dB CHANNEL SEPARATION (100 Hz to 7 kHz)
MARGINS (at 1 kHz) left, right (re 2-volt input) center (re 1.414-volt input) surround (re 1.414-volt input) 0 dB SURROUND-CHANNEL NOISE-REDUCTION CALIBRATION ERROR re Dolby level (247.5 mV) +1 dB CHANNEL SEPARATION (100 Hz to 7 kHz) left output, right driven >32 dB
MARGINS (at 1 kHz) left, right (re 2-volt input) center (re 1.414-volt input) surround (re 1.414-volt input) dB SURROUND-CHANNEL NOISE-REDUCTION CALIBRATION ERROR re Dolby level (247.5 mV) +1 dB CHANNEL SEPARATION (100 Hz to 7 kHz) left output, right driven >32 dB left output, center driven >31 dB
MARGINS (at 1 kHz) left, right (re 2-volt input) -1 dB center (re 1.414-volt input) +3 dB surround (re 1.414-volt input) 0 dB SURROUND-CHANNEL NOISE-REDUCTION CALIBRATION ERROR re Dolby level (247.5 mV) +1 dB CHANNEL SEPARATION (100 Hz to 7 kHz) left output, right driven >32 dB left output, center driven >31 dB left output, surround driven >30 dB
MARGINS (at 1 kHz) left, right (re 2-volt input) -1 dB center (re 1.414-volt input) +3 dB surround (re 1.414-volt input) 0 dB SURROUND-CHANNEL NOISE-REDUCTION CALIBRATION ERROR re Dolby level (247.5 mV) +1 dB CHANNEL SEPARATION (100 Hz to 7 kHz) left output, right driven >32 dB left output, surround driven >30 dB center output, left driven >30 dB
MARGINS (at 1 kHz) left, right (re 2-volt input) -1 dB center (re 1.414-volt input) +3 dB surround (re 1.414-volt input) 0 dB SURROUND-CHANNEL NOISE-REDUCTION CALIBRATION ERROR re Dolby level (247.5 mV) +1 dB CHANNEL SEPARATION (100 Hz to 7 kHz) left output, right driven >32 dB left output, surround driven >30 dB center output, left driven >30 dB center output, ustround driven >47 dB
MARGINS (at 1 kHz) left, right (re 2-volt input) center (re 1.414-volt input) surround (re 1.414-volt input) dB SURROUND-CHANNEL NOISE-REDUCTION CALIBRATION ERROR re Dolby level (247.5 mV) teft output, right driven >32 dB left output, right driven >30 dB center output, left driven >30 dB surround output, left driven surround output, left driven surround output, left driven
MARGINS (at 1 kHz) left, right (re 2-volt input) -1 dB center (re 1.414-volt input) +3 dB surround (re 1.414-volt input) 0 dB SURROUND-CHANNEL NOISE-REDUCTION CALIBRATION ERROR re Dolby level (247.5 mV) +1 dB CHANNEL SEPARATION (100 Hz to 7 kHz) left output, right driven >32 dB left output, surround driven >30 dB center output, left driven >30 dB center output, ustround driven >47 dB

"This Is The Best \$199 You Can Spend On Yourself."

SoundWorks[™] – our amplified speaker system may well be the most exciting product ever designed by Henry Kloss – and



the most affordable. Never before has so much high quality, wide-range, natural, "big" sound come from such a small, affordable system. It is ideal for hundreds of applications. *SoundWorks* consists of

Henry Kloss

two satellite speakers (app. 3 1/2" x 3 1/2" x 3 1/2") and a compact, subwoofer cabinet that encloses a 4" woofer, a 3-channel amplifier, equalization and crossover electronics, as well as a control panel.

The Satellites.

The small satellites are magnetically shielded so they can be used very close to a TV or computer monitor. They contain a remarkable 2" speaker driver with a long-throw/wide-range design that reproduces

"SoundWorks has the most natural musical timbre." The New York Times

high and mid frequencies down to 150 Hz, without the need for a "midrange" driver. *SoundWorks* comes with satellites finished black, or in "computer-beige." They can be used as is, hung on walls using their back-panel slot,

used with their mini-stands, or they can be attached to a computer monitor with our velcro kit (supplied).

"...head and shoulders above the others..." MacUser magazine

The Subwoofer.

The subwoofer cabinet (a little bigger than a shoe box: 5" x 8" x 9") reproduces only non-directional bass so it can be placed in out-of-the-way places – behind your TV set, under your desk, or in back

of furniture. It contains a 3-channel amplifier that's been precisely tailored to match the speaker drivers. Its control panel includes a stereo mini-jack input for connecting to a computer or



PC magazine

"...really amazing...exceptionally good... sounds terriffic." Audio magazine

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With our 30-day risk-free home audition, you can listen to *SoundWorks* the <u>right</u> way – in your home, with your music. If you aren't happy, return it within 30

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Because SoundWorks is so compact, and because it works on 110 or 12-volts, it's perfect for cars, RV's and boats. With our optional carrybag (\$49⁹⁹), it makes an ideal musical traveling companion. You can even play the system while it's in the carrybag.



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Amplified Subwoofer/satellite speaker system

a portable CD player, a "set and forget" bass level control, and connecting terminals for the satellite speaker wires. It also has an input for a

12 volts – so you can plug SoundWorks into the cigarette lighter in your car or boat!

The Sound.

In terms of frequency range, tonal balance, stereo imaging and overall sound, *SoundWorks* compares <u>very</u> favorably with component music

systems costing <u>far</u> more. It just doesn't seem possible that a system so small could produce a sound so "big." But it does.

The Applications.

Because of its small size and price, and because of its magnetically shielded satellites, *SoundWorks* is ideal for use as a multimedia speaker with any computer. It fits easily into smaller rooms – like kitchens, dens, dorms and bedrooms. Its 12-volt capabilities make it perfect for boats, campers and cars. And with our optional carrybag, you can travel with it.

The Price.

You can buy *SoundWorks* direct from Cambridge SoundWorks, for only **\$199**⁹⁹. We haven't heard a system for anywhere near its price that we think sounds nearly as good.

TEST REPORTS

present in both two-channel stereo and surround-sound modes. The SA-GX790 is therefore best auditioned in the store with its bass control turned down slightly, and we used that setting for our listening tests.

The separate subwoofer output was very handy, not least because the SA-GX790 supplies it at two jacks even though it is a mono signal. That eliminates the need for a Y-connector to feed both input channels of a subwoofer crossover, a practice recommended to reduce the possibility of picking up interference through an unterminated subwoofer input. On the down side, the subwoofer outputs remain on even when all of the main speaker outputs are turned off and a headphone is plugged in.

The subwoofer outputs are fed from a low-pass crossover filter that rolled off at 12 dB per octave above 100 Hz. which can be a benefit or a drawback depending on your circumstances. It will definitely be an obstacle if your subwoofer needs to operate up to a higher frequency. In that case you should forget the receiver's dedicated outputs and hook up the subwoofer via speaker-level connections to the main front left and right outputs. Even if your subwoofer requires a lower crossover frequency (say, 80 Hz) and has its own crossover, the receiver's crossover filter characteristics will still interact with those of the subwoofer's. That can roll off the response excessively at the desired crossover frequency, which may prove impossible to counteract with the subwoofer's own controls. Technics probably would have been better off taking the easy (and cheaper) way out by supplying an unfiltered, wideband mono (or, better, stereo) signal at the SA-GX790's subwoofer outputs.

easurements of the outputs produced by the receiver's music-enhancement modes showed that they covered just about every possible variation of what can be done with a single-channel delay line (in this case, the same one used to supply surroundchannel delay in Dolby Pro Logic). Depending on the mode selected, the center speaker may or may not be activated and the surround and front left and right speakers may or may not receive a single simulated reflection (derived from either the sum or difference of the two input channels) at the selected delay interval. The receiver



With its well-chosen array of features, the Technics SA-GX790 receiver is more than just a powerhouse.

makes no attempt at DSP-type simulation of multiple spaced ambient reflections or of the densely packed reflections characteristic of reverberation.

But sometimes less is more. The system Technics has provided has the

important advantage of being very easy to use. Select a mode, maybe select a delay interval, maybe adjust the surround-channel level, and that's it. The results, as usual for simple musicprocessing systems, depend greatly on the sonic characteristics of the original recording. And, again as usual, feel free both to make adjustments and to ignore the names of the various modes. The mode that may be most suitable for enhancing the recording at hand may not be the one whose name seems most applicable.

Our main reservation about the various surround modes, both music- and movie-oriented, was the higher-thanaverage noise level in the center and surround channels. In every other respect, however, the sound was just fine once the bass control was adjusted properly. Indeed, you could make a very strong case for considering the SA-GX790 primarily as a good, exceptionally high-power stereo receiver, especially if you aren't ready to get into home theater or if you will use its surround capabilities only occasionally. You get a lot of muscle for your money with this receiver. And its relative simplicity makes it easier to operate than many of its competitors, which most people will find a significant benefit.



"... Sweetheart, I do try to understand how hard it is for you being here. At home I set the surround processor as close to the ambience of a prison cell as I can...."

Introducing *Ensemble®IV.* The Most Affordable Sub/Sat Speaker System Ever By Henry Kloss.

Ensemble IV is an ultra-compact, very affordable subwoofer/satellite speaker system



designed by Audio Hall of Fame member Henry Kloss (founder of AR, KLH and Advent). It maintains the precise octave-to-octave tonal balance of our original *Ensemble* system, which *Audio* magazine said, "may

Henry Kloss

be the best value in the world." It doesn't have quite the deep bass extension as the original *Ensemble*, and it won't play as loudly. But in terms of performance for the dollar, we believe it has no serious rival.

The Classic *Ensemble* Sound.

We believe the single most important factor in designing a musically accurate speaker is tonal balance. A properly designed speaker should not put any extra emphasis on one octave versus another. Henry Kloss spends an extraordinary amount of time "voicing" his speaker designs for precise, octave-to-octave tonal balance. The result is that Ensemble IV has an overall sound very similar to the more expensive members of the Ensemble family. What it sacrifices is the lowest half-octave of deep bass, and power handling capability.



Ensemble IV Home Theater is identical to the basic Ensemble IV system except that it has five satellite speakers instead of two. It's perfect for use in surround sound systems with Dolby Pro Logic®. Price \$379⁹⁹

Great Sound, Anywhere.

Ensemble IV's satellite speakers are small enough to fit in the palm of your hand (4" x 4" x 3 5/8"). And its subwoofer is about the

\$22999 The Easemble IV Subwoofer/Satellite Speaker system

size of a shoebox (6 1/2" x 8" x 12"). Since the subwoofer can be put in out-of-the-way places — behind drapes, under furniture — *Ensemble IV* can fit into any room, no matter how small. It's perfect for use in apartments, dorms, offices, dens, kitchens and bathrooms.

The Satellites.

Each *Ensemble IV* satellite incorporates a unique wide-range, long-throw three inch driver capable of reproducing notes down to 150 Hz, without the use of a second driver. Magnetically shielded, they won't distort your TV or computer screen. Each satellite is finished with a scratch-resistant, textured charcoal surface, and comes with a premium metal grille instead of the inexpensive fabric used by many other speakers in *Ensemble IV's* price range. Because of their size, they'll fit just about anywhere. Wall-mounting hardware is included.

The Subwoofer.

The lowest bass notes are reproduced by *Ensemble IV*'s shoe box-sized subwoofer. It uses a remarkable 5 3/4" bass driver with dual voice coils. The driver is mounted in a true acoustic suspension cabinet. It fires into a second "tuned bandpass" cavity within the cabinet which filters out unwanted higher frequencies. The careful engineering of this

design allows *Ensemble IV* to combine deep bass response with high efficiency. Henry Kloss says, "*Ensemble IV* is the smallest and most affordable system I can design for use with any amplifier or receiver and still provide deep, really satisfying bass." Since low frequency bass is non-directional, the subwoofer can be hidden behind or under furniture.

Factory-Direct Savings.

Cambridge SoundWorks products are available only direct from us, or through cost-efficient Best Buy stores nationwide. Because of our efficient distribution, you get unbeatable quality and performance for your dollar. After you hear Ensemble IV, we think you'll agree that it sounds as good or better than speakers selling for hundreds more.

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TEST REPORTS



Linn Wakonda Preamplifier JULIAN HIRSCH . HIRSCH-HOUCK LABORATORIES

inn Products, Limited, of Glasgow, Scotland, is unique among consumer audio manufacturers in several ways. Perhaps its most obvious distinction, though hardly the most important, is in the nomenclature of its products. The name of virtually every Linn component contains at least one letter "K" (in a few cases an "X" is substituted).

Much more significant is the quality of construction and performance built into every Linn product. As I saw on a visit to the ultramodern Linn facility a few years ago, every unit is assembled, checked, and signed off on by a single person (whose name actually appears on the product). This traditional craftsman's approach contrasts with, and complements, Linn's fully computerized and automated warehouse, whose robot vehicles deliver parts to the assembly stations in the factory itself.

Over the past ten years, we have tested and reported on seven Linn components, ranging from loudspeakers and turntables to preamplifiers, power amplifiers, and integrated amplifiers. They have all shared the fundamental characteristics of Linn products (in addition to unconventional names): superb construction and distinctive, attractive styling, excellent performance, and prices that, while not shocking by current high-end standards, were well above those of good mass-market components.

Linn says the Wakonda preamplifier is named for the god of an unspecified tribe of American Indians. I suspect that the letter "k" is the principal link between Native American religion and Scottish audio products.

The Wakonda, like several other Linn electronic components, is a compact black box whose front panel has no knobs or other very obvious controls except a rectangular power button. Its other visible features include a small green power pilot light, a headphone jack, and a small display window. Below the display window are six flat control keys, flush with the panel, that are clearly marked to show their functions, including mute (on/ off), volume (up/down), input (step-

DIMENSIONS: 121/2 inches wide, 31/8 inches high, 127/8 inches deep

WEIGHT: 61/2 pounds

PRICE: \$1,095; \$1,195 with phono stage

MANUFACTURER: Linn Products, distributed by Audiophile Systems, Ltd.. Dept. SR, 8709 Castle Park Dr., Indianapolis, IN 46256

ping in either direction through the available inputs), and balance (left/ right). These buttons, pressed in combinations, also provide mono/stereo mode switching and independent selection of sources for listening and recording. The volume adjustment is in sixty-one steps, from 0 to 60 (30 is the default level at power-up), and the balance adjustment is in nineteen steps, from +9 to -9, with 0 corresponding to equal gain in both channels. All the control operations are silent both mechanically and electronically.

The Wakonda's back panel has gold-plated phono-jack inputs for all sources, plus monitor-loop jacks (outputs and inputs) for two tape decks and two parallel pairs of line outputs. On the basic version of the preamplifier, all the inputs are line-level, but the ones normally labeled AUX 2 can be assigned instead to an optional factory-installed phono stage for either moving-magnet or moving-coil cartridges (our test unit had the movingmagnet option).

A few seconds after the Wakonda is turned on, it shows "Cd" and "30" in its display window. You can then set your desired input source and volume level by pressing the appropriate control buttons on the front panel. Alternatively, the supplied wireless remote control can be used for any of the Wakonda's operating functions (other than switching the power on or off), as well as those of other compatible Linn components.

Like the Majik-I integrated amplifi-

The Critics Love Ensemble Speakers. You'll Love Our Factory-Direct Prices.



Ensemble

Audio magazine once said our Ensemble® speaker system may be "the best value in the world." And Stereo Review said, "It's hard to imagine going wrong with Ensemble." Dozens of critics and thousands of customers have

applauded our *Ensemble*, *Ensemble II* and *Ensemble III* speaker systems. Designed by Henry Kloss (founder of AR, KLH and Advent), they became best sellers by offering quality construction and accurate, widerange music reproduction — at Factory-Direct prices.

Ensemble

Our current *Ensemble* is an improved version of our original dualsubwoofer/satellite speaker system. It maintains the dual subwoofer design, which allows for maximum room placement flexibility. Placement of bass and high-frequency speakers in a room (and how those speakers interact with the room) has more influence on the sound quality of a music system than just about anything. *Ensemble's* ultra-slim subwoofers give



Our Ensemble & Ensemble II sub/sat speaker systems are now available finished in white.

you more placement flexibility than any system we know of, and are most likely to provide the performance you want *in the real world...in your* room. Having two, compact subwoofers lets you move them around, experiment, and find that placement that gives you exactly the sound you want. This is one of the reasons *Esquire* described *Ensemble* by saying "you get 30 days to return the speakers or keep them, but you'll keep them."

New Woofer And Tonal Balance Controls.

Ensemble maintains the tonal balance, frequency range and quality of construction of the original. There are two basic changes.

1. *Ensemble* now uses a new 8" woofer with a very long "throw" for more linear cone excursion and more accurate bass. An integral heat sink provides improved power handling.

2. Ensemble's satellite speakers use the same speaker drivers and crossover as the original, but with new midrange and high frequency controls. The midrange control lets you choose the

> same output in the key 800-1600 Hz octave as in the original, or you can emphasize it by 2

dB. Ensemble satellites have relatively less output in this range to avoid

the "boxy" sound of many speakers. This results in an "open" sound on large-scale

symphonic works. For small-scaled music, the higher

output position proves a "warmer" sound. A three-position high frequency control can subtly increase the system's "airiness," or reduce any tendency towards "edginess."

We believe our *Ensemble* system competes head-on with speakers selling for hundreds more. Available with black-laminate subwoofers for \$629°, or with vinyl-clad subwoofers for \$549°.

Ensemble II

Ensemble II is an improved version of our best-selling system. It's more affordable than Ensemble because it uses one cabinet for both subwoofer speakers. Ensemble II maintains the tonal balance, frequency range, power handling and construction quality of the original. But its satellite speakers use the same new tonal balance controls as Ensemble's.

Ensemble II also has a new flared subwoofer port. The subwoofer cabinet encloses two 6 1/2" long throw woofers mounted in a sealed "acoustic suspension" chamber. They project into a second chamber fitted with the flared port, which provides smoother air flow, eliminating extraneous noise on strong bass notes.

We think *Ensemble II* outperforms other speakers in its category, including well-known models for about twice the price. **\$439**⁹⁹.



Ensemble III

Ensemble III is our most compact, most affordable subwoofer/satellite speaker system. Its satellite speakers are only 4 1/2" x 6 1/2" x 3" and its subwoofer is 8" x 8" x 15".

Compared to *Ensemble II, Ensemble III* gives up a little in power handling, low bass range, and efficiency.

Unlike the "cube" satellite speakers you'll find in most similarly priced systems, Ensemble Ill's satellites are two-way speakers. Ensemble III's 61/2" woofer uses two voice coils in a cabinet with a flared port for smooth air flow.

With most



Ensemble III

recordings *Ensemble III* will sound virtually identical to *Ensemble II*. It simply won't play as loud. Its construction quality is normally found only in much more expensive speakers. Price, including, Hook-Up Guide and Dolby Surround Guide, is only **\$329**⁹⁹.

We Eliminate The Risks.

All Cambridge SoundWorks speakers are

backed by our 30-day Total Satisfaction Guarantee. Try them in your home, with your music. If you don't like them, return them for a full refund. We even refund your original regular ground UPS shipping charges.



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At Cambridge SoundWorks we make speakers and music systems designed by Henry Kloss (founder of AR, KLH & Advent). We sell them—and components from companies like Sony, Pioneer, Philips, Carver and others factory -direct, with no expensive middlemen. For example, a Dolby Pro Logic Surround Sound system with Model Six speakers, rear speakers, a Sony Pro Logic receiver and remote is only \$747. Call today and find out why *Audio* magazine said we may have "the best value in the world."

- Call toll-free for factory-direct savings.
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- Audio experts will answer your questions before and after you buy, 8AM-Midnight (ET), 365 days a year-even holidays.
- 30-Day Total Satisfaction Guarantee on all products.
- 7-Year Parts & Labor Speaker Warranty.



EST REPORTS

er we reviewed last year (July 1994), the Wakonda is designed for expansion of its functions within its compact dimensions. The back panel has a "Sneaky" module slot for that purpose. A Sneaky line-driver or line-receiver module adapts the unit for multiroom systems, or the Sneaky Kudos FM tuner can be incorporated into the Wakonda chassis.

Operation of the Linn Wakonda, despite its unconventional control system, was easy and largely intuitive. The instruction manual is clear and explicit. Measuring its performance was equally straightforward. The frequency response was ruler-flat over most of the audio range, falling off only 0.5 dB at 20 Hz and 0.1 dB at 20 kHz. High-frequency response hit -3 dB at just over 100 kHz. Total harmonic distortion plus noise (THD+N) was 0.025 percent just before clipping occurred, at 9 volts output.

The Wakonda also proved to be a very quiet preamplifier through both its high-level and phono inputs. And not only were there no signal-switching transients, but all control operations were totally silent and usually gradual rather than abrupt.

Recalling the unusually clean internal layout of other Linn products we have tested, I also examined the Wakonda's interior. It was one of the neatest I have seen, with extensive use of surface-mount technology and virtually no visible wires (the major exceptions being about 4 inches of multiconductor ribbon cable to the frontpanel display and a single twisted pair to the pilot light).

MEASUREMENTS

OUTPUT AT CLIPPING (1 kHz) 9.3	volts
DISTORTION (THD+N at 0.5-volt output) 0.04	045%
SENSITIVITY (for a 0.5-volt output) aux/CD 20	<mark>0 m</mark> V
NOISE (re 0.5-volt output, A-wtd) aux/CD	
PHONO-INPUT OVERLOAD (1-kHz equivalent levels) 20 Hz 7 1 kHz 6 20 kHz 6	0 mV
PHONO-INPUT IMPEDANCE 47,000 ohms in parallel with 170 pF	
RIAA PHONO-EQUALIZATION ERRC 20 Hz to 20 kHz +0, -2	
FREQUENCY RESPONSE 20 to 20 kHz +0, -0.5 dB	



Operation of the Linn Wakonda, despite its unconventional control scheme, was easy and largely intuitive.

Linn's literature refers to the Wakonda's "Brilliant Power Supply" (evidently a switching-mode supply) as being responsible for much of the preamplifier's performance. The most obvious evidence of that in our tests was the extremely low noise level. The Brilliant Power Supply consists mainly of a single cylindrical unit, about 4 inches in diameter and 2 inches high, that apparently houses the power transformer and electronic circuits, leaving a pair of 10,000-microfarad filter capacitors as its principal external components.

The Linn Wakonda is an excellent preamplifier, above reproach in both performance and ease of operation. To use it most effectively, however, you should read its twenty-page operating manual carefully (a good idea with any sophisticated piece of equipment). Once that is absorbed, the Wakonda's operational simplicity relative to most home audio components is both striking and refreshing, yet its versatility would be hard to fault.

Although not inexpensive by any means, the Wakonda *is* a good value no matter how you look at it — or how you listen to it.

In The Mid '70s We Created Home Theater. Now We've Created A New Way To BuvIt HESE PRICES GOOD

The people who work at Cambridge SoundWorks - including our cofounder Henry Kloss (who also founded AR, KLH and Advent) have been involved with the concept of home theater from the beginning. In 1969 (years before VCRs and cable TV), Henry Kloss

founded Advent, the company that introduced the first home theater audio/video systems complete with bigscreen TVs and



have had an ongoing relationship with the people at Dolby Laboratories, creators of Dolby Surround Sound, since Henry Kloss introduced the first consumer products with Dolby noise reduction over 20 years ago. And now at Cambridge SoundWorks we believe we have set a new price-to-performance standard for home theater components.

Because we sell carefully matched and tested home theater speaker systems Factory-Direct, you can save hundreds of dollars. We believe the products on these pages represent the country's best values in high performance home theater components. Audio critics, and thousands of satisfied customers, agree. Stereo Review said, "Cambridge SoundWorks manufactures loudspeakers that provide exceptional sound quality at affordable prices." Audio suggested that we may have "the best value in the world."

Center Channel Speakers

Cambridge SoundWorks manufactures three speakers for use as center channel speakers in Dolby Pro Logic home theater systems. All three are magnetically shielded so they can be placed near a TV or computer monitor. Model Ten-A is a small, affordable twoway speaker. \$7999. Center Channel is



essentially identical to a Cambridge SoundWorks

Surround Speakers

Cambridge SoundWorks makes two "dipole radiator" surround sound speakers. Dolby Laboratories recommends dipole radiator speakers for use as surround speakers. The

Surround has a very high



power handling capacity and is often selected for "high end" surround sound systems. Audio, describing a system that included The Surround said,

"In many ways the surround sensation was every bit as good as far more expensive in-stallations." \$39999 pr. The smaller *The* Surround II is arguably the country's best value in a dipole radiator speaker. \$24999 pr.

Powered Subwoofers

The original Powered Subwoofer by Cambridge SoundWorks consists of a heavyduty 12" woofer housed in an acoustic suspension cabinet with a 140-watt amplifier and a



built-in electronic crossover. Stereo Review said it provides "deep powerful bass...31.5 Hz bass output was obtainable at a room-shaking level...they open the way to having a 'killer' system for an affordable price." \$69999.

Our Slave Subwoofer uses the

same woofer driver and cabinet, but does not include the amplifier or crossover. It can only be used in conjunction with the Powered Subwoofer. \$29999. The new Powered Subwoofer II uses a 120-watt

amplifier with an 8" woofer. \$39999.

Home Theater Speaker Systems

We have assembled a number of home theater speaker systems that consist of center

channel, surround and main stereo speakers. The combination we show here is our

HRU OCT. 315

best seller. It includes our critically acclaimed Ensemble subwoofer satellite speaker system (with dual subwoofers), our Center Channel Plus and a pair of our best surround speakers, The Surround. You could spend hundreds more than its \$1,16799 price without improving performance.

For information on other home theater



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(but with magnetic shielding). \$14999. Center Channel Plus uses an ultra-low, ultrawide design that is ideal for placement above (or, with optional support stand, below) a TV monitor. \$21999.







June 29

Got up. Sat in the road cleaning fur. Heard a car coming. Great speakers. Bad brakes.

PIONEER SPEAKERS. Tiny ears ravaged by mites and fleas take notice when you upgrade your car stereo with Pioneer.⁶ We make speakers to fit any car you're driving. And they're crafted from a unique blend of materials for lower distortion, higher sensitivity, and the earth-shaking bass you've grown to love. Try them out, and you'll get a clear, powerful sound guaranteed to amaze just about anything that darts in front of your car. Call I-800-PIONEER for the dealer nearest you.

TEST REPORTS



Rock Solid HCM 1/ PowerBass Speaker System

JULIAN HIRSCH • HIRSCH-HOUCK LABORATORIES

ock Solid Sounds is a division of B&W Loudspeakers, long known as a manufacturer of high-quality speaker systems. Sold under the Solid trademark, Rock Solid speakers are designed and engineered in England but manufactured in Japan.

In April 1993 we reviewed the first Rock Solid products, a three-piece configuration consisting of two Solid Monitor satellites and the separate Twin Bass low-frequency module. The Solid Monitor satellites were small, unconventionally styled ported speakers with molded-plastic enclosures whose integral adjustable stands enabled them to be mounted on walls. shelves, or almost any other surface. The Twin Bass module had two small drivers in a dual-cavity vented enclosure, operating below 120 Hz, and was styled to harmonize with the satellites (although it could easily be hidden from view).

The recently introduced Solid HCM 1 appears quite similar to the Solid Monitor, with a 5-inch cone driver and a 1-inch dome tweeter in a black or white plastic vented enclosure. The company says that the HCM 1 was specifically designed for use in home theater systems, however, and to be acoustically compatible with other Rock Solid speakers in such applications, whether it is used as a main (left or right) front or center speaker or as a surround speaker, where the cabinet's versatility in mounting and positioning is especially convenient. Consequently, the HCM 1 speakers are magnetically shielded to allow placement close to a TV set (desirable for the center channel, especially) without picture

DIMENSIONS: HCM 1 satellite, 6½ inches wide, 9¼ inches high, 6½ inches deep: PowerBass subwoofer, 13 inches wide, 15¾ inches high, 13½ inches deep

WEIGHT: HCM 1, 6 pounds, 10 ounces; PowerBass, 22 pounds

FINISH: HCM 1, black or white plastic: PowerBass, black plastic

PRICE: \$797 (HCM 1, \$199 each: PowerBass, \$399)

MANUFACTURER: Rock Solid Sounds. B&W Loudspeakers of America. Dept. SR, P.O. Box 8, North Reading, MA 01864-0008 distortion. The HCM 1's crossover frequency is given as 3.5 kHz, and its frequency response is specified as 70 Hz to 20 kHz ±3 dB.

The new PowerBass subwoofer adds considerable versatility to the Solid line. Its nearly cubical black vented enclosure (about 1 cubic foot in volume) contains a single 8-inch long-throw driver. The specified -3dB points of its response are 38 and 95 Hz. The built-in discrete-MOSFET bass amplifier is rated at 70 watts continuous output. On the PowerBass's back panel are stereo pairs of both line- and speaker-level connectors (respectively, phono jacks and spring clips that accept only wire ends) for routing signals from the system amplifier or receiver to the subwoofer. A crossover network in the PowerBass sends frequencies above 95 Hz to the pair of HCM 1's.

In addition to the signal connectors, the PowerBass's rear panel holds a phase-reversal switch and a power switch. The front is covered by a removable molded-plastic grille. At its top center is a small LED (which did not operate on our test unit) to show that the subwoofer is powered and a bass-level adjustment knob. The adjustment is not calibrated, but the installation instructions are quite complete and make it clear that the bass level should be set to suit the user's taste, listening environment, and program material, and that there is no universally applicable "correct" setting. After the adjustment has been made, the knob can be pushed in flush with the grille frame to prevent accidental changes to the bass-level setting.

We measured the satellites and bass module separately. The HCM I satellites were placed on stands spaced about 6 feet apart and about 4 feet from any wall. In listening tests the PowerBass was between the two satellites, against a wall.

The room response of the HCM 1 satellites was very much like that of the earlier Solid Monitors. It was exceptionally flat (better than ± 2.5 dB from 400 Hz to 20 kHz) and rose slightly to a maximum of about +6 dB between 150 and 200 Hz before returning to the upper-frequency level at about 90 Hz. The output remained useful down to about 70 or 75 Hz.

We measured the PowerBass module's frequency response separately, using close miking to avoid roomboundary effects. Its maximum output was at 63 Hz, with the -6-dB responses at 45 and 110 Hz. It was apparent that the PowerBass output could be combined with the output of the satellites to generate a useful, relatively uniform response (by loudspeaker standards) extending from approximately 40 Hz to 20 kHz, at least in our 300-square-foot listening room.

The PowerBass's measured distortion was reasonably low considering the size of its single driver. At a 90-dB sound-pressure level (SPL) at 1 meter the total harmonic distortion rose from 0.7 percent in the 100-Hz range to 4 percent at 50 Hz, and it was still less than 7 percent at 40 Hz.

he HCM 1 had a minimum impedance of 5 ohms at 60 Hz, 250 Hz, and between 10 and 20 kHz (its nominal rating is 8 ohms). The measured system sensitivity was 90 dB (1 dB better than specified). The drivers are protected against overload by thermal devices, and the system is rated to handle a formidable 150 watts.

Actually, that rating seems quite reasonable. When the PowerBass is pushed too hard in its lower range, the distortion is plainly audible, and no one could possibly overdrive the subwoofer for more than a moment without being aware that the cone suspension had reached its limits. But that happened only rarely in our tests, which are often more demanding than typical program material anyway, and the unit suffered no detectable damage. As for the satellites, we were unable to drive them hard enough (using single-cycle tone bursts) to cause damage. At frequencies from 100 Hz to 10 kHz the amplifier clipped first, at equivalent power outputs of 500 to 750 watts!

In listening tests, the Solid system was as good as most of the speakers we have tested in recent years. At reasonable listening levels (within the capabilities of the system's drivers) it had an unstrained, uncolored sound that would do credit to far more expensive speakers (the Solid system did not seem at all out of place in a comparison with other systems costing several times its price). Although the subwoofer did not rattle the windows or make our ears pop from the pressure, as long as the HCM 1 and Power-Bass were within their linear range of operation they provided a believably focused spatial image and a solid, clean bass foundation not often found in systems of this size and price.



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TEST REPORTS



Audio Control Rialto Home Theater Equalizer/Crossover

DAVID RANADA · TECHNICAL EDITOR

o be really useful, an equalizer designed primarily for use in a home theater system must possess a number of special features and abilities beyond good electrical performance. Audio Control's very reasonably priced Rialto is the first such product we have tested (or encountered, for that matter), but it turns out to have most of those qualities — some in great abundance.

The main requirement of any home theater equalizer is that it serve every channel in a surround-sound system. something a two-channel stereo equalizer cannot do. The Rialto meets that requirement by providing graphicequalizer sections for front left and right, center, two surround, and two subwoofer channels (for systems using stereo subs). There are only four sets of sliders, however, because the controls for the front left and right channels, the two surround channels, and the two subwoofer channels are ganged. Moving a slider for any of those pairs alters the frequency responses of both channels simultaneously and equally. Consequently, the Rialto is best used to compensate for basic speaker-response characteristics

or for adjusting the frequency balance of program material. In the case of the front left and right channels, ganged controls are actually preferable to independent ones in most cases, since equivalent changes on both sides will not disturb the basic stereo imaging.

It's to Audio Control's credit that the Rialto not only serves every channel but also appropriately tailors its equalization for each. For example, the two-third-octave widths of the front-channel bands are well suited to basic frequency-balance adjustments. They are centered at 160 Hz, 250 Hz, 400 Hz, 630 Hz, 1 kHz, 1.6 kHz, 2.5 kHz, 4 kHz, 6.3 kHz, 10 kHz, and 16 kHz (lower frequencies are handled by the subwoofer section). There are only five surround-channel bands, and they are wider and irregularly spaced over

DIMENSIONS: 17 inches wide, 2½ inches high, 11 inches deep

WEIGHT: 10 pounds

PRICE: \$579

MANUFACTURER: Audio Control, Dept. SR, 22410 70th Ave. W., Mountlake Terrace. WA 98043 a smaller range (150 Hz, 300 Hz, 700 Hz, 2.5 kHz, and 12 kHz), as befits the more restricted bandwidth normally handled by the surround speakers.

Only in the bass region can the Rialto be considered a room equalizer: Its subwoofer bands are one-third-octave apart, centered at 25, 32, 40, 50, 63, 80, and 100 Hz. Such tight spacing is necessary for an equalizer to have any chance of compensating for room-resonance effects, which are more of a problem in the bass than in any other frequency range.

The Rialto doesn't stop there, however. It also contains a stereo low-pass subwoofer crossover that is automatically engaged when the signal for the subwoofer section is provided by the front-channel inputs. (The subwoofer section also has its own separate stereo inputs that bypass the low-pass crossover on the assumption that these inputs will be fed from a surround processor - such as a Home THX controller or a Dolby AC-3 decoder that has already excluded high frequencies from the subwoofer feed.) The Rialto's subwoofer crossover is a 24-dB-per-octave Linkwitz-Riley design that is factory-set at 90 Hz. You can, however, change the cutoff frequency by means of plug-in modules that you can get from your dealer or even solder together yourself from easily obtained parts (Audio Control will supply you with the details).

Also user-adjustable, again with plug-in modules, are the PFM (Programmable Frequency Match) high-

Acurus Rated Number One

ACURUS vs THEM

In a twelve amplifier comparison test Video Magazine ranked the Acurus A150 amplifier number one. The Acurus received an A grade in both Sound Quality and Construction! "More importantly, this amp delivered *tons* of punch-significantly more than I expected from a '150-watt' amp. The sound had outstanding dynamic outlines and impact, trap drums and big bass events were impressively rendered. There was also an open, highly detailed, but never harsh character to the sound, with notable depth and 'space'." — Dan Kumin, Video Magazine



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TEST REPORTS

pass filters that are switched in via the front-panel infrasonic ("subsonic") filter button. Operating on the front left and right and subwoofer channels, these 18-dB-per-octave filters are intended to "protect your subs from subsonic scourges," as the easy-toread manual vividly puts it. The factory setting for all the PFM filters is 25 Hz, but their cutoff frequencies actually measured somewhat higher (-3 dB at 30 Hz). If your subwoofer is easily capable of providing very deep bass (20 to 25 Hz), you might consider changing the subwoofer-channel PFM filters to a lower frequency (around 18 Hz). More significantly, you might alenhancement circuit that introduces a low-level, inverted-phase crossfeed between the front left and right channels to increase apparent loudspeaker separation (but use it only if your front stereo pair is really too close together).

The Rialto performed very well on the test bench. With all the equalizer controls at their center detents, frequency response was within ± 0.2 dB from 20 Hz to 20 kHz. Even the subwoofer channels, when fed through the separate subwoofer inputs, had this wide and flat response. Distortion with a 0.5-volt input was far below audibility throughout the audio range (less than 0.0055 percent) with the controls

Using the one-third-octave bands of the Audio Control Rialto's subwoofer section, I was able to reduce

a nasty room-resonance peak between 40 and 50 Hz by

some 4 to 5 dB, a substantial improvement.

so move the frequency of the front left and right PFM filters much higher to the same frequency as the subwoofer crossover - to prevent those speakers from being overdriven by high levels of audible-frequency low bass, not to mention "subsonic scourges." Making this change will also greatly ease the problem of adjusting the equalizer sections for flat response in the crossover region. Too bad this easy and important option is not mentioned in the manual, which also forgets to warn that your Dolby Pro Logic decoder should be set for Normal (not Wide or Wideband) operation if you expect to get any center-channel bass out of the subwoofer.

he Rialto's versatility is further enhanced by its rear-panel facilities: level controls for each of the major sections (front left/right, center, surround, and subwoofer), a button that controls input gain (to accommodate high-output surround processors), and another that decouples the subwoofer circuits from the front-channel inputs. One unswitched AC convenience outlet is also provided. All input and output connections are standard phono plugs.

Besides the equalizer sliders and the big on/off button, the front panel has buttons that switch equalization in and out, turn the PFM filters on, and switch in Wide Mode, a simple imagecentered, and it remained below audible levels as long as neither the inputs nor the outputs were overdriven. Maximum output before clipping was approximately 7 volts, more than enough to drive any connected power amplifiers to full output. Maximum input depended on the setting of the rear-panel input-gain control and on the settings of the equalizer sliders, each of which can provide between 11 and 12 dB of boost or cut at the indicated frequency. Input clipping occurred at 1.8 volts at high gain, 7.5 volts at low gain with the sliders centered. A-weighted signal-to-noise ratio (S/N), referred to a standard 0.5-volt output with the output level controls turned full up, was a very good 92 dB, which translates to an even more CD-like 104 dB when referred to a 2-volt output.

I used the Rialto to equalize a fairly good home theater speaker system we tested recently for flattest obtainable response. The results varied. The sound of the surrounds could be greatly improved but not brought to anything near flat response because of the speakers' basic pre-equalization response. The Rialto cannot transmute lead into gold. The post-equalization response of the left and right front speakers was markedly improved - a one-and-a-half-octave midrange dip was substantially filled in -- though smaller response ripples remained, exacerbated by the small ripples that the equalizer introduced when sliders for adjacent bands were moved even slightly (around 3 dB) in the same direction. The match between the front left/right speakers and a nonidentical center speaker could also be greatly improved (do the left/right speakers first, then the center).

s for the subwoofer, considerable lumpiness remained in the final corrected curve because of interactions between the Rialto's one-third-octave bands. But I was able to reduce a nasty room-resonance peak between 40 and 50 Hz by some 4 to 5 dB, a substantial improvement.

Mind you, these improvements took about 11/2 hours of steady adjustments with the aid of pink noise from a test CD, a one-third-octave spectrum analyzer, and a measurement microphone, and they also required moving the subwoofer around somewhat to find a more equalizable location for it. The Rialto's manual does not stress enough the value of instrumented feedback to monitor progress. I wouldn't take any of the manual's sample curves as a starting point; they all sound wretched with even a moderately good set of speakers. Nor would 1 put in a bass boost as large as the one shown in the manual's "house curve." And, except for the subwoofer controls, it should not be necessary to adjust any band, much less any group of bands, by more than 6 dB unless the performance of the speakers involved is substandard to begin with.

Unless you are already very experienced at equalization, you cannot expect to do a good job of correcting room or speaker response problems without some instrumentation, if only a good sound-level meter and a CD containing appropriate test signals. The manual mentions the use of a portable spectrum analyzer, such as Audio Control's own SA-3050A, and if you have access to such devices I heartily urge you to take advantage of them. If the assistance of someone trained in their application is also available, so much the better. I can only paraphrase the American Dental Association's standard toothpaste endorsement: "The Audio Control Rialto has been shown to be an effective response-improving component that can be of significant value when used as directed in a conscientiously applied program of sonic hygiene and regular professional care."

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USER'S REPORT



Boston Acoustics Lynnfield VR Home Theater Loudspeaker System

oston Acoustics' Lynnfield VR home theater loudspeaker series incorporates processes, materials, and design approaches developed for the company's Lynnfield series of high-end stereo speakers. As of this writing, the VR line comprises six models: three floor-standing main (left/right) front speakers, a centerchannel speaker, a quasi-dipole surround speaker, and a powered subwoofer. The system we put together combines the smallest and least expensive of the three main speakers with the subwoofer and the center and surround speakers.

Most prominent of the VR line's Lynnfield derivatives is perhaps the tweeter used in both the VR20 main speakers (\$550 a pair) and the VR12 center speaker (\$400 each). It has a 1inch dome diaphragm made from pure aluminum for better dispersion and heat dissipation. Curving in front of the dome is the unique AMD (Amplitude Modification Device), an acoustical filter tuned to attenuate specific frequencies emitted by the dome for flatter overall response. As the photo shows, the tweeter is placed as close as possible to the VR20's ported 7inch woofer cone in order to simulate a point source more closely.

A less obvious Lynnfield-series derivative is the thickness of the VR20's cabinetry (1 inch for the front panel, $\frac{3}{4}$ inch elsewhere) and the superior quality claimed for its wood (particleboard from Boise Cascade). Outer surfaces of the cabinet are available in either cherry or black ash vinyl veneers. The VR20 enclosure measures $32\frac{1}{8} \times 8\frac{1}{4}$ x 12 inches, making it the shortest of the three floor-standing VR speakers. Crossover frequency is given as 3.3 kHz, nominal impedance as 8 ohms, and sensitivity with a 2.83-volt input as 89 dB sound-pressure level (SPL).

Center-channel duties for the VR line are handled by the magnetically

shielded VR12, which has an unusual driver layout designed to optimize the horizontally oriented speaker's dispersion. Its 4¹/₂-inch copolymer-cone midrange driver and 1-inch VR tweeter are mounted in vertical alignment in the center of the front panel. They are flanked by two 61/2-inch woofers operating in a sealed enclosure. The vertical mounting of the midrange and high-frequency drivers is said to provide wide and uniform horizontal dispersion at the frequencies most important for creating a solid sonic image. Crossover frequencies are 500 Hz and 3.3 kHz. Rated impedance is 8 ohms, sensitivity 91 dB SPL.

As center-channel speakers go, the VR12 is quite large. Measuring $8\frac{3}{4}$ x 25 x $8\frac{1}{2}$ inches and weighing 30 pounds, it will fit comfortably only on top of TV's with screens of 25 inches or larger. Placing it below the screen is feasible with smaller sets, in which case you might want to orient it so that the tweeter is near the bottom of the set in order to aim the prime listening axis upward.

In contrast to the VR12, the VRS surround speakers (\$350 per pair) are rather small, measuring only $10^{3/8} \times 4^{1/2} \times 6$ inches. Each contains three drivers, two $2^{1/2}$ -inch cone drivers mounted back to back, operating in quasi-dipole mode, and a single $4^{1/2}$ -inch woofer mounted on the front-facing side of the cabinet. Crossover frequency is 350 Hz, and rated nominal impedance is 8 ohms. Sensitivity is given as 85 dB SPL.

The VRS's are easily wall-mountable because they come with mounting brackets and weigh only 6 pounds each. Black or white finishes are available, but the VRS manual gives simple instructions for painting the cabinets and the removable grilles.

The VR500 powered subwoofer (\$600) is a black ash vinyl-veneered box that is almost cube shaped $(15^{3}/4 \text{ x})$ $15\frac{1}{2}$ x $15\frac{5}{8}$ inches) and weighs 40 pounds. On the front are a 10-inch magnetically shielded woofer and a low-turbulence vent. On the rear are the heat sink for the internal 100-watt amplifier as well as the connection jacks, a phase-reversal switch, and an auto-on power control. Inputs can be either line-level via phono-jack connections or speaker-level via five-way binding posts. For convenience in running speaker cables, the VR500 also has output binding posts wired directly in parallel with the speaker-level inputs. The input low-pass crossover to

the subwoofer amp has a slope of 24 dB per octave and a cutoff frequency that can be varied between 50 and 100 Hz. If you use the line-level inputs, the crossover also provides line-level outputs with high-pass filters that remove frequencies below 100 Hz at a rate of 12 dB per octave; these outputs can be run back to the power amplifier for the front left and right speakers in a system with appropriate pre-out/main-in connections.

Setup was easy, thanks in no small part to the manuals - especially the one provided with the VR500, which is quite the best subwoofer manual I've encountered. It covers in exhaustive, well-illustrated detail the various hookup options the VR500 provides. I tried two of them, both at line level. The first was the loop-back hookup described above, in which the crossover's high-pass-filtered outputs were used to feed the VR20 front speakers. The other setup, probably more common, just ran the subwoofer directly from a receiver's mono subwoofer output with no loop-back connections. Contrary to expectation, the direct hookup yielded a smoother blend with the main speakers in our listening room. In another room, though, or with other main speakers, the loopback connection might provide superior results.

Despite their small size, the VRS surrounds did well, although material with substantial high bass in the surround channel may come off a little better on topnotch surround speakers (such as Home THX models). But if you've hooked up and adjusted the subwoofer correctly, you won't really notice, because there will be enough bass energy from it floating around your listening room.

the VR20's were very good but not completely neutral-sounding main speakers. They had a slight forwardness — even aggressiveness — that was evident on classical strings and even more so on typical pop vocals. The source of this characteristic was not difficult to find in our one-third-octave response plots made from seated-ear height, which is quite a bit above a frontal on-axis position. They showed an approximately 2-dB elevation from 3 to 16 kHz following an approximately 2-dB dip (with some ripples) from 1 to 3 kHz. So while the VR20's overall response could be characterized as a rather flat ±2 dB from below 100 Hz to above 16

kHz, what amounts to a substantial midrange dip lent a far more distinctive quality to the speaker's sound than, say, a simple 4-dB downward tilt from 1 to 20 kHz.

I suggest three ways to reduce the VR20's borderline harshness. An octave-band equalizer would do the trick provided it has suitably placed bands. A slight downward twist of a treble control might also suffice, provided the control has the necessary "shelving" response. Perhaps the simplest approach, however, is to aim the speakers so that you are listening from about 30 degrees off-axis. That's very easy to achieve since it will occur automatically if you use the conventional equilateral-triangle setup (speakers at two of the three apexes, listener at

Curving in front of the dome tweeters of the main and center speakers is the unique Amplitude Modification Device, an acoustical filter tuned to attenuate certain frequencies.

the third) and point the speakers directly forward instead of toeing them in toward the listening position. The speaker's naturally diminished highfrequency output off-axis will partially tame the response plateau between 3 and 16 kHz, especially if your listening room isn't filled with highly reflective surfaces. When so situated in our well-damped listening room, the VR20's sounded much less colored on music and soundtracks and still produced superb imaging in stereo, though the speakers' shortness tended to place the sonic stage somewhat below ear level.

In principle, it is difficult to match the sounds of two-way and three-way speaker systems even if their driver complements are not completely different. This proved to be the case with the three-way VR12 and the two-way VR20's, which have in common only the VR tweeter. The two models had distinctly different measured frequency responses: The VR12 had a response dip that started higher, around 2 kHz, and ended higher, at around 6 kHz. That gave a welcome clarity to soundtrack dialogue but also a slight, not-easily-tamable edginess to surround-encoded music CD's.

The difference in the measurements came as no surprise, since panning pink noise across the front speakers evoked a distinct change in timbre as the sound passed through the center position, especially when I listened to the VR20's from 30 degrees off-axis, as outlined above. But my pannednoise test is probably unrealistically severe. When I played typical soundtracks, the difference in tonal balance was not very obvious, mainly because film soundtracks hardly ever contain sounds that move so slowly and that could also reasonably be expected not to change at all in the process. As claimed, the VR12 exhibited very good horizontal dispersion, both by ear and by measurement, as you'd expect from a loudspeaker with all drivers in vertical array.

The VR500 subwoofer turned out to be my favorite component in the system. Its relatively small size should facilitate out-of-sight placement. The only problem 1 encountered during setup was that its rubber feet hindered sliding it around on a carpeted floor to find the best location, but you can get around that (as I did) by sliding it on its side instead.

Close-miked spectrum analysis of the VR500's output when playing pink noise showed that its crossover-frequency control operated as specified. Using sine-wave sweeps, I determined that it could deliver usable output down to around 25 Hz with very little audible distortion or vent noise when playing music at reasonable levels. Even when driven to unreasonable levels by movie sound effects, the VR500 never gave any sign of distress audible above the sound emitted from the main speakers. This is a very good powered subwoofer.

The rest of the Lynnfield VR system 1 evaluated almost reached the subwoofer's performance level, particularly the VR20's when they were oriented for flattest response at the listening position. I urge you to explore these speakers as well as the two larger floor-standing VR models. There's probably a combination you'll like somewhere in this series.

Boston Acoustics, Dept. SR, 70 Broadway, Lynnfield, MA 01940

COMPARISON TESTS CHARLEGER CHALLENGER CHALLENGER

or a moment, flash back to 1975. Philips, Sony, and other - manufacturers were actively experimenting with digital audio discs. It seemed natural that the new technology would mimic the reigning audio plavback champion, the LP record, in one vital respect: The prototype digital audio discs were also 12 inches in diameter. More than 48 hours of digitally coded music could be placed onto one disc. Many engineers felt that such a large capacity would be a great asset. but Philips director Lou Ottens, who had helped develop the compact cassette in the 1960's, saw that 48 hours was useless from a marketing standpoint and that a smaller disc would be much more convenient. So the compact disc was eventually standardized at 12 centimeters, or about 43/4 inches.

Today, twenty years later, we find that while everyone agrees that the CD's playing time of 74 minutes or so is sufficient for all but a few applications, many people want longer total playing times — not a single disc of 7 hours or so, but the ability to sequence five or six different discs, for example, or to pick and choose from various tracks. In other words, many people prefer CD changers. Fortunately, CD changers can be made without the performance compromises that afflicted record changers and thus can offer all the fidelity of a single-play model.

In our world of supply and demand, what the market wants, the market gets. Manufacturers have developed a variety of different changer types to suit every taste. Some changers load their discs via cartridges, or "magazines," some changers whirl them around on carousels, and other changers, well . . . swallow them. Very generally, carousel changers are probably



WE TEST SEVEN HIGH-PERFORMANCE CD CHANGERS

BY KEN C. POHLMANN



the most convenient to use: You simply open the drawer and drop the discs onto the platter, taking reasonable care to center them in their wells, or cutouts. Getting to a particular disc well requires nothing more complicated than pushing buttons to spin the platter to the desired location. Cartridge changers, on the other hand, require you to load discs into a magazine an operation that is tedious at best. Still, many cars use cartridge CD players (carousels are too big, and they keep the discs not actually playing in place by force of gravity), so it may be convenient to use a cartridge changer in both home and car. (Because different manufacturers may use different cartridge designs, be careful to buy compatible models.) And another kind of CD changer has recently appeared in which discs are loaded individually by means of a conventional-looking tray, and the changer worries about the fine points of storing them internally.

Which type is best? It's probably impossible to come up with a universally applicable answer to that question - too much personal preference is involved. But to help you in answering it for yourself, we evaluated a cross section of current changer designs - seven models based on various types of mechanisms, ranging in price from a little over \$300 to a little under \$600. Four are carousel changers: the Harman Kardon FL8450, Marantz CC-65SE, Sony CDP-CA8ES, and Technics SL-PD1010. Representing the cartridge category are the JVC XL-M417TN and Pioneer PD-M59, and there is one self-loading changer, the Nakamichi MB-2s.

All of the changers offer such features as direct track and disc access, wireless remote control, and the ability to program a playback sequence of tracks from multiple discs. In addition, all except the JVC provide digital output jacks, an important feature if you want to connect the changer to an external D/A converter or if you want to make direct digital copies from CD to a digital recorder. (Digital connections can be either optical or coaxial, so make sure that the output on any player you choose matches the input you want to attach it to.)

Several of the changers have unique features, however, which could spell the difference in an otherwise tough decision. And there are some instances of poor ergonomics (that means you pay for features but wind up not using them because it's too hard to make

CHANGER Challenge

them work). We don't know exactly which features and foul-ups will be most important to you, but we *can* say — after poking and prodding, testing and listening — that there are clear differences among these seven changers.

Harman Kardon FL8450 (\$379)

he Harman Kardon FL8450's simple styling could be interpreted as nice and streamlined or plain and boring, depending on your point of view. As with other carousels, its wide loading drawer could lead you to mistake it for a laserdisc player at first glance. The FL8450 loads five discs on its platter, which when opened extends a full 10 inches so that four disc wells are fully exposed; the fifth can be dialed up by pressing the Disc Skip button. All edges in the vicinity of the platter are nicely rounded to avoid any possibility of scratching a disc. When the drawer is closed the changer searches the wells to ascertain which are loaded. You can choose a specific disc for playback by pressing its corresponding Disc Select button. Once a disc is playing, you can still open the drawer to load or unload other discs without interrupting the music — a great feature that has lately become almost standard on carousels. We were a little surprised in this case, however, to find that pressing stop and opening the drawer did not automatically rotate the halted disc out of the playing position; you have to hit the Disc Skip button to get at it.

Other features include the usual transport controls, track and disc repeat, random play of tracks on one disc or across all discs, track and disc



JVC XL-M417TN

intro playback, and a headphone jack with a volume control. The changer lets you program playback sequences for as many as thirty-two tracks. You can select each desired disc and track. building the sequence one track at a time, then you can review the sequence. Or, conveniently, you can use a Delete button to omit specific tracks or discs. Home recordists will appreciate the ability to automatically or manually sequence as many as thirty or thirty-two tracks, respectively, from the current disc for recording to a tape of specified duration. In the automatic edit mode, you select a duration with the Tape Size button, and the changer determines which tracks can be fit onto each tape side. In the manual edit mode, you choose the tracks yourself. and the changer will warn you if a track won't fit in the time remaining. Either way, the FL8450 automatically inserts a 4-second pause between tracks so that the search mechanisms on cassette decks can more reliably find selections.

A blue fluorescent display provides disc, track, and time information as well as other status indicators. The wireless remote duplicates all of the primary front-panel controls and adds a ten-button keypad, A-B repeat, and an on/off/dim switch for the front-pan-



HARMAN KARDON FL8450

el display. Around back, the FL8450 sports fixed-level analog outputs, an optical digital output, and remote in/outs for wired control interaction with other Harman Kardon equipment.

The FL8450 performed consistently well on the test bench, with none of the measurements outstandingly good or bad. As with most CD players, frequency response was flat to within a small fraction of a decibel and distortion was below a hundredth of a percent at full output. The linearity error of the digital-to-analog (D/A) converter measured +1.7 dB at -90 dB, which is acceptable but not great performance. As with most midprice CD players, the FL8450's overall electrical performance should be more than sufficient for downstream reproducing equipment, as our critical listening tests confirmed. The only weakness we found was that the player skipped when it was mildly jolted on either the top or sides.

JVC XL-M417TN (\$330)

ery much the maverick of the group, the JVC XL-M417TN differs from the other changers in color, styling, and features. For some, its silver-gray finish will be a welcome relief from the somber black typical of modern audio components. The thin white letters used to label the frontpanel controls are not particularly legible against the silver faceplate, however. The front panel is dominated by a large jog wheel surrounded by curved buttons, giving this changer a very distinctive look.

The XL-M417TN also distinguishes itself by providing a choice of loading methods, accepting not only a six-disc cartridge (compatible with JVC's car changers) but also a single disc in a conventional loading drawer. That means you don't have to keep all your CD's in cartridges or load any disc you happen to want to hear into a cartridge before you can play it — a major convenience. I found this feature particularly appealing because the cartridge itself employs my least-favorite design, with individual plastic leaves that must be completely withdrawn from the housing to load discs. Moreover, the cartridge is not labeled as to which leaf corresponds to which disc number (the bottom tray holds Disc 1).

The XL-M417 provides all the standard transport-control features as well as track and disc repeat, track and disc random playback, intro-scan, and thirty-two-track programming; many of these features are available only via the wireless remote, however, and there is no headphone jack. The jog wheel plays a number of useful roles. It can be used to skip quickly from one track to another (in either direction from the current track) - an absolutely great feature. And in conjunction with the title-input button, it can be used to enter alphanumeric titles when the changer is in its magazine-memory mode.

With magazine memory, you can identify individual cartridges as A through H and the discs within each of those cartridges as 1 through 6. The real utility of the feature, however, lies in the ability to give each disc an eight-character title, using the jog wheel to scroll through the alphabet. Whenever you play a titled disc, the name will appear in the changer's amber front-panel display. And you can search for a disc, to locate which cartridge and tray it is in, by entering its title with the jog wheel or simply by scrolling through the memorized disc titles with the jog wheel. As you go, all the information will appear in the display, which was quite legible even though it's not my favorite color.

On the back panel are standard linelevel analog outputs and in/out jacks for JVC's CompuLink system. CompuLink enables compatible JVC components to communicate with each other, providing such capabilities as automatic input switching and synchronized recording from CD player to tape deck. Alone in this group, the XL-M417TN did not have a digital audio output jack, which I consider an unfortunate design decision. The wireless remote duplicates front-panel features and adds several buttons needed for track-sequence programming.

On the test bench, the XL-M417TN registered a D/A linearity error of just

-0.07 dB at -90 dB, the best in the group. Other electrical measurements were also quite good, and critical listening did not turn up anything inconsistent with those results. In addition, the changer successfully tracked a 4,000-micrometer disc defect, tying for best performance in this category, and exhibited very good impact resistance.

Marantz CC-65SE (\$500)

changer, presenting a glossy black front panel adorned with several spiffy gold-plated buttons. Its large drawer opens to reveal three disc wells, and all discs, random track and disc playback, repeat track and disc, and a headphone jack and level control. You can program sequences of as many as thirty tracks from any or all of the loaded discs. Several features are devoted to recording. You can fade the analog output in and out, and there is a peak-search function that fast-scans through a CD, then displays the track and time of the loudest passage on the disc and plays it repeatedly while you set the levels on your recorder — cool! A function Marantz calls Edit-Normal helps you select tracks to fit onto a tape side, or you can use the mode Marantz calls Edit-Optimal, in which the changer optimizes the track sequence to fill as much of a tape side as



MARANTZ CC-65SE

pressing the load button (handily located on the drawer) rotates the carousel to expose the other two. Conveniently, the right-most well is always designated the "preferred position," so that when you load a disc there and press the drawer-mounted quick-play button that disc starts playing immediately. Unloading requires more effort, however, since the load button must be used to rotate the platter to retrieve the disc. The feature could be improved if the preferred-position disc were made to rotate out to the loading position when the drawer opened, which would make single-disc playback just as easy as with a single-disc player. You can load and unload discs from the carousel without interrupting one already playing. Better still, if you hit the load button while the drawer is open, the current disc is unloaded while the drawer remains open — you don't have to close the drawer, stop playback, and open it again. Overall, the CC-65SE's ergonomics are very good.

The CC-65SE provides the usual features plus such extras as track and disc repeat, track intro-scan for one or

possible without overrun. You can select from a number of common cassette durations.

The changer's blue fluorescent display provides full alphanumeric information and status indicators, and a disc map shows how the changer is loaded. The supplied remote is unique in that it is two-sided: One side contains the bare-bones CD controls and a volume control, and the other adds buttons for features of other Marantz audio/video components. Its housing enables you to pick one side while concealing the other side. Very nifty.

The back of the CC-65SE has fixedlevel analog outputs, a coaxial digital output, and remote-control in/out jacks. The player incorporates a newly developed Philips Bitstream D/A converter that uses single-bit pulse-density-modulation (PDM) conversion in combination with multibit conversion for the critical most significant bit (MSB). Downstream analog components include audiophile-grade opamps and capacitors. Most of the digital audio circuitry inside the CC-65SE is built around the same integrated-cir-

CHANGER CHALLENGE

cuit chips used in single-play Marantz CD players.

We encountered no problems with the CC-65SE on the test bench. Its D/A converter exhibited no linearity error down to -70 dB and only a tiny deviation at -90 dB. Other electrical measurements were also quite competitive. The disc change time of 7 seconds tied for first place, perhaps because the platter is designed to rotate bidirectionally for faster access.

Nakamichi MB-2s (\$599)

he Nakamichi MB-2s uses neither a carousel nor a cartridge. Instead, it employs the company's proprietary Music Bank mechanism to swallow as many as seven discs. Inside, discs are loaded into a kind of elevator that raises and lowers them in relation programmed sequence with a singlebutton operation (and will then occupy only *one* space in the fifty-track memory). Programming and other specialized functions are available only through the supplied remote control; the changer's front panel contains only transport and disc-selection controls, along with a headphone jack and level control. A somewhat dim amber display provides alphanumeric information and status indicators.

Around back, the MB-2s provides line-level analog outputs and a coaxial digital output that can be switched on or off. There is also a socket for connecting the changer to other Nakamichi components for synchronized recording and other control functions.

The MB-2s was not as strong on the test bench as the other changers in this group. Its dynamic range ranked last by a small margin, and its total harmonic distortion plus noise (THD+N) measured 0.11 percent at full output — the highest in the group and high by CD standards generally, though still



NAKAMICHI MB-2s

to the disc transport. Each time you load a disc you press one of seven disc buttons to tell the player which slot to put it into. Those same buttons are used to select CD's for playback (the changer's front-panel display shows which elevator slots contain discs) and to unload discs. Although discs must be loaded individually, the mechanism is quite speedy, and any delay is mitigated by the charm of watching the changer do its thing. The Music Bank is a great system, combining many of the appealing characteristics of both changer and single-play designs.

The MB-2s provides all the standard transport controls, as well as track and disc repeat and track and disc random playback. Sequences of as many as fifty tracks can be programmed for playback. Conveniently, all of the tracks on a disc can be included in a below what we would normally expect to be audible. The changer's 18-bit D/A converters also exhibited relatively high linearity error (again, the largest in the group). Extensive critical listening left the audibility of these deviations in question, however. Prior to any measurements, in an informal blind listening session, one listener felt the Nakamichi lacked fidelity compared with another changer, while another heard no difference. Clearly any sonic problems were, at most, quite small, and as in all such cases their detection would be influenced by the quality of the rest of the playback system, recording selection, and listener acuity. The MB-2s provided excellent top-impact resistance and good sideimpact resistance, suggesting that the Music Bank design does not detract from transport stability and isolation.

Pioneer PD-M59 (\$330)

y any standard, this is one handsome CD changer. Like other Elite series Pioneer components, the PD-M59 boasts a high-gloss black finish that invariably reminds me of a new Steinway piano. A few touches of gold complete the striking decor. Like other Pioneer CD-only changers, the PD-M59 uses a six-disc cartridge with plastic trays that are hinged on one side so that they swing out for loading and unloading — far preferable to the loose trays used in some changers, since you can't drop them or load them in crooked. The loading order also seems intuitively correct, with Disc 1 going in the top tray. On the other hand, discs must be loaded with the label side down, which is a drag. Overall, the cartridge design is good but not great. If you have a Pioneer CD changer in your car, cartridges for the PD-M59 are compatible.

The PD-M59 is very user-friendly. For example, it automatically turns on when a cartridge is loaded, and a demo mode (engaged by pressing the poweron and reverse track-skip buttons simultaneously) runs the display through a cute light show. The changer provides all the usual controls as well as track and disc repeat, track and disc random playback, and track intro-scan. There is also a headphone jack and a level control. An ADLC (automatic digital level control) button engages an output-normalization circuit that makes playback levels consistent --useful, for example, when you are randomly playing tracks from a variety of discs recorded at somewhat different average levels.

You can program sequences of up to thirty-two tracks, and you can insert a pause in the sequence, which is useful for stopping playback to allow a side change when making a tape. There is also a delete option that enables you to prevent specific tracks or discs from being played. An editing program enables you to enter a tape duration to which the changer automatically fits a series of tracks, complete with a sidebreak pause (and fade-out if you like). The changer gives you a selection of preset tape lengths, or you can enter a specific length manually. You can also set playback to begin with a fade-in from any point of your choosing. Finally, a Music Type button enables you to store category labels (Pop, Rock, Jazz, Dance, Class, or Other) for as many as ten cartridges. I assume that my vast collection of accordion



music would fall into the "Other" category. An amber display provides full alphanumeric readouts and other status indictors.

Around back, the PD-M59 has linelevel analog outputs, an optical digital output, and special input and output jacks that can be used to connect the changer to other Pioneer components for synchronous recording and interactive control. An infrared remote control duplicates the front-panel buttons and adds a few special-purpose programming buttons, such as Check and Clear.

The PD-M59 served up a surprise on the test bench. Whereas most contemporary digital audio components have frequency responses flatter than a motel carpet, the PD-M59's was down 3.2 dB at 20 kHz! We have seen similar treble rolloffs, though not quite so severe, in other Pioneer players incorporating the company's Legato Link D/A converters. It is almost certainly intentional on Pioneer's part, as it is probably easier today to provide flat response than nonflat. Perhaps the design engineers feel that the high-frequency rolloff will yield subjectively "smoother" sound. To my ears, it simply sounded dull (I first noticed it in listening tests, before I had performed any measurements). I do not care for digital playback devices that, intentionally or not, monkey around with the frequency response of the reproduced signal, particularly when there is no means for the user to choose. On the brighter side (pardon the pun), the PD-M59 turned in the best dynamicrange measurement of the group.

Sony CDP-CA8ES (\$500)

five-disc carousel, the Sony CDP-CA8ES had perhaps the most conservative styling in the group, with a black, brushed-aluminum front panel, small buttons, and a bright blue fluorescent display. Overall, its appearance suggests solidity and reliabil-

ity. When the carousel drawer is opened, it extends a scant 6 inches, allowing full access to one disc well (with a little difficulty, two other discs can be sneaked into adjacent wells). A disc-skip button rotates the platter clockwise one well at a time so that additional discs can be loaded. It is possible that this drawer design is sturdier than others, but a price is certainly paid for it in terms of convenience. If only one disc is loaded, opening the drawer automatically spins the platter so that the disc is in position to be unloaded. If several discs are loaded. playback begins automatically with the disc that is in the front position. Pressing the Exchange button enables you to load or unload other discs while the current one continues to play; otherwise, playback halts whenever the drawer is opened.

In addition to standard transport controls, the CDP-CA8ES provides track and disc repeat, track and disc random playback, a headphone jack and level control, and sequence programming for as many as thirty-two tracks. You can insert a pause in a programmed sequence (counting as one of the thirty-two programmed items) to give you time to turn over a tape when recording. The player does not provide any automatic fit-to-tapelength program. Tracks can be faded in or out when using the analog outputs, with the fade duration adjustable from 2 to 10 seconds (default is 5 seconds).

Sony's Custom File system lets you store four different kinds of disc information that will be recalled automatically whenever the disc is played again (the information is lost if the player isn't used for a month, however). Music Clip groups tracks into as many as four groups of sequences that can be individually selected when a disc is played. Disc Memo stores labels up to ten characters long. The Delete Bank keeps tabs on which tracks you don't want to hear, so that the changer will automatically skip them on playback. And the Level File stores a specific playback level (at the changer's variable-level line outputs) for each Custom Filed CD and automatically sets it when playing the disc back. Custom File can hold information for as many as 172 discs.

Around back, the CDP-CA8ES provides both fixed and variable line-level analog outputs, an optical digital output, and a control-bus socket for interaction with other Sony components. The supplied remote has forty-five buttons that duplicate the front-panel controls and add an expanded keypad. In addition, the remote has features such as intro-scan and buttons to eheck and clear track-sequence programming.

The CDP-CA8ES was quite impressive on the test bench, achieving the flattest frequency response, the best channel separation at 1 kHz, the lowest distortion at 0 dB, and the best impact resistance (tying in this category with the Technics SL-PD1010). The laser pickup was so well isolated that only very heavy-handed whacks against the chassis succeeded in making it skip. Other measurements were also very good, and listening tests turned up nothing to contradict their suggestion of topnotch sound quality.



SONY CDP-CA8ES

CHANGER Challenge

Technics SL-PD1010 (\$300)

-he Technics SL-PD1010 is a fivedisc carousel changer of fairly nondescript appearance (though I guess undistinguished styling beats bad styling). When the carousel drawer is opened, two disc wells are revealed. A disc-skip button rotates the platter counterclockwise two notches at a time to expose more wells; as the platter rotates, disc-access buttons light up amber to show which wells are being loaded. When a disc begins playback, its indicator light turns green — a nice touch. Playback of the current disc is not halted when the drawer is opened, and discs can be added to or removed from the other wells at will. When playback is stopped, the current disc stays in playing position, requiring a couple of presses of the disc-skip button to gain access to it.

Disc-change time was very fast thanks to the SL-PD1010's Memory Reserve feature. A 4-megabit buffermemory chip holds about 3 seconds of music, so that when the laser reaches the end of a disc music continues to play from the buffer while the next disc is rotated into position. That reduces the perceived disc-change time to about 4 seconds. The Memory Reserve feature is active only for automatic end-of-disc changes, however, not for manually invoked changes between discs. Also, the changer's digital output cannot be used when Memory Reserve is activated, and for that reason there is a Memory Reserve on/off switch on the front panel.

A feature Technics calls ID Scan provides a unique way to preview selections on a disc: On the assumption that the loudest part of a track is likely to be the most memorable, the pickup automatically skips to the loudest portion of each track, playing a few seconds of it before going on to the next. In a particularly nice touch, ID Scan uses the Memory Reserve buffer to fade gently out of one track and into the next.

Other features include Delete Play, a programming option that enables you to specify tracks not to be played: Spiral Play, which automatically plays the first track from each disc, followed by the second track from each, and so on; and Auto Cue, which puts the pickup in standby at the beginning of a track for instant startup. And there are all the usuals, such as track and disc random playback, track and disc repeat playback, and programmed-sequence playback of as many as thirty-two tracks. A blue fluorescent display shows all pertinent information as well as a representation of the platter itself indicating which wells are currently occupied. There is no headphone jack.

Recording is expedited by Edit Guide, which automatically arranges tracks for optimal fit to a specified tape duration. You can select from a number of tape-length presets or enter a particular length directly. In the Edit mode, the changer automatically inserts a 4-second pause between tracks.

The rear of the chassis provides line-level analog outputs and an optical digital output. The remote control, which has a space-age appearance, duplicates the front-panel controls and adds several programming features such as Clear and Recall, as well as providing means for checking disctiming information.

The SL-PD1010 cleared the test



TECHNICS SL-PD1010

bench without a stumble. Its disctracking performance was especially impressive, with its laser pickup successfully negotiating a 4.000-micrometer defect. Shock isolation was particularly outstanding — only very severe blows could upset tracking. Discchange time was very fast even without Memory Reserve and faster still with it. Critical listening again supported the measurements, revealing no problems with the SL-PD1010's sonic performance.

> ach of these seven changers makes a strong bid for the consumer's hard-earned dollars. Critical listening comparisons did not reveal any dramatic sonic differences among them

(most sounded virtually identical, in fact), and it is even possible to argue that the Pioneer changer's slightly rolled-off high end may be pleasing to some listeners. In any event, it would be difficult or impossible to choose among these changers solely on the basis of sound quality. Many people will decide primarily on the basis of changer design. If you have a cartridge changer in your car, or plan to add one, there is a good argument for maintaining compatibility by selecting a home model that uses the same type of disc magazine. Otherwise, a carousel or Music Bank model will probably be more convenient for most users.

The Sony CDP-CA8ES offers carousel convenience and test-bench measurements that rival those of top single-disc players. It also provides some nifty features, such as Custom File, that can make life interesting (or at least more complicated) for owners. An excellent entry from the company that invented carousel changers.

The Marantz CC-65SE is a sharplooking changer that is further distinguished by its exceptionally userfriendly design, as in its preferred-position feature, for example. The peaksearch function and comprehensive editing features will win the appreciation of home recordists. The CC-65SE contains much the same complement of electronics as Marantz's single-disc players, and its fine bench measurements reflect that. It is a great changer.

The Technics SL-PD1010 may look blah, but its features are anything but. Its Memory Reserve buffer shaves 3 seconds off of disc-change times, and there are appealing new twists on even fairly ordinary features, such as the fades between tracks during its version

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LABORATORY MEASUREMENTS									
	HARMAN KARDON FL8450 (\$379)	JVC XL-M417TN (\$330)	MARANTZ CC-655E (\$500)	NAKAMICHI MB-2s (\$599)	PIONEER PD-M59 (\$330)	SONY CDP-CA8ES (\$500)	TECHNICS SL-PD1010 (\$300)		
DIMENSIONS (inches, W x H x D)	17¼ x 4¾ x 15¼	17 ¹ /8 x 4 ⁷ /8 x 12 ¹ /4	17¼ x 45% x 15¼	17 x 4½ x 10%	16½ x 4¼ x 11¼	17 x 4% x 15	16% x 4% x 14%		
LINE OUTPUT (maximum)	1.93 volts	2.16 volts	2.03 volts	1.79 volts	2.1 volts	1.96 volts	2.32 volts		
FREQUENCY RESPONSE (20 Hz to 20 kHz)	+0, -0.22 dB	+0, -0.31 dB	+0, -0.26 dB	+0.020.3 dB	+0, -3.2 dB	+0, -0.15 dB	+0, -0.27 dB		
DE-EMPHASIS ERROR (at 16 kHz)	– 0.32 dB	-0.03 dB	-0.24 dB	-0.08 dB	–0.28 d B	-0.03 dB	-0.23 dB		
CHANNEL SEPARATION at 100 Hz at 1 kHz at 20 kHz	89.6 dB 91.1 dB 90.5 dB	104.1 dB 102.6 dB 87.5 dB	106.7 dB 106.5 dB 106.4 dB	55.9 dB 55.8 dB 44.5 dB	52.7 dB 52.5 dB 42.4 dB	113.7 dB 113.9 dB 89.7 dB	95.4 dB 100.8 dB 74.9 dB		
SIGNAL-TO-NOISE RATIO (A-weighted)	101.3 dB	112.7 dB	127.2 dB	93.6 dB	93.3 dB	124.9 dB	102.8 dB		
DYNAMIC RANGE (A-weighted)	96.6 dB	100.1 dB	96.3 dB	95.3 dB	102.8 d B	99.6 dB	97.5 dB		
DISTORTION (THD + N at kHz) at 0 dB at -20 dB	0.006% 0.055%	0.033% 0.040%	0.086% 0.32%	0.11% 0.36%	0.039% 0.39%	0.0037% 0.034%	0.032% 0.29%		
LINEARITY ERROR at -70 dB at -80 dB at -90 dB	+0.15 dB +0.46 dB +1.71 dB	-0.02 dB -0.03 dB -0.07 dB	0 dB -0.05 dB -0.20 dB	+0.8 dB +1.9 dB +3.8 dB	-0.06 dB -0.22 dB -0.38 dB	+0.03 dB +0.10 dB +0.36 dB	+0.16 dB +0.47 dB +1.10 dB		
INTERCHANNEL PHASE SHIFT (maximum)	0.5° at 20 kHz	0.2° at 20 kHz	0.2° at 20 kHz	0.4° at 20 kHz	0.3° at 20 kHz	0.7° at 20 kHz	3° at 20 kHz		
DEFECT TRACKING (Pierre Verany #2 test	2,400 μm disc)	>4,000 µm	1,250 µm	1.500 µm	1,500 µm	2,000 µm	>4,000 µm		
SLEWING TIME (CBS CD-1, Track 1-2	8 seconds	5 seconds	7 seconds	6 seconds	7 seconds	5 seconds	8 seconds		
DISC-CHANGE TIME	8 seconds	12 seconds	7 seconds	9 seconds	8 seconds	8 seconds	7 seconds*		
IMPACT RESISTANCE top/sides	D/D	A/A	B/A+	A+/B	A/C	A+/A+	A +/A+		
* 4 seconds with Memory	y Reserve				6 F 27 F 3		11111		

of intro-scan. The SL-PD1010 also delivers some handy features for home recordists, strong overall performance, and a rock-solid transport.

The JVC XL-M417 provides a very different look and feel, most obviously in its silver front panel. Most important, however, is the dual cartridge/ drawer mechanism, which provides complete flexibility. If you can't decide between a changer and a singledisc player, this model resolves your dilemma. Among its other features, disc labeling stands out as a real convenience, and although the XL-M417TN lacks a digital output, its performance was solid.

The Harman Kardon FL8450 is a good, no-nonsense changer. Its carousel opens fully to allow easy disc load-ing, and its manual and automatic edit-

ing capabilities will help users make home recordings with a minimum of hassle. The changer's performance was solid both on the bench and in the listening room, but it was more sensitive than average to impact. The Pioneer PD-M59 looks like a

The Pioneer PD-M59 looks like a new Steinway (but costs somewhat less, fortunately!). Its cartridge is relatively easy to use, and its many features will delight recordists and other users. Assuming that the mild highfrequency rolloff is an intended design feature, some listeners may appreciate the slight softening it provides, but I thought it dulled the luster of an otherwise fine-sounding changer.

The Nakamichi MB-2s is unique in the group, its Music Bank design neatly combining the benefits of changers and single-disc players in a single smoothly functioning mechanism. If the charm of carousels eludes you but you don't want to fuss with cartridges, this is the mechanism for you. Our only reservation was with the MB-2s's relatively undistinguished showing on the lab bench.

Twenty years after its invention, the compact disc has thoroughly enriched our lives. The basic design decisions, such as disc size and playing time, have proved to have been right on the money. Today, thanks to well-developed changer technology, the CD format offers both long uninterrupted playing time and quick random access to diverse tracks. The examples reviewed here demonstrate that, whatever mechanism is employed, today's CD changers can successfully multiply all of the pleasures of CD playback.



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FOLLOWING LOGICAL PATHS ENABLES YOU TO SAVE MONEY WHILE IMPROVING SYSTEM PERFORMANCE



The multitude of choices involved in upgrading a system can sometimes be so overwhelming as to stun an A/V enthusiast into inaction. In an effort to break the decision logjam, I've reduced the major upgrade paths to the series of game-like flowcharts on the next two pages. Simply choose the element of system performance you wish to upgrade and follow the colored arrows.

Many boxes have two outputs, one that goes forward to the next upgrade step and another that goes backward, possibly looping back to the same box. A backward arrow usually indicates a procedure that should be repeated until you're satisfied that you've done all you can to improve things. As you'll see, this applies in particular to component adjustments, many of which are absolutely crucial for best results and must be repeated several times to optimize performance.

Several upgrade pathways start with no-cost or low-cost steps, most of which are of the component-adjustment variety. Major night-and-day improvements can be obtained in many product categories without spending very much, if anything. (In some categories, on the other hand, typical components already operate at such an exalted level that large improvements are difficult to come by.) Speakers, especially, will repay all the time you invest in adjusting their placement and in fine-tuning the prime listening position. These steps cannot be overemphasized. I've come across systems whose owners were all set to buy new speakers before realizing that the placement of their present speakers could be enormously improved (usually by rigorously reducing any left-right asymmetries) or before realizing that just rearranging the furniture to provide a better listening position could improve the sound more radically than a set of new speakers. That is not to say that nobody ever needs new speakers, just that you should exhaust your placement options before deciding it is your speakers that are limiting your system's performance. Besides, you'll be ahead of the game when you do install your new speakers in your pre-optimized setup.

Similar principles apply to video, with the no-cost optimizations relating to the brightness of the viewing room (which should be as dark as you can make it) and the setting of the monitor's controls (the contrast control, in particular, must usually be turned far down from its typical factory setting). Likewise, in FM listening the importance of a proper antenna, correctly aimed, cannot be overemphasized.

Deciding which component actually needs upgrading can be difficult, especially for a beginner. If you are starting from a fairly elementary level such as a compact or single-brand "rack" system — everything should probably be upgraded simultaneously. That is, buy a real high-fidelity audio system based on a budget that puts the most important components first (speakers, receiver, CD player, in that order). Once you get beyond the novice stage, determining which components should be blamed for inadequate system performance is a more difficult question, one more easily answered by component-specific articles than in systematized flowcharts.





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HOME HEATER BASICS

ome theater, the fastest-growing concept in home entertainment, is the newest phase of a process that began when your grandparents were young. In every generation major trends in sound reproduction have been sparked by innovations that were developed first for the movies.

For example, in the early 1930's sound engineers in Hollywood created the first "two-way" loudspeakers that used separate woofers and tweeters to reproduce the full frequency range of sound. Hollywood's aim was to reproduce Busby Berkeley musicals and the tap-dancing of Fred Astaire and Ginger Rogers. But other inventors, notably Avery Fisher, used these wide-range speakers to launch the new "high fidelity" movement in home music playback.

In the 1950's Hollywood added wide-stage stereo sound to accompany the wide-screen images of Cinemascope movies. Within a few years "hi-fi" components turned into "stereo systems" with spacious left-right separation and more satisfying overall realism. (And in 1960 a magazine launched two years earlier as *HiFi and Music Review* changed its name to *HiFi/Stereo Review*.)

During the 1970's. Dolby Labs turned a failed experiment (quadraphonic records) into Dolby Stereo for movies. bringing the involving realism of surround sound into virtually every movie from *Star Wars* on. And in the 1980's, the marriage of Dolby Surround home playback with television, via videocassettes and laserdiscs as well as stereo TV, spawned the entire home theater phenomenon.

During the early 1990's, 5.1-channel digital formats such as DTS and Dolby AC-3 brought a new level of clari-

BY PETER W. MITCHELL







HOME THEATER BASICS

ty, spacious ambience, powerful dynamics, and room-shaking bass to the finest movie theaters. Now these advances are making their way into the home theater as well.

SOURCES

Home theater became a popular success for one simple reason: Dolby Stereo (for movies) and Dolby Surround (for home video) share a "matrix" en-

coding system that mixes four channels of sound (left, right, center, and surround) into two, so the signal can be recorded or broadcast as ordinary two-channel stereo. Whether you buy a movie on laserdisc, rent it on a hi-fi videocassette, or receive it as

a stereo TV broadcast, the center and surround channels are included in the audio, needing only a Dolby Surround decoder to extract them.

One of the principal attractions of home theater is that it provides greater entertainment value than a two-channel stereo system without requiring consumers to replace their existing libraries with new recordings. Once the extra channels have been encoded in the original film soundtrack for theaters, their inclusion in all home video media is automatic, requiring no extra effort or cost by anyone.

Laserdiscs, videotapes, and TV broadcasts often contain Dolby Surround encoding but are not labeled to reflect it. Many programs produced specifically for TV, such as the various *Star Trek* series and NFL football, are encoded in Dolby Surround (and some of these, too, are not so labeled).

Laserdiscs often provide the best home-theater demonstrations thanks to their combination of excellent picture, CD-quality digital sound, wear-free play, and quick track access. Incidentally, laserdiscs carrying the THX moniker do *not* need to be played through a special Home THX playback system. The THX program for laserdiscs certifies only that the disc has been produced to the highest standards.

Hi-fi videocassettes can also provide excellent surround sound. But if you play a VHS Hi-Fi (stereo) tape in a non-hi-fi VCR, or in a hi-fi VCR with its audio mode switch set to mono or linear, all you'll get is mono sound. With videotape, cable, or local TV broadcasts as the program source, one limitation is fundamental: Dolby Surround is part of a stereo signal. Specifically, the surround signal is encoded as part of the difference between the left and right channels. Without stereo, there's no surround.

Local TV stations and cable systems vary in terms of audio quality. If you're lucky you may obtain wonderful results, at least on network channels that provide stereo sound. All too often, though, particularly with cable TV, you may hear a persistent or varying low-frequency hum in the sur-

round speakers. Or you may get no surround at all: Many TV stations leave the stereo pilot turned on (activating the stereo indicator in your TV or VCR) even when the broadcast signal is mono.

Hundreds of music CD's have been encoded in Dolby

Surround, too. And many others contain natural ambience that is not Dolby-encoded but can be extracted for surround playback by the "music" or "hall" mode of a surround processor. Movies usually motivate the purchase of a home theater system, but you may gain more long-term pleasure from the heightened realism that surround playback often adds to music.

The new 5.1-channel digital formats provide the most vivid, detailed, and spacious home theater sound. But to hear the greater clarity, bass, and dynamics of digital 5.1 surround, you'll

need to make a major investment in new equipment — a laserdisc player with an AC-3 output, an AC-3 decoder, and, of course, AC-3-encoded laserdiscs. First-generation AC-3 decoders are costly, but prices will come down over the next few years. Hap-

pily, AC-3 laserdiscs are backwardcompatible, meaning that the stereo digital soundtrack is also encoded in Dolby Surround. So you can begin collecting AC-3 discs now and enjoy them through your Dolby Pro Logic decoder until you're ready to upgrade to an AC-3 decoder.

DECODERS

Surround decoders for home theater come in three grades: Dolby Surround, Dolby Pro Logic, and Dolby AC-3. To identify what's in a particular product, look closely at the Dolby Surround logo on the front panel. The decoding circuits may be in an audio/video receiver, in an outboard surround processor, or in a TV set.

Basic Dolby Surround decoders were commonplace a few years ago

but are nearly obsolete now because of poor separation and the lack of a center channel. But even the simplest Dolby Surround decoder can do a satisfactory job of extracting the surround channel from the matrix-encoded stereo soundtrack and providing the required rear-signal delay. Thus it functions as a "2-to-3" decoder.

Dolby Pro Logic processors, which were expensive when they first hit the scene in the late 1980's, became popular when decoder circuitry was reduced to an economical integrated-circuit chip. The Pro Logic circuit detects when the strongest sound moves predominantly into one channel or another and actively cancels it from the others. This technique compensates for the relatively poor channel separation of matrix-encoded signals, insuring that sounds will appear where the director wanted them to be heard. Since Pro Logic extracts four perceived channels (left, center, right, and surround) from the two-channel matrix, it's called a "2-to-4" decoder. Actually, since most Pro Logic decoders also have a dedicated subwoofer output, they are effectively "2-to-4.1" decoders — the derived ".1" output being the narrow-band bass channel.

The digital AC-3 system reproduces 5.1 *discrete* channels (five full-range channels plus a low-bass channel)

with total separation. Since no matrixing is involved, recorded ambience is clearly resolved from other sounds. The separate low-bass track provides an extra 10 dB of headroom for house-shaking bass impact — if your system can handle it. Since the

population of AC-3 recordings is still small, AC-3 decoders also provide Pro Logic decoding.

AMPLIFIERS

Until recently, most power amplifiers were of the two-channel variety. Now there are many other amp configurations to meet different needs. For basic Dolby Surround you need three amplifier channels. (Note that the surround signal is mono, requiring only one amplifier channel, though for best results it should be reproduced through two surround speakers in order to diffuse the ambience effect about the room.)

Similarly, with Pro Logic decoding, three amplifier channels may suffice if you elect to use the optional "phantom center" mode (no center speaker). But most Pro Logic systems use at least



four amplifier channels (left, right, center, surround) to drive a total of five speakers (two surrounds). If you add a subwoofer the amplifier-channel count rises to five, though the fifth may be provided with the subwoofer itself as in the case of a powered sub with its own built-in amplifier. And if you upgrade to Home THX processing, which "de-correlates" the mono surround signal into two slightly different ones for greater spaciousness, the count rises to six. Ditto for AC-3: five discrete channels plus the sub.

If you want to keep things simple, and you don't intend to upgrade soon, the most cost-effective solution is an all-in-one A/V receiver that includes built-in Pro Logic decoding and four or five channels of amplifier power. If you want greater bass impact, connect a powered subwoofer to the receiver's subwoofer output jack.

A "separates" approach is the route to take if you prefer flexibility and an easy upgrade path to THX or AC-3. Perhaps the most flexible combination is a line-level surround processor and a bridgeable multichannel amplifier. Multichannel amps with four, five, or even six channels are common these days; the most flexible models let you combine each pair of channels into a single more powerful channel so that the amp can be configured to meet the needs of your particular system.

How much power do you need? Ideally, the center channel should get as much power as the left and right front channels. It need not have exactly the same rating, though; for soundtracks containing loud dialogue and explosions, the center speaker may even require more power than the "main" front speakers. Whether more or less, the disparity should not be greater than a factor of two, or 3 dB (power differences of less than that tend to be insignificant audibly). For example, if your left/right front amp channels are rated at 100 watts each, a 70-watt center channel would usually suffice.

If you like action movies and want to feel the explosions in your gut, your subwoofer may need more power than any other speaker. Surround speakers, on the other hand, usually need only one-fourth the power of the front speakers, and often less.

HOME THX

The Home THX program is not a line of products but a set of performance standards developed by Lucasfilm, Ltd., to insure that you'll hear the



If you have not lived with a home theater system, even a mediocre decoder and mismatched speakers may sound impressive on first

hearing. So how can you judge the performance of a surround system? A good source of guidance is provided by a new two-CD set from Delos named "Surround Spectacular" (DE3179).

Most home-theater demonstrations feature movie excerpts. Disc One of the Delos set takes a different approach, demonstrating how effectively Dolby Surround can take you out of your living room and create a "you are there" impression of some other environment. The disc features twenty-one excerpts of classical music (66 minutes) drawn from the Delos catalog. Played on a first-rate Dolby Pro Logic system, these tracks dramatically illustrate the different character of the ambience in a variety of environments recital rooms, concert halls, and churches.

Helpful notes by recording engineer John Eargle teach you what to listen for in each track. For example, in Handel's *Water Music* you can hear how differently the ambience of a concert hall responds to trumpets (which are aimed at the audience) and French horns (whose bells face backward, producing mainly reflected sound).

Disc Two begins with seven tracks of actual sounds that were recorded outdoors, featuring aircraft, trains, fire engines, rain, and surf. Ideally, these tracks, as well

same quality of sound in your home theater that the film-sound engineers heard when they mixed the soundtrack. Dozens of components now meet Home THX standards, and many others have been influenced by THX design concepts. For example, Home THX introduced the idea that, for the most spacious ambience, the surround speakers should be dipole systems that mount on the side walls but radiate toward the front and rear of the room. Many surround speakers, with and without THX certification, now follow this recipe (more or less).

A Home THX processor (or "controller") applies several corrections to the sound to deal with acoustic and psychoacoustic factors in home listening. For example, soundtracks that as the music tracks on Disc One, should be played only after you have finished using the test tracks on Disc Two to select and fine-tune a good surround system.

The forty-two test tracks were created on a computer by STEREO REVIEW'S technical editor, David Ranada. The twenty-page booklet provides detailed guidance on what to listen for. The tests will reveal any mismatches in the sound of your three front speakers and help you evaluate your subwoofer's performance, identify subwoofer phasing problems, check the phasing of your center speaker, and evaluate the behavior of the reverb circuits in the non-Dolby modes of some surround processors.

One track contains a series of twenty-two narrow (one-third-octave) bands of mono pink noise, varying from 100 Hz to 13 kHz. Each should form a narrow phantom image that is suspended in mid-air on the center line between your left and right front speakers. If the image pulls to one side at certain frequencies (or becomes nonlocalizable), that may indicate a mismatch in a specific driver, a crossover, a tweeter-level control, or the reflective acoustical environment around either speaker.

The Delos set is a valuable tool for professional installers and ordinary users of Dolby surround-sound systems. You might want to take it to the store when you go shopping for a center speaker, surround speakers, or a complete system. Many record stores carry "Surround Spectacular," but if you can't find it, you can order it by phone from Delos at 1-800-364-0645. — P.W.M.

were engineered for playback in a large theater often seem over-bright and harsh when heard in a small room, so the controller compensates by reducing the treble slightly. This problem is most gratingly obvious in center-channel dialogue, so the makers of some non-THX center speakers have designed in a similar treble cut to give a more natural tonal quality to dialogue.

Home THX processors apply "timbre matching" equalization to the surround outputs so that moving sounds won't change in tonal quality when they pass from front to rear or vice versa, and they also apply de-correlation to Pro Logic's mono surround signal so that the sound will be spacious even in narrow rooms.

The newest Home THX controllers

HOME THEATER BASICS

have been designed to accept the 5.1 discrete channels from an AC-3 decoder. A "dynamic decorrelation" circuit detects whether the left and right surround signals are different and decorrelates them only if they are not. Improved timbre-matching circuits accept full-range surround signals instead of being limited to 7 kHz at the top as in Pro Logic. And flexible bassmanagement logic enables any bass in the surround channels either to stay where it is (if you have rear subwoofers or full-range surround speakers) or to be routed to a main subwoofer or to the front left and right speakers.

SPEAKERS

Over the years many things have changed in hi-fi, but one central fact remains: Speakers, more than any other component, determine the quality of the sound. Speakers also spark the most intense debates among enthusiasts and provide the most opportunities for choices. Will you choose large speakers or small ones? Full-range systems or small satellite speakers with a separate bass module? Flat-panel drivers, horn tweeters, or conventional cones and domes?

There are no "right" or "wrong" answers to these questions; choose what sounds best to you. But here are two shopping guidelines that can help you arrive at a satisfying decision:

Don't let your eyes overwhelm your ears. Home theater retailers put on dramatic demonstrations with exciting passages from recent movies. Usually the action on the screen is as thrilling as the sound, making it hard to judge sound quality. To make sure that you're not being fooled, ask the dealer to turn off the picture and play some familiar music CD's. Do musical timbres sound natural? Pay particular attention to solo voices and the tone of familiar instruments. Both good and bad speakers can convey excitement and thrills, but only good speakers sound natural with music.

If you doubt your ability to judge sound quality, visit the store at a time when it's not crowded. Listen to the best system in the store and familiarize yourself with the power and clarity of its sound. Then listen to the same recordings through systems that you can afford. They may not play as loud as the cost-no-object system, nor deliver equally deep bass. But in other important respects a lower-priced system should have the same qualities as the expensive one, with smoothsounding strings, lifelike voices, and clearly resolved details.

In a surround system, the issue of speaker quality actually breaks down into three separate decisions. First, what is the overall sound quality of the left and right front speakers? These speakers play the dominant role in reproducing music in both film soundtracks and music recordings. Second, how accurately does the center speaker match the sound of the left/right speakers? Precise matching is critical for good imaging, and the quality of the center speaker affects the reproduction of voices (singing as well as dialogue). Third, how closely do the

surround speakers match the timbre of your front speakers? Any disparity here will affect the realism of the reproduced ambience.

The easiest way to get an excellent match is to buy five speakers that were designed as a set, but if you already

own a good stereo system, you may be strongly tempted to keep it and simply add the required electronics and new speakers — a center speaker and a pair of surrounds. That can work, especially if preserving great stereo sound is more important to you than achieving the very best home theater sound. The challenge lies in matching the speakers' response. Unless you choose center and surround speakers that were designed specifically to match your main left/right pair, they are unlikely to have the same response. "Getting It Right" on page 71 describes a new test CD that you can use to determine whether speakers are well matched.

SPEAKER PLACEMENT

If the center speaker is to be placed on top of the TV set, it must be magnetically "shielded" to avoid casting a color "stain" on the picture. No other speakers require shielding unless you expect to locate them within a couple of feet of magnetically sensitive objects (audio or video tapes, computer disks, or a color TV).

Many instruction manuals suggest that your three front speakers should be in a straight line, aligned with the front of your TV screen. I prefer a modification of that arrangement, with the center speaker on the TV set and the left and right front speakers forward a foot or so into the room, so that they are slightly in front of the screen. Use a string or a tape measure to make sure that all three are the same distance from your chair. This yields the best imaging and prevents the center channel from becoming too dominant.

The radiation pattern and placement of the surround speakers are the most hotly debated topics in home theater. That is because there is no perfect arrangement; the optimum placement and aiming of surrounds depend on the size and furnishings of the room and the listening location. The best advice is to experiment, but to avoid endless fooling around, pay attention to the basics.

The purpose of the surround speakers is to produce a diffuse sound field

that can help persuade you that you are somewhere else — in the jungle, on a city street, in a concert hall, and so on. Usually the easiest way to achieve this effect is to reflect the surround sounds off of your room surfaces rather than aiming

them at you. This may involve placing dipole speakers on the side walls, firing their sound toward the front and back of the room. You can aim ordinary speakers upward to spray their sound off the ceiling, or mount them on the back wall but angled outward to bounce their sound off the sides. In most cases they should be mounted fairly high up, but probably not at the wall/ceiling junction.

How do you know when you've got it right? One easy test is to shut off the front speakers and play a disc with obvious ambience. Listen to the surround sound. If it is located mainly to one side, move (or aim) that speaker away from you. If the sound is centered on the back wall, move (or re-aim) both surround speakers upward and to the sides. When the sound seems to surround you, it's "right."

Subwoofer placement is another topic of debate. The most common recommendation is to place the sub between and behind the front speakers. But another location may yield better results: in or near the room corner closest to your chair. Placing the sub near a corner strengthens and smooths its bass output, and placing it near your chair reduces the influence of the room's standing waves, giving you the clearest bass impact. If your subwoofer's crossover has a low turnover frequency (below about 100 Hz) and a steep slope, the bass will seem to come from the front of the room no matter where the subwoofer is placed.



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

Vaiis

Outboard power amplifiers for every system = by Daniel Kumin

hether your system is a minimalist, two-channel layout or a seven-speaker home-theater extravaganza, it has one thing in common with every other audio or A/V system: It needs a power amplifier to make those speakers sing. While many fine music systems are powered by the amplifiers built into an integrated amp or receiver, high-end systems have long relied on outboard amplifiers for the brute force and overall quality they typically provide.

Pretty much everyone agrees that, in the absence of other considerations, more power is always better. And serious hi-fi fans recognize that separate amps yield the best combination of performance and power brawn. Some of the reasons are technical: An outboard amp can accommodate the large, heat-generating power-supply and output devices that high power requires without impinging on delicate radio or preamp circuits. Some reasons are less technical: Manufacturers understand that by reserving their best, highest-performance designs for separates they can sell more boxes. But any way you slice it, when the goal is high-quality high power ---say, more than about 75 watts per channel - outboard power amps are the weapons of choice.

All for One

The home theater boom has had a profound impact on power-amp design. The most obvious manifestations are multichannel models that pack more than two channels into a single chassis to meet an A/V system's power re-

 many flavors: Three-, four-, five-, and even six-channel designs are now quite common.
 And the trend toward multichannel amplifiers stretches across the marketplage from the affordable to the bick

quirements conveniently and econom-

ically. Multichannel amps come in

amplifiers stretches across the marketplace, from the affordable to the highend. Adcom's \$850 GFA-6000 is a good example of the former. With three channels rated at 100 watts each and two at 60 watts each, the GFA-6000 is sized to deliver ample power to a surround-sound system's front (left, right, and center) and surround ("rear") speakers. Carver's AV-405 (\$750) is conceptually similar, delivering 100, 110, and 100 watts, respectively, to the front speakers and 50 watts to each surround. In either case, you could add a surround-sound preamp/processor and still not spend any more than you would for a top-of-theline A/V receiver, but you'd have more usable audio power since separate power amps tend to be rated more conservatively than receivers.

Three-channel power amps are another popular home-theater-inspired configuration, the rationale being that you can add one to your existing twochannel amp, demoting the latter to surround-channel duties. The Acurus Model 200X3 (\$1,295) does the trick with impressive reserves, delivering 200 watts to each of three channels.

What if you don't know how many channels you will ultimately need? No problem. Many companies offer configurable multichannel power amplifiers. The most common of these are six-channel models whose channel pairs can be bridged to yield three, four, or five channels. (Bridging combines two identical amplifier channels in a balanced configuration that yields two to three times the wattage of a single channel; since that effectively halves the load the amplifier "sees," most multichannel amps are happiest driving 8-ohm speakers in bridged mode.)

The chief advantage of such a design is flexibility: NAD's Model 916 (\$699) delivers only 30 watts each to six channels, but each of its channel pairs can be bridged to 90 watts to create a formidable three-channel power block. Parasound's HCA-606 (\$1,095) is similar, with six 65-watt channels that can be reconfigured as four or five channels. The flexibility of configurable multichannel amplifiers means that the same model can be used in either a home theater or a multiroom system, where one six-channel amp can provide three rooms' worth of stereo power.

Home theater has not failed to have an impact on the upper echelons of the amplifier market as well. Audiophile stalwart McIntosh Labs offers the

Playing



The two-channel stereo amplifier is still the power block of choice for many system builders. Rated to deliver 150 watts a side into 8 ohms, Mondial Designs' Acurus A-150 (\$699) is assembled by hand using premium parts, including a torodial transformer.

MC7106, a \$3,000, THX-certified amp (see "The THX Factor" on page 77) that delivers 100 watts into each of six bridgeable channels. And McCormack Audio, a more esoteric brand name, recently introduced its first multichannel power amp, the home-theaterbound DNA-4/3 (about \$2,000), rated to deliver 50 watts each into four channels. The two "middle" channels can be bridged to create a single 100watt channel for 50-100-50-watt operation, ideal for center- and surroundspeaker duties, while an existing twochannel amp powers the main front speakers. (The DNA-4/3 uses McCormack's Distributed-Node Amplifier design — hence the prefix — in which individual current-storage capacitors are placed close to each output device, an arrangement said to enhance dynamics, "quickness," and clarity.) As the boundaries between high-end audio and high-end home theater continue to blur, expect to see more esoteric multichannel designs. Though no one has yet offered a five-channel, all-tube power amp (as far as I know), it can't be long now.

Proceed components' high-end credentials are hard to gainsay — they're made by the same folks who produce Mark Levinson gear (including the

Waits Playing



Designed for home-theater or multiroom use, B&K's AV2500 (\$748) is rated to deliver 60 watts to each of five channels, two of which can be bridged to 100 watts. It has a system bus for custom installations that provides a number of input/output combinations, and each channel has a level control.



Parasound's six-channel HCA-806 (\$1,150) is rated to deliver 80 watts per channel into 8 ohms or 120 watts per channel into 4 ohms. Two of its channel pairs are bridgeable to 180 watts, allowing it to be configured for four- or five-channel operation. Distortion is given as 0.05 percent at full power.



Behind the classic faceplate of McIntosh's MC300 stereo amp (\$3,750) lies the muscle to pound out 300 watts per channel into 8, 4, or 2 ohms, or 600 watts bridged mono into 16, 8, or 4 ohms. It has balanced and standard RCA inputs, and its patented Power Guard circuitry is said to prevent clipping.

\$30.000-a-pair No. 33 power blocks). Proceed devised a modular approach to multichannel power: You can buy the two-channel Amp2 (\$1,995) and, for an extra \$1,000, upgrade it to three-channel status when the need arises. Or you can buy the three-channel Amp3 (\$2,995) from the get-go. Both models are THX-certified and rated to deliver 150 watts per channel.

One for All

Sprouting from another branch of the amplifier evolutionary tree are monoblock designs, which dedicate a discrete chassis, power supply, and AC power cord to a single channel. Long before home theater entered the picture, monoblocks were the amplifiers of choice among many high-end aficionados.

As home theater has adopted the monoblock, a slew of new singlechannel models has appeared. Their attraction in A/V systems is obvious: You can add amplifiers individually or in pairs, trios, or any other grouping as you upgrade a system, and if you want to you can distribute the amps around the room so that they're close to the speakers. Marantz's sexy little THXcertified MA-500 monoblock (\$299), about the size and shape of a shoebox, delivers 125 watts and claims a highcurrent output stage and power supply. You can combine two MA-500's to create a bridged "super" monoblock (but with two power cords) that's rated to deliver 450 watts into 8 ohms. Any number of MA-500's can nest side by side, with remote-controlled on/off switching if they're used with a Marantz A/V preamp.

Rotel, a British/Asian company, has a mono 125-watt amplifier of the same general style, the RMB100 (\$700), with similar specs and high-current claims for its MOSFET output stage. The RMB100 furnishes both balanced (XLR-jack) and conventional inputs as well as two pairs of speaker outputs to facilitate biwiring. San Francisco's Parasound is entering the monoblock field with the HCA-3001 high-current power amp, slated to hit retail shelves this winter with a \$1,695 price tag. The conventional-size chassis holds a John Curl design, said to use ultrahigh-quality components in all critical circuit elements, that delivers 100 watts in pure Class A operation.

For One and All

Of course, plain-vanilla two-channel power amps continue to predominate.



Sporting a nonconformist 8-inch-cube chassis that's ideal for hideaway installations, Rotel's THX-certified RMB100 monoblock (\$700) is rated to deliver 125 watts into 8 ohms or 200 watts into 4 ohms. It features an automatic-turn-on circuit, balanced and standard RCA inputs, and two pairs of blnding posts for biwirlng.

Here the main news is value: Remarkable performance is available at some surprising prices. For example, Sonance's 60-watt-per-channel Sonamp 260 costs just \$348, Parasound's highly capable, THX-certified 120-wattper-channel HCA-1000 is only \$525, and B&K's massive ST-3030 weighs in with 200 watts per channel for a mere \$798.

And while there is very seldom anything truly new under the audio-technology sun, the power-amp field may have accomplished the trick. New circuit topologies have recently appeared from both Carver Research, a division of Carver Corporation, and Sunfire Corporation, started by Bob Carver after he left the company that bears his name, which he also founded. Not surprisingly, the new technologies are related, though not precisely identical.

Sunfire's namesake stereo power amp uses a "smart" power supply, dubbed a "tracking downconverter," and HEXFET power devices that combine to bring power and efficiency to new levels: 300 watts per channel into 8 ohms, 600 watts into 4 ohms, and a frightening 2,400 watts (shortterm) into 1 ohm. The \$2,175 "load invariant" Sunfire amp provides two different speaker outputs, Voltage and Current, whose output-impedance characteristics are said to optimize performance with different types of

The THX Factor

he initials THX have been variously reported as standing for "Tom Holman's eXperiment," Holman being the engineer who developed Lucasfilm's certification program for theater and home surround sound, and as being a nod to founder George Lucas's first feature film, THX 1138. In the beginning they might just as well have stood for "Too Hellaciously eXpensive," since Home THXcertified equipment inhabited only the top of each maker's range. In the past year or two, however, Home THX components have begun reaching more mortal price ranges, especially in the amplifier category. But what do you get when it says "THX" on the label?

Not radical technology - a THX amp can be made of everyday parts and perfectly ordinary circuits. Instead, the Home THX program mandates some strict but common-sense performance characteristics as well as valuable standardization. To be THX-certified, an amplifier must adhere to a common gain structure, meaning that the relation between input sensitivity and output level follows specific guidelines. Consequently, if the amp is used with a THX-certified Dolby Pro Logic processor and THX speakers (which must fall within a fairly narrow sensitivity "window"), the results are guaranteed to be within a few decibels of the THX reference level when the processor's volume knob is set to "0 dB." More important, this standard optimizes dynamic range by insuring complementary noise and sensitivity characteristics.

Home THX certification also sets

minimum standards for power, with some particular gualifications. Lucasfilm does not publish the THX requirements, so we can speak only generally, but the standards call for at least 100 watts into 8 ohms and also specify minimum output voltage and current under various load conditions, including a short-term 1-ohm-load high-current requirement. Of course, to earn THX certification an amplifier must display flat response, fine channel separation, and ultra-low distortion in both the conventional and a few unconventional measurement modes. It must also be truly low-noise and exhibit wide dynamic range (Lucasfilm specifies inaudible mechanical noise, too, such as the buzz of transformers, the whir of cooling fans, and even the level of the radiatedhum field), and the amp must pass a reactive-load test to make sure its performance won't suffer in realworld use driving loudspeakers.

All these mandates guarantee that a THX speaker powered by a THX amp will produce a clean output at a known sound-pressure level in a typical home theater - and thus that it will reproduce the full dynamic range of the best program sources. That may seem like a pretty obvious reguirement, but it's actually a radical idea. Outside of boomboxes and table radios, the audio industry has historically made very few attempts to optimize a complete reproduction chain, and never one that involved freely mixing different component brands. Even if this were Home THX's only legacy, it would be a worthwhile one. - D.K.



Marantz's MA-500 125watt monoblock (\$299) is THX-certified.

Waits Flaying

Upgrading Your Receiver

ontemplating a move up to separates, but wondering what to do with that receiver you bought just last year? You could trade it in for a preamp/power-amp combo, but you're liable to take a bit of a bath – used hi-fi equipment holds its value about as well as used shoes. A better solution might be to put the receiver to work as a tuner/preamp.

Many recent A/V receivers, and even some older models, provide preamp outputs in addition to their speaker terminals. Delivering the same linelevel (and volume- and tone-controlled) signals that a true preamp would, these outputs are intended to feed an outboard power amp – or two or three in the case of an A/V receiver, which may have preamp outputs for front left, center, and right channels and dual surround channels, and often a subwoofer output as well. In some cases, a receiver's preampout jacks may correspond to identically numbered power-amp-in jacks; the input/output pairs are usually coupled internally by a switch or occasionally joined by small external U-shaped metal jumpers. In other cases, there are no power-amp inputs and the receiver's preamp outputs are active all the time. Either way, just connect the preamp outputs to the appropriate input jacks on your shiny new power amplifier, transfer the speaker wires from the receiver to the amp, and you're done.

What if your receiver lacks preout jacks? All is not lost. Several manufacturers make impedance-matching adaptors that step down amplified speaker outputs to line-level voltages, with the appropriate impedance characteristic on both ends. Though this is not exactly the audiophile-approved method, it works better than you might guess. Since the impedance on the input side of the adaptor is about a million ohms, the receiver is never called on to develop more than a few milliwatts of power. Hence the output signal from the receiver's power-amp stage usually maintains excellent distortion performance.

Such adaptors come in various small-box arrangements, but one of the cleverest is from Carver Corporation. Like all such devices, the Washington-state firm's paperback-sized Z-5 (\$85) has speaker connectors on its input side and delivers line-level stereo signals via RCA jacks on its output side. While the Z-5 can be used with any power amp, its output side is designed to dock directly with Carver's AV-405 five-channel power amp for an unusually clean receiver-to-preamp upgrade. *-D.K.*



Designed to provide all the power you need for a five-channel home theater system, Adcom's GFA-6000 (\$900) is rated to deliver 100 watts to each of the three front speakers and 60 watts to each surround (all with less than 0.09 percent distortion into 8 ohms). Each channel has a level control.



Carver's THX-certified AV-806x (\$1,750) can be configured for three-, four-, five-, or six-channel operation to meet a variety of power needs. It's rated to deliver 133 watts per channel in six-channel mode; each channel pair can be bridged for 360 watts. The rack handles are removable. loudspeakers. It claims an astonishing 138 amperes of peak current capability (this is way past arc-welding territory). Despite its leading-edge circuit design, the Sunfire has a rather retro look, with a single analog Power Supply Energy meter (not, as it might first appear, an output-level meter).

Carver Research's \$3,995 Lightstar is a modernistic-looking two-channel amplifier. It works along similar lines, using a smart power supply, which the manufacturer calls a "digital transformer," and a very high-current output stage (150 amperes peak) that is claimed to "recycle" reactive current. The fully dual-mono Lightstar (down to two separate power cords!) has both balanced and conventional inputs and dual speaker outputs for each channel (for easy biwiring), and its mega power ratings are 300, 600, and 1,200 watts per channel into 8, 4, and 2 ohms, respectively.

While you may not require quite *that* much motivating force, virtually all audiophiles and home-theater mavens agree that with today's wide-range music and A/V sources there is simply no substitute for plenty of dynamic, clean power. Fortunately, the current crop of amplifiers can fill any power prescription.



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ising from the ashes and the 1994 Summer Consumer Electronics Show (CES), the last of the broadbased summer trade fests, the CES Specialty Audio & Home Theater Show in late June was cuite small. even rather quaint by traditional CES standards, drawing 119 exhibitors and 2,833 manufacturers, retailers, distributors, and journalis:s to Chicago's grand old Palmer House Lotel. Pioneer's announcement of a \$2,000 CD recorder and Denon's introduction of the first THX-certified Dolby AC-3 surround processor made the biggest splashes at the show, which was sponsored by the Electronic Industries Association (EIA).

Another hot topic of hall-yay chatter was 5.1-channel digital aucio - especially Dolby's AC-3 vs. Pro Logic demonstration, which left no doubt about AC-3's son c superiority over its predecessor. DTS Technology also demonstrated its rival 5.1-ctannel system, DTS Coherent Acoustles, which received generally high marks for overall sound quality. Mearwhile, Pioneer displayed its lineup of AC-3compatible gear, currently the industry's most formi_lable; comprising seven CD/laserdise combi-players, two A/V receivers, and a surround processor. AC-3-compat ble commi-players were also introduced by Yamaha, Denon, and Marantz.

In audio electronics, Corrad-Johnson unveiled two "low-cost" preamps, the Sonographe SC26 (\$995 with remote) and SC25 (\$795 with cut phone stage). Cary Designs turned some heads with its CD-300 CD player

SHOW

Highlights from the CES Specialty Audio & Home Theater Show

(\$1,995) feattring a vacuum-tube output. Newcomer Jolida of Annapolis Junct.cn, Maryland, demonstrated a line of moderately priced integrated tube arnps, including the 20-watt-perchanne SJ 101.4 (\$550).

Digita-to-a-alog (D/A) converters and other components incorporating the High Definition Compatible Ligital (HCCD) decoder from Pacific Microsonizs were shown by a number of comparies, including Enlightened Audio Designs, Counterpoint, Threshold/PS Audio, and Sonic Front ars. Parasound's \$=\$5 D/AC-850HD D/A converten is expected to be the lowestpriced FDCD component available when it hits the market this fall. Cnly a handful of HDCC recordings are available however, almost all from the small audioph, e label Reference Recordings.

In speakers, Kenwood demonstrated its first THX-certified models, the LS-X1F front speaker (\$500 each) and LS-X1S surround (\$500 a pair), and Thiel auditioned the SCS2, a magnetically shielded 4/V speaker (\$25) built around a 52-inch coaxial driver. Snell announced that the RCS-1000 digital room-correction system it's been working on for four years is finally finished. The price: \$8,900.

In video, Vidikron introduced the "entry-level" TGS301 front projector (\$5,995), which provides on-screen graphics and yields images of up to 15 feet (diagonal). Casio demonstrated an unusual portable front/reat LCD projector, dubbed MegaVisicn (\$1,995). Although it's said to project images of up to 60 inches (diagonal) with optimum resolution and brightness the picture we saw was dark and grairy.

In the odds-and-ends department, Kimber Kable wooed showgeers with its Shmarkers line of hear-shrint-able wire labels (\$12 to \$24 a package), and Absolute Electronics toured its Video One Touch remote for ECA's Digital Satellite System [\$45], with direct-access buttons for twenty premium channels such as HBO. RCA, meanwhile, previewed its second-generation DSS gear, due out in the fall.

A handful of items that especially grabbed our attention are shown on these pages. — Bob Autosko

A \$2,000, the Pioneer Elite PDR-99 CD recorder is half the prize of its predecessor, the PDR-09, and more user-friendly, too. The write-once decl, which contains the SCMS copy-inhibit on p, offers one-touch synchronized recording from digital sources. We'll be looking for a \$1,000 deck next show.

STOPPERS

You're working late at your computer, but you don't want to miss Dave's monologue. No sweat: Hit a button on the Toshiba Integrated Multimedia Monitor's remote and — boom — you're in TV-land. The 20-inch monitor, a.k.a. TIMM, has a 181-channel stereo tuner and built-in speakers.



o, it's not a food processor. Marantz's retrostyled CD-23 CD player (\$2,500) uses Bitstream digital-to-analog converters and a "professional" transport with a floating chassis to resist vibration.







Pro Logic to receive THX certification, Denon's AVP-8000 **4**\$3,500) is built around state-of-the-art Zoran and Motorola DSP chips. It offers nine adjustable surround modes, on-screen graphics, optical and coaxial digital connectors, and Radio Data System (RDS) text capability.



uantum Sound's AP 2200 Meadow speaker (\$2,995 a pai") produces sound in a very unorthodox way: The voice coil of its patented TorqueDriver transducer moves a pair of polystyrene panels in and out like swinging doors, delivering full-range output from 45 Hz to 18 kHz — without any crossovers. The cabinet is 44 inches tall and has a natural ash finish.

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BEST OF MONTHE

STEREO REVIEW'S CRITICS CHOOSE THE OUTSTANDING CURRENT RELEASES

Joan Osborne: Desperation Never Sounded So Good

fter listening to Joan Oshorne's riveting debut album, you'll wonder how she's survived to tell her tales. "Relish" has enough bad luck and trouble in it for several long lifetimes — and even if she's singing as a reporter rather than as a participant, you have to marvel at how she got out of these blues alive.

Hard times, rough times, dirty love times, bad drug times, nihilistic sex times - it's all here. You'd think Osborne would be yowling about it, but the wonder of "Relish" is the way she underplays the pain, anger, and ennui. The characters in her songs — a strung-out hooker, a woman searching for the father she never met, a woman who wants sex to forget her troubles — have it so bad they can keep going only by focusing on one step and then the next and then the next. Life would be simpler for Osborne's characters if they could fix it in twelve steps, but they can't; they can barely concentrate long enough to count that far.

Sometimes Osborne captures desperation with a crisp metaphor. "I know you like the back of my hand," she sings languidly in *Let's Just Get Naked*, "the stamp that says I paid to get in." Other times, you can get dizzy following her around. In the mutant Stones-ish rocker *Right Hand Man*. Osborne sings relentlessly, "I've been on the floor looking for a chair / I've been on a chair looking for a couch / I've been on a couch looking for a bed / Looking for a bed / Looking for my right hand man."

If the folk-pop arrangements sound familiar, that's because they come from a well-traveled triumvirate — Eric Bazilian, Rob Hyman, and Rick Chertoff. The first two were the mainstays of the Philadelphia band the Hooters; all three were the team behind Cyndi Lauper's first solo album. In "Relish" they have successfully blended their own musical tastes with Osborne's bluesy tendencies. And Bazilian, in particular, has contributed one of the album's strongest tunes, *One of Us*, a sharp-eyed meditation on what the world would be like if God were "just a slob like one of us."

On top of all the lyrical and musical strengths of "Relish," Osborne is a highly



resourceful singer who isn't afraid to take risks. When she sings about being wasted, she actually sounds wasted. When she's at the end of her psychological rope, she can sound downright ugly. Even if she resembles, at one moment, a raspy Bonnie Raitt or a throbby Linda Ronstadt, at the next moment she'll make a noise you've never heard before. Osborne album simply cannot get here soon enough. Ron Givens

JOAN OSBORNE Relish

St. Teresa: Man in the Long Black Coat; Right Hand Man; Pensacola: Dracula Moon: One of Us; Ladder: Spider Web; Let's Just Get Naked; Help Me: Crazy Baby; Lumina BLUE GORILLA/MERCURY 526 699 (61 min)

As far as I'm concerned, the next Joan

Hendricks Sings Barber and Copland

amuel Barber and Aaron Copland would undoubtedly have been surprised, and not very pleased, to see their portraits flanking each other in the booklet accompanying a new EMI recording of their music by soprano Barbara Hendricks and the London Symphony under Michael Tilson Thomas. The two composers cordially disliked each other, and they were viewed in their lifetime as being artistic polar opposites. Barber was regarded as an effete neo-Romantic in the Italianate mold, Copland as a hard-edged modernist with a bold, distinctively American voice. With the benefit of fifty years' hindsight, it is much



easier now to see what the two had in common: an almost mystical idealism poured forth with a lyrical ardor that flirts with sentimentality but never quite lapses into it.

The work that comes closest to crossing the line is Barber's *Knoxville: Summer of 1915*, with its Proustian evocation of a now-vanished American golden age (which may or may not have existed). Hendricks is an interesting choice to interpret this work: Her voluptuous, intense vibrato emphasizes its aching sense of regret, which verges on despair. She gives the music a fleshy, rounded complexity that allowed me, at least, to see for the first time what a masterpiece this is.

Copland wrote very few works for the voice, for the simple reason that his talents did not lie in that direction. The great exception is his suite of songs based on poems by Emily Dickinson, whose jagged, plain-spoken temperament matched his own. They are not lovely little pearls, but tough telegrams from the soul, illu-



Soprano Barbara Hendricks

mined by occasional flashes of ecstatic insight. Hendricks's performance of eight of the twelve Dickinson songs is a carefully pared-down, elemental tour de force that reveals the music's unyielding philosophical backbone.

Thomas, who was chosen by Copland to conduct the world première of the Dickinson songs in 1970, brings resolve and tranquil dignity to the two noble orchestral works that (along with two other Barber songs) fill up the disc, Copland's *Quiet City* and Barber's Adagio for Strings, which was famous even before Oliver Stone used it to glamorize gore in the film *Platoon*. The recording is clean and bright. *Jamie James*

BARBER: Adagio for Strings; Nocturne; Sure on This Shining Night; Knoxville: Summer of 1915 COPLAND: Quiet City; Eight Poems of Emily Dickinson Hendricks; London Symphony. Thomas cond. EMI 55358 (63 min)

L'Archibudelli's Provocative Mozart Quintets

'Archibudelli, a period-instrument ensemble formed around the cellist Anner Bylsma, gave us a very engaging collection of Mozart's somewhat slighter works—marches, wind duos, the Horn Quintet, and A Musical Joke — on Sony two or three years ago. The performances on the group's new Sony CD of his two greatest string quintets, the ones in C Major and G Minor, are not so much engaging as provocative, and that is quite as it ought to be, for this is music on which the last word has not been said, and is not likely to be.

In the G Minor, in particular, listeners accustomed to an all-out Sturm-und-Drang approach may feel at first that this presentation is going to be too objective for their tastes; they will be disabused in short order, for there is nothing bland or understated here. There is a certain feeling of dignity, but without aloofness, and there is passion, but without overindulgence. The grim reticence of the opening movement is ennobling and yet pathetic as well, and the heightened angularity of the succeeding minuet provides the most striking dramatic contrast. The slow movement is not allowed to dawdle but flows resolutely toward the predestined resignation of the finale. The emotional tension here is the more convincing for its

subtlety. for appearing to rise from within the music itself without coaxing.

The C Major has seldom seemed quite so closely related to the G Minor as it does here, nor have its points registered with so little self-consciousness. In both works, rhythms are steady, phrasing is alert, ensemble is excellent, and the recorded sound itself strikes a near-ideal balance between clarity and warmth that suits the music splendidly. This disc clearly merits a place beside the best previous recordings. *Richard Freed*

MOZART: String Quintets in C Major (K. 515) and G Minor (K. 516) L'Archibudelli SONY 66259 (63 min)



L'Archibudelli: Jürgen Kussmaul, Vera Beths, Anner Bylsma, Lucy van Dael, Gijs Beths

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Live Phish, Hold the Tartar Sauce

hish is bigger than you realize. They're out in the hinterlands filling arenas and amphitheaters, all without help from MTV, radio, or the rock press. "A Live One" may not be the album to finally break Phish into the Top 10 — I can't imagine nonconverts seeing the light via a 35-minute version of *Tweezer*, splendid as it is but Phish phanatics and other intrepid listeners will delight in the musical exploits contained herein.

The concert stage is Phish's natural habitat, where they can improvise, experiment, and otherwise swim into unfamiliar waters. In Phish's case, improvisation doesn't mean a soloist (usually a speedyfingers guitarist with a big ego) riffing over a set of changes repeated ad infinitum by the boys in the band. Instead, the group is gifted at the art of ensemble improvisation, listening to and playing off one another. The dialogue among guitarist Trey Anastasio, keyboardist Page Mc-Connell, bassist Mike Gordon, and drummer John Fishman makes for absorbing listening, fully justifying the lengthy diversions on this double CD, where the average song lasts more than 10 minutes!

Half the fun of following Phish down dark alleys is knowing they'll resolve into stunning sonic vistas sooner or later adventures on a par with those of the Grateful Dead in their headiest heyday ("Anthem of the Sun," "Blues for Allah") and the Mothers of Invention circa "Uncle Meat." Moments of high-energy aural bliss occur all over "A Live One," as in Chalkdust Torture (a dyspeptic reminiscence of educational drudgery) and The Squirming Coil. Tweezer moves from its Dadaist, Zappa-like verses into excursions that are the instrumental equivalent of bungee jumping. Gumbo concludes with a melismatic group vocal improv. And fully half a dozen numbers here have never appeared on record before (legally, that is; bootleggers do big business with Phish because no two shows are alike).

This kind of band and this kind of album come along but rarely in the rock firmament, so grab "A Live One" while you've got the chance. It's 2 hours and 20 minutes of imagination on overdrive.

Parke Puterbaugh

PHISH A Live One

Bouncing Around the Room; Stash; Gumbo; Montana; You Enjoy Myself; Chalkdust Torture; Slave to the Traffic Light; Wilson; Tweezer; Simple; Harry Hood; The Squirming Coil ELEKTRA 61777 (two CD's, 142 min)







POPULAR

• THE CORNELLS: Surf Fever! SUNDAZED 6061, Ultra-rare 1964 instrumental album by a bunch of Hollywood brats, including Loretta Young's son Peter Lewis (later of Moby Grape).

• THE MUMPS: Fatal Charm. EGGBERT 80011. Late-Seventies tracks by the New York City pop/punk band fronted by Lance Loud (of PBS American Family fame).

• THE STRANGELOVES: I Want Candy. LEGACY/EPIC 47075. Album tracks and singles by the bubblegum/tribal Sixties rockers, many in first-time stereo.

• THE SURFARIS: Surforis Stomp. VARÈSE SARABANDE 5588. Compilation of early Sixties material by the band best known for the instrumental hit *Wipeout*.

CLASSICAL

• BACH: Concertos for Two and Three Pianos (BWV 1060, 1061, 1063, 1064). Robert, Gaby, and Jean Casadesus; De Stoutz, Dervaux, and Ormandy. SONY 67179. A family affair: recordings by the great French pianist with his wife and son from the middle 1960's.

• CHOPIN: Preludes, Op. 28; Fantasy in F Minor, Op. 49; Berceuse, Op. 57. Darré. VANGUARD OVC 8092. Another beloved French pianist, Jeanne-Marie Darré, recorded these works in 1965.

• **SHOSTAKOVICH:** Symphony No. 8. London Symphony, Previn. EMI 65521. The first fully successful recording of this work; "absolutely not to be missed" (Best of the Month, January 1975).

• VIVALDI: Orlando Furioso (highlights). Horne, De los Angeles, others; I Solisti Veneti, Scimone. ERATO 98523. Marilyn Horne is "truly glorious" in the title role of this Baroque opera (January 1979 review), also available complete on three CD's (45147).

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HOME ENTERTAINMENT UPDATE

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By Bob Rapoport

f you bought your stereo system in the 70's, 80's or even the 90's, there's a good chance it still works great, but does not have surround sound. In order to have a true "Home Theater", you need more than just a big screen; you need 5 speakers which surround you, bringing the movie to life right in your living room, just like they do at the movie theater. But more than that, you need a decoder that separates the front signals from the rear signals, and creates a special "dialog" channel. The Chase HTS-1 Decoder does just that, and does it in a revolutionary way that rivals even the most expensive Dolby® Pro Logic THX® systems!

HOW IT WORKS

The videotape version of the movie has a stereo soundtrack with only two channels of sound, left and right. The rear channel surround signal is "matrixed" into the sound-track out-of-phase with the main stereo signal. Back in the late 1960's, legendary audio designer David Hafler originated a method for passively decoding matrix encoded audio signals. The Chase HTS-1 uses the same basic "de-matrixing" technique, while at the same time adding a line level center channel output, and discrete line level outputs for the rear channels, making it the world's first "hybrid" passive/active decoder.

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One of the speakers at the movie theater is placed behind the screen, in the center. This speaker keeps voices and certain special effects locked on-screen. In a home theater system, using a center channel does the same thing, adding impact to the special effects, and localizing voices. Since the stereo soundtrack does not contain a dedicated center channel, the Chase decoder extracts the sum of the left and right channels, known as

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the mono signal, and directs it to a center channel output on the decoder. This channel does have to be amplified separately, so Chase makes a special self-amplified center channel speaker called the "Dialog". It's built-in amplifier has just the right amount of power to amplify the mid-range voice signals and on-screen special effects, without ruining the hi fi reproduction of the music in the movie.

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At the 1994 Summer Consumer Electronics Show in Chicago, the HTS-1 won the Design and Engineering Award for being one of the best and most innovative new products of 1994. This award-winning design from Chase Technologies is a breakthrough for it's ease of use, affordability and outstanding performance.



The award-winning HTS-1 Decoder

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POPULAR MUSIC

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

PAULA ABDUL Head Over Heels VIRGIN 40525 (60 min) Performance: Off-putting Recording: Good

• kay, I'm sorry Paula Abdul had an eating disorder. I'm glad she's better, and I'm sure she suffered. But that's no reason to make the rest of us suffer, too.

For her previous three albums, including the history-making "Forever Your Girl," Abdul came up with some fetching hits, as well as a lot of drivel. In the four years since "Spellbound," she has stood still musically (in her case, it takes talent to stand still). With the exception of the sensual ballad *If I Were Your Girl*, the selections in "Head Over Heels" are little more than mechanical orgasms set to aerobics tracks unless you also count *My Love Is for Real*, which places guest Israeli singer Ofra Haza in Middle Eastern/funk stylings, all sounding like a cartoon version of "Ali Baba and the Forty Thieves."

Why expect anything different? Abdul's got eleven (count 'em!) producers, many of whom share songwriting credits, which really means they decided how heavy the backbeat should be and how long Abdul should pump out suggestive moans. After a while, everything sounds the same. The only progress here is moving in reverse. *A.N.*



B JÖR K Post ELEKTRA 61740 (46 min) Performance: Quirky Recording: Electronic

t was always hard to fathom the hoopla surrounding Björk's former band, the Sugarcubes — like, the world really needed an Icelandic B-52's that badly? But her appeal as a soloist is easier to figure: She's a bohemian siren with a likably eccentric personality. At her best, Björk makes some of the more exotic computer-disco music since Donna Summer's *I Feel Love*.

That doesn't mean she's at her best all the time, and she still suffers from the same "love me, I'm weird" tendencies that sank the Sugarcubes. Prime offender in "Post" is It's Oh So Quiet, a big-band novelty recorded by Betty Hutton in the Forties, here camped up well past the point of annoyance. Björk is much better when she tries, and fails, to play it completely straight. Possibly Maybe, for instance, a reflection on the ambiguity of love, includes the lines, "Uncertainty excites me baby, who knows what's going to happen? / Lottery or car crash, or you'll join a cult." It isn't a parody but rather a lush slow-dance that allows Björk to emote for all she's worth - as does most of the rest of "Post," whether it's the pretty song You've Been Flirting Again or the disco-diva turn Hyper-ballad. Most tracks feature creative use of electronic gobbledygook, complete with scratchyrecord effects. Björk hasn't completely grown up yet, but at this rate she might not have to. Brett Milano

PETER CASE Torn Again VANGUARD 79481 (43 min) Performance: Back on track Recording: Very good

With his previous record, "Sings Like Hell," Peter Case carried his traveling-troubadour pose to extremes, repairing to bare-bones public-domain folkiedom in the manner of Bob Dylan's last couple of albums. But where Dylan has the history to back up such a return to roots, Case just seemed to be role-playing in a desperate effort to disavow his rock-band past and all things contemporary.

Now, with "Torn Again," Case strikes a fruitful balance between old-guard folkie mannerisms and the acuity of a singer/ songwriter who realizes, however reluctantly, that he's living in the present. While half of the album is solo acoustic minstrelsy, the other half is played in the company of a full band (bass, drums, and — gasp! — electric guitar). Furthermore, Case has recovered his muse and his sense of humor. A Little Wind (Could Blow Me Away), a driving, apocalyptic folk fable, is so lively and funny that he sounds less like a self-conscious "folk singer" and more like his natural self.



Paula Abdul: our turn to suffer?

Baltimore ranks among Case's finest songs, approaching the caliber of his classic A Million Miles Away in its urgency and passion. He's also mastered the long-lost art of the story song in Workin' for the Enemy, Punch & Socko, and Wilderness, the last a particularly moving antiwar tale. It's great to bear Case back in peak form. P.P.

CONFEDERATE RAILROAD When and Where ATLANTIC 82774 (38 min) Performance: Not up to snuff Recording: Okay

Previously the road band for both David Allan Coe and Johnny Paycheck, Confederate Railroad became one of country music's most surprising success stories when its self-titled first album sold two million copies. It was "smart-ass white-boy music," said lead singer Danny Shirley, a high-spirited collection of blue-collar ballads (*Jesus and Mama*) and humorous Southern rock tunes (*She Took It Like a*)

POPULAR MUSIC

Man). The band's second album, "Notorious," with such tongue-in-cheek songs as *Elvis and Andy* (every Southern girl's heroes, they say), failed to match the debut's success, but it did lash out against the vanilla piffle that makes up much of mainstream country.

'When and Where" finds Confederate Railroad taking its sound a little more down the middle, with a nod to love songs something Shirley always said he didn't want in the group's albums. The result is, well, disappointing. The love songs aren't memorable, and aside from a wry line or two in Bill's Laundromat, Bar and Grill, the story songs aren't funny, running along the sappy, family-values line of Sounds of Home. Cover versions of Al Anderson's Oh, No and Delbert McClinton's My Baby's Lovin' pick up the pace, but by the time they arrive, late in the program, you don't much care. Confederate Railroad appears to he a one-shot wonder, a band whose time has come and gone. A.N.

BOB DYLAN MTV Unplugged COLUMBIA 67000 (64 min) Performance: Dylan lives! Recording: Good

For a long time, it seemed Bob Dylan was wandering in the musical wilderness. Oh sure, he was touring quite a bit, but it was almost as if another thin man was singing and playing those shows. Then, a year or so ago, word began to spread that the old guy in front of Bob Dylan's live band was beginning to sound like Bob Dylan himself instead of some mumbling, incoherent coot. Now, at last, we have actual proof.

The eleven tunes of "MTV Unplugged" are all rendered in a way that freshens them and, at times, makes them sound fun. All Along the Watchtower seems positively spry. Rainy Day Women #12 & 35 is actually boisterous. With God on Our Side has bite. If you weren't around when these tunes were new, don't fret - as played here by Dylan & Co., the songs are reborn. And who cares that his voice, which has always had a special tang, now calls to mind the classic Leo Kottke characterization "geese farts on a muggy day." Which reminds me: Dylan made quite a fuss a few decades ago by plugging in. Isn't it sweet that he has now made a different kind of fuss by plugging out? RG

MICHAEL FRACASSO When I Lived in the Wild BOHEMIA BEAT (0003 (55 min) Performance: Arresting Recording: Good

Folk rocker Michael Fracasso may be one of the best-kept secrets in Austin, Texas. On his second album the singer/songwriter moves through fourteen often cryptic songs about shady characters, deranged souls, love-starved losers, and seekers of redemption. The most memorable is the acid commentary of *How Very Inconvenient*, which could be about a Mafia don or any big shot who finally gets his comeuppance ("Now he's down there in the boneyard / With no American Express card"). Fracasso sings in a tortured tenor that calls to mind John Lennon, Buddy Holly, and even Bob Dylan, and when he skids into lines like "She came already gift-wrapped / A little number with spaghetti straps," accompanied by a killer bottleneck guitar, there's no denying he's got you by the short hairs. *A.N.*

HEALTH & HAPPINESS SHOW Instant Living BAR/NONE 057 (50 min) Performance: Heroic Recording: Crisp

Health & Happiness Show nearly bought the farm last year when their van crashed outside Nashville. The close brush with death appears to have given an otherworldly dimension to the group's earthy roots-pop sound.

"Instant Living" comes across like the Byrds at both ends of their career: in the early days, when Gene Clark's rustic baritone was a driving force, and toward the end, when Gram Parsons's cosmic-cowboy persona was a brief but potent influence. H&H Show guitarist/singer James Mastro antes up an eclectic dozen tunes that possess both immediacy and staying power. The opening song, *To Be Free*, is weightless and transcendent even as it bowls you over

Michael Jackson: History Repeats Itself?

f albums were people, Michael Jackson's "HIStory" would have a split personality on top of a split personality. Yes, it's half greatest hits and half new stuff, but then the new stuff can be divided into angry stuff and sappy stuff. I've got a half-baked theory about *that*, but first ...

You know exactly what you think of the hits. There's nothing particularly exciting about their presence here, in this particular order, that makes them any different from what you remember. The old stuff does, however, make the new stuff look bad, or at least somewhat pedestrian. Whether you loved the old stuff or not, its pop surfaces were exquisite. Beat It, for example, wasn't deep, but its marriage of hard-rock guitar (thank you, Mr. Van Halen) with punchy R&B was riveting. None of the new stuff makes that kind of impression, though for my money This Time Around and 2 Bad deliver some dazzling rhythms and counter-rhythms.

The more you listen to the fifteen new tracks and absorb what Jackson is singing about, the less appealing they become. Clearly, as a man who has been living in tabloid hell for the past few years, Jackson has reason to feel burned out. But it does seem rather churlish for the guy to blast the media so relentlessly, and to claim to be its innocent victim, when he's manipulated it so obsessively, even for something as arbitrary as insisting that he be called the "King of Pop."



E.T. and friend, in happier times

When Jackson isn't proclaiming that "somebody's out to get me," he's wallowing in honeyed musical goo. He has a soft, quicksilver voice, which alone can summon up tenderness and vulnerability. But when he drowns it in strings (Charlie Chaplin's *Smile*) or pushes it into bathetic sobbing (*Childhood*), the effect is simply maudlin.

Now for my half-baked theory. Jackson seems to have split into two distinct musical personalities: the mushy lovechild and the resentful adolescent. The lovechild is unrealistically positive and sweet. The adolescent is unrealistically negative and nasty. There doesn't seem to be any middle ground — not even when the cute and the snotty show up in the same song, *HIStory*, where they alternate without ever relating to each other.

If these two Michael Jacksons ever got together, they might make some real history, instead of the hype we get here.

Ron Givens

MICHAEL JACKSON HIStory: Past, Present and Future, Book I EPIC 59000 (two CD's, 149 min)

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POPULAR MUSIC



Health & Happiness Show: earthy

over with its drive. Sustained slide-guitar notes cut like jagged lightning against the rolling thunder of the bass line while Mastro philosophizes about the life of the spirit. Such weighty stuff is counterbalanced by cool tunes like *You Is Fine*, a bouncy ode (complete with indelible riff) to a new flame: "I may be dumb, but I ain't blind / You is fine." Hit single, anyone?

Touches of country and folk, as in the hummable minor-key *Many Kindnesses*, place Health & Happiness Show squarely at the contemporary end of a venerable continuum of American music beginning as far back as Hank Williams and continuing through the creative convolutions of the Sixties. But first and foremost, H&H Show is a viable rock band making those seminal influences matter all over again in the here and now. *P.P.*

HERB JEFFRIES The Bronze Buckaroo (Rides Again) WARNER WESTERN 45639 (28 min) Performance: Runs the gamut Recording: Very good

or the uninitiated, 83-year-old Herb Jef-fries is the only black singing movie cowboy, having made a handful of B Westerns in the late 1930's strictly for a black audience. Known as "The Bronze Buckaroo," Jeffries parlayed that accomplishment into a job as a singer with the Duke Ellington Orchestra in 1939, his rendition of Flamingo selling more than 14 million copies. In "The Bronze Buckaroo (Rides Again)," Jeffries attempts to combine his jazz and cowboy interests, with mixed results. While he's blessed with a big, resonant, and mellifluous voice, and while the alternately Western-swing/bluesy-jazz backing is often sparkling, producers Jim Ed Norman and Eric Prestidge saddle Jeffries with a passel of duet guests, including cowboy/pop singer Michael Martin Murphey, the jazz a cappella group Take 6. countrypop performer Cleve Francis, Rex Allen, Jr., and the Mills Brothers. Even TV actor/ musician Hal Linden drops in on the proceedings with his clarinet.

The pairing with Murphey, Pay Day Blues (one of four Jeffries originals), doesn't work all that well because of the canvon-deep differences in the timbres of their voices and their singing styles, but the performance manages to be charming nonetheless. Down Home Cowboy, where Jeffries is joined by Francis, drags along every Western motif under the setting sun, such that the vocals simply don't matter. And Back in the Saddle Again, the duet with Rex Allen, Jr., has merely a novelty-song glee about it, despite a grand pedal-steelguitar solo. But the innovative rendition of Tumbling Tumbleweeds (with Take 6) really goes places, as does Lonesome Rider Blues, which successfully marries the West to the blues.

Jeffries and his producers would be smart to do a straight album next time, without all the guest stars. Chances are, he'll make a far better record, and one truer to his own spirit. A.N.

DAVE MALLETT ... in the Falling Dark VANGUARD 79480 (38 min)

Performance: Warm and fuzzy Recording: Excellent

coustic/folk performer Dave Mallett is like countless other amply-baritoned singer/songwriters who fill tiny clubs and coffeehouses coast to coast, offering universal truths and insightful looks at love and the human condition from the backside of a guitar. His songs are unfailingly pleasant weddings of light melody and descriptive rhyme, and occasionally --- most often when he finds a good co-writer - memorable portraits of Those Less Fortunate Than We. There are two such songs in this collection: Daddy's Oldsmobile, co-written with Hal Ketchum, in which a once middleclass family is reduced to living in their car, and Closer to the Truth. co-written with Lance Cowan, which sounds like an AIDS lament ("We are dying for love / In dangerous times"). Mallett can veer a little too close lyrically to Rod McKuen territory (Hope for One and All), but he balances his sentimentalism with unexpected piano solos, jazzy instrumental takes, and, in Way Out West, the beginnings of a good horse opera. It's hard not to like a guy who finds true love on a wagon train. A.N.

PINK FLOYD Pulse COLUMBIA 67065 (two CD's, 143 min) Performance: Unnecessary

Recording: Sumptuous Pink Floyd's latest live disc doesn't have a lot of new ideas or new material, but it does have a groovy, flashing red light embedded in the package's spine. Of course, the light burns out after a few months, which is appropriate, since the band burned out years ago.

Once a genuinely innovative act, Pink Floyd has become its own tribute band. Only five years and one studio album have passed since the band last released a live double CD, "Delicate Sound of Thunder," which was largely given to rehashes of Seventies material. Now they're doing rehashes of rehashes; more than half of the songs on "Pulse" appeared on "Thunder." The arrangements here are even closer to the studio recordings, notably in a carbon-copy performance of the entire "Dark Side of the Moon" album that includes all the original. prerecorded segues. This is the Classic Rock radio version of Pink Floyd, sticking with the most obvious album tracks and recent rewrites of same. Only one song (a great one, Astronomy Domine) comes from the Syd Barrett years, and even David Gilmour's guitar solos are less freewheeling than usual; not once do they carry a song to somewhere it's never been before, as they regularly did during the band's performing peak.

There are precious few traces in "Pulse" of the adventurous spirit that was behind landmark albums such as "Ummagumma" and "Wish You Were Here." In other words, the flashing red light may be on, but nobody's home. Brett Milano

LE PROFESSEUR "NUTTY" ... CHANTES SEULMENT!

esdames et messieurs, let us now take note of Razor & Tie's CD reissue of "Jerry Lewis ... Just Sings!" (2079) - and let us do so without any irony or cheap shots at a certain European country famously obsessed with the comic auteur. Originally released in 1956, when le Jerry's Jolsonesque take on Rocka-Bye Your Baby with a Dixie Melody was an unexpected smash hit, "Just Sings!" is a collection of similar standards, now fleshed out with an actual Rock-a-Bye outtake in which l'idiote stupide does his trademark "Laaaddyyy!!!!" At last, here's a CD whose je ne sais quois truly says, "I don't know what." SS















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The American Music the horns (among other instruments) and turned it into this thing called jazz. Hold



Samplesival solo sheet). But hurry, guys like this sell out fast. Dig?





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POPULAR MUSIC

SHOES Fret Buzz BLACK VINYL 10495 (45 min) Performance: Punchy Recording: Good

Shoes are power pop's Little Engine That Could, chugging along indefatigably while keeping the faith for a type of music that, like black-vinyl records, is a slender piece of the musical pie in this day of formulaic dance tracks and clueless punk/



alternative copycats. "Fret Buzz" (great title!) is a compendium of this band from Zion, Illinois, a sort of greatest-hits package recorded live in Chicago in December 1994. All crunching chords and choirboy voices, it burns along with a little more sizzle and immediacy than what the studio allows. The group segues swiftly from one tune to another, building a head of steam without losing its suburban cool (solos do crop up, but only briefly). The song's the thing, and it's this to-the-point concision that makes the versions of *Tore a Hole* and *Animal Attraction* such steady, driving pleasures (and a ton of fun for air guitarists).

Admittedly, there's room for growth in Shoes' musical universe, and a couple of songs here just aren't special enough to merit inclusion in the band's concert repertoire. But by and large, "Fret Buzz" is a hard-candy treat from a group that has pledged its allegiance lo these many years to no-frills pop. *P.P.*

SOUL ASYLUM Let Your Dim Light Shine COLUMBIA 57616 (50 min) Performance: Heart on ragged sleeve Recording: Very good

ast time out, Soul Asylum had its breakthrough album in the multi-Platinum "Grave Dancers Union." Now, as if to forestall charges from the peevish keepers of the alternative-rock gate that the Minneapolis quartet has gone soft, the guys have retained Butch Vig (Sonic Youth, Nirvana) as their co-producer for "Let Your Dim Light Shine." The result is a good, solid record, as defiantly ragged and righteously rocking as a fan could hope for at this juncture.

Soul Asylum's main man, Dave Pirner, can knock out a melodic punk-pop tune with the best of 'em; he's the alternative movement's Tom Petty (who was, in turn, the early New Wave's Roger McGuinn). Pirner also sounds like he's, ahem, under the volcano. Liberal references to boozy nights and bleary eyes litter this record like puddles of spilt beer in a roadhouse saloon. "Shouldn't-a got so loaded / Damn near exploded," he sings in *To My Own Devices* with self-effacing, morning-after wit. "My mind's gone to pieces / I could use some peace of mind." he puns in *Bittersweetheart*, a Petty-ish tune full of rueful selfrecrimination. In *Shut Down*, amid a hail of lacerating chords, Pirner growls, "I can't keep from getting down / And I grow tired of hangin' round / I become invisible, unlivable, just dysfunctional / Shut down, shut down, shut down." No, this is not the feelgood record of 1995.

Yet this is one strong, funny, and uncompromising record. Soul Asylum bears down hard in Caged Rat, with a fury recalling the band's origins in the early Minneapolis hardcore scene, before the world got all warm and runny over Runaway Train. Speaking of which, Promises Broken is the new album's Pick to Click in the doe-eved folk-rock mode, a well-crafted tune with a drop-dead chorus that reaffirms Pirner's gifts as a songwriter. That said, he grossly overreaches on a couple of story songs (String of Pearls, Eyes of a Child), which are the lyric-writing equivalent of projectile vomiting, with more verbiage than Bob Dylan at his most intensely prolix. Still, two out of fourteen songs verging on overkill isn't so much a trend as a lapse. For the most part, Pimer and Soul Asylum are in control - even as they sing of being out of control. ΡP

WANDERLUST Prize RCA 66575 (48 min)

Performance: A new Fab Four? Recording: Excellent

wanna feel new / So new / Like a radio that's playin' a brand-new song." Those words, from the start of Wanderlust's wonderful debut, are borne out in music that sounds tantalizingly familiar yet utterly



fresh. There's a renascent thrill of discovery in track after track where the music harks back to the emotional edginess, energy, and spine-tingling melodic drive of the very best Sixties pop. "Prize" is a kind of "Meet the Beatles" for a world thirty years older but no less (and maybe more than ever) in need of well-crafted songs that awaken a long-dormant sense of positivity — of being fully engaged in life's possibilities, even when reality draws a few tears or a little blood. Truly a band effort, "Prize" finds guitars, voices, and drums locking into a song and riding along its cutting edge, like a surfer who fearlessly stays with a wave. What's particularly interesting is how some Seventies influences — I hear faint traces of ELO in *Deepest Blue*, REO Speedwagon and Boston in *Wanna Feel New*, Lynyrd Skynyrd in *Prize*, and a sort of Queenly grandeur throughout — are subsumed in an appealingly unpretentious popcombo sound, returning the music full circle to the vitality of its early Sixties origins and opening the door to an exciting new turn of the wheel. *P.P.*

THE WIZARD OF OZ (Original Motion-Picture Soundtrack, Deluxe Edition)

RHINO 71964 (two CD's, 136 min) Performance: A+

Recording: Impressively re-edited

alk about complete! Whichever soundtrack album of the 1939 movie classic you've grown up with, Rhino's new edition beats them all. Not only does it include extended versions of previously released tracks (both incidental music and songs), it also offers more than twenty alternate versions and outtakes. This means you get Judy Garland's heartwrenching reprise of Over the Rainbow (dropped from the final film) plus complete versions of edited songs by Bert Lahr, Ray Bolger, and Jack Haley, as well as Buddy Ebsen's version of the Tin Man's song (recorded before makeup poisoning felled him and Haley replaced him in the role). Best of all is the seamless reinsertion of all of Herbert Stothart's Oscar-winning incidental music, which adds much to the Haunted Forest and Witch's Castle sequences in particular. The liberally illustrated 48-page book includes documentation by top Oz historian John Fricke that clearly delineates the plentiful bonuses from the final soundtrack edits we've known up to now — and goes a long way to making this release a genuine classic on its own. RH

> NEIL YOUNG Mirror Ball REPRISE 45934 (55 min) Performance: Deep Recording: Dramatic

on't want to get hyperbolic here, but "Mirror Ball" just might be a really important album. It's easily the best use Neil Young has made of one of his favorite lyrical themes - a hippie survivor facing the betrayal of Sixties ideals and holding out for peace and love against the odds. It's no wonder the young idealists in Pearl Jam. who back him here, sound so much at home with this material, and it wouldn't be a stretch to call their performances some of the most impassioned playing they've done. "Mirror Ball" would still have sounded epic, and maybe a little grungier, if Young had made it with Crazy Horse instead, but Pearl Jam gives it a more desperate kind of grandeur.

Starting with the ominous chantey Song X, there's as much foreboding in "Mirror Ball" as there has ever been in a Young album. *Peace and Love* (with Eddie Vedder's only co-lead vocal) ponders the end of the





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QUICK FIXES

FRANK CHRISTIAN From My Hands

PALMETTO 2011 (46 min)

Nanci Griffith's guitarist steps out with a beautifully crafted collection of smoky-voiced jazz/folk/blues, featuring contributions by the Band's great Garth Hudson as well as by Griffith herself. First-rate all the way, with originals strong enough to stand up to an exquisite cover of *Brother* Can You Spare a Dime? S.S.

HAPA

COCONUT GROVE 017309 (48 min) Record-company executives have prophesied for decades that the next big thing will be Hawaiian, and if it's going to be as pretty and melodious as the music of the group Hapa, suggesting a carefree beach

party, I want it now. William Livingstone

PEARL HARBOUR Here Comes Trouble

SHATTERED 006 (41 min)

Ms. Harbour, the fondly recalled New Wave chanteuse, returns with a larger hairdo, a fine supporting punkabilly band, and a collection of mostly very funny and legitimately rocking songs whose collective theme might be summed up as *ldolize Me* (not coincidentally, one of the best numbers here). Trashy, over the top, and thoroughly entertaining. *S.S.*



JERRY LEE LEWIS Young Blood

SIRE 61795 (39 min)

Produced by the obviously simpatico Andy Paley and accompanied by guitar hero James Burton, ex-Car Elliot Easton, and various NRBQ's, the Killer breathes fire in a collection of rockabilly stompers that have that mono, echo-laden Sun Records sound down cold. His best album in years; in fact, maybe his best album qua album ever. S.S.

OUT OF IRELAND (Original Film Soundtrack)

SHANACHIE 79922 (58 min) The score for the PBS special does not contain the trite jigs and maudlin songs commonly associated with Ireland. It is nearly an hour of evocative music — at times melancholy, at times happy, and always atmospheric. WL.

THE RECORDS

Smashes, Crashes, and Near Misses CAROLINE 1250 (74 min)

A long-overdue hits package from the skinny-tie power-pop band best remembered for the transcendent *Starry Eyes*. Actually, these guys had lots of songs just as good (Mary Chapin Carpenter, of all people, has been doing their *Hearts in Her Eyes* as an encore lately). Fans of Badfinger or the Smithereens should investigate this CD without delay. *S.S.*



DONNA REED'S DINNER PARTY

NICK AT NITE/550/EPIC 67148 (35 min) A low-concept album featuring sedate Fifties and Sixties pop hits like Shelley Fabares's Johnny Angel and Mike Douglas's The Men in My Little Girl's Life (a song so unintentionally bizarre that it may someday inspire a David Lynch movie). The real-life Donna Reed, who's considerably hipper than this CD suggests, must be cringing. S.S.

SAVOY BROWN Bring It Home

VICEROY 8018 (59 min)

No, I didn't know they were still together either, but for a band that's been playing solid (if not always inspired) blues rock since forever, "Bring It Home" is a lively piece of work. Blues purists take note: Howlin' Wolf guitar great Hubert Sumlin guests to good effect on one track. Seventies enthusiasts take note: So does Foghat's Lonesome Dave Peverett. S.S.

THE TREBUNIA FAMILY BAND Music of the Tatra Mountains

NIMBUS 5437 (72 min)

This rare example of an esoteric strain of Polish folk music that has inspired such classical composers as Szymanowski and Gorecki sounds authentic enough to thrill ethnomusicologists, but it also sounds a bit acid and rough enough to make the average listener long for Bobby Vinton to sweeten the combination of mountain voices and scratchy fiddles. *W.L.*

WESLIA WHITFIELD Nice Work ...

LANDMARK 1544 (56 min)

First, there's Weslia Whitfield's impeccable taste in Grade A (but not overdone) songs by the likes of Rodgers and Hart and Gershwin. Best of all, though, is the frequently witty, occasionally irreverent but never disrespectful handle she and the easy-swinging Mike Greensill Trio get so deftly on both words and music. *R.H.* dream, while Scenery can go one-on-one with most of "Tonight's the Night" for sheer self-pity. There are a couple of unsettling fragments with pipe organ, and the album's centerpiece. I'm the Ocean, is a preapocalyptic dream in the mold of Cortez the Killer. Still. "Mirror Ball" is neither a throwback nor a bummer; what comes through strongest is the dogged optimism that allows Young to get resonance out of a sentiment like Throw Your Hatred Down. In the tough, blues-rocking Downtown he imagines a hippie utopia, complete with dancing in the aisles and Jimi Hendrix jamming onstage, as Young practically dares you to laugh. Me, I'm coming along.

Brett Milano

WARREN ZEVON Mutineer GIANT 24618 (36 min) Performance: Good and weird Recording: Weird and good

Warren Zevon is the only rocker I can think of whose work has gotten more idiosyncratic post-detox. Even among recent Zevon albums. "Mutineer" is an oddity. Considerably less catchy than "Sentimental Hygiene" and less fun than the overlooked "Mr. Bad Example," it's a cranky, dark-humored. slightly depressing, and barely produced set that will do absolutely nothing for Zevon's commercial standing. More power to it.



Zevon always puts at least one flat-out creepy song in each album, but "Mutineer" is his first album to include nothing but. The lyrics are about, well, everyday stuff: guys who have pathological obsessions with pianos, circus clowns getting mugged, rednecks who keep killer dogs for pets, junk-bond dealers hiding out in bingo halls. Similar to Rain is a contender for the darkest love song in his catalog, while The Indifference of Heaven includes the nastiest swipe at Bruce Springsteen that anyone's taken lately. And the version of a hippie/ Jesus song from 1972. Judee Sill's Jesus Was a Cross Maker, is more an ominous parody than a straight cover. Zevon's oneman arrangements usually sound like you're hearing a band — a really sloppy band with three synthesizer players, that is and his voice has the same psychopathic edge it had on "Excitable Boy." The only difference is that Zevon doesn't necessarily sound like he's kidding anymore.

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POPULAR MUSIC



CHET BAKER Embraceable Yau PACIFIC JAZZ 31676 (39 min) Performance: Soothing Recording: Good

Whether he played his trumpet or sang, there was always an unusual gentleness about Chet Baker's performances unusual because jazz musicians rarely whisper their artistry with such consistency. Drugs eventually claimed Baker, who fell, jumped, or was pushed to his death out of an Amsterdam hotel window in 1988. "Embraceable You" was made in 1957 but, except for *Trav'lin' Light*, was not released until now. The liner notes don't explain the delay, but there is something very different about this session; it almost sounds like an impromptu get-together in somebody's living room. Accompanied only by guitarist David Wheat and bassist Ross Savakus, Baker is on the verge of somnambulance. In fact, if he were any more laid-back on this

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tour of familiar ballads, you'd hear little of it before falling asleep yourself. I don't mean to imply that "Embraceable You" is boring, but rather that Baker's silken vocals and soft brass tone are relaxing to a fault. How fortunate, then, that the album runs for only 39 calming minutes. C.A.

GRANT GREEN Green Street BLUE NOTE 32088 (54 min) Performance: Nimble Recording: Very good

GRANT GREEN/DONALD BYRD His Majesty King Funk/ UP with Danald Byrd VERVE 527 474 (75 min) Performance: Dated Recording: Thin

ixties Blue Note could mean funk or S formal experimentation, and no one on the label's roster better epitomized this duality than the late Grant Green, a downhome guitarist receptive to new ideas. "Green Street," a pianoless trio date from 1961 with Ben Tucker on bass and Dave Bailey on drums, captures Green at his nimble and unpretentious best, even though it lacks the sting of his slightly later "Talkin' Bout" and "Idle Moments." Also available as an audiophile LP, this entry in Blue Note's Connoisseur Series includes two previously unissued alternate takes. (Strictly as an aside, hasn't anyone noticed, after all these years, that Green's Green with Envy borrows everything but its title from Horace Silver's Nica's Dream?)

The Verve twofer CD combines Green's "His Majesty King Funk" and trumpeter Donald Byrd's "UP," two 1965 albums that converted funk into a witless formula that likely sounded dated even then. "King Funk" at least offers churning solos by tenor saxophonist Harold Vick and organist Larry Young; probably at the suggestion of producer Creed Taylor, Green uncharacteristically emulates Wes Montgomery's octaves. Byrd's half of the CD is entirely without merit - unless your idea of good jazz is abbreviated horn solos and a chorus of indifferent soul sisters making bubble gum out of numbers by John Lee Hooker and Jimmy Reed. FD

LIONEL HAMPTON In Paris VOGUE/RCA VICTOR 68214 (76 min) Performance: And a good time was had...

Recording: Fine remote n the Fifties, as American musicians were flocking to Europe to thrill jazz-starved

flocking to Europe to thrill jazz-starved Continentals, the French Vogue label was busy capturing the stars for posterity. Now, courtesy of RCA, those sessions are finally being issued here. "Lionel Hampton in Paris" features only a contingent from Hamp's band, including James Cleveland and Clifford Scott. When Hampton was asked to bring along one of his trumpeters, he bypassed Art Farmer and Clifford Brown in favor of Walter Williams, who plays a fiery Eldridge-like solo in *Walking at the Trocadero* (and who actually does a fine job throughout this set). Alix Combelle, who

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POPULAR MUSIC



Jimmy Smith: king of the B-3

participated in Coleman Hawkins's celebrated 1935 Paris sessions, was a member of the audience until Hamp persuaded him to join in.

It all adds up to a spirited, straight-ahead swing record that sounds surprisingly organized considering how haphazardly it was put together. Hampton's soft *I Only Have Eyes for You* and his lengthy statement in *Blue Panassie*, which also features Mezz Mezzrow, are high points of a goodhumored hour. *C.A.*

ROY HARGROVE Family VERVE 630 (79 min) Performance: Embrace it Recording: First-rate

was quite impressed with Roy Hargrove's debut album, some five years ago. We've heard many fine sounds from him since then, and it's good to see that as his reputation has grown, so has his artistry - which is not always the case (but I won't mention any names). "Family." Hargrove's second release since moving from Novus to Verve, is a concept album in which the members of his quintet (tenor/soprano saxophonist Ron Blake, pianist Stephen Scott, bassist Rodney Whitaker, and drummer Gregory Hutchinson) are occasionally augmented by musicians who have directly or indirectly influenced him. The album also honors the 25-year-old trumpeter's immediate family with a trilogy of impressionistic pieces dedicated to his mother (Velera), father (Roy Allan), and younger brother (Brian's Bounce).

It is not possible for me to pick out favorite tracks among the fifteen, but I would be remiss if I didn't mention a lovely, brooding rendition of *The Nearness of You*, in which Hargrove plays flugelhorn and draws his inspiration from Sarah Vaughan. David "Fathead" Newman, a fellow Texan and an early motivator, helps nudge the Hoagy Carmichael tune gently along with his deep-throated tenor. Equally compelling are Larry Willis's *Ethiopia*, which Hargrove plays in duet with bassist Walter Booker, and a kid-gloves rendition with altoist Jesse Davis of *Polka Dots and Moon*- *beams*, another ballad made memorable by Vaughan. This is Roy Hargrove's finest release to date. *CA.*

CHARLIE HUNTER TRIO Bing, Bing, Bing! BLUE NOTE 31809 (57 min) Performance: Bingo! Recording: Excellent

Because San Francisco's Charlie Hunter (once heard playing behind Michael Franti in the Disposable Heroes of Hiphopracy) makes such deft use of what I take to be Synclavier and the two extra bass strings on his guitar, his trio with drummer Jay Lane and tenor saxophonist Dave Ellis frequently sounds like Morphine without the Leonard Cohen-esque vocals, and just as frequently like a jazz organ combo without the organ. Is this what the young folks call "acid jazz"? Don't ask me; I'm still trying to figure out why they call poetry "spoken word." All I know is that Hunter's whiteboho approach to declassé black music of three decades ago is ingenious and refreshing, entirely free of the ironic posturing that usually dooms such endeavors (nothing here sounds like it's between quotation marks). The choice cuts are a throbbing cover of Nirvana's Come us You Are and Hunter's own Lazy Susan (with a Client Now), with its whirling improvisations by Ellis, clarinetist Ben Goldberg, and trombonist Jeff Cressman. But everything here bops along nicely, even though Hunter occasionally overdoes the wah-wah. F.D.

JIMMY SMITH Damn! VERVE 631 (62 min)

Performance: Organic Recording: Quite good

• rganist Jimmy Smith made a series of albums for Blue Note that teamed him with some of the best sidemen bop had to offer, and his playing was technically dazzling and intensely swinging. What brought Smith into the limelight, however, was the highly commercial mix of organ and brass he employed at Verve, resulting in such hits as A Walk on the Wild Side, Slaughter on Tenth Avenue, and Got My Mojo Working. By the Seventies, Smith had all but faded from view, but after resurfacing at a Car-

Roy Hargrove: a family affair



negie Hall concert celebrating Verve's 50th anniversary, the label signed him up again,

The initial result is "Damn!." as Smith revisits some of his old milieus. He opens with a pedestrian Papa's Got a Brand New Bag, the James Brown number that now sounds like a very old bag indeed, but things pick up when Smith gets into his old bop groove. Superbly aided by the likes of trumpeters Roy Hargrove and Nicholas Payton, tenor saxophonist Mark Turner, and bassist Christian McBride, Smith goes into orbit in Sister Sadie (he always had a fondness for Horace Silver). Scrapple from the Apple, Woody 'n' You, and Curtis Fuller's A la Mode. Drummer Art Taylor is also on hand for all but two tracks (in what turned out to be his final session). Verdict: Jimmy Smith is as vibrant as ever. C.A.

BARNEY WILEN New York Romance SUNNYSIDE 1067 (64 min) Performance: Effortlessly lyrical Recording: Warm

t makes sense that collectors who comb the bins for Lucky Thompson are generally also on the lookout for used LP's by Barney Wilen, a veteran French saxophonist whose solos are as harmonically astute and as effortlessly lyrical as the elusive Lucky's without sounding overly derivative. Very few of Wilen's albums have been issued domestically, which means that this quartet date from just last year (with Kenny Barron on piano and Rudy Van Gelder at the controls) should go straight to the top of your list. Wilen plays Lars Gullin-like baritone as well as Thompson-like tenor and soprano, and you won't believe how airy Don't Fence Me In and Mack the Knife sound as ballads. F.D.

> THE PHIL WOODS QUARTET/QUINTET 20th Anniversary Set MOSAIC 159 (five CD's. 273 min) Performance: Terrific Recording: Excellent

f I were asked to name musicians whose talent far exceeded their recognition, Phil Woods would certainly be very near the top of the list. A Juilliard alumnus who spent his formative years with big bands led by Neal Hefti and Charlie Barnet, Woods emerged on the scene at roughly the same time as the death of Charlie Parker, whose disciple he was - and for a while Woods was even being hailed as "the new Bird." Mosaic's box set is an extraordinary collection of superb quartet/quintet performances recorded between 1976 and 1992, all previously unissued. Bassist Steve Gilmore and drummer Bill Goodwin have been with Woods since 1974, and they form a solid rhythmic foundation for his often highly emotional improvisational flights. Other players include trumpeters Tom Harrell and Brian Lynch, trombonist Hal Crook, and three pianists - Mike Melillo, Hal Galper. and Jim McNeely. Zoot Sims appears in one track from a 1976 Japan concert. All players are heard to advantage in this exquisite collection. (Available by mail-order only: telephone 203-327-7111.) C.A.



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CLASSICAL MUSIC

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



ARENSKY: Piana Trios Beaux Arts Trio PHILIPS 442 127 (63 min) Performance: Committed Recording: Warm

nton Arensky's great admiration for Ahis near-contemporary Tchaikovsky is manifest in his most familiar work, a set of variations for strings on one of Tchaikovsky's songs, and is hardly less evident in the two piano trios. The slow movement of the earlier of the trios (in D Minor, Op. 32) is a concise and tasteful Elegia: its counterpart in the seldom-heard Second Trio (in F Minor, Op. 73) is a similarly touching Romanza. Both trios have bright-eyed, somewhat Mendelssohnian scherzos preceding the slow movement in No. 1, following it in No. 2. While No. 1 has an expansive opening movement (with an extended adagio resolution) and a brief finale, No. 2 opens with a more conventional allegro and ends with a sequence of variations on an apparently original theme.

The music, of course, could hardly be in better hands. The Beaux Arts Trio's pianist, Menahem Pressler, manages to play with tremendous dash without calling attention to himself. Nothing is overstated, and we are not allowed for a moment to think that Pressler and his associates regard these trios as mere "vehicles." Their belief in the music is unchallengeable, and the recording itself has a soft-focused warmth well suited to the material. *R.F.*

BEETHOVEN: Cella Sanatas (complete); Variations on Handel and Mozart Krosnick: Kalish

ARABESQUE Z6656 (two CD's, 145 min) Performance: Very good Recording: Excellent

Cellist Joel Krosnick (of the Juilliard Quartet) and pianist Gilbert Kalish are mostly associated — on records at least with twentieth-century repertoire. Thus it comes as something of a surprise to find them essaying the five Beethoven cello sonatas along with his variations on a theme from Handel's Judas Maccabeus and two sets of variations on arias from Mozart's The Magic Flute. The first two sonatas are early works, as are the lightweight variations: both sonatas are in only two movements, opening with weighty, slow introductions and concluding with unusually elaborate and expansive allegros. The lovely - indeed, flawless - Sonata No. 3, in A Major, adheres most closely to the Classical model. The last two sonatas, comprising Op. 105, are in the territory associated with the late piano sonatas and late string quartets. 1 am especially partial to No. 5, with its sublime slow movement and challenging fugue-textured finale.

The performances are utterly scrupulous stylistically and in every fine point of technique, representing chamber-music collaboration of the best sort. The piano is somewhat more to the fore in the early sonatas. but the players are fully equal partners in the later works. There is no cult of personality at work here but rather a pair of fine artists functioning as a single organism, with Classical objectivity tempered by a finely honed feel for dynamics and phrasing. The opening pages of the Third Sonata are a case in point, and I was also struck by the ravishing loveliness of the performers' hand-in-glove oneness in the adagio cantabile beginning of its third movement. Kalish's pianism is a delight in the rondo of Sonata No. 2. and both partners do themselves proud in the final sonata. They not only convey all the fierce contrasts of the first movement and the sublimities of the adagio, but they limn the linear elements of the finale with the utmost clarity and yet a lightness of touch that makes it a joy to hear. The recording is crystal clear and fulltextured all the way. DH

BERLIOZ: The Damnation of Faust

Moser, Graham, Van Dam, Caton: Chorus and Orchestra of the Lyons Opera. Nagano ERATO 10692 (two CD's. 122 min) Performance: Vital Recording: Very good

For more than twenty years, Colin Davis's Philips recording of this unique "dramatic legend" has led the field. I still prefer it, but Erato's entry is a strong runner-up. Conductor Kent Nagano, who has accomplished remarkable results with his Lyons ensemble in operas by Poulenc and Prokofiev, here proves himself an equally adept Berlioz interpreter. He is attuned to the mercurial shifts in this magical work now delicate, now slashing — and reveals its sonorities in transparent clarity. Davis's pacing of the dialogues is more relaxed and his choruses more effectively balanced, but otherwise Nagano's leadership is on the same high level.

Baritone José Van Dam's top range sounds effortful in his first aria ("Une puce gentille"), but in other respects his mordant Méphistophélès is full of telling nuance, enhanced by his exemplary enunciation and

Dressed to Trill



Mezzo-soprana Ann Murray

andel wrote some of the greatest opera arias for the preferred singers of his day, the castrati (recently returned to fame by the movie Farinelli). In our relatively humane modern age these roles have fallen most often to mezzo-sopranos like Janet Baker, Marilyn Horne, and, perhaps the best of the breed today, Ann Murray. In late September Murray appears at the Lyric Opera of Chicago in Xerxes, and France's Forlane label is releasing a new disc of "Great Handel Arias" on which she is accompanied by Charles Mackerras and the Orchestra of the Age of Enlightenment. Forlane is now distributed here by Allegro Imports.

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firmly focused tone. Enunciation is not soprano Susan Graham's strong point, but she sings Marguerite's music sweetly and touchingly. Much of Thomas Moser's singing is admirable, but the many long-held notes sprinkled throughout Faust's taxing music expose a persistent beat in his tenor voice. Good notes and a trilingual libretto come with the set. *G.J.*

BORODIN: Prince Igor

Gorchakova, Borodina, Kit, Grigorian, others; Kirov Opera and Chorus, Gergiev PHILIPS 442 537 (three CD's, 209 min) Performance: Exciting

Recording: Vivid

Borodin's *Prince Igor*, left unfinished at his death, has had what must be the most tortuous textual history in all of opera. It was finished and orchestrated jointly by Rimsky-Korsakov, Borodin's friend, and by his star pupil, Glazunov. They worked from rough notes and odd scraps that Borodin had scribbled, scratched out, and rescribbled. Much of this material has since disappeared, including his list of the order of the scenes, which Rimsky and Glazunov apparently did not follow. A few years ago the Mariinsky Theater, where *Prince lgor* had its première in 1890, commissioned a new performing edition, which includes a large amount of new material orchestrated by someone named Yuri Faliek. Infuriatingly, the booklet provided with this recording of that edition doesn't give any information about Borodin's latest collaborator.

Prince Igor has long had a reputation for being a shapeless, rambling work stuffed with grand and glorious music. The music never sounded grander or more glorious than it does here under Valery Gergiev's direction. The pulsing rendition of the famous Polovtsian Dances, vibrantly recorded by the Philips engineers, will make you want to pick up your saber and dance. The new edition's order of scenes makes much more dramatic sense than those of its predecessors (though it is by no means clear that this opera needed to be made *longer*).

The soloists are excellent, proving once again that Russian opera only sounds right with a Russian cast. The women, mezzo-soprano Olga Borodina and soprano Galina Gorchakova, wrap their splendid voices around the complex lines with soaring ease. Bass Mikhail Kit sings the title role with

Romantic and Radical Schoenberg

Daniel Barenboim's remarkably intense and beautifully played new Teldec recording of Schoenberg's *Transfigured Night*, with the strings of the Chicago Symphony Orchestra, not only supersedes his own 1960's recording with the English Chamber Orchestra (still available on EMI) but is surely one of the most appealing from any source in years. The question arises, though,

as to whether admirers of this sumptuous gem of Late Romanticism will be attracted to its companion works on the disc, which present a later and quite different aspect of their composer — and, for that matter, whether alternating orchestral works with pieces for piano solo is a good idea.

That very alternation, however, provides an illuminating chronological progression as well as an effective interlude, or transition, between the expansive and the strikingly concise (but surely no less intense) Five Pieces for Orchestra, Op. 16, in which Schoenberg's "radical" new principles were set forth in that medium ten years after the original (string-sextet) version of *Transfigured Night*. The Five Pieces and *Transfigured Night* are separated by the Three Pieces for Piano, Op. 11, and the orchestral pieces are followed by the still more concise Six Little Pieces for Piano, Op. 19. Finally, Barenboim plays Ferruccio Busoni's transcription for orchestra of the long middle piece from Op. 11, which amounts to a thorough recomposition.

This is imaginative programming, and all the performances are on the highest level. Teldec's sonics, for the solo and



orchestral items alike, are splendid, and the documentation is quite exceptional. Admirers of Schoenberg's piano music may already have Maurizio Pollini's Deutsche Grammophon disc of all of it, and the Five Pieces turn up in various orchestral collections — though Barenboim conducts the orig-

inal 1909 version, which is more richly scored than the composer's 1949 revision favored by some other conductors. *Bichard Freed*

SCHOENBERG: Transfigured Night; Five Orchestral Pieces, Op. 16; Piano Piece, Op. 11, No. 2 (arr. Busoni) Chicago Symphony, Barenboim cond. Three Piano Pieces, Op. 11; Six Little Piano Pieces, Op. 19 Daniel Barenboim (piano) TELDEC 98256 (77 min) the right Balkan tang but does not, in the end, quite achieve the regal stature the part calls for. Most pleasurable of all for me was tenor Gegam Grigorian's performance as Vladimir Igoryevich; his first-act cavatina, as he awaits his lover in the moonlight, is spine-tingling. There may never be a definitive recording of this opera, but this one will do quite nicely. J.J.

BRAHMS: Piano Concerto No. 2

Leonskaja. Leipzig Gewandhaus, Masur TELDEC 94544 (48 min) Performance: Warmhearted Recording: Good

lisabeth Leonskaja has established a sol-E is international reputation as an interpreter of Russian piano music as well as of Brahms and Schumann, and she is one of only a handful of women to record that Everest of the piano-concerto literature, the four-movement Brahms Second Concerto. Unlike most of her male colleagues, she eschews the blockbuster approach to this piece. Instead, she follows Sviatoslav Richter, with whom she has played duo recitals, in plumbing its lyrical essence. Her playing is leisurely yet purposeful in the expansive opening movement, and there is a convincing impetuosity to the first pages of the succeeding allegro appassionato, although the hunting-horn episode in the middle of this movement could stand more urgency. Leonskaja and her collaborators, Kurt Masur and the Leipzig Gewandhaus Orchestra, come most fully into their own in the last two movements, which are highlighted not only by beautifully inflected piano playing but also by Jörnjakob Timm's meltingly lovely cello solo. The finale is a delight, with a wonderful gypsy flavor from the orchestra when the "big" tune takes center stage.

The live recording is excellent and, I'm happy to say, free of concluding applause. The Gewandhaus hall can sound a bit cavernous in recordings, but the presence of a very well-behaved audience helps keep the decay time under control. If you like your Brahms both heartfelt and tasteful, you'll find this a most satisfying CD. D.H.

BRETAN: Golem; Arald

Soloists: Moldova Philharmonic, Mandeal NIMBUS 5424 (73 min)

Performance: Uneven but interesting Recording: Good

Nicolae Bretan (1887-1968) was a native of Transylvania, a land long part of Hungary but ceded to Romania after World War I. A trained singer himself, he knew how to write singable music. The two oneact operas on this CD, sung in Romanian, are beautifully written for voices in their natural registers, and the orchestration, although skillful and effective, is the obedient servant of the vocal lines.

Golem is based on a Hungarian play dealing with an ancient legend about a man of clay created by Rabbi Löw, a fifteenthcentury alchemist. Golem, a noble soul, suffers because, denied the power of procreation, he is doomed to a temporary existence. When he falls in love with the rabbi's granddaughter, he defies his creator and is destroyed by him. Written in 1923, the
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opera alternates between ariosos and melodic recitatives. It may be old-fashioned, but I find it strikingly beautiful.

Arald, inspired by a Romanian poem (Bretan himself wrote the librettos of both works), is something of a mystery play dealing with a variant of the Orpheus legend. except that its title character is a warrior, not a musician. It shares all the qualities I cited in *Golem*, but its melodic and emotional appeal are slightly less.

Alexandru Agache, a baritone of considerable international eminence, sings the Golem's yearning and painful music with affecting beauty, and he brings the same moving quality to the music of *Arald*'s mysterious Seer. Tenor Tamas Daroczy makes Rabbi Löw's inner torment palpable, and tenor lonel Voineag offers a stalwart Arald. The weak element is soprano Sanda Sandru, whose wavery tones rob *Golem*'s finale of its inherent beauty.

It would be easy to dismiss these operas created in the 1920's in an idiom totally free of modernist influences. But for operagoers who value inspired melodiousness, 1 strongly recommend this disc. *G.I.*

COUPERIN: Harpsichord Pieces, Book I

Christophe Rousset HARMONIA MUNDI 901450 (three CD's, 181 min) Performance: Supremely stylish Recording: Lots of depth

François Couperin's harpsichord works are considered "national delicacies" in France, but they can seem startlingly trivial to ears expecting the sort of thematic development and contrapuntal rigor we find in Bach and Beethoven. That is especially the case for this final release in Christophe Rousset's traversal of Couperin's complete harpsichord music, which began with Book IV. continued with Books III and II, and here ends at the beginning with Book I, a volume of pieces that predate the first of the composer's several midlife creative breakthroughs. Like Bartok's Mikrokosmos, the music is more fun to play than to hear in long sittings, and yet it claims the ear's attention by virtue of its charm.

Anyone who has enjoyed the previous recordings in the series won't want to miss this new one. Besides showing what Couperin started from, this uneven volume has gems sprinkled throughout. Rousset seems to enjoy getting lost in a piece and going wherever it takes him. The elasticity of his tempos gives the music a wonderfully conversational feeling, and the way his 1624 harpsichord vividly colors the sound makes these works come off as less polite than you might expect — even engagingly impertment. *D.P.S.*

GOLDMARK: Violin Concerto BRUCH: Violin Concerto No. 2 Hu; Seattle Symphony, Schwarz DELOS 3156 (60 min) Performance: Sumptuous Recording: Full-blooded

The Goldmark Violin Concerto has superb qualities without being a first-rate piece overall. There are fine dramatic contrasts in the opening movement, the slow movement is meltingly lovely, and the splendidly bouncy polonaise-like finale has a long and dazzling cadenza. Taiwan-born Nai-Yuan Hu, now in his middle thirties, stresses the lush, Romantic aspects of the music, at least in terms of playing with a very rich tone. Luckily, he shows more restraint when it comes to the phrasing and dynamics. But the cadenza at the end is still a real knockout.

Bruch's Second Violin Concerto, in D Minor, written a decade later than the surefire G Minor, did not impress me when I heard the 1954 Heifetz recording, and not even Hu's loving ministrations can change my mind about it. There is a certain visceral excitement in the impassioned middle movement and virtuosity aplenty in the finale, but the music as a whole lacks the pizzazz and uninhibited schmaltz of Bruch's First Concerto.

Gerard Schwarz and his Seattle players provide Hu with alert and virile orchestral support. The rich sonics are superb on all counts, including a flawless balance between the soloist and the orchestra. *D.H.*



MESSIAEN: Concert à Quatre; other works

Cantin, Holliger, Loriod, Rostropovich; Bastille Opera Orchestra, Chung DEUTSCHE GRAMMOPHON 445 947 (65 min) Performance: Fabulous Recording: Excellent

ate in life. Messiaen wrote large, sprawling works that seemed crammed with everything he'd learned over his long creative career. With that in mind, Concert à Quatre, which was found unfinished on his desk at his death in 1992. is a pleasant surprise. Though it shares a Parsifal-like clarity of vision with his grander late works, it is a highly personal use of the effervescent concerto-grosso form. Written for the soloists on this recording - the flutist Catherine Cantin, oboist Heinz Holliger, pianist Yvonne Loriod, and cellist Mstislav Rostropovich - it recycles bits of Messaien's own early music, pays homage to French composers of the past, and is generally more to be enjoyed than contemplated. While much will seem familiar to Messiaen fans - juxtapositions of wildly dissimilar musical ideas, many bird calls - there are also enough surprises to make it fresh overall.

The disc is filled out with other relatively unambitious, backward-looking works. Les Offrandes Oubliées (1930) and Le Tombeau (Continued on page 110)



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Resplendissant (1931) show the composer successfully finding a distinctive voice amid late-Romantic histrionics. Many spiritual light years away is *Un Sourire* (1989), his tribute to Mozart, even though this adagio with antic outbursts is pure Messiaen. In their last recording together, conductor Myung-Whun Chung and the Bastille orchestra play with great assurance and comprehension. What a pity there'll be no more where this came from. *D.P.S.*

MOZART: Concerto for Two Pianos (K. 365); Sonata for Two Pianos (K. 448)

De Larrocha, Previn: Orchestra of St. Luke's RCA 68044 (47 min)

Performance: Exceptional Recording: Excellent

t may seem extravagant for a full-price CD to offer only 47 minutes of music, but never mind. This one will provide very full value by virtue of the frequency with which it's likely to be played. Alicia de Larrocha and André Previn are splendid Mozartean colleagues, realizing all the wit, animation, and unabashed brilliance in the Two-Piano Concerto's outer movements and the genuine poetry in its slow movement, and their discourse in the remarkably substantial Two-Piano Sonata is at once elegant, enlivening, and uncontrivedly committed. The partnership is a happy one throughout both works, and the integration of the two soloists with the orchestra in the concerto is uncommonly complete and convincing. RF

MOZART: The Marriage of Figaro

Miles, Focile, Vaness, Corbelli, Mentzer, others; Scottish Chamber Chorus and Orchestra, Mackerras

TELARC 80388 (three CD's. 208 min) Performance: Outstanding Recording: Very good

There are currently so many commendable recordings of Mozart's *The Marriage of Figaro* that to label yet another one "outstanding" is indeed high praise. Charles Mackerras, eminent among today's Mozart conductors, has cunningly selected a wellschooled, stylish cast and, along with the Scottish Chamber Orchestra and Chorus, here provides a performance notable for its ensemble, its impulsion, and its full realization of Mozart's joyous creation.

Alastair Miles brings to Figaro the requisite bounce and canniness that make this character an inviting challenge to all leading basses; he also sings the part with easy assurance and smooth musicality. As his bride to be, Susanna, soprano Nuccia Focile is a perfect foil - pert, musically accurate, and graceful. As portrayed by Alessandro Corbelli, Count Almaviva is as elegant as this lout can be, with a finesse derived from the baritone's refined singing. Soprano Carol Vaness, as the Countess, gives a performance remarkable for its womanly nobility; her fine-honed musicianship has placed her among the foremost of today's Mozart interpreters. The charming Cherubino of mezzo-soprano Susanne Mentzer is delightfully boyish but never overdrawn dramatically,

and she sings with a limpid sheen. The rest of the cast is very much in step with the principals. Highly recommended. *R.A.*



PURCELL: King Arthur Gens. Waters, Padmore, Salomaa, others: Les Arts Florissants, Christie

ERATO 98535 (two CD's, 92 min) Performance: Delightful Recording: Superb

A side from *Dido and Aeneas*, Purcell's operas are all five-act dramas interrupted by big production numbers that are arbitrarily inserted and only vaguely connected with the rest. They have been considered unrevivable, but William Christie is proving (as he did for Charpentier) that even Purcell's obscure theatrical works are worthy of being put on the stage — and also make great recordings. With his group Les Arts Florissants, Christie and the Eng-



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CLASSICAL MUSIC

lish director Graham Vick put together a successful version of *King Arthur* for the Châtelet Theater in Paris, later transferred to Covent Garden in London. Unfortunately, it has yet to be seen in this country, but here we have the musical numbers only in an excellent and lively recorded performance that is clearly informed by the theatrical production.

King Arthur is a silly and somewhat jingoistic fairy tale distantly modeled on those French operas intended to flatter nationalistic sentiment and the royal court. The difference is in the substitution of British lore for classical references, so along with the usual nymphs, shepherds, and shepherdesses there are wonderfully hearty elements of pagan revelry and English country bumpkinry: a Saxon bacchanal, dancing hornpipes, a rousing drinking song. Equally original are the double chorus of sprites, who alternately steer Arthur's men into and away from a morass, the chilling music of the Cold Genius and Cold People (brilliantly reinterpreted by Christie), and the aria of Aeolus, god of winds, who conjures up the very isle of Britain. On the other hand, the exquisite pastoral doings, like the passacag-



lia for the nymphs and sirens who try to seduce Arthur, and the instrumental dance numbers, like the chaconne (here restored to its proper place as the final dance), are in the French style, but even these are far from pure imitations.

The typical Christie ensemble cast has one truly stand-out performer, the Finnish bass Petteri Salomaa. His priest of Woden in Act I, stuttering Cold Genius in Act III, and wind-god Aeolus and drunken Comus in Act V are all wonderfully characterized. Christie uses a very low pitch, which enables many of the male alto parts to be performed by high tenors, among whom Mark Padmore is notable. There are few comparable female parts (the blind Emmeline, Arthur's love, is a speaking role; so, for that matter, is Arthur), but soprano Véronique Gens gives a lovely performance of Venus's exquisite aria, and Susannah Waters is a charming Cupid. It is hard to imagine how the chorus (which sings in almost unaccented English) and the instrumental ensemble could be better. E.S.

SCHUBERT: Quintet for Strings

Borodin Quartet, Milman TELDEC 94564 (52 min) Performance: Good Recording: Excellent

he effortless sense of flow and lyrical passion that the Borodin ensemble and Misha Milman - who is commanding without being overbearing in the important second cello role - bring to the opening pages of Schubert's great Quintet in C Major had me expecting this to be one of its outstanding realizations. The pacing is on the brisk side; yet there is no feeling of undue haste anywhere along the way. The exquisite adagio, where a slightly slower than usual tempo enhances the sense of suspended time, is on the same exalted level. The scherzo and finale are again briskly paced. but in these movements I sense an impatience not in the best interests of what the music is trying to say, especially in the tragic digression midway in the scherzo. The performance as a whole, therefore, is a near miss. The recording itself is especially effective in terms of lateral imaging. D.H

SCHUBERT: Sonata in C Major ("Grand Duo," D. 812); Fantasia in F Minor (D. 940); Six German Dances (D. 820)

American Symphony Orchestra, Botstein KOCH 7307 (67 min)

Performance: Suitably warm Recording: Likewise

The illustrious violinist-composer-conductor-pedagogue Joseph Joachim undertook his orchestration of Schubert's "Grand Duo" Sonata (for piano four-hands) on the assumption that it was a sketch for a supposedly lost "Gastein" Symphony. It now appears that mysterious work was none other than the "Great C Major" Symphony (No. 9), but the "Grand Duo" nonetheless exhibits tempting orchestral characteristics and makes for provocative listening as what Joachim labeled a Symphony in C Major. Both the performance and the sound have an engaging warmth here.

(Continued on page 116)



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CLASSICAL MUSIC

Felix Mottl, a contemporary of Mahler, was a major conductor and a very active arranger. His treatment of the Fantasy in F Minor — one of the last, and possibly the greatest, of Schubert's four-hand works reflects the instrumental coloring the composer himself favored in his orchestral scores. Anton Webern's 1931 arrangement of the Six German Dances shows, not unexpectedly, a little greater freedom in that respect, but it is true to the style and engagingly listenable. Conductor Leon Botstein makes a good case for both versions, as he does for the other works on the disc. *R.F.*

R. STRAUSS: Ein Heldenleben; Horn Concerto No. 2 Hauptmann; Berlin Philharmonic, Mehta SONY 53267 (66 min) Performance: Very good Recording: Excellent

Zubin Mehta's latest recording of Ein Heldenleben (A Hero's Life) strikes me as his most interesting go at the work. Instead of blustering virtuosity we get a search for the details of orchestral texture and of the meaning behind the music, particularly when Strauss begins to recall his earlier works and, before the final pages,

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gives vent to bursts of rage and disgust at the venomous critics he recalls from earlier on. The opening pages depicting the Hero seem a bit hasty and unpromising, but the performance goes from strength to strength as it proceeds.

I especially like Daniel Stabrawa's soloviolin portrayal of the Hero's Companion, which captures her capriciousness as well as the more obvious sentiment. The critics are deliciously caricatured as a group, but each one also comes across as an individual. The battle scene is one of the best I have heard on records, and the final pages are genuinely moving in their consolatory beauty. The Berlin players have the music in their bones and play it with aplomb and plenty of spirit. The sound is good and clean all up and down the range, from bass drum to cymbal.

The Horn Concerto No. 2 (1942) makes a delightful encore. The first movement, a conversation piece, moves without pause into an idyllic slow movement with distant echoes of *Der Rosenkavalier* and then to a rondo finale of *Till Eulenspiegel*-like wit. Soloist Norbert Hauptmann has the full measure of the music in both its lyrical and virtuosic aspects. He is miked a bit close for my taste, but not obtrusively so. *D.H.*

STRAVINSKY: Petrouchka; Pulcinella

Soloists; Royal Concertgebouw Orchestra. Chailly LONDON 443 774 (73 min) Performance: Good Pukinella Recording: Ditto

Riccardo Chailly, using the strippeddown 1947 version of *Petrouchka*, adds little to what other conductors have shown us of this work except in its poignant final pages, where the pathos and irony of the unfortunate puppet's demise are touchingly set forth. The long decay time of Amsterdam's Concertgebouw hall tends to deprive the music of some of the acerbic bite and presence needed in the episodes depicting Petrouchka's rage and frustration.

The modest orchestra called for in the "ballet with song" Pulcinella, which Stravinsky based on choice bits by Pergolesi and other Baroque composers, presumably called for a closer microphone setup, and that's all to the good. Stravinsky's Neoclassical high jinks with the eighteenth-century originals makes for amusing musical entertainment. The solo and ensemble players of the Concertgebouw are very much on their toes, and the three singers - soprano Anna Caterina Antonacci, the slightly reedy tenor Pietro Ballo, and, especially, bass William Shimall - acquit themselves well both individually and collectively. DH

VERDI: Requiem; Four Sacred Pieces

Orgonasova. Von Otter, Canonici. Miles: Orchestre Revolutionnaire et Romantique, Gardiner

PHILIPS 442 142 (two CD's, 120 min) Performance: Interesting Recording: Underpowered

Even the bitterest opponents of the earlymusic movement concede that its performances of the core repettory on period instruments have forever changed the way

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CLASSICAL MUSIC

we think about Baroque and Classical music. John Eliot Gardiner has been leading the period-instrument assault on Romantic music, and here he defiantly takes on its holy monster — the Verdi Requiem.

The great nineteenth-century conductor Hans von Bülow dismissed the Requiem as "an opera in ecclesiastical garb," a witticism that has resonated throughout the work's performance history. Gardiner would like to free it from this stereotype and reveal the work's affinities with the venerable tradition of Italian church music, the liturgical settings of Rossini and Cherubini, and even Renaissance masters such as Palestrina. It's an interesting approach, and a close listening to this highly polished, emotionally charged recording reveals some sounds we've never heard before. The searing blare of the period brass and the reedy sound of the winds add unsuspected dimensions to the Requiem's sound world.

It is no mere prejudice, however, to regard this mature masterpiece in the light of Verdi's works for the dramatic stage. Anyone who fails to hear the ghost of Gilda and an adumbration of Desdemona in the anguished opening aria of the "*Libera me*,"



and echoes of the great tempest scenes in *Rigoletto* and *Otello* in the thundering chorus that follows it, is simply stopping up his ears.

Although this recording is thoughtfully prepared and has a fine solo quartet — soprano Luba Orgonasova, mezzo-soprano Anne Sofie Von Otter, tenor Luca Canonici, and bass Alastair Miles — the overall texture is relatively thin, and in the end it fails to persuade me that this work demands anything less than a generous measure of interpretive grandeur. And it is a shame that the record labels always trot out the Four Sacred Pieces as filler. After the sound and fury of the Requiem, these odd, contemplative little works are a disappointment. J.J.

ZEMLINSKY: Lyrical Symphony; Symphonic Songs

Marc. Hagegard. White; Royal Concertgebouw Orchestra, Chailly

> LONDON 443 569 (66 min) Performance: Very good Recording: Very good

A lexander Zemlinsky (1871-1942) is clearly recognized now as an important bridge between Mahler and Schoenberg in the flow of the Viennese school. The two important works on this CD, dating from 1924 and 1929, respectively, are quite different despite outward similarities.

The Lyrische Symphonie for baritone, soprano, and orchestra, clearly inspired by Mahler's Das Lied von der Erde, has interwoven orchestral motives linking the vocal episodes, the entire piece to be played without a break. The texts are based on the mystical writings of the Hindu poet Rabindranath Tagore, yet another link to Mahler, whose inspiration for Das Lied also came from Oriental literature. By contrast, Symphonische Gesänge is a collection of seven independent — yet thematically linked songs on texts translated from Langston Hughes and other African-American poets.

Both works are brilliantly orchestrated and receive powerful performances here. Unlike Mahler, however, who was a natural writer of songs, Zemlinsky found it hard to place voices into an orchestral context. While there are some lovely effects in the Lyrical Symphony, such as the soprano's "Sprich zu mir. Geliebter." sung by Alessandra Marc, and the consolatory conclusion, which baritone Hakan Hagegard handles beautifully, for the most part the writing carries both vocalists into hazardous high regions where clear enunciation becomes impossible. They perform miracles against heavy odds.

The earlier work's angular writing with its wide leaps is transmuted into a somewhat simpler yet equally challenging idiom for the Symphonic Songs. These are bitter and troubling songs that speak of despair, lynching, and other brutalities. and they come across potently in Zemlinsky's stark settings. Baritone Willard White, with his committed, at times savage delivery, is their ideal interpreter.

Zemlinsky is closer to Schoenberg than to Mahler in both works. You will not be humming the tunes, but they'll make a deep impression nonetheless. *G.J.*





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CLASSICAL MUSIC

Collections

BANG ON A CAN Industry SONY 66483 (62 min) Performance: Good times **Recording: Smashing**

Bang on a Can is a collective of "down-town" composers that has, literally and metaphorically, recently moved uptown. Their lively new music, which grew out of minimalism, is related to art rock and certain aspects of avant-garde pop and jazz. It is lively stuff, irreverent and hard-hitting. Although seemingly very American, there are close connections with certain young English composers, and both groups regard the iconoclastic Dutch composer Louis Andriessen as a sort of spiritual godfather.

All these qualities and connections are very well demonstrated on this CD, which features two major pieces by Andriessen performed by the Bang on a Can All-Stars along with musicians from the English group Icebreaker, itself named for the Amsterdam center identified with Andriessen and new Dutch music. But interesting as the Andriessen pieces might be, they are overshadowed by the music of the three founders of Bang on a Can: Julia Wolfe, whose clever and sexy Lick is the outstanding work here; David Lang, whose amusing Anvil Chorus was written for percussionist Steven Schick to play on junk metal; and Michael Gordon, the composer of the title piece, which turns out not to be for percussion ensemble but for a solo cello distorted by something called a Tube Screamer.

The very serious Andriessen pieces recorded here are not really much fun, but the rest - some of it literally banged out on a couple of cans - is very diverting, and these crackerjack musicians sound like they are having a perfectly smashing time performing it. E.S.

ALAN FEINBERG **Fascinating Rhythm** ARGO 444 457 (76 min) Performance: Dashing **Recording: Lively**

he modern tendency to treat the early Tmasters of popular song and jazz as "classical American composers" is perfectly exemplified by pianist Alan Feinberg's attractive compilation, in which music by Scott Joplin, Fats Waller, James P. Johnson, Bix Beiderbecke, Jelly Roll Morton, Duke Ellington, and Bud Powell (all in elegant arrangements, some transcribed from old recordings) is interlarded with more "serious" pieces by Gottschalk, Henry Cowell. Percy Grainger, and Conlon Nancarrow. Except for a surprisingly heavy-handed version of Joplin's Magnetic Rag, the performances are dashing.

There are a number of outstanding items and sequences. Note, for example, the pairing of Grainger's delicate arrangement of The Man I Love (Gershwin) with his own mildly raucous In Dahomey (subtitled "Cakewalk Smasher"). followed in turn by a neat performance of a transcription of



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BEETHOVEN: Piano Sonatas Nos. 1-3 Murray Perahia SONY 64397 (68 min)

Beethoven's first three sonatas make a well-filled disc, and Murray Perahia plays them with an abundance of both animation and sensitivity, each in ways that set it off delightfully from its splendid companions. The vivid sound, a bit brighter in the first two sonatas than in the last, serves Perahia and Beethoven handsomely in all three. *R.F.*

LISZT: Piano Concertos Nos. 1 and 2; Hungarian Fantasy; other works Lively: BRTN Philharmonic, Rahbari

DISCOVER 920212 (76 min)

Pianist David Lively, no barnstormer, brings a good deal of taste and even a bit of poetry to the two concertos and the Hungarian Fantasy, and his somewhat reserved style is quite persuasive in the solo Ballade No. 2 and Liebestraum No. 3. Alexander Rahbari and his Brussels orchestra, however, do not seem quite up to the modest demands Liszt makes on them, their contributions ranging from perfunctory in the fantasy to a little scrappy in the concertos. *R.F.*

ROTA: "La Strada," Ballet Suite; Concerto for Strings; Dances from "The Leopard"

Orchestra Filarmonica della Scala, Muti SONY 66279 (62 min)

The Italian Neoclassical composer Nino Rota is best known in America for his beautiful scores for movies by Fellini, Visconti, and Zeffirelli, which are the basis for two of the three concert works on this recording. It's not surprising that Rota sounds a little like an Italian Samuel Barber, since he and Barber both studied with Rosario Scalero at the Curtis Institute in Philadelphia. Recommended.

William Livingstone

SCHUMANN: Carnaval; Kreisleriana Mitsuko Uchida (piano)

PHILIPS 442 777 (67 min)

The personal nature of Schumann's writing for the piano may invite especially personal interpretations, but Mitsuko Uchida seems overly concerned here with finding some arrestingly new and different way of presenting these works. While there is an abundance of beautiful playing on this CD, the excessive rubato and general fussiness leave very little in the way of the momentum and spontaneity that are such defining elements of Schumann's music. R.F.

TCHAIKOVSKY: Piano Concerto No. 1 SAINT-SAËNS: Piano Concerto No. 2 Watts: Atlanta Symphony, Levi

TELARC 80386 (58 min)

André Watts, at the top of his form, plays the Tchaikovsky concerto with more warmth and freedom here than in his impressive 1973 recording with Leonard Bernstein. He seems to relish the wit as much as the brilliance in the Saint-Saëns, and he receives first-rate support in both works from Yoel Levi and his well-honed orchestra. For the most part the recording is as well balanced as it is spacious. A richly pleasurable issue. *R.F.*



FARINELLI, IL CASTRATO (Original motion-picture soundtrack) Mallas-Godlewska, Ragin: Les Talens Lyriques, Rousset

AUVIDIS/HARMONIA MUNDI K 1005 (61 min)

Though we'll never know what the great castrati singers like Farinelli sounded like, *Farinelli*, the movie, makes a speculative stab at it by electronically blending the voices of soprano Ewa Mallas-Godlewska and countertenor Derek Lee Ragin. The seams often show, but both of them, especially the soprano, sing with great artistry and comprehension of this ornate idiom, aided by the work of conductor Christophe Rousset and his early-instrument orchestra Les Talens Lyriques. *D.P.S.*

LOS ANGELES GUITAR QUARTET Labyrinth

DELOS 3163 (63 min)

The Los Angeles Guitar Quartet - four virtuosos with gobs of energy and spirit - play arrangements and original works in a variety of styles and settings, ranging from Copland's Rodeo to a Sousa march to the title piece, Ian Krouse's remarkable 20-minute mulling over of a Led Zeppelin tune. They not only pick, pluck, and strum in a variety of manners, but they also retune the guitars, bend notes, improvise, knock on wood, and sing a lot. The smaller bits are somewhat fluffy, but the larger pieces are truly ambitious, combining big-scale classical form and technique with popular rhythms and licks from jazz. blues, R&B, rock, and country. *E.S*. Willie "The Lion" Smith's jaunty performance of Fats Waller's *Squeeze Me* and then, for a finale, the kitschy *Kitten on the Keys* (once, unbelievably, paired with *Rhapsody in Blue*), all played with equal panache and gleeful earnestness. *E.S.*

MARIMOLIN Combo Platter CATALYST 62667 (65 min) Performance: Ingratiating Recording: Good

arimolin is a violin-marimba duo Mwith a penchant for sweetness. Sharan Leventhal is the fiddler and Nancy Zeltsman the marimbist, and, as might be imagined, their repertoire is entirely made up of specially commissioned and arranged work. The composers include David P. Jones, Dave Samuels, Paul Lansky, Robert Aldridge (whose lively Combo Platter originally brought the two performers together and lent its name to the album), and Steven Mackey (whose Feels So Baaad, with electric guitar and percussion, is the only piece to break with the album's prevailing mellowness). The arrangees are John Coltrane, Chuck Mangione (arranged by Mackey), and Joseph Shabalala, the founder/leader of Ladysmith Black Mambazo, represented here by a charming vocal work.

The two instruments work extremely well together, and the music — much of it lightly jazz-inflected in a manner that is strongly influenced by the Kronos Quartet — is unfailingly ingratiating. *E.S.*

RUSSIAN OVERTURES

Russian National Orchestra, Pletnev DEUTSCHE GRAMMOPHON 439 892 (62 min)

Performance: Very good Recording: Mostly excellent

The Russian National Orchestra has become a first-rate ensemble under the dynamic leadership of Mikhail Pletnev, and this CD, featuring nine Russian overtures, gets off to a sizzling start with Glinka's *Ruslan and Ludmilla*. But except for Mussoigsky's ineffably magical *Khovanshchina* prelude, the rest is a mixed bag musically.

The overture to Borodin's Prince Igor as completed by Glazunov — is hardly the best music in that epic opera. Shostakovich's Festive Overture is a cheerful rah-rah affair but not from his top drawer, and it is easy to understand why Prokofiev's Semyon Kotko opener is not in the standard repertoire. Kabalevsky's Colas Breugnon overture, however, has been a concert standard of sorts since the 1940's, and here I find Pletnev's reading a bit too deliberate compared with, say, Toscanini's or Reiner's. Rimsky-Korsakov is not at his colorful best in the overture to The Tsar's Bride, Tchaikovsky's early Overture in F Major has some nice balletic stuff but remains essentially a promising student essay, and Glazunov's Ouverture Solennelle strikes me as nondescript pomposity.

All the performances are well up to standard. The recording from the Moscow Conservatory Concert Hall is decent enough, if a bit bass shy some of the time (the Tchaikovsky has the richest sound). D.H.

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THE HIGH END

PETER W. MITCHELL

Old Wine in New Bottles

hen I became an audiophile in the long-ago 1960's, evervone knew that mass-produced musical media (LP's and prerecorded tapes) were unavoidably inferior to the original master tapes that were recorded in the studio or concert hall. During the 1970's the quality of sound available from LP's and tapes improved dramatically. But around that time I also became acquainted with C. Victor Campos, who worked at the time for AR and also was a close friend of many recording engineers. He had a wonderful collection of direct copies of master tapes from major labels, which he broadcast on a popular radio program called Adventures in Sound. Upon hearing those tapes, both directly and via FM, it became obvious that there were still large differences in sound quality between master tapes and the LP's made from them.

So when the compact disc was introduced a dozen years ago, its greatest promise for audiophiles was that we would finally have access to mass-produced discs that fully duplicated the sound of the master tape, without compromise. Many CD's have achieved that goal — especially when the master tape was an excellent digital recording transferred directly to the disc master.

But in some cases the sound of the CD has fallen far short of its promise. Many of these disappointing examples have involved analog master tapes whose initial transfer to digital form was poorly handled. During the 1980's this was often the fault of design flaws in the equipment. For example, the designers of many early analog-to-digital (A/D) converters did not understand the distortion-removing function of "dither," a low-level randomizing signal that must be added to the input before quantization.

In recent years, many recording engineers have upgraded their digital recorders with new A/D converters. Instead of producing 16-bit digital tapes whose codes can be copied straight to CD, most of the latest converters produce 20-bit recordings. If these are transferred directly to CD, the bottom 4 bits in each digital word are simply truncated (cut off), producing the same quantizing distortion as in an undithered recording.

The challenge of transferring 20-bit re-

cordings to CD has led to a fresh appreciation of the role of dither. The distortion that truncation would introduce can be prevented by simply redithering the signal when it is reduced from 20-bit to 16-bit format, but several manufacturers have gone a step farther by designing processors that accept a 20-bit signal and apply "noise-shaping" while recoding the signal into 16-bit words that will fit onto a CD. Examples include the Apogee Electronics UV-22, Meridian 618, Sony's Super Bit Mapping (SBM), and Deutsche Grammophon's 4D process.

In each case, the noise-shaping shifts the energy in quantization noise away from the midrange, where it would be easiest to hear, to very high frequencies where the ear is much less sensitive, enabling dither to serve its purpose of removing quantizing distortion without risk of becoming audible itself. Although

l've been comparing old and new CD versions of some classic analog recordings, and the differences are often amazing.

sometimes promoted as "20-bit," CD's made with these processes contain normal 16-bit data words, so they are compatible with all existing CD players. But in a player with good low-level linearity, they can deliver 18-bit effective resolution in the frequency range where we hear best.

Noise-shaped redithering is obviously desirable when transferring new 20-bit digital recordings to CD, but it may also be beneficial when high-quality analog master tapes are remastered for CD. I've been comparing old and new CD versions of some classic analog recordings, and the differences are often amazing.

Nielsen's Symphonies Nos. 3 and 5, thrillingly conducted by Leonard Bernstein in 1962 and 1965, were issued on a CD in 1988 (CBS MK 44708). In 1993 the same recording was released as part of the Royal Edition (Sony Classical SMK 47598); the master tape was encoded in 20-bit digital and converted to 16bit CD with Super Bit Mapping. The sound of the CBS CD was flat, thin, and dynamically compressed. Sony's later version provides a more detailed and fullbodied orchestral palette, greater dynamic power, and a huge soundstage - especially if you have ambient-surround decoding. Since many changes can be made to a recording during remastering, including alteration of balances and equalization, one can't automatically hand all the credit to SBM, but it could not have done anything other than to help the result.

In 1986. Chesky issued CD's of a series of British recordings made during the 1960's for Reader's Digest, including great performances of the Rachmaninoff Piano Concerto No. 2 (with pianist Earl Wild) and the Sibelius Symphony No. 2 (conducted by John Barbirolli). In 1994 Chesky remastered these as high-resolution gold CD's (CG902 and CG903, respectively) using 20-bit conversion and the Apogee UV-22 process. Again the transformation in sound quality was dramatic: The old version sounded thin, strident, and hissy. The remastered version has smoother hiss, more true-to-life instrumental timbres, a deeper soundstage, and much more dynamic impact.

Sheffield Lab is achieving similarly excellent results with its $20+\rightarrow 16$ Ultra Matrix CD's, combining 20-bit conversion with UV-22 redithering. The earlier version of the Stravinsky *Firebird* conducted by Erich Leinsdorf (CD-24) was very good, but in the high-resolution CD (10052-2-G) low-level details are more clearly defined and the sound has a stronger, clearer bass foundation.

When I visited Mark Levinson at Cello (see last month's column), I learned that Neil Young, who has never liked digital recordings, is now using Cello electronics to do high-resolution remastering of all his previous work. Levinson played a recent experiment of his own: He had remastered the classic recording of Fritz Reiner and the Chicago Symphony playing the "Dance of the Seven Veils" from *Salome* by Richard Strauss. This is one of a series of great Reiner recordings that John Pfeiffer produced for RCA.

The remastering involved using Cello tape electronics to extract the best signal from the forty-year-old analog tape, using the Cello Audio Palette equalizer to remove microphone colorations and fine-tune musical timbres, conversion to 20-bit digital, and UV-22 redithering. The result is wonderful: a rich, modern-sounding recording with beautifully lifelike orchestral sound and surprisingly fittle tape hiss. I hope Pfeiffer will work with Levinson to remaster all of his great recordings, beginning with the amazing 1954 Reiner *Ein Heldenleben*.

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