

Stereo Review

JULY 1990 ● \$2.50

INCORPORATING HIGH FIDELITY*

THE BEST OF THE SMALLEST
BUYING A CAMCORDER

TESTED: KEF SPEAKERS, SANSUI CD
PLAYER, MARANTZ RECEIVER, MORE



MR DAVID S BUCHANAN
8900 YELLOW WOOD PL
LOUISVILLE KY 40242 07#LZ
#259B*****5-DIGIT 40242
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ES

For Sony ES,
redefining the
Compact Disc Player
means changing
more than a bit.



Today, the entire focus of Compact Disc player development appears to have been reduced to a single bit. While this approach has some merit, to the engineers of Sony ES it is merely the starting point in redefining the CD player.

But then, the ES engineers have always charted their own course. These are the same people whose independent thinking created the world's first Compact Disc player. And their digital insights have enabled them to engineer proprietary advances in D/A conversion, digital filtering, data synchronization, error correction, laser optics and chassis rigidity—in short, all the elements necessary to establish an entirely new benchmark in Compact Disc performance.

A converter with a pulse all its own.

Sony started with the High Density Linear Converter™ system. Based on an all-new integrated circuit, the CXD-2552, this pulse sys-



Not restricted to the deluxe CDP-X77ES shown opposite, Sony's new definition of the CD player extends to the affordable CDP-X33ES.

tem replaces the typical converter's sixteen or more switches with a simpler, more efficient design. With a single stroke, it eliminates non-linearity, glitches, and crossover problems. The HDLC system also operates at the unprecedented speed of 45 MHz—the world's fastest conversion rate—to help substantially reduce harmonic and inter-modulation distortion.

As a result, converter distortion measures an astonishing 0.001%. Dynamic range is 124 dB—exceeding the theoretical maximum of the CD itself. The audible benefits are equally impressive. You'll experience music that is warmer and less clinical, with a more spacious stereo soundstage.

Nothing less than a total system approach.

We've matched the new HDLC system to our legendary CXD-1244 digital filter, a Sony design that overcomes requantization error through superlative calculating accuracy. And Sony overcomes a principal source of error in pulse converters: the time-base inaccuracies called "jitter." These errors cause modulation in the analog

signal, veiling the music and altering the sound stage. By integrating our Direct Digital Sync™ circuitry directly on the converter chip, the Sony HDLC system corrects jitter automatically and decisively.

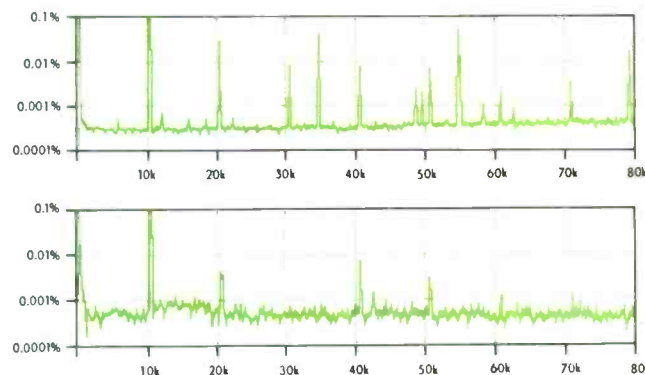
Similar inspiration led to other pivotal developments in rigid anti-resonant chassis design, linear motor transports, and low-noise servo stabilizer circuits. These developments motivated *Stereo Review*



Extended playback meets an extensive technical resume with the CDP-C85ES five-disc carousel changer.

to make this pronouncement: "Our test results leave no doubt that the Sony CDP-X55ES represents the current state of the art in CD players. Virtually every measurement surpassed those of the best players we have tested in the past."*

Best of all, these landmark advancements are not reserved for one or two high-priced models. They grace every ES single-disc player and both ES five-disc changers. And each model is backed by a three-year limited parts and labor warranty. (See your authorized ES dealer for details.)



Spectrum analysis of a 10 kHz signal with a typical pulse converter (top) shows additional non-harmonic distortion. With the Sony HDLC system (bottom) this distortion is negligible.

So call **201-930-7156** (Monday–Friday, 9:00 am–5:00 pm EST) to locate an ES dealer. Then audition the ES Compact Disc players. Just don't be surprised if other players seem to fall a bit short.



SONY
THE LEADER IN DIGITAL AUDIO™

BLAUPUNKT'S NEW YORK. THE SOUND NEVER SLEEPS.

Night and day, the city stays gritty, but nothing can stop the Blaupunkt sound. The New York SCD08 CD Tuner's transport is prepared for all urban hassles, absolutely faultless in its tracking without skipping.

In a great metropolis you demand performance — and protection. *Car Stereo Review* says the New York sets a new standard for car audio electronics... "close to the limits of auto-sound ecstasy." The New York's digital reproduction technology employs a 3-beam laser system, oversampling and a dual 16-bit D/A converter. Track Program Memory can recall the programmed order for up to 18 separate CDs and the whole system is secured by a 4-digit personal code, with optional shuttle. Tune in the trendy or exotic. The Hi-Fi tuner yields extraordinary frequency response from 20Hz to 18kHz, practically the range of human hearing.

Fidelity and purity of reception are phenomena.

To experience all of Blaupunkt, get to know the system totally, including ACS Advanced Component Series Speakers — now with advanced AR acrylic resin laminated cones — and the Power Source 350

power amplifier, described by *Car Stereo Review* as "one of the most well-executed products" they have ever tested. Of course, Blaupunkt

CD players aren't confined to New York. Listen to the New Orleans, the Atlanta, the CDP01, or the new CDC01, a unique 12-disc CD changer with Remote Commander. For the location of the authorized dealer nearest you call 1-800-237-7999. No matter where you live, Blaupunkt creates the Big City sound.



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BLAUPUNKT
Bosch Telecom
The difference is pronounced.

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Cover: For more on the Technics SL-XP2 and four other top portables, see page 56.
Ceramic pitcher and glasses from Portico, water can from Dampierre & Co.
Stylist, Nina Barney. Design by Sue Llewellyn. photo by Hing/Norton.

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Believe it or not, compact disc for the car has been around awhile. There are even a chosen few who could actually afford to buy one.



Well, now car CD is really here.

Because Pioneer has advanced the technology so far and created a line of players so extensive that now it's possible for anyone to afford the clarity of digital CD sound.



It begins with our new single-play CD systems.

You'll love the high power as much as the price. But try not to overlook the detachable faceplate. An innovative security feature we recently developed for added convenience.



And while we're on the subject of convenience, Pioneer's 6-disc multi-play changers let you enjoy hours of uninterrupted music while you drive. Plus they can be easily added to your car without replacing your existing audio system.

For those who want it all, we also offer an incredible



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We'll send you a free copy of our new bro-

chure. As well as give you the name of a Pioneer dealer near you, who will be glad to show you our complete line of car CD systems. After all, he's been waiting for this moment just as long as you have.



by Rebecca Day and
William Livingstone

PIONEER'S MUSICAL BEAT

In supporting the ninth International Tchaikovsky Competition, held in Moscow, June 15–July 15, Pioneer Electronics has become the first corporate sponsor in this prestigious contest's history. Pioneer, which has played an active role in the careers of jazz guitarist Larry Carlton and country singer Lyle Lovett, is rocking globally this summer by supporting Madonna's "Blonde Ambition" world tour. Pioneer will "bring her back alive" with a laserdisc release in the fall.

BREAKING NEW GROUND

Magnavox has introduced its first full line of audio components, including three receivers (\$250 to \$400) and two cassette decks (\$200 to \$250). The company is also incorporating a JBL audio system into 27-inch and 31-inch console TV's. . . . Sansui has begun an expansion into the video market with the introduction of two VCR's—a basic two-head model and a hi-fi unit—that are scheduled to be in stores by fall. The company plans to have a complete video line by January. . . . Denon is bringing out its first laserdisc combi-players this summer, at suggested retail prices of \$700 and \$1,000.

MUSIC NOTES

Composer Mel Powell won the 1990 Pulitzer Prize in Music for his *Duplicates: a Concerto for Two Pianos and Orchestra*. . . . Kurt Masur of East Germany will succeed Zubin Mehta as music director of the New York Philharmonic in the 1992-1993 season. . . . Riccardo Muti has announced his resignation as music director of the Philadelphia Orchestra to become effective in August 1992. No successor has been named. . . . BMG Classics has signed the venerable German conductor Günter Wand (born 1912) to a long-term exclusive recording contract for the RCA Victor Red Seal label.

RECORD STATISTICS

Published in June, *The Billboard Book of Gold and Platinum Records* by Adam White (\$19.95) is a reference work devoted to the records certified Gold, Platinum, or multi-Platinum by the Recording Industry Association of America. (Gold awards go to singles that sell 1,000,000 copies and albums that sell 500,000; Platinum awards go to records with double those sales.) The book lists Michael Jackson's album "Thriller" as the best-seller of all time (20 million). It is followed by Fleetwood Mac's "Rumours" (13 million), the soundtrack to *Saturday Night Fever* (11 million), and Bruce Springsteen's "Born in the USA" (11 million).

SPEAKER SCAMS

The Consumer Electronics Group of the Electronic Industries Association has issued public warnings of speaker scams now being practiced on many city streets, in parking lots, and at shopping malls. Salespeople operating from unmarked vehicles entice naive consumers to buy speakers with fraudulent bills of lading and invoices indicating suggested retail prices of \$800 to \$1,000. Buyers are urged to set prices of, say, \$250 to \$800, but the speakers turn out to be of poor quality and should cost no more than \$25 to \$50.

The EIA suggests that consumers (1) always buy from an established retailer with a permanent address, (2) have the product operated on the premises to assess its quality, (3) be sure the warranty includes the manufacturer's full address, and (4) get a receipt that includes the date of sale, the model and serial number of the item purchased, and the retailer's name and address.

For further information (or to report complaints), call the EIA's Consumer Affairs Department at (202) 457-4977.

EQUIPMENT NOTES

Nakamichi is revamping its home audio component line, keeping only the Dragon cassette

deck and Model 1000 DAT recorder from its previous line. Due out later this year are four new CD players, three receivers, and two cassette decks. . . . Yamaha has brought out its own 1-bit digital-to-analog converter technology, called S-bit, for a line of moderate-price CD players and changers. The CDC-805 and CDC-705 five-disc carousel changers are priced at \$499 and \$399, respectively, and the single-disc CDX-1030 and CDX-930 are \$699 and \$549.



TERRY ALLEN

FOR TWIN PEAKS-NIKS

Given the great success of the TV series *Twin Peaks* (ABC) created by writer/director David Lynch and Mark Frost, it's a wonder nobody has rushed out a soundtrack album of the music composed for the series by Angelo Badalamenti. Actually, much of it was included in "Floating into the Night" (Warner Bros. 25859) by the singer Julee Cruise. Released last September, before *Twin Peaks* had become a cult hit, the album includes ten songs, all with music by Badalamenti and lyrics by Lynch. Among them is *Mysteries of Love*, which Cruise sang on the soundtrack of the movie *Blue Velvet*, and *The Nightingale*, which she sang in the biker-bar scene in the 2-hour pilot of *Twin Peaks*. Supercool.

Breathtaking



the new Polk RTA 15t

The breathtaking performance of Polk Audio's new RTA 15t loudspeaker system is the result of the rare combination of state-of-the-art technology and superior design.

Incorporating technology from Polk Audio's limited production SRS (Signature Reference Loudspeaker System), the RTA 15t uses advanced components and design technologies to achieve outstanding musicality, detail and imaging. The heart of this design is a line source array that achieves an openness and spaciousness permitting a wide range of optimum listening positions. At the center of this line source is Polk's SL3000 tri-laminate tweeter, an engineering triumph in high frequency smoothness and dispersion.

Outstanding bass impact and dynamic range is realized by using two 10" sub-bass radiators (one front mounted and one rear mounted). This dual bass radiator technology achieves deeper, flatter, more accurate bass than conventional designs.

The new Polk RTA 15t
...one listen will take your
breath away.

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walnut and black oak
wood veneer finishes.



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Where to buy Polk Speakers? For your nearest dealer, see page 98.

CIRCLE NO. 90 ON READER SERVICE CARD

Stereo Review

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LETTERS

Simels Review

Reading your record-review section is much like eating an omelette full of wonderful new tastes—including broken glass. The weed in the roses is Steve Simels. This mugwump is way out of touch.

Most recently (May, page 85), he said that "in the case of primal screamers like AC/DC's *Dirty Deeds* or ZZ Top's *Tush*, [Joan] Jett actually, if temporarily, erases memories of the originals." Maybe Mr. Simels was way too busy to catch these songs originally, but nobody could touch either one—not now, not ever. This guy Simels is out.

JEFF OLSON
Huntington Beach, CA

The *only* reason I subscribe to STEREO REVIEW is Steve Simels's reviews. His (nearly) perfect taste enables me to buy new and strange stuff with confidence. He should have complete control of your popular music section, followed by control of the airwaves. Change the name of your mag to *Simels Review*. Send him some chicks. If he quits, I quit too.

DAVID FRINK
Des Plaines, IL

Mail-Order Equipment

I recently purchased a piece of stereo equipment from a mail-order outlet and was not aware that I was actually buying "gray-market" goods until I took it in for repair and discovered that the warranty was invalid. I think STEREO REVIEW's readers might benefit from my experience.

Not all manufacturers supply mail-order outlets or allow their authorized dealers to sell by mail. If you buy one of these manufacturers' products by mail, the manufacturer's warranty will not be honored because you did not purchase from an authorized dealer.

It may be worth it to buy this way if you don't need service through the warranty period, but if it fails during that time be prepared to pay for repairs out of your pocket. And before you buy anything by mail, check it out carefully and know what you are really getting.

STEVEN D. PETERSON
Colorado Springs, CO

Taming the Room

I enjoyed Ian Masters's concise yet informative discussion of loudspeaker-room interactions in the April installment of "The Basics." Perhaps readers would also be interested in computer software that can help them obtain the best performance from their speakers.

The ROOM program, for IBM PC's

and compatibles (no special system requirements), shows how standing waves and early reflections from neighboring surfaces in the user's listening room will affect the sound with different speaker placements and listener positions. ROOM, which I helped develop, is available for \$29.95 postpaid from Sitting Duck Software, P.O. Box 130, Veneta, OR 97487. If you don't have access to a PC, Sitting Duck will provide placement recommendations for a \$20 fee. Send the listening-room dimensions (including height) and the acceptable ranges for speaker and listener locations.

RALPH GONZALEZ
Wilmington, DE

Playing 78-rpm Treasures

I have a very extensive collection of 78-rpm records that dates back to before World War I. I have enjoyed listening to them on turntables built in the 1950's, but the players recently went into cardiac arrest. No repair shop will even consider any resuscitative efforts. Are any turntables still being manufactured that can play 78's?

WILLIAM H. DUNCAN
Wilmington, DE

At least three manufacturers still provide the 78-rpm speed (along with 33 $\frac{1}{3}$ and 45) on some of their turntables: Dual by Ortofon (Models CS 7000 and CS 5000), Technics (SP-10MK3 and SP-15), and Thorens (TD520).

Where to Buy Vinyl

Where can one buy vinyl recordings of classical music these days? Is all that enormous choice once available on vinyl molding in warehouses somewhere? Where did all those fine old mail-order firms go?

Here in the San Francisco Bay area, the last lingering source is the cut-out bins at Tower Records, and those are shriveling fast. Somebody should bring all the old sources together and offer a catalog.

CALVIN E. MEHLERT
Camp Connell, CA

Copies of deleted titles that aren't in the cut-out bins have almost certainly been melted down by the record companies. On the other hand, any classical recording listed in Schwann's Opus catalog as still available on LP should be available by mail.

Rose Records in Chicago is one source you might try: 214 S. Wabash Ave., Chicago, IL 60604; telephone (800) 955-7673. Farrington Records, a major British retailer, offers a wide selection of classical LP's by mail, including many

A SOUND INVESTMENT! 8 CDs FOR 1¢

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plus shipping/handling, with membership. Details on other side.



Aerosmith—Pump. *Love In An Elevator; Janie's Got A Gun*, etc. (Geffen) 388-009
Kaoma—World Beat. *Lambada; Lamba Caribe*, plus many more. (Epic) 402-800

The B-52's—Cosmic Thing. *Roam; Love Shack*, plus more. (Reprise) 383-877
Billy Joel—Storm Front. *We Didn't Start The Fire, Shameless*, etc. (Columbia) 387-902

Eric Clapton—Journeyman. *Bad Love; Pretending*, more. (Reprise) 400-457
Michael Bolton—Soul Provider. *How Can We Be Lovers*, etc. (Columbia) 383-083

Linda Ronstadt—Cry Like A Rainstorm, How Like The Wind. (Elektra) 389-874
Kenny G—Live. *Don't Make Me Wait For Love*, etc. (Arista) 401-505

The Notting Hillbillies—Missing... Presumed Having A Good Time (Warner Bros.) 405-381
Nick Lowe—Party Of One (Reprise) 405-076

Joey DeFrancesco—Where Were You? (Columbia) 404-939

Smokey Robinson—Love, Smokey (Motown) 404-566

Earth, Wind & Fire—Heritage (Columbia) 404-004

The Little Mermaid—Original Soundtrack (Disneyland) 403-758

Canadian Brass—English Renaissance Music (CBS Masterworks) 403-402



Son Of "Movies Go To The Opera"—Various Artists (Angel) 404-666

The Kinks—UK Jive (MCA) 403-303

Louis Armstrong—The Best Of The Decca Years (Decca) 402-941

Gipsy Kings—Mosaïque (Elektra/Musician) 402-727

Haydn: Symphonies Nos. 99 & 101 (Clock). Tate, English Chamber Orch. (Angel) 402-537

Tchaikovsky: Piano Concertos Nos. 1 & 3. Gavrilov; Ashkenazy, Berlin Philharmonic (Angel) 402-529

Midori—Paganini: Caprices (CBS) 389-791

Robert Plant—Manic Nirvana (Es Paranza) 405-019

Sheena Easton—The Collection (EMI America) 404-863

Brahms: Piano Sonata No. 3/Scherzo. Bronfman (Musicmasters) 402-263

Benny Goodman—Private Collection/Weber, Beethoven and Brahms Berkshre Quartet (Musicmasters) 402-214/392-217

R. Strauss & Britten: Sonatas for Cello & Piano. Yo-Yo Ma, Emanuel Ax (CBS Master) 402-180

Ricky Van Shelton—RVS III (Columbia) 402-040

Jon Faddis—Into The Faddisphere (Epic) 401-927

David Benoit—Waiting For Spring (GRP) 401-901

Chicago—Greatest Hits 1982-1989 (Reprise) 401-166

Billy Ocean—Greatest Hits (Jive/RCA) 400-879

Happy Anniversary, Charlie Brown—Various Artists (GRP) 400-846

Joe Satriani—Flying In A Blue Dream (Relativity) 400-655

Puccini—Tosca. Various Artists; Pretre, Paris Conservatoire Orch. (Angel) 400-168/390-161



Janet Jackson—Rhythm Nation 1814 (A&M) 388-918

Randy Travis—No Holdin' Back (Warner Bros.) 389-767

Dianne Reeves—Never Too Far (EMI) 404-517

Robert Palmer—Addictions, Volume One (Island) 400-937

Dave Grusin—Migration (GRP) 400-044

Earl Klugh—Solo Guitar (Warner Bros.) 389-932

Ziggy Marley & The Melody Makers—One Bright Day (Virgin) 386-987

Kiri Te Kanawa—Verdi & Puccini Arias (CBS Master) 343-269

Brahms: Violin Concerto; Bruch: Concerto No. 1. Nadja Salerno-Sonnenberg; Edo De Waart and Minnesota Orch. (Angel) 400-135

Barbra Streisand—A Collection: Greatest Hits (Columbia) 401-141

Bob Dylan—Oh Mercy (Columbia) 389-262

Liszt: Piano Sonata; 3 Petrarca Sonnets; more. Vladimir Feltsman, Piano (CBS Master) 388-538

Rickie Lee Jones—Flying Cowboys (Geffen) 388-199

Yellowjackets—The Spin (MCA) 388-173

Neil Young—Freedom (Reprise) 388-132

Big Daddy Kane—It's A Big Daddy Thing (Cold Chillin') 389-460

Paul Simon—Negotiations And Love Songs (Warner Bros.) 400-721

Grateful Dead—Built To Last (Arista) 388-025

Elton John—Sleeping With The Past (MCA) 387-993

Mötley Crüe—Dr. Feelgood (Elektra) 387-944

Elaine Elias—So Far So Close (Blue Note) 387-530

Stanley Turrentine—La Place (Blue Note) 387-159

Joe Cocker—One Night Of Sin (Capitol) 387-084

Lenny Kravitz—Let Love Rule (Virgin) 401-893

The Best Of Luther Vandross—The Best Of Love (Epic) 400-473/390-476

Harry Connick, Jr.—When Harry Met Sally—Music From The Motion Picture (Columbia) 386-821

Mozart: Symphony No. 41 (Jupiter); Divertimento No. 1, K136. Muti, Berlin Phil. (Angel) 386-466

Living Colour—Vivid (Epic) 370-833

U2—Rattle And Hum (Island) 374-017

Young MC—Stone Cold Rhymin' (Delicious Vinyl) 400-085

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Bobby Brown—Dance Ya Know It (MCA) 402-602



Gloria Estefan—Cuts Both Ways (Epic) 382-341

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Ramsey Lewis—Urban Renewal (Columbia) 389-015

Patti LaBelle—Be Yourself (MCA) 386-334

Babyface—Tender Lover (Solar/Epic) 386-177

Eric Marienthal—Round Trip (GRP) 385-914



Quincy Jones—Back On The Block (Quest Warner Bros.) 389-577

R. Strauss: Metamorphosen, Duet Concertino, etc. Esa-Pekka Salonen, New Stockholm Chamber Or. (CBS Master) 385-195



Don Henley—The End Of The Innocence (Geffen) 383-802

Yousouf N' Dour—The Lion (Virgin) 384-362

George Benson—Tenderly (Warner Bros.) 384-214

Spyro Gyra—Point Of View (MCA) 383-737

Mozart: Flute Concertos; Adante; Rondo. Jean-Pierre Rampal And Zubin Mehta, Israel Phil. (CBS Master) 383-364

John Tesh—Garden City (A&M) 388-876

Melissa Etheridge—Brave And Crazy (Island) 388-090

Bad English (Epic) 383-463

Crosby, Stills, Nash And Young—Deja Vu (Atlantic) 404-202

Jim Croce—Jim Croce Live: The Final Tour (Saja) 403-154

Eagles—Live (Elektra) 400-713/390-716

Joe Cocker—Mad Dogs And Englishmen (A&M) 389-783

The Band—To Kingdom Come... The Definitive Collection (Capitol) 388-181/398-180

The Best Of The Dregs—Divided We Stand (Arista) 386-979

Bo Diddley Is A Gunslinger (Chess) 379-677

Roy Orbison—The All-Time Hits, Vols. 1 & 2 (Columbia Special Prod.) 377-945

The Who—Who's Better, Who's Best (MCA) 376-657

The Very Best Of Poco (Epic) 367-623

Marvin Gaye—Greatest Hits (Motown) 367-565

Joni Mitchell—Court and Spark (Asylum) 367-102

Van Morrison—Saint Dominic's Preview (Warner Bros.) 364-927

Elvis Costello—Armed Forces (Columbia) 363-622

Berlioz: Symphonie Fantastique, Nourriton, London Classical Players (Angel) 382-747

Anita Baker—Giving You The Best That I Got (Elektra) 374-058

Taylor Dayne—Can't Fight Fate (Arista) 388-017

Tracy Chapman—Crossroads (Elektra) 387-951

Liza Minnelli—Results (Epic) 382-333

Little Feat—Feats Don't Fail Me Now (Warner Bros.) 363-523

Traffic—The Low Spark Of High Heeled Boys (Island) 351-924

On The Cutting Edge

The Rave-Ups—Chance (Epic) 405-316

Sinead O'Connor—I Do Not Want What I Haven't Got (Chrysalis) 405-001

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Tanita Tikaram—The Sweet Keeper (Warner Bros.) 403-832

Midnight Oil—Blue Sky Mining (Columbia) 402-636

Kate Bush—The Sensual World (Columbia) 401-232

Erasure—Wild! (Reprise/Sire) 400-820

The Psychedelic Furs—Book Of Days (Columbia) 400-689

Laurie Anderson—Strange Angels (Warner Bros.) 389-940

Ian McCulloch—Candleland (Sire/Reprise) 389-593

Rachmaninoff: Piano Concerto No. 3; Rhapsody On Theme Of Paganini. Feltsman, Mehta, Israel Phil. (CBS Master) 383-315

Rolling Stones—Steel Wheels (Rolling Stones Rec.) 387-738

Tina Turner—Foreign Affair (Capitol) 387-118

The Neville Brothers—Yellow Moon (A&M) 381-889

Best Of The Doors (Elektra) 357-616/397-612

Rolling Stones—Exile On Main Street (Rolling Stones Rec.) 350-652

Depeche Mode—Violator (Reprise) 405-423

Indigo Girls (Epic) 381-269

The Jesus And Mary Chain—Automatic (Warner Bros.) 389-551

David Byrne—Rei Momo (Sire) 389-494

The Smithereens II (Capitol) 389-387

Big Audio Dynamite—Megatop Phoenix (Columbia) 388-215

Camper Van Beethoven—Key Lime Pie (Virgin) 388-074

Squeeze—Frank (A&M) 388-058

Bryan Ferry / Roxy Music—Street Life (Reprise) 384-230

Peter Gabriel—Passion (Geffen) 383-810

The Cure—Disintegration (Elektra) 382-093

10,000 Maniacs—Blind Man's Zoo (Elektra) 382-077

R. E. M.—Eponymous (I.R.S.) 374-777

Haydn: Piano Sonatas 33, 38, 58, 60. Emanuel Ax (CBS Master) 383-331

Luciano Pavarotti—Pavarotti in Concert (CBS Master) 373-548

Soul II Soul—Keep On Movin' (Virgin) 386-037

Cher—Heart Of Stone (Geffen) 383-893

k. d. lang And The Reclines—Absolute Torch & Twang (Sire) 381-624

Best Of Procol Harum (A&M) 344-457

The Byrds—Greatest Hits (Columbia) 342-501

Bad Company—10 From 6 (Atlantic) 341-313

A Decade Of Steely Dan (MCA) 341-073

Best Of Kansas (CBS Assoc.) 327-742

Joe Cocker—Greatest Hits (A&M) 320-911

Motown's 25 #1 Hits (Motown) 319-996/399-998

Elton John—Greatest Hits (MCA) 319-541

Creedence Clearwater Revival—20 Greatest Hits (Fantasy) 308-049

The Best Of Emerson, Lake & Palmer (Atlantic) 306-969

Best Of The Grateful Dead (Warner Bros.) 291-633

Branford Marsalis—Trio Jeepy (Columbia) 381-830

Simon & Garfunkel—Greatest Hits (Columbia) 219-477

Miles Davis—Amandla (Warner Bros.) 381-756

Bonnie Raitt—Nick of Time (Capitol) 381-087

Jeff Beck (Epic) 380-303

Steve Reich: Different Trains - Kronos Quartet / Electric Counterpoint - Pat Metheny (Nonesuch) 380-071

The Traveling Wilburys—Volume One (Wilbury) 375-089

Roxette—Look Sharp! (Parlophone) 381-939

Richard Marx—Repeat Offender (EMI) 380-915

The Chick Corea Akoustic Band (GRP) 379-891

Madonna—Like A Prayer (Sire) 379-594

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LETTERS

fairly recent recordings never released in the U.S. in that format or now available here only on CD: 5254 High Holborn, London WC1, Great Britain; 24-hour telephone 011-44-71-831-4116. Tower Records' mail-order business is handled out of New York: 692 Broadway, New York, NY 10012; telephone (212) 505-0729; fax number (212) 254-4644.

Headphones for the Blind

The New Mexico Talking Book Library lends recorded books and magazines to people who cannot read regular printed material because of blindness or other visual or physical handicap. We also lend cassette and record players and headphones. Headphones help focus the sound and screen out distractions, making it easier to concentrate; more important, they give blind and handicapped people reading privacy like that sighted people enjoy.

Up to this year, the National Library Service provided headphones for us to lend. This stopped suddenly. Until we can make room in our budget for purchasing headphones, our patrons—about three thousand a year—must depend on donations. If your readers have any headphones that are not being used, our patrons could put them to good use.

The U.S. Postal Service will carry this equipment free. In place of stamps on the parcel, write "Free Matter for the Blind and Physically Handicapped." Our address is New Mexico Talking Book Library, 325 Don Gaspar, Santa Fe, NM 87503.

ALISON P. SEIDEL
Manager, Talking Book Library
Santa Fe, NM

Suggestion Box

I've just purchased a new tape deck. I like it a lot, but I have one chief criticism: Why, oh why, don't tape decks today have lighted tape wells? I can't see a thing with the all-black front panels, especially when I need to know where the tape is physically in its shell. The tape counter is just not enough!

RON SEYMOUR
St. Louis, MO

Whatever happened to pitch controls on CD players? Granted, the digital time code insures that any all-digital CD will accurately reproduce the original pitch on virtually all players, but given the wide variety of older recordings now on CD—from Caruso and early jazz 78's to privately copied opera broadcasts—I want the option of correcting the pitch if I conclude that the transfer has resulted in a distortion of the original performance. And with some of the earliest sources there is still no universal

agreement as to what the correct playback pitch should be. This feature seems to have disappeared even from cassette decks.

JAMES C. DELOTEL
Louisville, KY

As a typical home taper, I buy CD's and transfer them onto cassette so that I can enjoy the music in my car, at the office, and in my portable player. The process is time-consuming and costly, and I sometimes put it off for months. I buy CD's rather than prerecorded cassettes because CD's sound better on my home system. Buying both prerecorded media is currently an expensive proposition.

I would like to see record companies offer a combination CD-and-prerecorded-cassette package at a reduced price. It would save me the hassle and expense of recording and eliminate the majority of my home taping. This offer could also extend to CD/LP packages and to prerecorded DAT's.

GREG STEWART
San Bruno, CA

Listening to Laserdiscs

I'm sure that many audiophiles share a problem that I have—my mind invariably wanders while I'm listening to recordings, no matter how much I try to concentrate. My solution was to collect and play laserdiscs of music. When both my hearing and sight are engaged, my attention is riveted. The laserdiscs give me two or three times as much enjoyment as an audio-only CD, nearly as much as a live performance. Upgrading from stereo audio only to a home-theater/concert-hall type of system is very rewarding.

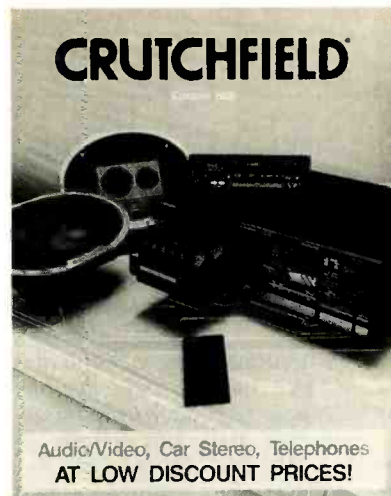
CHARLES LEWIS
Buffalo, NY

Corrections

We regret that an erroneous U.S. address was given for Wharfedale in June's test report on the Wharfedale Coleridge speaker system (page 57). The correct address is 1230 Calle Suerte, Camarillo, CA 93010.

In the review of Gary Burton's "Reunion" album in May (page 98), there was a mistaken reference to him as a guitarist, though his instruments were correctly identified as vibraphone and marimba in the heading of the review. We regret this editorial error, which was not the fault of critic Ron Givens.

Toyota advises us that the price of the System 10 audio upgrade for 1990 Toyota Celicas is \$1,405 for the GT model and \$1,185 for the GT-S and All-Trac models, not \$1,800 as stated in "Systems" in May (page 72). □



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The Winner of
THE RODRIGUES CAPTION CONTEST

CONCLUDING the Sixth Annual Rodrigues Cartoon Caption Contest, the judges have judged, the envelope has been opened, and we are happy to announce that the winner is Douglas W. Daughhete, of Augusta, Georgia. His winning entry is now printed under the cartoon.

As we did in previous years, in our issue of January 1990 we published a drawing by the cartoonist Charles Rodrigues and invited readers to submit proposed captions for it. The prize for the one the judges considered the funniest is \$100 and the original Rodrigues drawing.

The editors of STEREO REVIEW congratulate Mr. Daughhete and extend thanks to the thousands of other contestants who submitted captions. Entries came from all over North America and from as far away as Hong Kong and Oulu, Finland. We also thank the five previ-

ous winners—Thomas Briggie, of Wadsworth, Ohio, Michael Binyon, of Los Osos, California, Bruce Barstow, of Philadelphia, Pennsylvania, Matthew Mirapaul, of Evanston, Illinois, and Marc Welentychik, of Richmond, Virginia—who served on the panel of judges.

A surprisingly large number of entries referred to the recording carried by the Voyager spacecraft, and surprisingly few referred to E.T. Once again Julian Hirsch was the person who figured most prominently in the captions. Among those mentioned for the first time this year were Kim Basinger and Vice President Dan Quayle.

Among popular musicians frequently mentioned, Elvis Presley made a strong showing, as did Mötley Crüe and Twisted Sister. In past years the classical composition named in the largest number of captions has always been Tchaikov-

sky's *1812 Overture*. This year it was edged out by Richard Strauss's *Also sprach Zarathustra*.

Mr. Daughhete, an engineer on the staff of a nuclear station that belongs to the Georgia Power Company, describes his musical tastes as eclectic. He says his collection is 60 percent rock, 10 percent jazz, 10 percent country, 10 percent classical, and 10 percent miscellaneous. A long-time audiophile who has upgraded his equipment several times, he looks forward to a day when he can buy all new everything.

The runners-up are printed below, in no particular order. If your entry is not among them, we wish you better luck next time. We plan to announce next year's contest in January 1991. *William Livingstone*

RUNNERS-UP

"We don't need that junk. We've got the vacuum cleaner to listen to!"—Mike Kohlmann and Dave Duckert, Milwaukee, Wisconsin

"I don't care what the guy in the van said. You scratch those serial numbers off . . . and NOW!"—John M. Martin, Troy, New York

"I don't care what Elvis asked you to bring back. It still won't fit in the hold."—Rebecca Oniki, Salt Lake City, Utah

"I don't care how good it sounds, you shouldn't have traded your teeth for it."—Ken Paulus, Massillon, Ohio

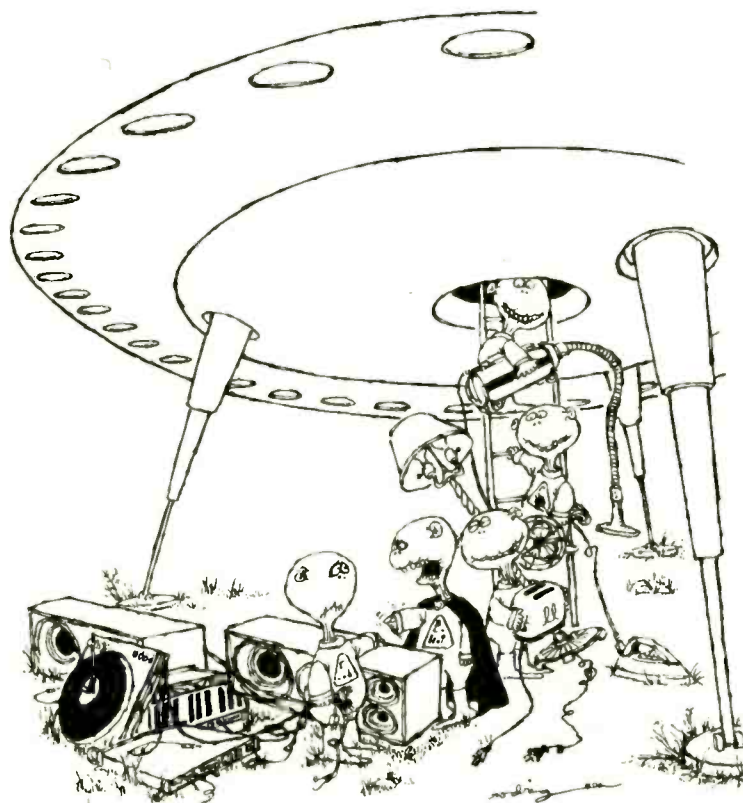
"I don't care if she's got big woofers, take her back."—John Barbee, Moreno Valley, California

"I don't care if you got the whole life-support system. Speakers don't breed in captivity."—Vincent Goudreault, Quebec, Canada

"No, not another one. The last one of those creatures you brought back still hasn't learned any tricks."—David Phelps, University City, Missouri

"Don't hold them by the roots. They'll never grow!"—Douglas Dourlain, Alexandria, Virginia

"Sorry, Zork, but you knew the rule. If you can't carry her aboard by yourself, you can't marry her."—John A. Anderson, Rock Hill, South Carolina



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2. FAST FORWARD

A compromise! The electronics manufacturers and the record companies have agreed to draft a law setting a new standard for DATs. The DAT Bill **will** allow direct digital taping from CDs, but not digital copies of the copies.

3. PLAY

The Digital Audio Tape Act of 1990, H.R. 4096/S. 2358—companion bills introduced in the U.S. Congress.

4. PAUSE

A glitch! Some music publishers and the Songwriters Guild break with the record companies and oppose the DAT Bill unless consumers are forced to pay a royalty tax on blank tape and recorders.

5. EJECT

this illogical, negative noise! We've heard this song before. The same wolf-crying about new technology that's been around since the introduction of audio cassettes and video recorders.

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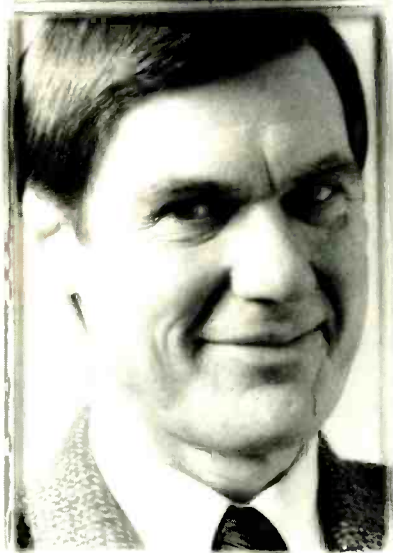
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by Ian G. Masters



Amplifier Level Settings

Q My system contains a Yamaha preamplifier and separate power amplifiers that all have their own input-level controls. According to Yamaha, the preamp's level control should be at about two or three o'clock for maximum level, with the amplifier controls set accordingly. In my case, this means that the amp controls are set at less than one-tenth of their rotation, and this seems to have had an effect on the overall sound quality of my system. It now seems smoother, fuller, and less bright than before. How exactly do the relative level settings of a preamplifier and a power amplifier affect each other?

DOUGLAS GITT
Loysville, PA

A In theory, there should be no effect at all. Power-amplifier level controls are intended mainly to allow an amplifier to be matched to a variety of preamplifiers and should have no qualitative effect on the sound. But, like all audio circuits, a level control may not be totally inert, particularly at the extremes of its operating range. It may be that in your case the control is combining with the small amount of capacitance in the connecting cables to produce a sort of unintended equalization that rolls off the high end. The effect may be pleasurable, but it's not really accurate.

The cause, however, may be elsewhere. The manufacturer of your preamp, Yamaha, includes a novel loudness-compensation control arrangement in many of its components.

Instead of using a simple on/off loudness switch, Yamaha provides a continuously variable control that alters the amount of compensation according to level. In the initial setup, the loudness knob is turned all the way clockwise (no compensation) and the master level control set to a normal listening level. Thereafter, when you wish to listen at lower levels, you use the loudness knob to turn the signal down; the quieter you make the music, the more compensation is applied. If you have set the loudness knob, rather than the overall level control, at two or three o'clock, you would hear the sort of "warmth" you describe.

Series Connection

Q I share with many audio enthusiasts the problem of having too many components and not enough inputs. To solve this, I have connected all my signal processors in series, attached to a single tape-monitor loop, rather than in parallel as suggested by the various instruction manuals, and it seems to work just fine. Am I risking damage to my equipment or degradation of the sound by using this arrangement?

ROBERT G. MONTGOMERY
San Jose, CA

A Damage is unlikely, but the sound quality might be affected in various ways. Bear in mind that each unit will be in the circuit all the time; the accumulated effect of loose or dirty contacts between the components and the patch cords connecting them could increase noise unless great care is taken. The internal noise of the devices would also be cumulative, as would any distortion products they might produce. And unless each processor has a level adjustment or true unity gain (that is, the signal level is the same whether it is switched in or out), awkward jumps or drops in level might happen as different components are turned on or off.

On the other hand, if your system did have enough circuits to accommodate all the signal processors individually, and you were in the habit of using all of them at once, they would in effect be connected in series there too. If such an arrangement produces acceptable sound, so would yours.

Feeding a Subwoofer

Q My powered subwoofer provides both RCA jacks and speaker-cable inputs, and I'm not sure which are the best to use. If I use the speaker inputs, wouldn't I defeat the purpose of having a powered unit? If I use Y-connectors to feed the speakers from my preamplifier output, would that degrade the signal to

my main power amplifier? And if I take the feed from a tape-monitor output, would that mean the subwoofer would be constantly running at one level?

NORMAN SCHOONOVER
Kirksville, MO

A No, no, and yes. Subwoofers differ in their wiring arrangements, but I think it very unlikely that the speaker-cable inputs on yours lead directly to the driver itself, bypassing the subwoofer's internal amplifier. Such inputs are meant for use with integrated amplifiers or receivers that don't provide preamplifier outputs, or for the convenience of not having to run a separate set of cables to the subwoofers. The high-level signal is reduced by means of resistors within the subwoofer and fed to the inputs of the internal amplifier.

Feeding the subwoofer from your preamplifier outputs, using Y-cords, would accomplish much the same thing. Splitting the signal this way is likely to cause problems only if the relatively long run of cable between the preamplifier and the subwoofer picks up hum or other interference, which would feed into your main amplifier and then to the main speakers. If that happens, it would probably be better to use the speaker feeds.

The least satisfactory arrangement would be to use a tape-monitor feed. That might also pick up interference, and it would indeed restrict you to one signal level.

Surround CD's

Q Dolby Surround seems to be very effective with certain sorts of music in simulating the acoustics of a real acoustic environment. Is it possible to encode surround sound on an audio-only medium such as a CD?

ANTHONY BUROKAS
Philadelphia, PA

A It's certainly possible. The digital soundtrack used in most recently released videodiscs differs in no significant way from a compact disc, and many such soundtracks are encoded with surround sound. There's no reason, therefore, that a CD—or a vinyl LP or a cassette—couldn't be similarly encoded, except that there has been little consumer demand.

But as more and more people integrate their audio and video systems, and with the arrival of combi-players that can handle both CD's and videodiscs, this might change. There are, in fact, a handful of Dolby Surround CD's on the market already, including a recent release of several movie-music discs on the RCA label, and we can expect to see more. □

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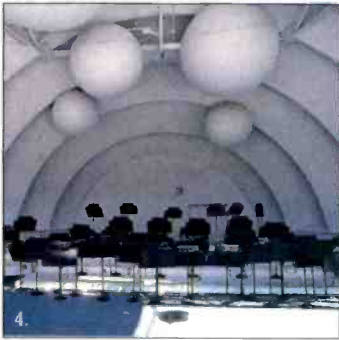
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Ralph's house.



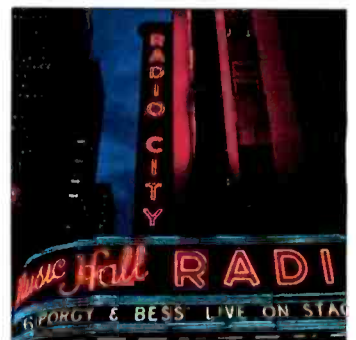
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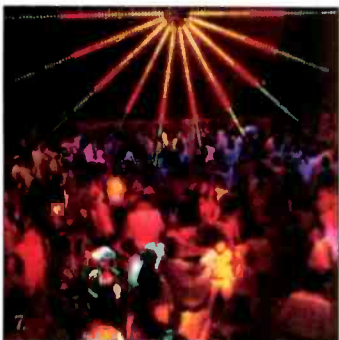
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PSB uses a low-temperature manufacturing process called reaction injection molding to create a new type of baffle for its CS line of speakers. Made of fiberglass-reinforced polyurethane, the baffle is said to absorb vibration and to provide strength and stiffness. The CS 260 (shown) has two 6-inch polypropylene woofers and a 1-inch fabric-dome tweeter. Frequency response is rated as 40 to 20,000 Hz \pm 1.5 dB, sensitivity as 91 dB. The CS 260 is available in dark-oak and black-oak finishes. Dimensions are 35½ x 13½ x 11¼ inches, and weight is 45½ pounds. Price: \$1,100 a pair. PSB Speakers, Dept. SR, 633 Granite Court, Pickering, Ontario L1W 3K1, Canada. **Circle 120 on reader service card**



JAMO

The Jamo Converta loudspeaker is supplied with three installation fittings so that it can be mounted on a stand or wall or suspended from a ceiling. The two-way system has a 4-inch woofer and a 1-inch tweeter. The frequency response is given as 80 to 20,000 Hz, nominal impedance as 8 ohms. The speaker's rounded enclosure and curved edges are said to minimize reflections. It measures 9 inches in diameter and 3 inches deep. Weight is about 4½ pounds. The Converta is available in six finishes: black, steel, white, mint green, pink, and violet. Price: \$498 a pair. Jamo Hi-Fi USA, Dept. SR, 425 Huehl Rd., Northbrook, IL 60062. **Circle 122 on reader service card**

FISHER

Intended for people who have large LP collections but want to make the transition to CD's, the Fisher DAC 145 combines a five-disc carousel CD changer and analog turntable in one chassis. The CD section has an eight-times-oversampling 18-bit digital filter and dual 16-bit digital-to-analog converters. Features include thirty-two-track programming,

intro scan, and random play. The semi-automatic turntable is belt-driven by a DC servomotor, and a cartridge is included. The DAC 145 was designed for Fisher's System 9025 but can be purchased separately. Price: \$350. Fisher, Dept. SR, 21350 Lassen St., P.O. Box 2329, Chatsworth, CA 91311.

Circle 121 on reader service card



ALLISON ACOUSTICS

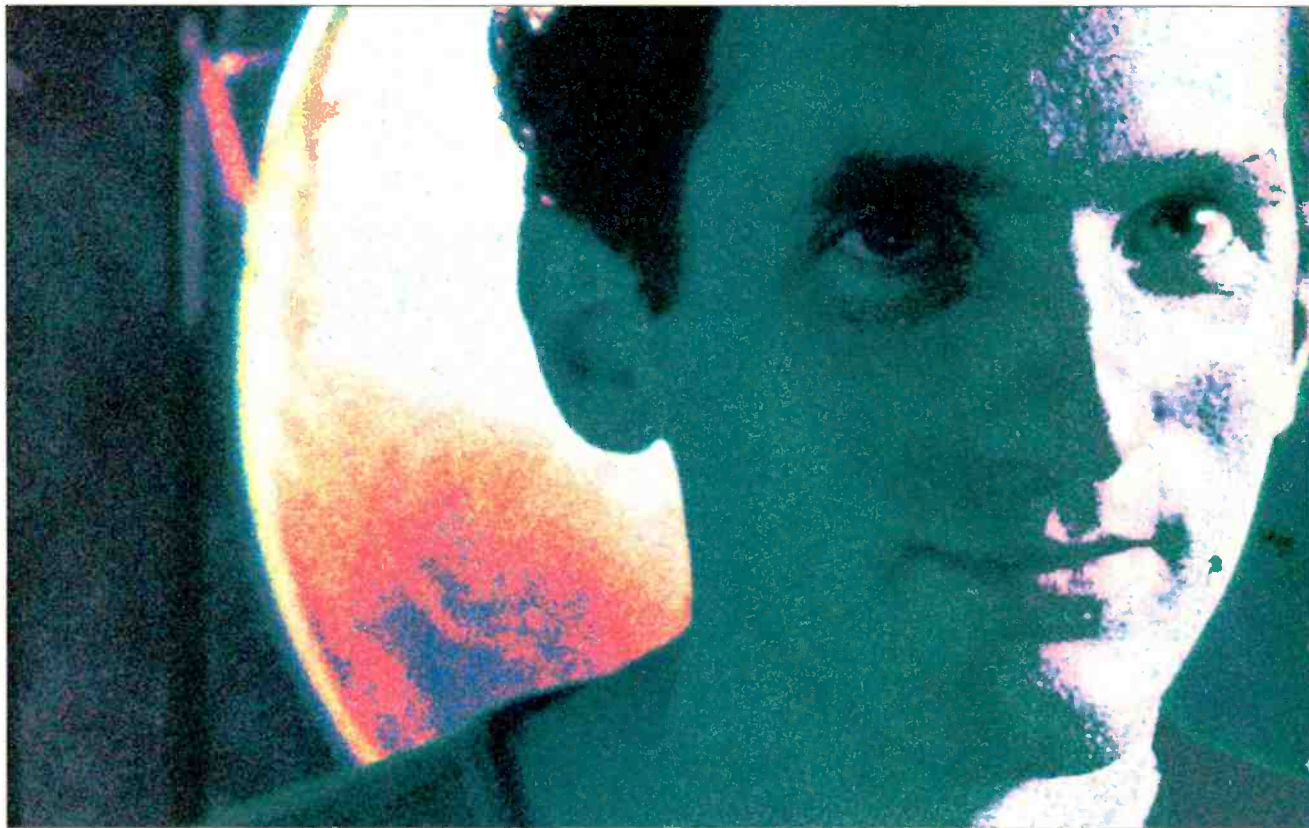
Allison's Cruise-Master series of carpeted acoustic-suspension box speakers for hatchbacks, trucks, and vans includes (clockwise from top right in photo) the CM 2 x 8, CM 4 x 8, CM 6 x 10, and CM 3 x 10. The CM 2 x 8 is a two-way system with an 8-inch woofer and a 1-inch tweeter; the CM 4 x 8 is a stereo version with two sets of the same drivers. The three-way CM 3 x 10 has an 8-inch woofer, 3-inch midrange, and 1-inch tweeter; the stereo CM 6 x 10 uses the same drivers in dual configuration.

All four systems have a rated sensitivity of 90 dB and a nominal impedance of 4 ohms. Peak power handling ranges from 150 watts for the CM 2 x 8 to 200 watts per channel for the CM 6 x 10. Rated frequency responses range from 63 to 20,000 Hz for the smallest speaker to 46 to 20,000 Hz for the largest. Prices: CM 2 x 8, \$250; CM 3 x 10, \$350; CM 4 x 8, \$500; CM 6 x 10, \$700. Allison Acoustics, Dept. SR, 1590 Concord St., Framingham, MA 01701.

Circle 123 on reader service card



Andy Narell cooks with a special set of pans.



Get a free *Up Close* limited edition CD featuring 6 songs from Andy Narell's *Little Secrets*. Send check or money order for \$3 (U.S. funds) to cover shipping and handling to:

The music that Andy Narell cooks up is probably best described as a stew. A little bit of everything. Jazz, Caribbean, Latin and a pinch of funk.

But that's what you'd expect from a kid who grew up in New York City playing an instrument from half a world away – the steel pan, also known as the steel drum.

On his latest Windham Hill Jazz release, *Little Secrets*, Narell works toward two goals. The first is to show how the pan can be a lead instrument – not simply a supporting voice as many other contemporary musicians have used it.

Upon first listen, you'll be amazed how Andy Narell's steel pan music sounds on our



SubSat Six three-piece subwoofer/satellite system. Each tiny satellite speaker can be

The second is to create a warmer, more spherical tone for the pan, as you can hear on the single, *We Kinda Music*.

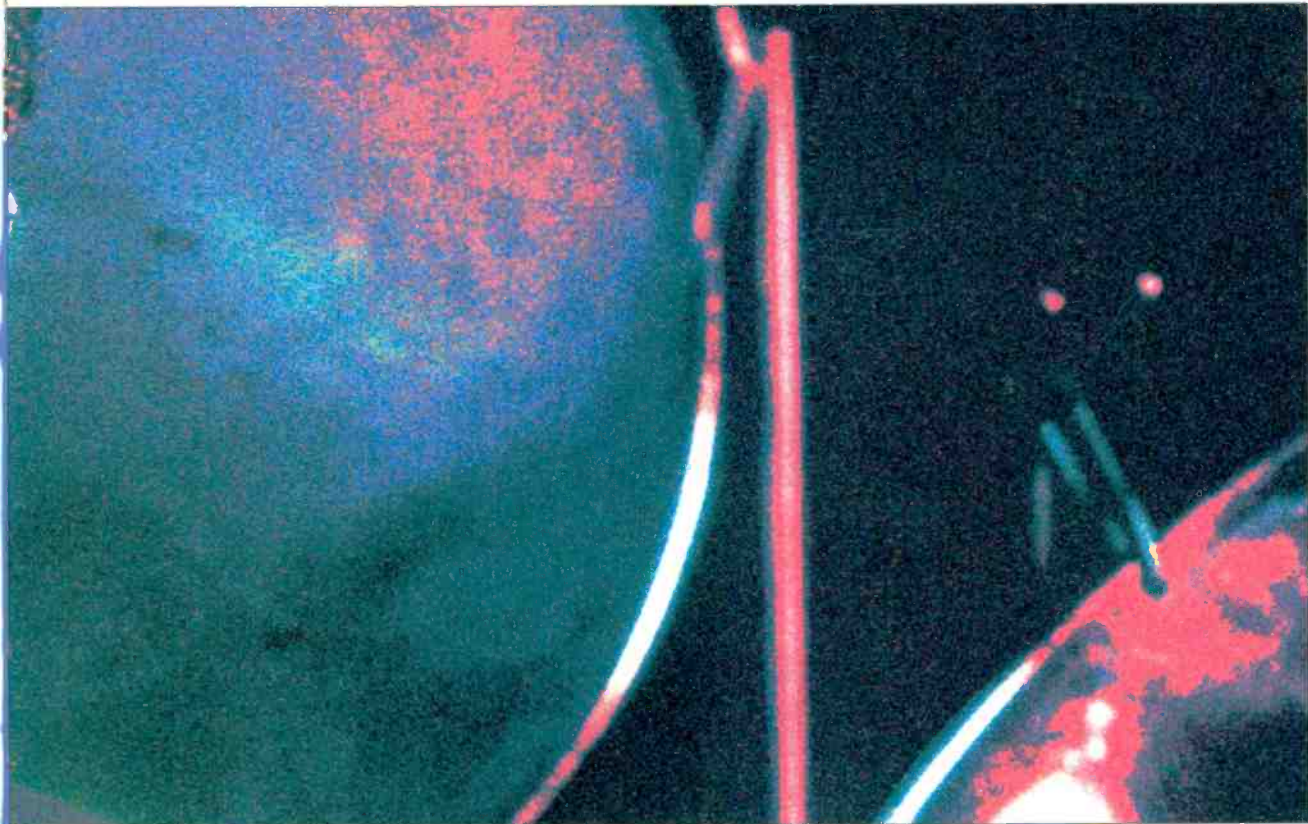
To find this tone, he first had to locate three Neumann tube microphones from the 1950s, known for their warmth and clarity. Narell uses this quality to its full advantage, placing two mikes one foot above the pan's surface and one, four feet above to capture the room's acoustics.

The voice of the steel pan is laden with overtones, especially when struck hard. To counter this, Narell plays softly, bringing out the naturally warm tones of the

mounted on your wall with optional brackets, or placed



unobtrusively on a bookshelf. The SubSat Six's hidden



Boston Acoustics, Dept. S3, P.C. Box 625, Holmes, PA 19043. Allow 4-6 weeks for delivery. Offer is good until July 31, 1990 or while supplies last.

advantage, the PowerVent Bass Module, fits neatly in a corner



or behind furniture, and delivers deep, powerful bass down

instrument. The result is a sound which is complex and expressive – much like the human voice.

Narell plays six different sized pans on *We Kinda Music*. Those in the top range produce multiple octave harmonics, perfect fifths and other tuned overtones in addition to the fundamental tones. Bass pans resonate with a deep, warm pitch. When overdubbed together, a complex, richly layered sound is created.

Since there were no true jazz “pan heros” to model himself after while he was growing up in the 60s, Narell listened to jazz greats on

to 46 Hz \pm 3 dB. In all, the SubSat Six fills a room with a big sound, without filling



it with big speakers. It typifies the Boston Sound: tight, clean and smooth.

WLIB radio from Harlem. Perhaps the most noticeable influences on his technique were players like pianist Herbie Hancock and vibist Bobby Hutcherson, the latter because the vibes and the steel pan are both played similarly. And because the vibes’ tone and range are the closest thing to the steel pan in jazz.

Sample Andy Narell’s cooking for yourself. Visit a Boston Acoustics dealer and ask to hear him on a Boston SubSat Six system.

Music this good should be heard on speakers this good.

BostonAcoustics

NEW PRODUCTS



CLARION

Clarion's Model 3970RC car stereo cassette receiver includes a controller for a CD changer. The amplifier section is rated for 20 watts each into two channels or 15 watts into four channels. The AM/FM tuner can store fifteen FM and five AM stations in memory and has seek and preset-scan functions. The autoreverse tape player has a full-logic transport and key-off pinch-roller release. Features include automatic azimuth adjustment, blank-tape skip, and Dolby B and Dolby C noise reduction. Changer controls include no-repeat random play, intro music scan, and single-selection repeat. The slide-out head unit also has a digital quartz clock. Price: \$650. Clarion Corp. of America, Dept. SR, 661 W. Redondo Beach Blvd., Gardena, CA 90247.

Circle 124 on reader service card

ONKYO

The seven-varactor RF section of Onkyo's Integra T-4700 AM/FM tuner uses metal-oxide semiconductor field-effect transistors (MOSFET's), and its IF strip has five ceramic filters. The results are said to be high levels of sensitivity, selectivity, and interference rejection. An Automatic Precision Reception system constantly monitors incoming signal quality and selects whatever combination of mode, high-blend, IF bandwidth, and RF settings will produce the best sound; users can manually override the system if desired. Dual antenna inputs, selectable from the front panel, enable simultaneous connection of an



antenna and a cable feed. Other features include forty station presets and a Classified Scan Memory system, which assigns each preset to one of six categories that can be individually scanned. The

tuner's remote control can be used in a multiroom, multicomponent Onkyo control system. Price: \$450. Onkyo, Dept. SR, 200 Williams Dr., Ramsey, NJ 07446.



FOSGATE AUDIONICS

The DSL One surround-sound processor uses Fosgate's new Digital Servo Logic (DSL) circuitry, which is said to provide much faster logic steering than prior designs, thus eliminating audible intermodulation noise. The DSL circuit can also emulate other fixed-coefficient surround steering systems, including Dolby Pro Logic. Features of the Model One include a built-in 20-watt-per-channel amplifier for the surround channels, a mono subwoofer output, a bass-equalization control, a discrete center-channel output, a phantom center channel, and automatic turn-on/off sensor. The eight operational settings are designed for popular and classical music, movies, and so on. Price: \$700. Fosgate Audionics, Dept. SR, P.O. Box 70, Heber City, UT 84032.

Circle 125 on reader service card

FIRST CLASS UPGRADE.



Sony introduces the world's first car CD Player with a built-in 4-channel amplifier. So you can upgrade without reservations.

Now you can get the expansive sound of Compact Disc in your dash without getting an expensive add-on amplifier. Simply replace your old in-dash radio with the Sony CDX-7540—and you'll be travelling in luxury. This single, affordable package has everything you need: AM, FM, power for four speakers, and the first-class fidelity of Compact Disc.

Of course, the CDX-7540 incorporates all the CD technology you'd expect from the company that invented Compact Disc. Sony's 8x oversampling digital filter and dual D/A converters play your music with a clarity that economy-class car stereo simply can't match. The CDX-7540 is also flexible enough to drive anything from simple two- or four-speaker setups to high-flying multi-amp systems. And to keep your sound safe and sound, there's even a slide-out version: the CDX-7580.

So if concerns about price, security, or installation have kept you from upgrading your car's sound, experience the Sony CDX-7540 or 7580 CD Players.

You may well forget your reservations.



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FOR THE PRICE

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COMPACT DISCS
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THE B-52's: Cosmic Thing	14742
KENNY G: Live	64505
COWBOY JUNKIES The Cowboy Herd	54612
HAPPY ANNIVERSARY, CHARLIE BROWN GAP Artists Perform	64278
BEST OF DIRE STRAITS Money For Nothing	00713
M.C. HAMMER Please Hammer, Don't Hurt 'Em	34791
ROXETTE: Look Sharp!	01106
NORRINGTON Breakdown, Symphonic No. 9	00467
JANE CHILD	60204
THE CHURCH: Gold Afternoon Fix	71667
JULIA FORDHAM: Porcelain	50098
WHITESNAKE: Slip Of The Tongue	01147
SOUL II SOUL: Keep On Movin'	14823
THE BEST OF STEELY DAN: Decade	54135



Paula Abdul:
Forever
Your Girl
00933

ELVIS PRESLEY The Singles Of Love	33653
SUPERTRAMP Classic (14 Greatest Hits)	04891
KITARO: The Kojiki Record Of Ancient Matters	43758
BEST OF BUFFALO SPRINGFIELD Retrospective	00844
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GUNS N' ROSES Appetite For Destruction	70348



Sinéad O'Connor:
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Want What I
Haven't Got
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SOLTI: Tchaikovsky, 1312 Overture	25179
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MILLI VANILLI: G!l You Know It's True	01048
STANLEY JORDAN: Cornucopia	73847
PAT BENATAR: Best Shots	44319
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RANDY TRAVIS: No Holdin' Back	34766
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REBA McENTIRE: Reba Live	44602
MAKE A DIFFERENCE FOUNDATION Solidarity To Heaven... Highway To Hell!	44573
DIRTY DANCING: Soundtrack	82522
SIMON & GARFUNKEL The Concert In Central Park	44006
FLEETWOOD MAC: Greatest Hits	00796



Rod Stewart:
Greatest
Hits
33779

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PRINCE: Batman/Soundtrack	60344
STYX: Classics (14 Greatest Hits)	14822
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LISA STANFIELD: Affection	34198
ALANNAH MYLES	30045
AEROSMITH: Pump	63678
TOM PETTY: Full Moon Fever	33911
GEORGE HARRISON The Best Of Dark Horse	80307
ROY ORBISON: A Black and White Night	64495
THE TRAVELING WILBURYS Volume One	00711



Robert Plant:
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Nirvana
54122

LED ZEPPELIN IV (RUNES)	12014
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DIONNE WARWICK: Greatest Hits	00667
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GUN: Taking On The World	82473
THE WHO: Who's Better, Who's Best	00790
TESLA: The Great Radio Controversy	00839
PHIL COLLINS: 12 Inchems	44300
THE DIZZY GILLESPE SYMPHONY SESSIONS	44022
HOROWITZ AT HOME	25211
CHER: Heart Of Stone	42874
THEY MIGHT BE GIANTS: Flood	14772
DEF LEPPARD: Hysteria	00927
ELTON JOHN: Greatest Hits, Vol. 1	63322
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ALAN JACKSON
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44482

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MICHEL'LE 4 0 0 9 0

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Anthology 4 4 1 8 5

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THE CHURCH: Gold Afternoon Fix 7 1 6 6 7

JIMI HENDRIX: Electric Ladyland 2 3 3 6 2



Heart: Brigade
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LENNY KRAVITZ: Let Love Rule 5 4 4 3 9

KEITH WHITLEY
I Wonder Do You Think Of Me 3 3 7 6 8

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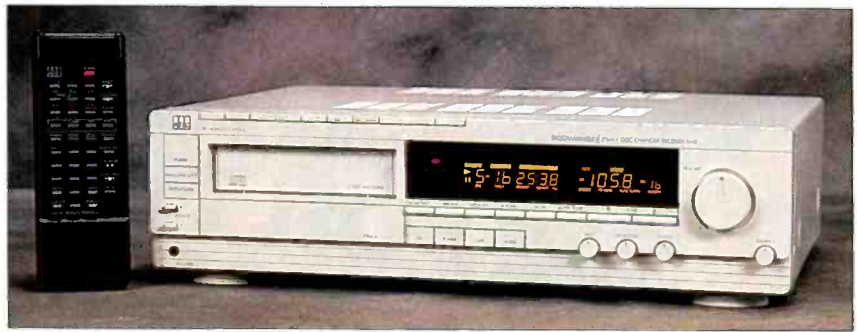
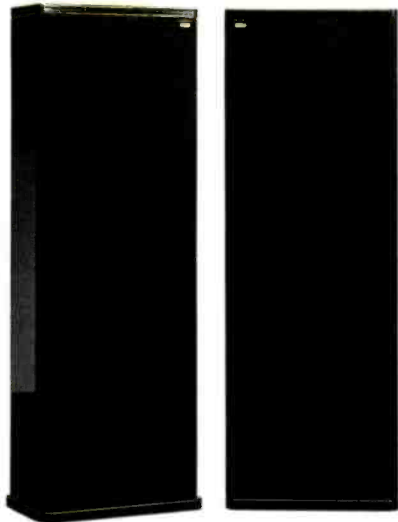


NEW PRODUCTS

MIRAGE

The Mirage M-3 Bi-Polar loudspeaker is said to have an omnidirectional radiation pattern. Each speaker system has two 3/4-inch cloth-dome tweeters, two 4 1/2-inch trilaminated, carbon-filled polypropylene-cone midrange drivers, and one 10-inch polyflex-treated, carbon-filled polypropylene woofer. Frequency response is rated as 30 to 23,000 Hz ± 2 dB on-axis and 30 to 19,000 Hz ± 2 dB off-axis. Impedance is given as 7 ohms nominal, 4 ohms minimum, and the recommended amplifier power is 100 to 250 watts rms per channel. Rated sensitivity is 85.5 dB sound-pressure level at 1 meter with a 2.83-volt input. Dimensions are 52 1/2 x 18 x 8 1/4 inches, weight 130 pounds. The M-3 is finished in black gloss with matching grille cloths. Price: \$3,000. Mirage Loudspeakers, Dept. SR, 3641 McNicoll Ave., Scarborough, Ontario M1X 1G5, Canada.

Circle 126 on reader service card



ADC

ADC's Soundstation 1440 is a 60-watt-per-channel AM/FM stereo receiver combined with a CD changer. The changer can be programmed to play up to thirty-two tracks in any order, or randomly, from any of the six CD's in a loading magazine; it can also memorize programs for up to ten magazines. A separate drawer is provided for single-disc play, including CD-3's. The Sound-

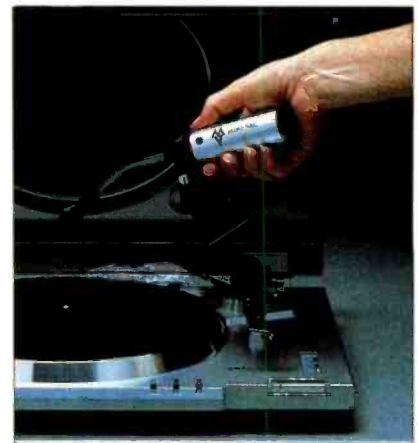
station has treble, midrange, and bass tone controls and tuner presets for sixteen FM and eight AM stations. There are inputs and outputs for a tape deck and a video source. Price: \$730 in white finish, \$700 in black. The 25-watt Soundstation 1320 (\$600) has the same features. ADC, Dept. SR, 707 E. Evelyn Ave., Sunnyvale, CA 94086.

Circle 127 on reader service card

THE PINE CONE

The Mini-Vac from the Pine Cone is a lightweight vacuum cleaner designed to remove tiny particles of dust and debris from hard-to-reach areas in stereo equipment, computers, and cameras. It comes with two interchangeable wands, two fine-bristle brushes, and a cloth waste bag. It runs on a 9-volt battery (not included). Weight is 6 ounces. It carries a money-back guarantee. Price: \$20.99 plus \$3 shipping and handling. For each unit sold, \$1 will be donated to the Northern California Earthquake Relief Fund. The Pine Cone, Dept. SR, Blake Building, SV-9, P.O. Box 1378, Gilroy, CA 95021.

Circle 128 on reader service card



REVOX

The Revox B291 direct-drive turntable uses the company's Linatrack tangential-tracking tonearm, which is said to make it impossible for a record to become scratched while it's playing. It can play 33 1/3- or 45-rpm records and has variable-speed capability of as much as ± 10 percent. The B291 has a serial port that enables multiroom operation via connection to the Revox B208 infrared remote control or the B210 bidirectional smart remote control. It comes with an Elac ESG 796H30 phono cartridge. Price: \$2,500. Studer Revox America, Dept. SR, 1425 Elm Hill Pike, Nashville, TN 37210.

Circle 129 on reader service card

P R E S E N T I N G

OUR MOST AFFORDABLE ACOUSTIMASS® SPEAKER SYSTEM

THE BOSE® ACOUSTIMASS-3 SPEAKER SYSTEM

A technological breakthrough exclusively from Bose! Patented Acoustimass speaker technology is the key to large speaker performance from a package so small, you can hold one in the palm of your hand. When the Acoustimass-5 system was first introduced, Julian Hirsch wrote in *Stereo Review*, "...side by side with speakers costing three to five times as much, the AM-5 consistently produced the more exciting and listenable sound." Now the benefits of this revolutionary technology and much of the performance of the Acoustimass-5 system are available in the Acoustimass-3 system, for approximately half the price.

THE CRITICS SPEAK:

"Bose continues turning the speaker world upside down. It qualifies as one of the handful of companies researching the frontiers of acoustics and speaker design."

Chicago Tribune
Rich Warren

"The results are impressive."

Buffalo News
Tom Krehbiel

"...the Bose speakers are a stunning example of the miracles possible when physics is applied to the audio business."

The Oregonian
Wayne Thompson

CUSTOMERS SPEAK:

"Solid bass and crisp high(s)."

Newton Mapoa
Manhattan Beach, CA

"Small size and great sound."

Scott Schifferly
Maumee, OH

Speaker shown actual size.



System consists of two cube speakers and an easily concealable Acoustimass bass module. Mounting accessories available.

For more information and
the name of your nearest
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1-800-444-BOSE

BOSE
Better sound through research.

"Model Eleven...Exquisite Sound...Dwarfs Any Portable Stereo...A High Tech Wonder...Thumbs Up!"

Doug Simmons—*The Village Voice*

MODEL ELEVEN

BY HENRY KLOSS

Cambridge SoundWorks' Model Eleven is the world's first *transportable* full-range, high performance component system. It consists of a powerful 3-channel amplifier and two "satellite" mid/high-frequency speakers—all packed in a rugged "BassCase"™ that, when empty, serves as the system's subwoofer. Model Eleven's performance, when coupled with your portable CD or tape player,** rivals that of the most expensive component systems. And because we market it directly from our factory, it costs hundreds less than it would in stores.



- Fits under airline seats—23 lbs.
- Can be checked as luggage.
- Works on all electrical systems.
- Delivers the full range of music.
- Is backed by a unique 5-year warranty.

• Makes an ideal Father's Day or graduation gift.

Introductory Price: \$599

Valid until July 1, 1990

sound virtually identical to our acclaimed *Ensemble*® speaker system.

Model Eleven can be used virtually anywhere in the world—115- or 230-volt, 50 or 60 Hz AC or 12-volts DC. Because the entire system fits under an airline seat—or can be checked as baggage—you can take it just about anywhere. But Model Eleven's sound is so good, so "big," you may want to keep it home. It's an ideal second (or first) music system for a study, bedroom or kitchen. At \$599† we don't know of any combination of components near its price (transportable or not) that approaches its sound quality.



The drivers used in Model Eleven's two-way satellite speakers are no-compromise, high-performance components—just like you'd expect to find in the finest home speaker systems.

work *with* a room's acoustics for optimum performance. Remove the satellite speakers, amplifier and your portable CD player from BassCase. Place the satellites where they create a musical "stage" near ear level. Put the BassCase where it reinforces low frequency output—on the floor, even behind furniture. The result is musically accurate



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Until now portable music systems were, at best, a compromise. Even the most expensive ones lack the deep bass necessary for full, natural sound. But Model Eleven delivers the all-out performance previously found only in high quality home component systems. Its three speakers are designed to

Henry Kloss created the dominant speaker models of the '50s (AR), '60s (KLH) and '70s (Advent)—as well as our highly acclaimed Ensemble and Ambiance™ speakers. While packing a stereo system into a suitcase before a vacation, he realized that an amplifier, a CD player and two small speakers take up the same space required for an acoustic suspension woofer to reproduce really deep bass. That was the inspiration for BassCase, Model Eleven's bass speaker enclosure which doubles as the entire system's carrying case.

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BY HENRY KLOSS

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BY HENRY KLOSS

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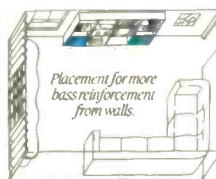
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by Julian Hirsch



SPATIAL EFFECTS THROUGH HEADPHONES

IN early May, the Audio Engineering Society held its eighth International Conference in Washington, D.C. The three-day meeting, devoted to "The Sound of Audio," spanned a wide range of subjects, from psychoacoustics and auditory perception to the sound of concert halls and automobile interiors. (I participated in a special session on the reviewing of audio products, as part of a panel of eight reviewers from North American consumer audio publications.) The common thread linking the papers presented at the conference was the *sound* of audio rather than its technology.

I found almost all of the papers to be highly interesting and informative. One that especially intrigued me, given by David Griesinger of Lexicon, was titled "Binaural Techniques for Music Reproduction." His research was aimed at defining recording and playback techniques that would provide good stereo reproduction through speakers as well as true binaural reproduction through headphones. The following material is derived from his paper.

Anyone who has listened to stereo recordings through headphones knows that the effect is very different from the conventional speaker-listening experience. Each channel is heard only through the corresponding ear, and the mono (L + R) portions of the program are located firmly inside the listener's head, midway between the ears. The result can be pleasing, but it is quite different from what we expect from stereo reproduction.

Unlike a stereo recording, which is usually made with two or more microphones and meant to be played through speakers spaced several feet apart, a binaural recording is designed only for headphone listening. It is made by two microphones mounted in the ears of a dummy head, with their outputs conventionally recorded on the two channels of a record or tape. If a binaural record is played through a conventional stereo system, the sound is usually much closer to mono than stereo. Since the two channels are recorded with microphones spaced about 6 inches apart and the speakers are spaced 6 to 10 feet apart, there is little sense of normal stereo imaging.

On the other hand, playing the binaural program through headphones produces an amazing sensation. The listener is, in effect, transported to the exact location of the dummy head, creating an uncanny "you are there" feeling and often inducing a total involvement with the program material.

But there is a catch—several of them, in fact. Although sounds originating from the sides and rear usually appear very close to their correct positions when heard through headphones, frontal sounds stubbornly refuse to appear from

the listener's front. For me they are either inside the head or slightly above it. The effect is slightly different for every listener, but few are able to perceive a forward sound source as coming from the proper direction. Closing your eyes helps—when you can *see* that there is no sound source ahead of you, the brain is reluctant to accept its reality. Nevertheless, the sense of reality from a binaural recording is seriously marred by this effect.

There are a number of auditory clues that we use to localize sounds outside the head. The shape of the pinna (external ear) has a great effect on the frequency response and directional characteristics of our hearing. Combined with the time and amplitude information from arriving sounds, these directional properties enable us to localize sound sources with considerable accuracy.

Unfortunately, placing an earphone on (or in) the ear drastically alters its frequency response, seriously impairing our ability to localize external sounds when wearing headphones. As it happens, the ear's response is especially complex—and unique to each individual—in the forward direction but much less so in other directions. As a result, although we do get a good sense of direction to the sides and rear in binaural listening, almost every person's frontal localization ability is effectively eliminated by wearing headphones.

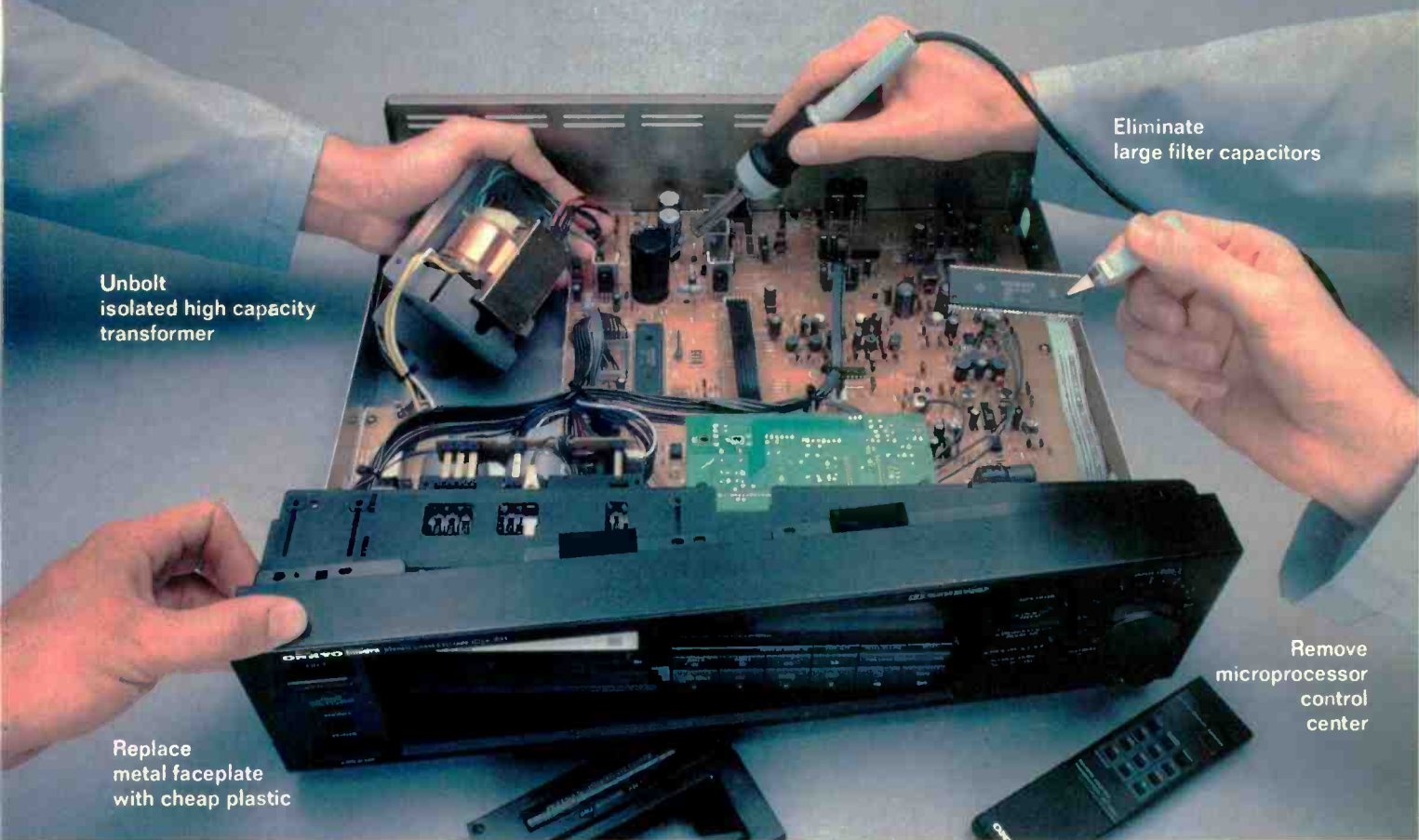
Logically, a person should be able to localize sounds recorded binaurally as well as he does live sounds if the program signal or the headphone response is equalized to produce the same frequency response at the eardrum as would exist without the headphones in place. Unfortunately, each individual has a unique ear response—as Griesinger puts it, "pinnae response curves are as unique as fingerprints." Even the right and left ears of a given individual have their own frequency-response characteristics. Although there are some rough general similarities among individuals, merely designing headphones to match an average response curve is unlikely to give the desired results.

Griesinger has actually experi-

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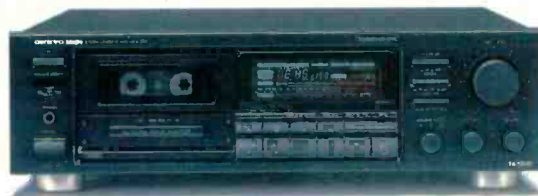
First, we'd remove our specially isolated transformer, bolting a cheaper replacement directly to the chassis. This would result in vibrations that mask some of the musical detail. Nothing important, just little things like instruments and vocals.

Gone would be the three independent power supplies, and we'd throw out our audio-grade capacitors, too. Competition between the meter circuitry and recording electronics for current could then allow noise to creep into the audio signal while recording. So all the singers seem to have sinus infections. And the instruments sound more surgical than musical.

Of course, the custom designed microprocessor would have to go, taking the Real Time Counter with it. After all, isn't it more exciting to watch the song and tape race to see which finishes first?

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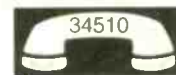
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TECHNICAL TALK

mented with such headphone equalization to negate the response-altering effects of wearing headphones. The purpose is *not* to produce a specific response in a conventional measurement, in which the phone is pressed against a coupler that holds a microphone and is intended to simulate a standardized human ear. Rather, the desired response must be created *at the eardrum*, re-creating the ear's natural response to an external frontally located sound. If this is achieved, the already adequate directional response of the ear in other directions should enable the listener to hear recorded/reproduced sounds originating from all directions with previously unattainable accuracy.

In simple terms, the equalization process began by measuring the response of the external ear and ear canal with a tiny probe microphone inserted into the ear canal approximately 1 millimeter from the eardrum. This delicate measurement is difficult to perform accurately and repeatably, but the aim was to equalize the headphone response to match the ear's natural curve within about 1 dB in one-third-octave frequency increments. The measure-

ment and equalization were done separately for each ear.

Griesinger reported that when the listeners fine-tuned the equalization themselves, about 40 percent of the individuals tested found that it was possible to get the sounds to appear from all around the head, although a period of acclimatization was required in some cases. For the others, frontal sounds remained above or behind the head, but they often preferred the change in timbre or spectral balance from the equalization even without the enhancement of localization.

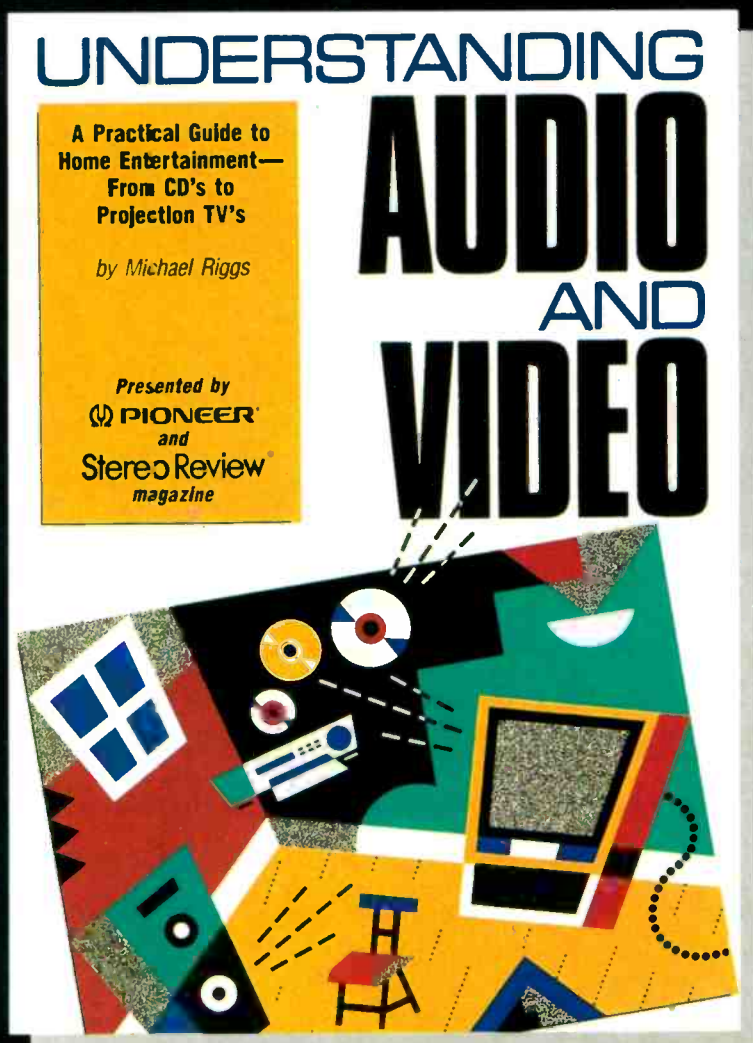
Clearly, many questions are left unanswered by this experiment. Griesinger referred to research by others using different techniques that may produce more widely applicable benefits. One interesting system (called a "convolutron") compensates for the turning of the listener's head while he's wearing headphones, which normally destroys the illusion of reality as the sound sources turn with the head. One thing seems certain, however—even the unglamorous stereo headphone is evolving into a more nearly ideal way of listening to recorded music. □



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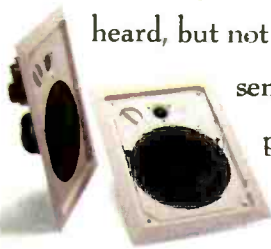
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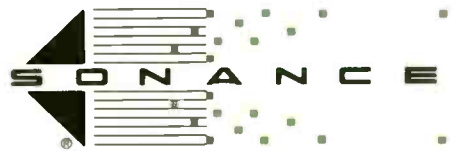


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KEF MODEL 105/3 SPEAKER SYSTEM

Julian Hirsch, Hirsch-Houck Laboratories

THE KEF Model 105/3, a floor-standing speaker system embodying several advanced and unconventional design features, is the newest member of the company's Reference Series. A fairly large column-shaped speaker, the 105/3 weighs more than 92 pounds. Its walnut-veneered cabinet, which stands 43½ inches tall and measures 11 inches wide and 16 inches deep, is hand-

somely finished on all visible surfaces. The cabinet is constructed of 22-millimeter (about 7/8-inch) particleboard and is fitted with four spiked feet with removable plastic caps to protect finished floors. For use on carpeted floors, KEF recommends that the caps be removed once the speakers have been placed.

The KEF 105/3 is a four-way system rated for very high sensitivity, high acoustic-output capability, and

exceptional power-handling capacity. Its bass section consists of two upward-facing 8-inch drivers; they are mounted within the cabinet in the double coupled-cavity configuration first introduced by KEF in its top-of-the-line Model 107 speaker system. The drivers' magnetic structures and frames are linked with a rigid force-canceling rod (about a half-inch in diameter) that is said to reduce acoustic distortion and the transfer of energy from the woofers to the cabinet walls. The combined output of the two woofers is radiated through a smoothly contoured molded duct, about 6 inches in diameter, that acts as an air diaphragm of very low mass.

The other drivers are housed in a separate module, about 10 inches wide and 22½ inches high, that is machined from a solid piece of 3-inch-thick fiber material. This section of the speaker is mounted on the front panel of the cabinet, extending from the top of the bass port to the top of the cabinet. Like most of the front of the speaker, it is hidden from view by the black cloth grille, which is retained by magnetic fasteners and is easily removable. The grille structure weighs a surprising 4¾ pounds.

The lower-midrange frequencies are handled by two 6½-inch cone drivers near the top and bottom of the front-mounted module. Between them is a KEF Uni-Q driver, with a concentric 6½-inch cone and 1-inch dome tweeter. The tweeter's tiny, powerful neodymium magnet allows it to fit within the voice coil and magnet structure of the cone driver, placing the middle- and high-frequency sound sources in the same plane. The Uni-Q design is said to minimize crossover discontinuities and provide similar directional coverage in the crossover region for the outputs of the two concentric drivers.

The symmetrical, vertical placement of the lower-midrange speakers around the Uni-Q mid/high-frequency driver are said to give the Model 105/3 system the highly desirable properties of a broad, uniform horizontal radiation together with a narrower vertical radiation pattern in the midrange, where the acoustic sources of all four drivers

TEST REPORTS

appear at the same point in space (the center of the middle driver). This point is about 31 inches from the floor, roughly on a level with the ears of a seated listener.

Although KEF does not include the crossover frequencies in the system's specifications, the manual points out that the Conjugate Load Matching design of the system presents the driving amplifier with a nearly constant load, almost purely resistive. This permits an amplifier of any type to deliver its best performance, especially when handling complex program material at high volume levels.

The instruction booklet supplied with the KEF 105/3 system provides important information about how to unpack the speakers (which could be a very difficult task if not done in the suggested manner) as well as advice on placement. KEF recommends that the speakers be located at least 20 inches from the back wall and 3 feet from the side walls. The rear panel of each cabinet contains separate gold-plated binding posts for the bass and the mid/treble frequencies, joined by gold-plated metal straps. The binding posts accept bare wires, spade lugs, and single or dual banana plugs. By removing the jumper straps, the system can be operated either in a biwired mode, with separate cables for the high and low frequencies fed from a common amplifier, or in a biamplified mode, with separate amplifiers for the upper and lower frequency ranges.

The specifications of the KEF 105/3 include a frequency response of 49 to 20,000 Hz ± 2.5 dB at a 2-meter distance on the reference axis and within 2 dB from 50 to 17,000 Hz up to 30 degrees off the axis in any direction. The system's sensitivity under anechoic conditions is rated for a sound-pressure level (SPL) of 93 dB at 1 meter on the reference axis with a pink-noise input of 2.83 volts rms. The impedance is rated at 4 ohms (resistive) from 20 to 20,000 Hz, and the system is recommended for use with amplifiers capable of delivering 50 to 300 watts into a 4-ohm load. Its maximum acoustic output on program peaks is rated at 115 dB SPL under typical listening conditions.

Our test speakers were furnished with an active external equalizer, the KEF Kube 200, designed for use with the Model 105/3's. The Kube 200 should be installed in a low-level signal path such as a tape-recording loop or between a preamplifier and power amplifier. Pushbuttons on its panel can replace the tape-monitoring function (there are tape-in/out jacks on its rear apron) and bypass its equalizing circuits. It has separate low- and high-frequency control knobs, with center detents, and a small, separate power supply.

The KEF 105/3 is a four-way speaker system rated for very high sensitivity, high acoustic output, and exceptional power handling.

The Kube 200 is 6 inches wide, 8½ inches deep, and 2½ inches high. Price: KEF 105/3 speakers, \$3,500 a pair; Kube 200 equalizer, \$390. KEF, Dept. SR, 14120-K Sullyfield Circle, Chantilly, VA 22021.

Lab Tests

We installed the KEF 105/3 speakers as recommended, although we left the protective caps on the spiked feet to simplify moving the speakers around on the carpeted floor. We measured their frequency response without equalization. The frequency response of the Kube 200 equalizer was measured separately and added to the measured acoustic response of the speaker.

The room response of the Model 105/3 was very smooth and flat, about ± 2.5 dB from 400 to 20,000 Hz. The close-miked woofer response at the front-panel port was ± 2.5 dB from 47 to 140 Hz, and the midrange response was ± 2.5 dB from 140 to 400 Hz. Combining these curves to obtain a composite frequency response produced a curve flat within ± 2.5 dB from 47 to 20,000 Hz.

The Kube 200's response, with its control knobs set to their detented positions, was flat from 800 to 20,000 Hz. It dipped to -1.5 dB from 100 to 70 Hz, returned to reference level at 56 Hz, and rose to $+16$

dB at 20 Hz. Adding this to the measured speaker response resulted in a system response flat within ± 2.5 dB from 23 to 20,000 Hz. About 5 dB of additional bass boost between 100 and 20 Hz was available at the control's maximum setting. At full boost the treble equalization of the equalizer created a gently sloping rise of 4 dB from 500 to 20,000 Hz, and at full cut there was a drop from 500 to 5,000 Hz and a uniform -6 -dB output from 5,000 to 20,000 Hz.

The system's impedance remained between 3 and 5 ohms from 20 to 20,000 Hz (between 3 and 4 ohms from 20 to 1,000 Hz). The phase angle of the impedance did not exceed 25 degrees over the full audio range, confirming its essentially resistive character.

The FFT response curves of the Model 105/3 were essentially alike at horizontal angles of 0 and 45 degrees off the reference axis, differing in level by 6 dB or less over most of the range up to 10,000 Hz. The two curves did not diverge significantly at frequencies under 13,000 Hz. The phase linearity of the system was very good, with an overall group-delay variation of 0.3 millisecond from 1,000 to 20,000 Hz.

The measured system sensitivity was 94 dB SPL, slightly better than the rated 93 dB (we were not measuring under anechoic conditions). Bass distortion was measured at a drive level equivalent to a 90-dB SPL in the sensitivity measurement. We measured distortion as a function of frequency with the Kube 200 equalizer bypassed, with its middle (detent) bass setting, and with its maximum low-frequency boost. (When the equalizer was used, the drive input to it was kept constant.) Without equalization, the distortion was under 1 percent down to 36 Hz, reaching 4.8 percent at 20 Hz. The middle equalizer setting increased the distortion below 60 Hz, where the equalization became significant. Distortion reached 2 percent at 40 Hz and 5 percent at 36 Hz. Maximum boost, as expected, increased the distortion substantially at low frequencies. With that setting, distortion slowly climbed from 0.4 percent at 100 Hz to 1 percent at 76 Hz and 2 percent at 54 Hz, then rose

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TEST REPORTS

steeply to 5 percent at 37 Hz and 9.5 percent at 30 Hz.

Pulse-power tests confirmed the huge power-handling ability of the KEF 105/3. We were unable to induce significant (audible) distortion within the power range of the Carver Mono-Block amplifier we use for this test. In each case, the amplifier clipped first, at outputs ranging from 1,835 watts at 1,000 Hz to 1,550 watts at 100 Hz. The latter figure was a record in our experience, since very few woofers will withstand a single-cycle pulse of 100 Hz at power levels of even a few hundred watts without exceeding their suspension limits with a loud rasp. The KEF system sounded clean until the amplifier's output waveform clipped.

Comments

The KEF 105/3 handily lived up to the claims made for it. Its frequency-response range and flatness were exceptional, with a seamless integration of the bass, midrange, and treble drivers. Although the bass extension of the speaker itself—without the Kube 200 equalizer—was not at all unusual, especially for a speaker of its size and weight, the uniform output down to nearly 50 Hz actually includes almost the entire effective bass content of the vast majority of recordings. In fact, most of the time we found no audible effect from bypassing the equalization. And, without equalization, the Model 105/3 has what may be the lowest deep-bass distortion of any currently available full-range speaker of its size and price.

The impedance characteristic of this system was also the closest to a pure (and constant) resistance that we have seen. Although it is a rather low resistance, because of the speaker's high sensitivity, practically any amplifier worth being used in a home music system should drive it with ease.

Merely from a measurement standpoint, this combination of qualities—high sensitivity, flat and wide response, and low distortion—would be impressive in any speaker, and especially in one of moderate size. One would naturally expect such a speaker to sound very good

indeed, and the KEF 105/3 certainly lived up to those expectations.

At first listening, there seemed to be nothing unusual about the sound of the 105/3—but that, in itself, is unusual. No two speaker models sound alike, and most of the differences between them can be attributed to frequency-response and directional (dispersion) irregularities that color certain portions of the audible spectrum. There are, of course, many other factors involved in this process, especially where the subtleties of sound quality are concerned, but their specifics are the subject of wide disagreement.

To put it as directly as possible, the KEF 105/3 sounded strikingly neutral, without apparent emphasis or lack in any portion of the audible spectrum. There are many speakers that can produce surprising, and sometimes pleasing, effects by virtue of their emphasized bass or extreme treble extension or emphasis. Usually, such effects are program dependent, and these speakers are likely to produce unnatural or unpleasant sounds when playing other material.

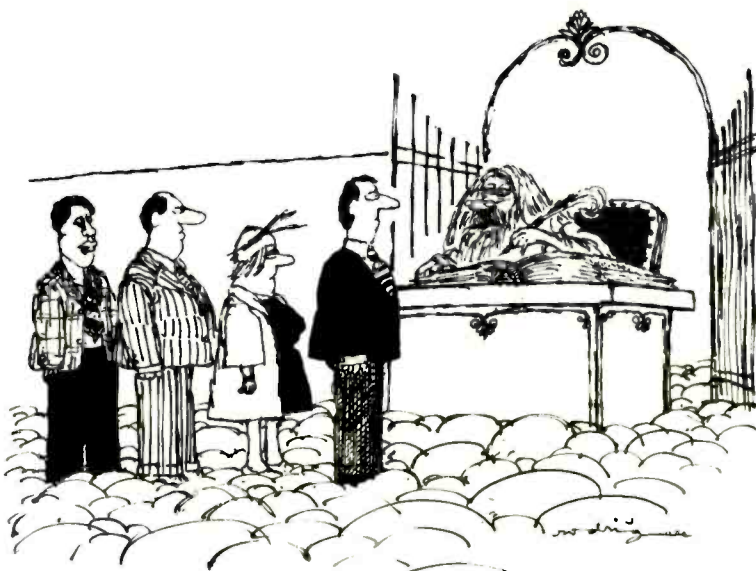
Heard through the KEF 105/3, male voices were not unnaturally chesty, strings did not sizzle and scream, the low bass did not boom,

and the overall excitement of the listening experience was no greater, but also no less, than that of the music itself. In short, the Model 105/3 was an *accurate* reproducer. Not surprising in view of its response smoothness and wide dispersion, its stereo imaging qualities were also excellent.

In addition to its impressive technical qualifications, the KEF 105/3 was thoroughly enjoyable to listen to, never requiring the listener to accept any distortions or unpleasant qualities that were not in the program material. It would probably be at its best in a large room, where it could produce a natural listening level; in our 15 x 20-foot room, we were never able to tolerate a peak drive level greater than a few watts without a feeling of being physically assaulted!

Until recently, we used the Model 105/3's predecessor, the KEF 105.2, as our reference speaker for a number of years. It was (and still is) an excellent speaker, but the contrast between it and the Model 105/3 is a striking demonstration of the advance in speaker technology during the past ten or twelve years. The 105/3 is well worth its fairly considerable cost.

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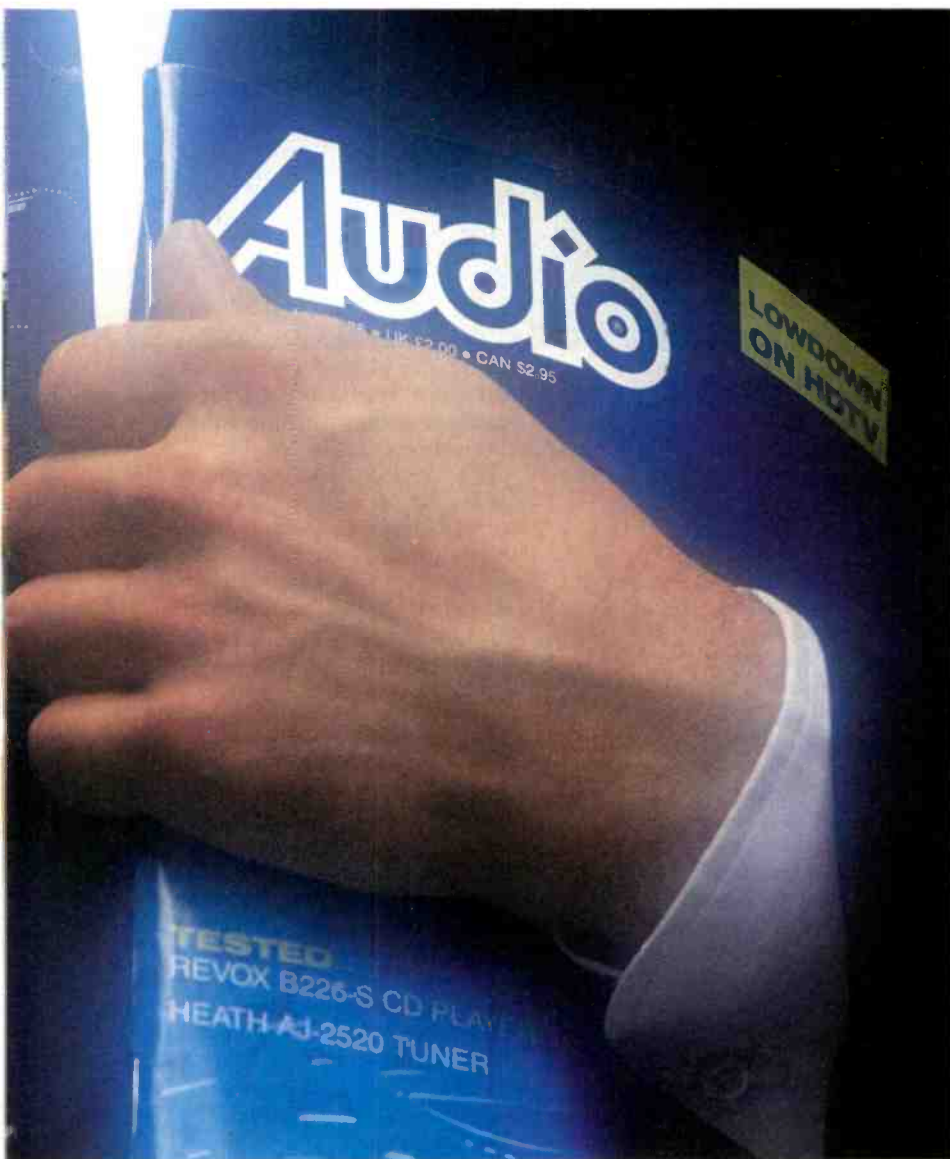
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present on the player itself, to adjust the level at both the headphone and line outputs. The CD-X311 measures 17 inches wide, 12½ inches deep, and 4 inches high, and it weighs just under 9 pounds. Price: \$445. Sansui, Dept. SR, 1250 Valley Brook Ave., Lyndhurst, NJ 07071.

Lab Tests

On our test sample of the CD-X311, the left channel had appreciably greater noise and hum levels than the right channel. Although its hum and noise were completely inaudible under any conditions (measuring about -90 dB), they were sufficient to affect some other measurements, such as low-level linearity. Therefore, where the channels differed appreciably, we have given only the figures obtained from the right channel.

The frequency response was within 0.08 dB overall from 20 to 5,000 Hz, rising to a maximum of +0.4 dB at 16,000 Hz (well within the rated ±0.5 dB). The de-emphasis response error ranged from -0.1 dB at 5,000 Hz to a maximum of 0.22 dB at 16,000 Hz. The channel separation was 99 dB at 100 Hz, 95 dB at

1,000 Hz, and 74 dB at 20,000 Hz. The A-weighted total harmonic distortion plus noise (THD + N) was -89 dB (0.0035 percent) over most of the audio range, reaching its maximum of -80 dB (0.01 percent) at 15,000 Hz. The 1,000-Hz THD + N was a constant 0.0035 percent from 0 to -65 dB.

The player's low-level linearity dramatically demonstrated the capabilities of the 1-bit conversion system. With CD test signals between -60 and -90 dB (undithered), the output readings differed from the nominal recorded level by only 0.2 to 0.3 dB. These readings are typical of the few 1-bit machines we have tested so far and apparently represent the performance to be expected from this class of product.

The interchannel phase shift reached its maximum of -1.4 degrees at 20,000 Hz. The dynamic range (EIAJ method) was 97.1 dB, and quantization noise was -90.5 dB. Wide-band noise was -106 dB. A spectrum analysis of the noise during playback of an "infinity zero" track (no recorded signal) showed a linear decline, from -110 dB at 20,000 Hz to -132 dB at 30

Hz. Power-line hum products did not exceed the noise level by more than 2 or 3 dB. The frequency (speed) error was +0.0021 percent.

The slewing time of the laser pickup was about average, with 2.5 seconds required to go from Track 1 to Track 15 of the Philips TS4 test disc. The player was able to track the Pierre Verany #2 test disc through its 1,000-micrometer defects but mistracked at the 1,250-micrometer level. It was moderately sensitive to impact on the top cover, mistracking with fingertip tapping, but was less sensitive on the sides. The headphone volume was very good, among the loudest we have yet heard from a CD player.

Comments

The Sansui CD-X311 is an excellent illustration of how much improvement in value and performance we can expect as 1-bit D/A conversion becomes more widespread. Virtually identical to the company's Vintage Series CD-X711 in features, it manages to come surprisingly close to the more expensive model in its performance as well. It even has the same powerful headphone output that distinguished the CD-X711 from most other players. The most obvious differences between the two lie in their construction. The solidity and weight of the CD-X711 cost money, and undeniably its measurements are for the most part somewhat better.

But that is not a fair comparison. If you compare the CD-X311 to other CD players, at any price, that use conventional (ladder-type) D/A converters, the difference in low-level linearity measurements is striking. The audibility of this improvement may be arguable, but not that it *is* an improvement.

We found no unexpected bugs in the operation of the Sansui CD-X311. Its major omission, in our view, one that it shares with the vast majority of CD players at all price levels, is that there is no way to access numbered index points directly. There is not even a number on the display to indicate the current index number. But if that is not important to you, the CD-X311 is surely a fine CD player.

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FEATURES

- Linear and Direct Conversion System to transform 16-bit recorded signal into 1-bit output pulse stream
- Third-order noise shaping
- Programmable to play up to twenty tracks in any order
- Direct keypad access by track numbers
- Switchable auto space to insert 4 seconds of silence between tracks
- Music scan to sample each track for 10 seconds
- Compu-Edit to program a sequence of tracks for a given tape length
- Random playback of entire disc or programmed selections
- Repeat of a track, disc, or user-selected segment
- Facilities for timer operation
- Analog and coaxial digital outputs
- SYNC connection for automatic dubbing on compatible Sansui cassette deck
- Front-panel headphone jack with volume control
- Remote control for all normal functions
- Can start play from external timer

LABORATORY MEASUREMENTS

Maximum output level: 2.138 volts
Total harmonic distortion plus noise at 1,000 Hz: 0.0035% from 0 to -65 dB
Signal-to-noise ratio (A-weighted): 106 dB
Channel separation: 99 dB at 100 Hz, 94 dB at 1,000 Hz, 74 dB at 20,000 Hz
Frequency response: +0.4, -0 dB from 20 to 20,000 Hz

Maximum interchannel phase shift (from 5 to 20,000 Hz): -1.4 degrees at 20,000 Hz
Low-level linearity error: less than 0.3 dB down to -90 dB
Cueing time: 2.5 seconds
Cueing accuracy: A
Impact resistance: top, C; sides, B
Defect tracking: tracked 1,000-micrometer defects on Pierre Verany #2 test disc

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MARANTZ RS 3559 A/V RECEIVER

Julian Hirsch, Hirsch-Houck Laboratories

THE Marantz RS 3559, which heads the company's Century Collection, is a large, powerful audio/video receiver offering an exceptional combination of control features and high performance along with fresh, distinctive styling. It is basically an AM/FM stereo receiver, but it has a total of five power amplifiers. In addition to extensive audio and video signal-switching capabilities, it contains surround-sound circuits, including Dolby Pro Logic.

The main amplifiers of the RS 3559 are rated to deliver 125 watts per channel into 8-ohm loads from 20 to 20,000 Hz with less than 0.02 percent total harmonic distortion (THD). Although the amps are not rated for use with 4-ohm speakers, a switch on the rear apron reduces the power-supply voltage to allow safe operation into 4 ohms (the minimum load impedance for which the

receiver is recommended). The two surround-sound (rear-channel) amplifiers, as well as a center-channel amplifier for use in a fully implemented Dolby Pro Logic playback system, are each rated at 20 watts into 8 ohms. A phantom center-channel setting is provided for use if a separate speaker is unavailable.

The RS 3559 features an unusual cooling system that Marantz calls a "thermal tunnel." The heat sink for the output transistors is a horizontal enclosed structure with the cooling fins facing inward. A tiny (2½-inch) fan at the rear starts to turn slowly as the amplifier section warms up, drawing in air through slots in the bottom plate, passing it over the fins, and expelling the warm air from a grille on the back of the receiver. As the temperature rises, the fan speeds up.

Outwardly, the RS 3559 presents a disarmingly simple appearance.

The upper portion of the front panel contains a display window, a row of thirteen small round buttons, a sculptured power button, and a large volume knob. Ten of the small buttons (numbered 1 through 0) are preset station selectors, and three MULTISCAN buttons (marked A, B, and C) select the groups of preset stations. Each group holds up to ten stored frequencies, providing a total of thirty choices and allowing station grouping to suit the individual user's listening tastes.

The display window normally shows the tuner frequency and, if applicable, its location in the memory bank. The status of other operating features, such as the surround-sound system and tape-dubbing paths, is also displayed, together with a three-segment signal-strength indicator and a stereo/mono-mode indicator. The RS 3559 has a convenient alphanumeric memory and display feature that allows a station's call letters or other information (up to four characters) to be stored with its frequency.

A row of ten sculptured, rectangular buttons extends across the middle of the panel. Two are the up/down tuning controls, and the oth-

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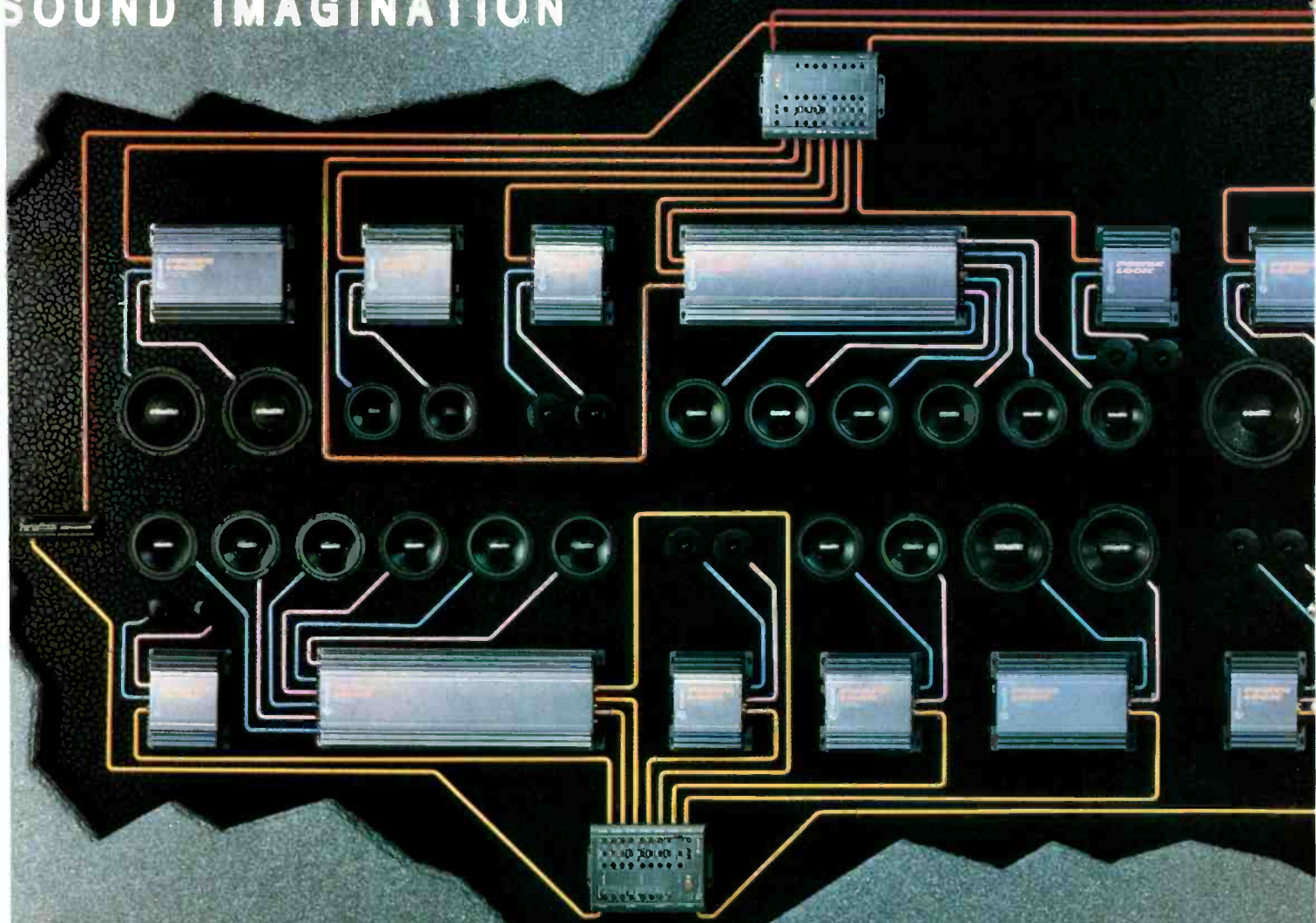


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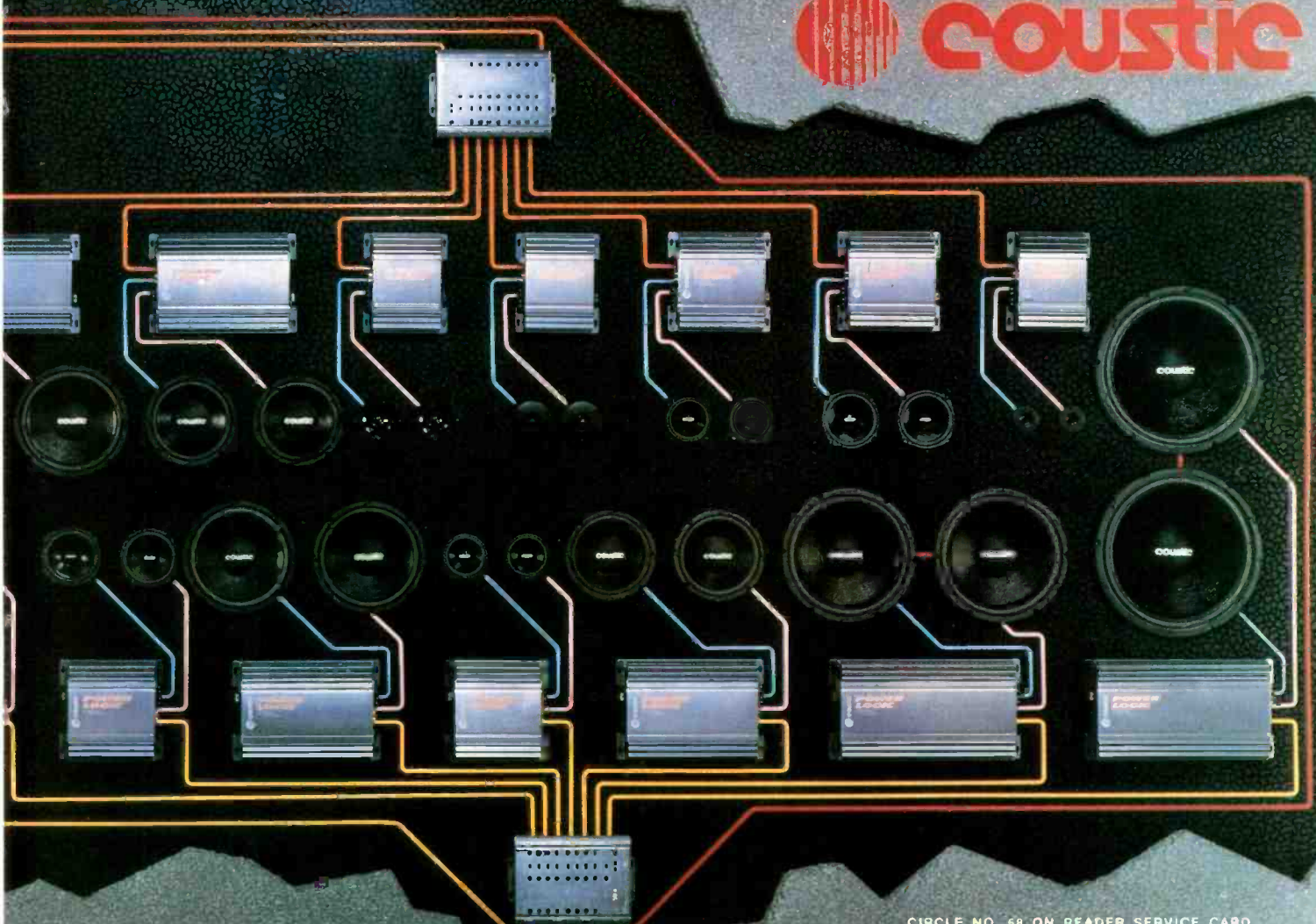
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ers select the program source: AM, FM, VCR1, VCR2, phono, TAPE1, CD, and VDP (videodisc player). Pressing any front-panel button produces an audible beep from the receiver. The large volume knob is surrounded by an illuminated orange arc whose length shows the control setting.

The visible front-panel controls of the RS 3559 give no hint of its exceptional versatility. Pressing a small button near the volume control, however, causes the bottom section of the panel to hinge downward, revealing no fewer than thirty more buttons, six small knobs, and a headphone jack. Fortunately, most of them are used only during the initial setup process.

The concealed knobs control bass, midrange, and treble tone, left/right channel balance, input balance for the Dolby Pro Logic system, the TAPE2 monitor, and video sharpness (the only video adjustment). Three buttons control the loudness compensation and independently switch the two pairs of front-channel speaker outputs. Smaller buttons adjust the levels of the rear (surround) and center speakers over a ± 20 -dB range in 1-dB steps, with the settings appearing temporarily in the front-panel display. Another pair of buttons step the delay time of the surround channels between 0 and 30 milliseconds (ms) or 20 to 30 ms in the Pro Logic mode. In the two non-Dolby surround modes, Hall and Stadium, the "echo level" can be varied from 0 to 2.4 ms in steps of 0.3 ms. "Echo level" apparently refers to the decay time of the reverberant signals generated in the surround circuits.

The rear of the Marantz RS 3559 contains stereo inputs for a magnetic phono cartridge and a CD player, plus playback and recording jacks for the audio tape decks. There are separate input and output jacks (normally joined by links) for an external signal processor such as an equalizer. A separate group of video and audio jacks is provided for one or two VCR's and a VDP. Full input/output paths are provided only for VCR1, whose audio and video outputs also go to an external video monitor; VCR2 (like the VDP) is usable only as a playback device in

this system, playing through VCR1, although video and audio programs can be dubbed from either VCR2 or the VDP to VCR1.

Coaxial connectors are provided for two 75-ohm FM antennas (one is designated for use with a cable FM system), and there are spring connectors for the supplied detachable AM loop antenna. A recessed slide switch changes the amplifier operating voltage for use with either 4- or 8-ohm speakers. The main (front) speaker outputs, insulated binding posts on $\frac{3}{4}$ -inch centers, accept either stripped wire leads or banana plugs. Above them is a set of connectors for the surround speakers, and in the corner there are connectors for a center (front) speaker. A CENTER OUT jack carries the same signal at line level for use with an external amplifier when more power is needed. Both of the AC convenience outlets are switched.

The RS 3559 is supplied with a wireless remote control that duplicates all essential functions, including adjusting the motor-driven volume knob, power switching, and level and balance adjustments for the surround channels.

The Marantz RS 3559 measures 17 inches wide, 16 $\frac{5}{8}$ inches deep, and 6 inches high and weighs about 32 $\frac{3}{4}$ pounds. It is available in black or gold finish with contrasting markings. Price: \$1,000. Marantz, Dept. SR, 700 N. Commerce St., Aurora, IL 60504.

Lab Tests

Although the Marantz RS 3559 is a very powerful receiver, it did not become particularly hot during the preconditioning period (1 hour at one-third rated power from both main channels). In fact, it never became more than moderately warm even over its central heat sink, and most of its exterior surface remained close to room temperature. Moreover, at no time was the cooling fan audible, even close to the receiver and in a quiet room.

Driving 8-ohm loads at 1,000 Hz, the main channels clipped at 178 watts. With 4-ohm loads (still using the 8-ohm switch setting on the receiver), the clipping power level was 260 watts per channel, and with the switch in the 4-ohm setting, it

was 158 watts. Because of the manufacturer's warnings not to use load impedances lower than 4 ohms, we did not make clipping measurements into 2 ohms.

Nevertheless, the main amplifier proved to have a considerable current-output capacity. In dynamic power tests, the 8-ohm output was 225 watts, increasing to 365 watts into 4 ohms (190 watts with the 4-ohm switch setting). The 2-ohm dynamic output was an impressive 305 watts.

The distortion between 12.5 watts and the rated 125 watts output (into 8 ohms) was typically 0.012 to 0.022 percent from 30 to 2,000 Hz. It gradually increased at higher frequencies, to a maximum of 0.11 percent at 20,000 Hz and 125 watts. At 1,000 Hz, the 8-ohm distortion was between 0.012 and 0.024 percent from 10 to 175 watts. Into 4 ohms, it was fairly similar, reaching 0.014 percent at 250 watts output. The main amplifier section's slew factor exceeded 25. Our only measurement of the surround-channel amplifiers was to establish their clipping level, which was slightly over 20 watts.

The input sensitivity for a 1-watt reference output was 16 millivolts (mv) at the CD input and 0.2 mv at the phono input, with respective A-weighted noise levels of -80.5 and -75 dB. The phono-preamplifier input impedance was 52,000 ohms in parallel with 175 pF, and it overloaded at 1,000-Hz equivalent inputs from 74 to 83 mv over the 20- to 20,000-Hz range.

The preamplifier section's frequency response through a high-level input was $+0.25$, -0.75 dB from 20 to 20,000 Hz. The RIAA equalization error was $+0$, -0.1 dB from 100 to 20,000 Hz, increasing at low frequencies to $+0.6$ dB at 20 Hz. The loudness contours boosted both low and high frequencies moderately, to a maximum of 5 to 7 dB at either end of the spectrum, and the amount of boost remained constant for all volume-control settings lower than -10 dB. The tone controls had maximum ranges of about ± 9 to 10 dB at the frequency extremes, with the usual variable-turnover frequency characteristic in the bass and the treble curves hinged at 2,000 Hz. The midrange control had

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a maximum range of about ± 6 to 7 dB at 1,000 to 1,500 Hz, and the control's effect extended to 100 and 10,000 Hz.

The FM tuner performance was very good, generally matching or surpassing the receiver's ratings. The 50-dB quieting sensitivity was

14.2 dbf in mono and 38 dbf in stereo (the stereo threshold was 27 dbf). Mono distortion was low, just over 0.1 percent over a wide range of signal strengths, but in stereo a high input (85 dbf) was needed to obtain distortion readings under 0.2 percent. The tuner noise levels were

low, -81 dB in mono and -73 dB or better in stereo.

Tuner channel separation was better than 46 dB in the midrange, falling to 26 dB at 30 Hz and 30 dB at 15,000 Hz. The frequency response was flat to 10,000 Hz but dropped off by 2 dB at 15,000 Hz (within the specification of -3 dB, however). The capture ratio of 1.15 dB was excellent, as were the 65-dB AM rejection and 70-dB alternate-channel selectivity. Only image rejection (42 dB) was substandard, although the same has been true of almost every receiver we have tested in recent years. The AM frequency response was typically narrow, measuring from $+1$ to -6 dB over the range of 60 to 2,700 Hz.

FEATURES

- Digital frequency-synthesis AM/FM tuner with thirty station presets in three banks
- Preset scan
- Independent power amplifiers for five channels (stereo main, rear surround, center front)
- Adjustable digital delay for spatial enhancement
- Dolby Pro Logic decoding
- Hall and Stadium stereo enhancement modes
- Simulated stereo for mono programs
- Thermal tunnel to cool output transistors silently
- Inputs for CD, phono, two tape decks, two VCR's, videodisc player
- CD DIRECT switch to bypass signal-processing circuitry
- Dubbing from VDP or VCR2 to VCR1 or from any audio source to TAPE1
- Video output to monitor
- Coaxial FM inputs for external antenna and cable
- Bass, midrange, and treble tone controls
- External-processor jacks
- Connections for two pairs of front speakers
- Center-channel speaker output; separate output for external center-channel amplifier
- Phantom center-channel setting for use without center speaker
- Remote control for major functions of receiver and compatible Marantz turntable and tape deck
- Black or gold finish with rosewood side panels

LABORATORY MEASUREMENTS

- Tuner Section** (all figures for FM only except frequency response; measurements in microvolts, or μV , referred to 300-ohm input)
 - Usable sensitivity: mono, 11.5 dbf (2.1 μV)
 - 50-dB quieting sensitivity: mono, 14.2 dbf (2.8 μV); stereo, 38 dbf (43.7 μV)
 - Signal-to-noise ratio at 65 dbf: mono, 81 dB; stereo, 73 dB (75 dB at 85 dbf)
 - Harmonic distortion (THD + noise) at 65 dbf: mono, 0.12%; stereo, 0.47% (0.19% at 85 dbf)
 - Capture ratio at 65 dbf: 1.15 dB
 - AM rejection: 65 dB
 - Selectivity: alternate-channel, 70 dB; adjacent-channel, 6.5 dB
 - Stereo threshold: 27 dbf (38 μV)
 - Pilot and subcarrier leakage: 19 kHz, -75 dB; 38 kHz, -63 dB
 - Hum: less than -80 dB
 - Stereo channel separation at 100, 1,000, and 10,000 Hz: 36, 46.5, 36 dB
 - Frequency response: FM, $+0.2$, -2 dB from 30 to 15,000 Hz; AM, $+1$, -6 dB, 60 to 2,700 Hz
- Amplifier Section**
 - 1,000-Hz output power at clipping: 178 watts into 8 ohms, 260 watts into 4 ohms, 158 watts into 4 ohms with switch set to 4 ohms (see text)
 - Clipping headroom (relative to rated output): 1.54 dB
 - Dynamic power output: 225 watts into 8 ohms, 365 watts into 4 ohms, 190 watts into 4 ohms (switch set to 4 ohms), 305 watts into 2 ohms (switch set to 4 ohms)
 - Dynamic headroom: 2.55 dB
 - Maximum distortion (20 to 20,000 Hz into 8 ohms): 0.11% at 20,000 Hz and 125 watts output
 - Sensitivity (for a 1-watt output into 8 ohms): CD, 16 mV; phono, 0.2 mV
 - A-weighted noise (referred to a 1-watt output): CD, -80.5 dB; phono, -75 dB
 - Phono-input overload: 74 to 83 mV from 20 to 20,000 Hz
 - Phono-input impedance: 52,000 ohms in parallel with 175 pF
 - Tone-control range: 100 Hz, $+6$, -7 dB; 1,500 Hz, $+7$, -6 dB; 10,000 Hz, $+8$, -7 dB
 - Loudness-contour range: 50 Hz, $+8$ dB; 15,000 Hz, $+6$ dB

Comments

Our tests of the Marantz RS 3559 left no doubt of its overall excellence. In most of the characteristics that should really matter to a typical user, it was difficult to fault. Certainly its operating versatility and output power left nothing to be desired.

The thermal tunnel cooling system, of which Marantz is justifiably proud, makes this powerful receiver truly practical for a home installation. Most other audio system components will probably run hotter than the conservatively rated RS 3559, which is able to supply hundreds of clean watts to a battery of speakers without strain or risk of damage. Very few fan-cooled stereo components are really suitable for use in a typical home, since the fan noise can usually be heard above the totally quiet background of a digital recording. Not so with the RS 3559—we couldn't hear anything from it even with an ear pressed to the top grille, directly over the fan (which we could see turning).

Another very welcome feature of the RS 3559 is its control simplification. I find the panel complexity (and attendant poor visibility) of most full-featured receivers to be an annoyance. No matter how complete and versatile a receiver may be, most of its controls and special functions will be used rarely, if at all, by the average person. Nevertheless, the panel is often cluttered

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with minor controls to the point where the unit's proper functioning is impaired. Although I am not exactly an average user of such equipment, I am bothered by this sort of poor ergonomic design—especially because, as the RS 3559 shows, it is unnecessary.

Hiding little-used controls behind a hinged door or panel is an idea that has been used by many manufacturers, but I think Marantz has gone beyond that basic step in the RS 3559. The main, unhidden controls are distinctively styled and supremely functional. Along with the excellent display, they tell the user everything he needs to know about the operation and status of the receiver.

On the other hand, the control density *behind* the hinged panel is about as tight as it could possibly be. Recessed as they are, the buttons (and their markings) are not easily seen and used unless the receiver is at eye level. But even here, the RS 3559 showed evidence of its designers' thoroughness.

The fifteen or so buttons associated with the surround-sound setup procedures are duplicated on the remote-control handset. This is desirable in any case since setting the levels of the five speakers used in a full Dolby Pro Logic setup should be done at an actual listening location. Most of the hidden controls on the receiver, therefore, need not be used at all once the system has been set up properly. Moreover, the remote control was exceptionally powerful—it could be pointed anywhere in the room without losing contact with the receiver.

Our test receiver was the gold-finished version. Although aesthetics are generally outside the scope of these reviews, I must say that it was one of the handsomest hi-fi products I have used. And though I was unable to evaluate the receiver's performance in a full Dolby Pro Logic setup, its stereo (and even mono) ambience-enhancement systems worked very well. Simply as a stereo receiver, the RS 3559 left little to be desired. From its low noise level to the smoothness and positive feel of its controls, it sounded and felt as good as it looked.

Circle 142 on reader service card



PINNACLE PN8+ SPEAKER SYSTEM

Julian Hirsch, Hirsch-Houck Laboratories

PINNACLE'S inexpensive and compact loudspeakers feature the company's patented Diaduct venting system, which was developed to solve the problem of fitting a duct tube of the required length and diameter for a given low-frequency response limit into a box of small size and attractive proportions. The depth of a typical speaker enclosure limits the maximum length of a conventional duct to the distance between the front and rear panels (bending the duct can introduce undesirable air turbulence). A short duct, however, must be relatively small in diameter and port-opening area for correct box tuning, reducing the system's low-frequency output capability.

The Diaduct system uses an internal tube installed at an angle to achieve the longest possible acoustic path for a box of given size. In addition, the port is elliptical, rather

than circular, to increase its area. The result is a deeper bass response than could otherwise be realized from the same driver in an enclosure of the same size.

Pinnacle's design goals are to achieve high sound quality from small, affordable speakers. In our review of the company's first speaker, the PN5+, in January 1988, we commented on its smooth, uncolored sound, which was comparable to that of far more expensive speakers. The line has grown since then to five full-range two-way speakers and a subwoofer. This time we tested the top-of-the-line PN8+.

The PN8+'s 8-inch woofer operates in a fourth-order vented enclosure. It has two Diaduct tubes, both opening on the front panel. The woofer cone, formed of mineral-filled polypropylene, has a 1½-inch voice coil and a butyl surround. There is a first-order (6-dB-per-



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octave) crossover at 2,200 Hz to a 1-inch dome tweeter, whose double internal tuned cavity is said to extend its response an octave below that of conventional drivers of the same size.

The nominal system impedance is 6 ohms, and sensitivity is rated as 88 dB sound-pressure level (SPL) at 1 meter with an input of 2.83 volts. The system's recommended operating-power range is 20 to 125 watts (375 watts peak), and its frequency response is given as 30 to 21,000 Hz. The cabinet, finished in black, measures 19½ inches high, 11¾ inches wide, and 11¾ inches deep, including the removable black grille. Twin binding-post terminals, which accept dual banana plugs or stripped wires, are recessed into the rear panel. The bottom front portion of the enclosure, below the grille, has an oak-finished trim strip. Each PN8+ speaker weighs 36 pounds. Price: \$399 a pair. Pinnacle Loudspeakers, Dept. SR, 517 Route 111, Hauppauge, NY 11788.

Lab Tests

Except for a couple of minor "bumps" at 300 and 900 Hz, the averaged room response of the left and right Pinnacle PN8+ speakers was very smooth and uniform, varying only ± 3 dB from about 100 to 20,000 Hz. When the outputs of the two ports were combined with the close-miked woofer response, the bass response was within ± 1.5 dB from 30 to 500 Hz. The composite response curve formed by combining the bass response with the room curve was a remarkable ± 2.5 dB from 25 to 20,000 Hz.

It is possible to obtain such a response curve from a vented speaker whose low-bass output is actually more limited, since the curve is created by combining separate measurements of the cone and port outputs. A small port diameter may appear to give a strong low-bass output yet be unable to create a useful sound level under actual listening conditions.

Listening tests with sine-wave signals confirmed, however, that the PN8+ actually delivers a strong, audible bass output down to at least 30 Hz. That is uncommon performance for any speaker of this one's

size and especially for one of its modest price. We also found an output peak (about 20 dB in amplitude) at 540 Hz at the port opening, but the port's overall response was down so far at this frequency that the peak barely reached the level of the output from the cone. And since the peak was rather narrow, with a "Q" of approximately 10, it had no discernible audible effect.

The smoothness of the PN8+'s midrange and high-frequency output was equally impressive. Its horizontal dispersion was good, with little difference between the on-axis and 45-degree off-axis response curves at frequencies below 10,000 Hz. Phase linearity was very good in

Listening tests confirmed that the Pinnacle PN8+ actually delivers a strong, audible bass output down to at least 30 Hz. That is uncommon performance for any speaker of this one's size, especially for one of its modest price.

the tweeter's range, as evidenced by a group-delay variation of less than ± 0.2 millisecond from 2,000 to beyond 20,000 Hz.

The sensitivity of the PN8+ was very high, producing a 92-dB SPL at 1 meter with a pink-noise input of 2.83 volts. We measured low-frequency distortion at a 2.25-volt input (which would yield a 90-dB SPL output in the sensitivity measurement). In the cone output, the distortion was 0.8 percent at 60 Hz and 0.3 to 0.5 percent from 80 to 2,000 Hz (except for a rise to 1 percent at 90 Hz). The port output dominated below 60 Hz; its distortion measured 2.5 percent at 60 Hz, 4 percent at 40 Hz, and 6 to 7 percent from 30 to 20 Hz.

The system's impedance peaked at 13 ohms at 25 and 70 Hz and reached 15 ohms at 2,200 Hz. Its minimum of 4.2 ohms occurred at 160 Hz. The impedance phase angle remained within ± 30 degrees from 20 to 20,000 Hz.

The speaker's power-handling

ability was very good. With a single-cycle tone burst at 100 Hz, the amplifier clipped at 985 watts into the 7-ohm load without reaching the woofer's limit. At 1,000 Hz, where the speaker impedance was 5 ohms, the amplifier clipped at 1,200 watts, and at 10,000 Hz it clipped at 1,150 watts into 6 ohms. Of course, any speaker, and especially a vented system, can easily be overloaded at extremely low frequencies, but the PN8+ clearly demonstrated its dynamic capability (and ruggedness) over our standard test range.

Comments

Loudspeaker frequency-response measurements, no matter how they are made, seldom correlate well with a listener's perception of the system's sound. There are many reasons for this, which we cannot go into here. But sometimes a speaker sounds very much the way its response curve suggests, and the Pinnacle PN8+ was one of those rare exceptions.

It was unusually free of such common colorations as upper-bass emphasis (evidenced as an unnaturally heavy or tubby sound, especially on male voices). On the other hand, unlike some speakers that avoid such emphasis simply by not reproducing frequencies below 60 to 70 Hz at a useful level, the PN8+ went down another octave, and with low distortion.

Similarly, the high frequencies, up to and beyond the limits of hearing, were reproduced smoothly, at a useful level, and with enough horizontal coverage to be appreciated over a typical listening area.

To be sure, there is no such thing as "everyman's" speaker, since individual taste varies widely. Nevertheless, the Pinnacle PN8+ (like the smaller PN5+) manages to break the rules. A system using a modest box and a pair of outwardly conventional drivers, without benefit of unusually rugged construction or exotic materials, and selling for about \$400 a pair is not supposed to sound as good as this one. Very few systems meeting that description do. Hear the PN8+ if you can—especially if you are looking for an exceptional value in a speaker.

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THE BEST OF

The Smallest

Five top compact disc portables go head to head in the lab, in listening tests, and in real-life use.





I saw my first portable CD player in a Sony laboratory in 1984. It was encased in a white plastic box the size of a book. When Sony chief engineer Koza Ohson initiated the project, he had presented the design team with a block of wood, informing them that the player must fit within that size. To make sure none of the wily engineers tried to replace the block with a bigger one, he signed his name on the bottom.

From those humble origins, portable CD players have shrunk in size and grown in complexity. Today's portables are truly marvels of modern engineering. To have imagined today's portables six years ago would scarcely have been possible. Their performance far surpasses that of the most expensive first-generation home players, and some employ digital signal processing (DSP) technology that was not

PHOTOS BY R. MILLER VOGEL

BY KEN C. POHLMANN



SONY D-35 (\$400)



An eight-times-oversampling, 16-bit player employing noise shaping, the D-35 sports many home-player features: a ten-key control pad that permits direct access to any track and quick programming; a Time Edit function in which the player searches the disc for the sequence of tracks that will fit best on the sides of a cassette; Time Fade, which automatically fades playback level up or down, either on manual selection or at a preprogrammed time; Auto Space to leave 4 seconds of silence between tracks (useful when making cassette dubs); and a sleep/wake-up timer that functions like an alarm clock—of course, unless you wear earphones while sleeping, you'll need an external playback system. (I wish the timer used the fade function instead of an abrupt turn-on and turn-off.)

Of course, more pedestrian features are included as well: random or "shuffle" playback, as Sony calls it; track, disc, A-B, and random repeat; Intro Scan to preview the first 10 seconds of all tracks; Index Search; twenty-track programming; and standard transport controls. A large, easy-to-read horizontal LCD shows unplayed tracks, timings, and the status of all functions. A Bass Boost circuit has two settings, MID and MAX; the latter boosts the output up to 20 dB below 80 Hz. A HOLD switch prevents accidental operation.

Finally, just to make sure they covered all the bases, the Sony engineers provided a time-of-day clock display. The plethora of features makes the D-35 somewhat confusing to operate. The designers have done well with a complex situation, but a few choices seem unwise; for example, the stop button is labeled "charge."

The D-35 uses a 3.2-volt (BP-5) rechargeable battery pack, which provides 2 hours of playing time on a 4-hour charge. A rather ingenious auxiliary battery case, holding two AA batteries, can be clipped onto the D-35. With alkaline AA batteries and a BP-5 battery pack, playing time is extended to 5½ hours; with AA batteries alone, playing time is about 3½ hours. When the BP-5 is recharging, the battery indicator is extinguished when the battery is 80 percent charged (why not 100 percent?). During playback, the battery indicator shows the discharge rate. A built-in lithium battery is used to maintain the clock memory.

The headphones supplied with the D-35 are a cut above standard issue. Although an in-the-ear design, they have a folding headband for more secure fitting; in addition, a remote control is incorporated into the cord. An optional wireless remote control is available. Other accessories include an AC adaptor, a line-output connecting cord, and a semihard carrying case.

available then in any consumer audio product.

To gauge the state of the art in portable CD player technology, we selected five of the top models for a head-to-head comparison. I used the players in a high-quality home system, with components such as a Conrad-Johnson preamplifier and power amplifier, KEF Model 107 loudspeakers, and Stax headphones, to determine audible differences. I measured their performance in the lab using an Audio Precision analysis system to determine their numerical differences in such characteristics as total harmonic distortion, signal-to-noise ratio, digital-to-analog (D/A) converter nonlinearity, and so on. And, most important, I traveled with these portables, covering more than 25,000 miles on planes, trains, and bicycles (but not in a car, because my car has two CD players already), to determine how they functioned under the harsh conditions of life on the go. Considering all of these factors, I chose my favorites.

In the Listening Room

Some people think all CD players sound the same. Others think they all sound different. In general, I believe that audible differences do exist, but they are subtle. To ascertain whether these five portables did indeed have individual sonic characters, I conducted double-blind listening tests in which a group of graduate students in music compared two players at a time.

WHEN the output levels were carefully matched and the discs were synchronized (something that is difficult or impossible to do in a show-room) audible differences proved to be small, but reliably detectable differences did emerge with careful listening over a highly revealing playback system. In particular, noise-floor levels and converter nonlinearity were more audible in some players than in others. In some cases, slight frequency-response deviations were characteristically audible. In other words, yes, under carefully controlled conditions, audible differences can be detected.

But perspective is important: All of these portables provided a very

similar level of fidelity. In fact, in terms of fidelity, all of them were plenty good. When choosing between these portables, fidelity itself should not be the main criterion; the differences are generally too small to be that important. This is especially true because portables are primarily used in circumstances—for example, on airplanes—where full fidelity is simply not possible.

On the Test Bench

Following the listening tests, I was anxious to measure the portables analytically to see whether my ears were deceiving me. It would be gratifying to see whether the differences in noise floor, nonlinearity, and other thinly perceived parameters actually existed. As it turned out, there was considerable agreement between the lab results and the listening results. Several of the tests were especially revealing.

MOST CD players have an essentially flat frequency response, but occasionally there are deviations; although not readily audible when you listen to one player at a time, differences do emerge in A/B listening comparisons. Signal-to-noise ratio (S/N) is critical, too, especially since noise-floor level seems more apparent when you're using headphones, which is the way most people listen to portables.

Similarly, channel separation is important with headphone listening. Total harmonic distortion plus noise (THD + N) is usually extremely low in CD playback, but occasionally a player shows a little more of it than usual. Linearity of the D/A converter is very important because nonlinearity causes considerable distortion with low-level signals and audibly affects reverberation and ambience, significant elements in classical music especially.

Defect-tracking performance does not affect fidelity per se, but it is important because it establishes the player's ability to track damaged discs—and unfortunately portable CD listening tends to aggravate disc wear and tear. It is difficult to assess player quality from bench tests alone. For example, which is worse: a 0.1-dB deviation in frequency response or a 1-dB drop in S/N? Still,

DENON DCP-100 (\$400)

THE DCP-100 is the first CD portable from Denon. It features eight-times oversampling and noise-shaping circuitry to help reduce noise in the audio band. The player has a die-cast alloy cover and a case made of bulk molding compound (BMC) to help absorb transport vibration. The chassis is covered by a textured nitrile-rubber skin to give it additional strength and durability and to provide a firm grip. From an aesthetic standpoint, you'll either hate it or love it.

The DCP-100 has internal compartments for two rechargeable batteries, though only one is supplied. It can be powered from one battery or both. With both, playing time is extended to 4½ hours; it's 2 hours with one battery. While all of the other portables operate from a 3-volt battery supply, the Denon requires 4 volts because its power consumption is rather high—4.5 watts, compared to, for example, the Sony D-35's 1.9 watts. The batteries can be charged singly



using the supplied adaptor or together with an optional charger. Also provided is a soft carrying case, AC adaptor, and stereo connecting cord. Alone in our test group, the DCP-100 does not come with a pair of earphones.

Controls are spartan but quite comprehensive. Features include standard transport controls, thirty-two-track programming, display of elapsed or remaining time on the track or disc, and a HOLD switch to prevent accidental operation. A MODE button cycles through a complete menu of functions: track repeat, disc repeat, random playback, random repeat, programmed playback, programmed repeat, random program playback, and random programmed repeat. An indicator appears in the display while the battery is charging and is extinguished when charging is completed; during playback, the indicator flashes when the battery becomes low. For the true citizen of the world, the DCP-100's owner's manual is written in seven languages.

YAMAHA CDX-P7 (\$250)

YAMAHA'S only CD portable, the CDX-P7 is a 16-bit, four-times-oversampling player with features such as eighteen-track programming, disc repeat, random play, automatic power shutoff, and replay from last position. A remote control located in the earphone cord offers play, stop, forward-skip, and volume functions. When it's not being used, the remote control can be slid up the cord out of the way. A line-out jack is provided for using the player in a home system.

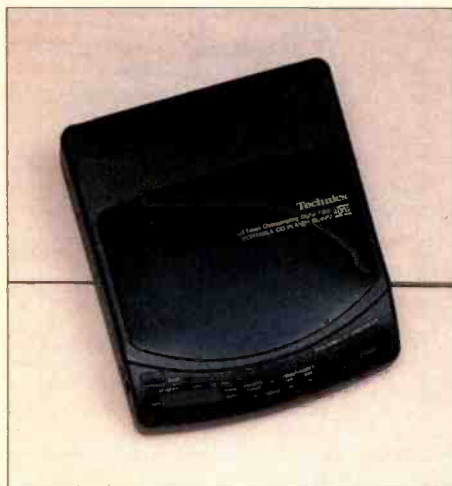
A bass-extension system, turned on by a switch on the player's side, can be used for headphone listening only. It



increases low-frequency response by 8 dB at 100 Hz at an average listening level. So as not to drive the phones into distortion, the boost level is reduced at higher listening volumes.

The CDX-P7 accepts either a nickel-cadmium battery pack or two AA batteries, for approximately 2½ and 4 hours of playback time, respectively. It weighs 13 ounces, including batteries, and comes with an AC adaptor, stereo earphones, stereo adaptor cable, batteries, and carrying strap. The CDX-P7 was designed to be used as a companion piece to Yamaha's YST-7 table-top component system.

TECHNICS SL-XP2 (\$220)



THE SL-XP2 is a 16-bit, four-times-oversampling player. When you pick it up, you may think they left out the circuitry; in fact, it tied with the Yamaha as the lightest player in our group, only 13 ounces including batteries. Clearly, this light weight makes the SL-XP2 great for truly portable applications where every extra ounce can become a nuisance.

It offers all standard transport controls plus a few new wrinkles. The Bass Boost increases low-frequency response by 8 dB at 100 Hz at an average listening level; to avoid overdriving the output, the boost is scaled back at higher levels. The boost affects the headphone output but not the line output. When you turn off the SL-XP2 and turn it on again in the RESUME mode, it starts at the beginning of the interrupted track—nifty. The unit also provides random playback, eighteen-track programming, disc repeat, and automatic shutoff when it's left in pause or stop mode for more than 5 minutes. The LCD panel does not

show continuous battery status; instead, an indicator starts flashing before all power is drained. One irritation—when a disc is first loaded, the LCD momentarily shows “88:88:88” before the track and time information is read properly; the display should be blanked until it is ready. Also, during disc initialization, the servo system sounds exactly like my old 1948 Jeep starting up on a cold winter morning.

The SL-XP2 comes with several standard accessories: carrying strap, phono-plug adaptor, battery charger, and earphones. The earphones have a remote control built into the connecting cable. It can be used to control play, stop, forward skip, and volume. There is also a switch that defeats the remote's operation, to prevent accidental resettings. A pair of rechargeable 1.5-volt nickel-cadmium batteries are supplied, but ordinary AA batteries can be used as well. Playing time is about 2½ hours with the rechargeable batteries or 4 hours with alkaline batteries. Charging time is 3 hours.

after looking at the figures (page 62), you can see that some of the players clearly outperformed the others.

On the Go

Of course, playback in a carefully controlled listening environment and laboratory bench tests are totally different from the way portable CD players are actually used. It is in the throes of a bumpy flight at 35,000 feet, while you're groping for a button on a player buried inside a knapsack, feeling the pain of poorly designed earplugs in your ears, and watching the batteries die during your favorite song that a portable ultimately stands or falls. To evaluate these players I carried them with me everywhere. I took a portable to a Grand Prix race, I bicycled to Miami Beach with a portable, I mowed my lawn with a portable, I wrote this article while listening to portables. Remember that guy on the American Airlines flight to Los Angeles with three players on his tray table? That was me. I even lent portables to friends with instructions to try them out and tell me what they liked and what they didn't.

SEVERAL factors dominate the practical success of a portable. Ergonomics must be topnotch. Nothing is more frustrating than illogical buttons and other controls or features that require a special sequence of button pushing. Good players avoid this.

A portable should have a full complement of features. In addition to transport controls, you may want random or “shuffle” playback, track programming, and a comprehensive display. Although purists may scoff, a bass boost is helpful to compensate for the bass rolloff present in most headphones.

Quality of construction is vital. No matter how careful you are, a portable takes a lot of abuse. Look for an impact-resistant plastic or metal case and buttons with a solid feel. Frankly, some portables are notorious for their short lifespans. I am happy to say that none of the portables we tested failed during our lengthy trials. I do not believe this would have been the case a few years ago.

Battery life is important, and with new power-saving chips it is way up from in the past. Most portables can play for over 2 hours before their batteries require recharging. Also look for quick charging times: Some models can be recharged in as little as 3 hours, but others require as much as 8 hours. Finally, some players conveniently operate from easy-to-obtain AA batteries, while others stubbornly accept only proprietary battery packs.

ACCESORIES are generally pretty routine among portables. You'll usually find earphones, a line-out adaptor, an AC charger, batteries, and a carrying case. Some models provide better headphones than others, or perhaps a more robust case; pick according to need.

Conclusions

Considering all factors—listening-room sonics over both loudspeakers and headphones, laboratory test results, ergonomics, features, construction, battery life, and accessories—I was able to come to some conclusions about my own preferences.

The Toshiba XR-9459 is a good player; especially noteworthy is its extensive accessory collection, including a wireless remote control. Although the surround-delay mode may compromise the sound quality somewhat, it provides an interesting effect. The player also has a very solid feel, thanks to its metal case, and its mechanical construction appears to be of high quality. Its use of AA batteries is another plus. Some measured characteristics, however, such as D/A-converter nonlinearity, were not as good as those of the other players we tested, and that led me to rank it last in our group.

Next up the ladder, the Technics SL-XP2 and Yamaha CDX-P7 were notable for their light weight and good tracking ability. Their construction did not seem as solid as that of the other players, however, and both of them had a measured deviation of more than -2 dB in frequency response. The noise floor was audible under some listening conditions. The tremendous mechanical racket generated by the players' servo systems greatly de-

TOSHIBA XR-9459 (\$400)



AN 18-bit, four-times-oversampling player, the XR-9459 has more attachments than a Hoover vacuum cleaner. Its AC converter is built into a stand with a remote-control sensor and feet that look impressive but provide no other benefit; the player snaps into the holder to recharge its batteries or to operate on AC power. There is a wireless remote control with no fewer than twenty-five buttons; it works only when the unit is AC-powered through its holder. There is also a wired remote control that handles only the basic transport functions and volume adjustment when the unit is battery powered. It plugs into the player, and, if desired, the headphones plug into the remote control; this is a nice alternative to headphones with the remote built into the cord.

There is also a rather formidable hard-plastic carrying case, which appears rugged enough for CD listening while sky-diving or participating in kung-fu tournaments. Like the other portables, the XR-9459 comes with a line-out cord, stereo headphones, carrying strap, and rechargeable battery. Although a battery pack is included, the unit works fine with regular AA batteries as well. Playing time is about 2 hours

with the nickel-cadmium battery pack, 3½ hours with alkaline AA batteries. Recharging time for the battery pack is about 8 hours (it should not be allowed to charge longer than two days).

Not to be outdone by its attachments, the XR-9459 offers a wide range of features as well, including repeat playback, random playback, Intro Scan, thirty-two-track programming, multiple time and track displays, and a battery-level indicator. There is also a key-lock switch setting that disables all buttons except the display button. Another nice feature: The player automatically shuts itself off if left in the stop mode for more than 30 seconds.

The most unusual feature is a surround-sound mode in which sounds from either channel are delayed and fed into the opposite channel. Although in reality the signal is simply doubled, crossfading the delays helps create ambience. Either left- or right-channel delay can be selected, and delay time can be varied from 0 to 90 milliseconds. Although the delays are created using digital circuitry, they are not immune to distortion. In our review unit, the 0, 30-, 40-, 60-, and 70-millisecond settings resulted in considerable distortion.

LABORATORY MEASUREMENTS

	DENON	SONY	TECHNICS	TOSHIBA	YAMAHA
Maximum output level (volts)	0.79	0.593	1.074	0.650	1.072
Frequency response (decibels, 20 to 20,000 Hz)	+0.0, -0.93	+0.02, -0.81	+0.10, -2.40	+0.03, -1.56	+0.09, -2.13
Channel separation (decibels) 1,000 Hz	73.2	80.6	71.9	61.6	69.8
20,000 Hz	51.3	60.6	48.4	60.3	47.7
Dynamic range (decibels, A-weighted)	89.8	93.2	92.4	80.9	93.1
Signal-to-noise ratio (decibels, A-weighted)	95.2	98.3	90.5	86.9	93.5
Distortion (THD plus noise) at 0 dB and 1,000 Hz	0.006%	0.025%	0.040%	0.060%	0.057%
at -20 dB and 1,000 Hz	0.052%	0.078%	0.131%	0.081%	0.120%
Low-level linearity (at -90 dB)	+1.3	+0.9	+1.2	+7.6	+0.7
Interchannel phase error (degrees, at 20,000 Hz)	0.1	0.6	0.7	14.7	0.1
De-emphasis error (decibels, at 16,000 Hz)	-0.03	-0.32	-0.10	+0.27	+0.12
Defect tracking (micrometers)	2,400	1,500	2,400	2,000	2,400
Impact resistance	above average	below average	average	below average	average
Size (inches)	5 x 1 3/8 x 6	5 x 1 x 5	5 x 1 3/8 x 5 3/4	5 x 1 1/8 x 5 1/8	5 x 1 3/8 x 5 3/4
Weight (ounces)	24	17	13	16	13

tracts from their hi-tech appeal. On the other hand, operating them is straightforward, and battery playing time is lengthy. Both players can use standard AA batteries, which is a real convenience.

THE Denon DCP-100 is a classy player with solid construction. Its ergonomics are excellent; many features are provided via a small number of controls, yet nothing is confusing. In addition, I liked the extra battery compartment, but I was distressed by its high power consump-

tion, which necessitated using two batteries for long playing times. The player is also somewhat heavy—the heft may suggest either high quality or dead weight, depending on your point of view. Ultimately, its superb sonics helped tip the scales in its favor.

The Sony D-35 is a winner. Its design and workmanship are of superb caliber. My only caveat concerns the complexity that results from its many features; if you are easily frustrated by myriad controls, you may want to consider a more user-friendly player (the Denon is almost ideal in this respect). On the other hand, the D-35 has all of the features you'll ever need, along with a slick optional battery-case attach-

ment, beautiful styling, great performance, and topnotch sonics. Clearly, for Sony engineers, the design of CD portables is no longer a science. It is an art.

In the end, I suppose, subjectivity must reign. Portable CD players are, after all, akin to jewelry or watches. They're designed to be held in our pockets and plugged into our ears, interfacing directly and intimately with us. A style that I find classic may appear boxy to you. An earplug that hurts my ears may be comfortable in yours. In other words, while your own evaluation is important in any stereo purchase, it is even more so when it comes to selecting a portable CD player, the ultimate in personal audio. □

Mitsuko Uchida

by Herbert Kupferberg

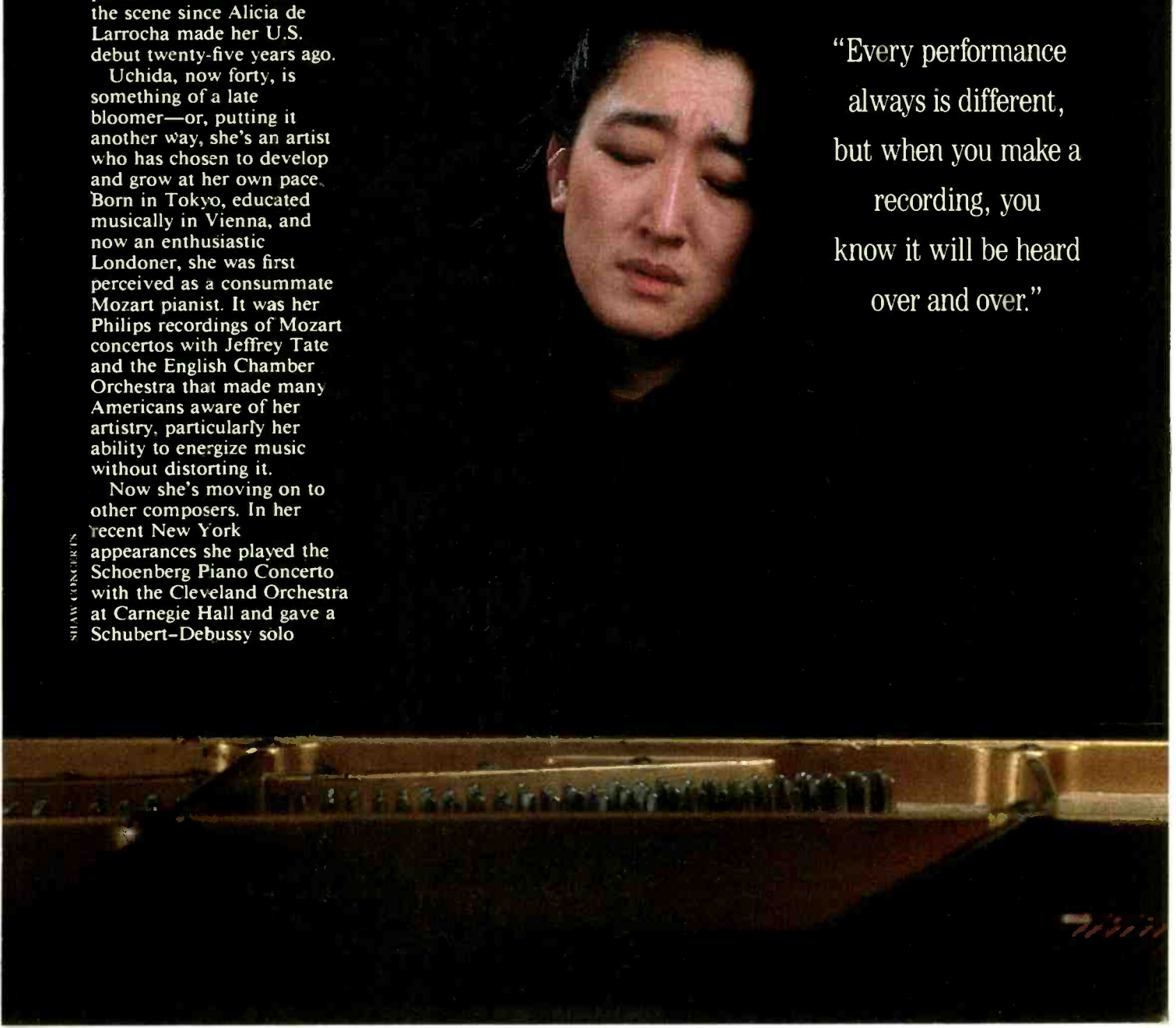
“DON'T want people to know all that much about me. I just want them to listen to the music,” protested Mitsuko Uchida, perhaps the most exciting woman pianist to have arrived on the scene since Alicia de Larrocha made her U.S. debut twenty-five years ago.

Uchida, now forty, is something of a late bloomer—or, putting it another way, she's an artist who has chosen to develop and grow at her own pace. Born in Tokyo, educated musically in Vienna, and now an enthusiastic Londoner, she was first perceived as a consummate Mozart pianist. It was her Philips recordings of Mozart concertos with Jeffrey Tate and the English Chamber Orchestra that made many Americans aware of her artistry, particularly her ability to energize music without distorting it.

Now she's moving on to other composers. In her recent New York appearances she played the Schoenberg Piano Concerto with the Cleveland Orchestra at Carnegie Hall and gave a Schubert-Debussy solo

SHAW CONCERTS

“Every performance always is different, but when you make a recording, you know it will be heard over and over.”



recital at Alice Tully Hall in Lincoln Center's Great Performers series. Her latest Philips CD's are devoted to Chopin's Piano Sonatas Nos. 2 and 3 and Debussy's *Études*.

"At the moment it's difficult to say what direction I take now," she told me during her New York stop-over earlier this year. "I've just completed eighteen Mozart sonatas and twenty-one concertos. That's a helluva lot of work, quantitatively and qualitatively. I want to see what I will do next. Each composer is different—each comes from a different time, each has a different inner vision. Up to a point, I suppose, Mozart is the real test for a performer, but any great music is difficult to produce."

Uchida, who stands a lithe 5 feet, 4 inches and has a ready laugh, seemed perfectly at home in colloquial English. In fact, of the three languages she speaks, English is her favorite for communicative purposes. "German is very strong emotionally for me," she explained, "and Japanese is a language where you can remain vague. English is the clearest, and I try to be clear about what I say."

UCHIDA'S reticence about personal matters extends principally to her family members—perhaps a Japanese custom. But it was Uchida's father who first set her on a serious musical path, with piano lessons at the age of three. A member of the Japanese diplomatic service, he was posted to Vienna when Mitsuko was twelve. He promptly enrolled her in the Vienna Academy of Music, where she studied with Richard Hauser. When her father moved to Bonn as ambassador to West Germany, she remained in Vienna to continue her studies. In 1969, at twenty, she won first prize in the city's Beethoven Competition; the following year she entered the Chopin Competition in Warsaw and finished second.

Uchida has lived in London for nearly twenty years now while retaining her Japanese citizenship. She likes London's relatively open ways, its intellectual life, and, of course, its language. She has also formed a close working relationship with Jeffrey Tate and the English Chamber Orchestra and will play the five Beethoven concertos with them this fall. Tate, obviously, is her favorite conductor; others she

mentions especially warmly are Kurt Sanderling, Seiji Ozawa, Bernard Haitink, and Colin Davis.

"You really have to have the right person for the right piece," she said. "Are there any conductors I *don't* get along with? Well, nobody gets along with *everybody*. If I said so, I'd be telling a lie."

Uchida is currently limiting herself to around fifty concerts a year, though she has opportunities for more. "Fifty seems to be a good number for me," she said. "If I played more I would suffer. I find that less is better than too much."

For all her reputation as a Mozart pianist, Uchida made it clear that she has always had a love for other composers as well. "In my Viennese years I played very little Mozart, more Beethoven, Chopin, Debussy," she recalled. "Chopin, for instance—among the romantic composers he is the one who kept a relatively clear head. His mind was cool and analytical. But I also adore Schumann! And late at night, when I am playing for myself—I distinguish playing from practicing—I may play Bartók."

Uchida said she was particularly eager to play the Schoenberg concerto on her recent U.S. tour. "I find it an infinitely lyrical work, especially the first movement," she observed. "The real problem with Schoenberg is that he packs so much information into a short space. That makes it hard for the listener. It makes it hard for performers, too, but it is up to us to sort out all this information. For me, to experience—rather than just to learn—a

"You become a musician
only if you are
obsessed with the music.
If you are not, drop it."



piece of music takes a long time."

Uchida seemed delighted when I mentioned to her that I had particularly enjoyed her recording of Mozart's *Coronation* Concerto, K. 537, often regarded as the weak sister among his late concertos.

"It really *is* the weak sister," she said, "and it took a helluva long time for us to plot and figure how to do it. The *Coronation* has a different pace from any other Mozart concerto. In the others there are rapid changes; in the *Coronation* things happen slowly. Mozart wrote it in a hurry, so it's not a complete score. The left-hand part is often not written. It's a problem piece.

FOR a time Jeffrey Tate and I took it very straight; then we stressed the sadder elements. Then one day I realized there was a better way to do it—we emphasized its festive elements. I'm pleased with the way it came out. Do you know the Wanda Landowska recording? That was very fine!"

Uchida plays Mozart, as well as other music, on a modern concert grand, although she is not averse to using old instruments and has one of her own, an English square piano from 1790. (She owns four other instruments—two Steinway concert grands, a small Bösendorfer on which she practices, and "a little Steinway" that she keeps in Tokyo, where she returns every year or eighteen months.)

"A piano is a piano is a piano," she said. "I once played a concert in a stately English mansion using *three* pianos—Mozart on a 1788 Streicher, Schubert on an 1820 Graf, and Chopin on an 1840 Érard. I believe that if you're going to use a period instrument, then you must play only music of that period. Otherwise it's a fake."

Unlike the late Vladimir Horowitz, Uchida does not transport her own instrument wherever she concertizes, but she uses one of her own when she records in London and is meticulous about those she plays on tour. In general, she said, she approaches a recording session a bit differently from a concert. "Every performance always is different, but when you make a recording, you know it will be heard over and over. So there's a psychological factor. In the Mozart concertos, with the English Chamber Orchestra, we never used the first take. Somehow we always knew we wouldn't. And



STEVE STURMAN

somehow we also always knew when we were going to make the right one—the one we eventually used.”

Uchida would like to limit herself to making only one or two recordings a year. “The world is being inundated with records,” she remarked. She also isn’t wildly enthusiastic about CD’s. “I have to put up with them, but I really preferred the black discs. And there were so many great artists to listen to on 78’s—Edwin Fisher, Artur Schnabel, Alfred Cortot!”

She is very much aware that she is part of the great wave of Asian artists who are making their mark in the West. She ascribes this phenomenon to both the social structure of the East and its new-found economic prosperity. “There is more interest in Western countries and Western culture,” she observed. “The West has been a step ahead, and now we are catching up. Exchanging information is much easier than ever before.

“In both Japan and Korea education is very important in the eyes of all levels of the population, including working people. I don’t see the same thing in certain Western countries, including the United States.”

Uchida herself does no teaching, though she acknowledged that she

might try it some day. Still, pianists are sometimes brought to her, and she listens. One thing she is certain of: She will never ask a child to play for her unless the child wants to. “When I was growing up in Japan, my father would ask me to play for guests in our home,” she recalled. “Oh, how I hated to do it!” Asked what advice she would give, in general, to aspiring young pianists, she reflected a moment and then said, “You become a musician only if you are obsessed with music. If you are not, drop it.”

ALTHOUGH Uchida enjoys reading English literature, she says she is unable to do so when she is “working,” which means preparing either for concerts or recording sessions. Between times, however, she reads a great deal, her currently favored works including the poetry of Gerard Manley Hopkins and T. S. Eliot. “I also like to work out bridge hands from the newspapers,” she added. “I don’t play much bridge myself, but I find reading the hands is very relaxing.”

As with all women performers, concert dress demands a certain amount of attention, although Uchida says that in her case it is minimal: “When you travel, there

are so many changes—locations, hotels, air, water—all bad for your system. So I like at least to wear similar clothes, like the same pair of trousers twice. For a ten-concert tour I will generally take two-and-a-half sets of things, the half being in case something rips. I just pick up things in stores myself, or sometimes my mother picks them up in Japan. I find I may buy things in New York more than I do in London. That’s because I’m at home in London, and time is more precious to me there.

“I’ve just invented a new scheme to solve the clothes problem. I’ve ordered a gentleman’s dinner jacket and trousers from a Saville Row tailor in London. We’ll see how that suits me.”

American audiences will have their own chance to judge next season. In 1990-1991 Uchida is scheduled to play complete Mozart sonata cycles in Washington, Toronto, and Boston and in New York as part of Lincoln Center’s Mozart celebration. Whether she’s dressed in a dinner jacket or not, they should be events worth waiting for. □

Herbert Kupferberg, a senior editor of *Parade* magazine, is the author of *The Book of Classical Music Lists and Amadeus: A Mozart Mosaic*.



SYSTEMS

Out-of-sight sound

by Rebecca Day

It was a custom designer's dream. Eric and Allison Smith wanted a whole-house stereo system in their Greenwich, Connecticut, home, and the cost was not a major factor. They took their plan to installer David Botkin with only two requirements: "We want hi-fi in every room, and we don't want to see it."

About \$30,000 and 200 man-hours later, the Smiths had a nine-room-plus-sundeck audio/video system managed by four Luxman TP-117's—combined tuner/preamplifiers and system remote-control centers—and various Luxman accessories. Each TP-117 allows independent source selection for two zones—one for audio/video and one just for audio. Botkin connected an RC-502 remote signal converter/RF modulator to each TP-117 to provide video capability in all eight zones, a couple of which serve two locations. He elected to use four TP-117's so that the Smiths could access any source in any zone at any time via a network of seven RC-501 infrared remote sensors (the media room, which houses the source components, and the dressing room did not require sensors). On top of two TP-117's he placed RC-503 remote-control command repeaters, which send infrared signals to equipment that could not otherwise be controlled in the system because it is





not made by Luxman. Three more RC-502 converter/modulators route the signals throughout the system, and four RC-504 external infrared emitters enable the TP-117's to communicate with the remote sensors.

Source equipment includes two Sony KV-32SXR10 32-inch video monitor/receivers, a JVC HRS-S8000U Super VHS digital VCR, a Philips CDV-488 combi-player, a Yamaha DSP-100Ti surround-sound processor, a Luxman D-117 CD player, and a Luxman K-105 cassette deck. Power comes from two Luxman M-117 four-channel amplifiers and eight M-113 two-channel amps, which are stored on a custom-built shelf that's hidden in the basement. Twenty-two Polk AB-7 in-wall speakers inconspicuously provide music in the media room, master bedroom, second bedroom, dressing room, two offices, living room, dining room, kitchen, and sundeck. Botkin built a paint box in the basement and covered each speaker frame with leftover wall paint to match the interior.

Even dream jobs can turn into nightmares, but Botkin discovered that obstacles such as heat build-up, a punctured water pipe, and incompatibility with the local cable system could be surmounted. Luxman easily corrected the cable-incompatibility snag by supplying an RC 89 antenna isolator, which Botkin installed in the overall signal path. To solve the heat problem, he cut a hole in the kickplate of each wall unit, installed a small electric fan that automatically starts when the preamp goes on, and concealed the fan outlet with a metal grille. Thanks to thorough support from Luxman for a complex system, the installation was a success. "Much to our delight, everything went together and worked just the way Luxman said it would," Botkin said, "and we kept hassles to a minimum." □



HOW TO BUY A Camcorder

WHY would a hi-fi enthusiast crave a camcorder? Why, to videotape the kids, of course—plus the company picnic, the Sunday-afternoon softball game, and a thousand and one other activities Americans are so energetically video recording these days. But while most folks simply buy the model with the biggest “Sale” tag in the local super-store, an audio/videophile is unlikely to buy such a technology-intensive toy without first boning up on features and performance. So here are some salient points to consider before spending those hundreds (or thousands) of dollars.

Today, the same kind of battle rages over camcorder formats that was once fought by VHS and Beta VCR's, but with more participants. The current leaders are standard VHS and 8-millimeter (8mm). The standard VHS camcorder uses the same jumbo videocassette as the VCR in your living room. While significantly larger and heavier than the more compact 8mm machines, standard VHS camcorders remain the most popular type in the U.S.—so far. They have the advantage of “shoot-and-play” compatibility with your home VCR (as well as those of your neighbors, your friends, and your Aunt Millie in Minneapolis), and the VHS playing time extends up to 6 hours or more.

On the other hand, 8mm videocassettes are extremely compact—almost exactly the size of the familiar audio cassette. With a maximum playing time of 2 hours—4 hours in the lower-quality (and thus less-often-used) LP mode—the 8mm format easily accommodates most live-action events. On the down side, unless you connect the camcorder itself to your TV for playback—which may well be satisfactory—taping in the 8mm format will require you to buy another deck besides the ubiquitous VHS tabletop model to let you see and hear your tapes. In any case, the petite 8mm tape makes possible incredibly small, comfortable, palm-size camcorders. Witness Sony's new CCD-TR5 Handycam (\$1,500), for instance. At a mere 1¾ pounds and about the size of a James Michener novel in paper-

**Lights!
Camera!
Action!
Roll 'em!
That's a
wrap!**

BY DAVID SIMON



From top, Sharp's full-size VHS VL-L280U camcorder (\$2,100), Canon's Hi8 8mm H-460 (\$2,200), and Minolta's VHS-C Series-C 50 (\$1,450)



back, it's among the smallest and lightest camcorders on the planet.

THE VHS Compact (VHS-C) format, introduced by JVC to help maintain VHS supremacy, straddles two worlds. The size of the cassette is close to that of 8mm tapes. VHS-C's Achilles heel is length: The longest cassettes currently hold a maximum of 30 minutes at the higher SP speed, or 90 minutes in the lower-quality EP mode. In terms of both recording and direct playback from the camcorder, VHS-C behaves much like 8mm. The big difference? Back home, a VHS-C tape can be slipped into an adaptor (included with all VHS-C camcorders) for playback on any home VHS deck.

The video quality of any of these contenders is generally competitive with that of the others. "Lines of horizontal resolution," though by no means the only measure of visual quality, is a useful shorthand for comparison; more is better. All of the standard formats—VHS, VHS-C, 8mm, and Beta—deliver approximately 160 to 240 lines of horizontal luminance resolution, depending on the individual machine and how the measurement is made.

The "Super" Cams

The various "high-band" or "super" formats—Super VHS, S-VHS-C, and 8mm Hi-Band (Hi8)—all exploit similar technology, each nearly doubling the video bandwidth of its respective "standard" recording system for a big leap in resolution, approaching 400 lines in some cases. All of the high-band machines require special tapes (more expensive, of course), all are capable of recording in their standard modes as well as the high-resolution modes, and all are "one-way compatible": Standard tapes will play back in super-format decks or camcorders, but super tapes require a super playback unit (fortunately, these days all camcorders can be used for playback too). Just how big a deal is high-band video? If standard VHS and 8mm visuals are the equivalent of the sound from the tabletop stereo system you had in college, then S-VHS and Hi8 tapes look like a good hi-fi system sounds.

RICOH'S feature-laden Hi8 camcorder, the 3¼-pound, \$2,199 R-800H, includes variable shutter speeds, 8:1 power zoom, and a microphone switchable between unidirectional and omnidirectional modes. Mitsubishi's HS-C30U, a similar, 3-pound S-VHS-C model (\$1,799), has 6:1 zoom and auto indexing as well as dedicated function keys for home playback use. A typical full-size S-VHS camcorder from JVC, the format's originator, is the \$2,229 GF-S550. Its 8:1 power zoom, 7-lux sensitivity rating, and slow-motion and time-lapse capabilities add to its appeal.

A final word on format: Don't automatically choose a camcorder because of its "compatibility" with another video machine you have. Any format can be copied to any other—8mm to standard VHS, say, or S-VHS-C to Beta—with the video quality generally limited by the receiving format. Since you presumably will not wish to send your precious originals to friends or relatives, machine-to-machine compatibility may not matter much.

How Does It Sound?

Audio performance matters too, of course. VHS and VHS-C camcorders, both standard and super, all include a linear audio track. Usually mono, and always relatively low-fi, these tracks can be dubbed independently of the video signal, permitting new audio to be added after the video is recorded. A very few VHS and VHS-C models also include VHS Hi-Fi sound—stereo, frequency-modulation recording with excellent quality (20 to 20,000 Hz frequency response, 80 dB signal-to-noise ratio, and low distortion). Panasonic's PV-S160 (\$1,499) is a good example of an S-VHS-C Hi-Fi camcorder. Unlike linear audio tracks, however, hi-fi audio is inseparable from the video; you can't add one without simultaneously changing (or erasing) the other.

SOUND works a bit differently in the 8mm format, which always provides a single AFM (audio frequency-modulation) track—essentially mono 8mm Hi-Fi. Although it isn't stereo, the sound quality is worlds better than the linear audio in the VHS and Beta formats. (Until recently, Canon's estimable A1 was the sole exception. This \$2,299 Hi8 camcorder offers stereo AFM. Now Canon has added a couple of other stereo-AFM Hi8 camcorders, and Sony has introduced two stereo-AFM models. Stereo-AFM recordings made with these camcorders can be played back on mono-AFM units, but in mono.) Like hi-fi soundtracks in the other formats, 8mm AFM audio cannot be altered independently of the video.

Some more expensive 8mm machines also record stereo tracks of digital pulse-code-modulation (PCM) audio. Although they are limited to a 15,000-Hz top end—no great shortcoming—and have somewhat less dynamic range and more distortion than CD or DAT recordings, they are of very high quality and can be dubbed independently of the video signal. In fact, an 8mm VCR makes a perfectly viable digital recorder for hi-fi audio use as well. Sony's EV-S900 is the leading example, with an audio-only mode that can record 24 hours of high-quality stereo audio (without video) on an ordinary 8mm cassette, with indexing capabilities for ninety-nine selections. It also has full home-VCR capabilities and more than enough nifty video dubbing and editing features to justify its \$2,000 price.

Camera Questions

Camcorders combine two complex systems—a camera and a VCR—so once the basic format question is answered, only a few hundred decisions remain. *Lux ratings* describe camcorder sensitivity in low-light conditions—indoors with just room lighting, for example. Ratings from different manufacturers tend not to be directly comparable, but, in general, a lux figure of about 5 or lower indicates excellent performance in dim light. Video quality in such conditions suffers with any camcorder, however, so extremely low lux ratings should not be weighted too heavily. Also, in low light colors begin to lose identity, which is why some models include a built-in “color-enhancement” light, usually of about 10 watts or so. RCA's CC286 standard VHS unit (\$1,099) is a good example.



Nikon's Hi8 8mm VN-950 (\$2,200), Panasonic's full-size S-VHS PV-S550 (\$1,950), and JVC's S-VHS-C GR-S707U (\$2,499)



Most camcorders employ a charge-coupled-device (CCD) image sensor—the gizmo that converts lens-focused light to an electronic signal recordable by the VCR section. (These are sometimes called metal-oxide-semiconductor, or MOS, image sensors.) Image sensors are usually specified in terms of the number of effective *pixels*, or picture elements, and the size of the sensor (generally $\frac{1}{2}$ or $\frac{2}{3}$ inch). But a unit's overall horizontal-resolution spec is a better yardstick of performance than pixel count.

White-balance adjustment maintains accurate color in varying light conditions (artificial light, sun, shade, etc.), a bit like equalizing a hi-fi speaker for flat response in different listening rooms. Automatic white-balance controls are ubiquitous, and they do a good job, but top-range machines often provide a manual override, allowing the pro shooter to compensate for unusual environments.

A CAMCORDER is, after all, a camera, and numerous lens considerations come into play. *Lens aperture* (f-stop) plays a big part in camcorder light-gathering abilities; generally, a lower figure indicates greater low-light power. A specification of f/1.6 is typical of consumer models, while high-end machines are often equipped with optics down to f/1.2. "*Shutter speed*" is another factor. A speed of $\frac{1}{60}$ second is standard for normal shooting. Variable-speed shutters with selections as fast as $\frac{1}{4,000}$ second and higher are in vogue today. High shutter speeds capture fast action better, enabling slow-motion and freeze-frame playback to display blur-free images. (But remember that using these higher shutter speeds will require much more light.)

Autofocus zoom lenses are just about standard camcorder fare. Autofocus lets you concentrate on your shot without worrying about focus. The best autofocus systems are through-the-lens (TTL) designs. Several high-end models now also feature some sort of *auto-tracking* focus system, which helps to maintain sharpness even when the subject moves off the viewfinder's center "sweet spot"—a worthwhile feature for the inexpert photographer. A related feature is *backlight compensation* (many upper-range camcorders have it), which helps prevent your subjects from becoming silhouetted when shot against bright backgrounds.

An even higher-tech aid to quality pictures is *electronic image stabilization*. Developed by Panasonic, this feature employs motion sensors coupled with vertical and horizontal servomotors to negate camera shake and jiggle. It's a nifty feature for the amateur shooter, but it does add substantially in weight—and cost.

Zoom facilities come in a wide range; an 8:1 ratio is most common, though fancy models often feature 10:1 and even 12:1 zooms. (But extended zoom means a longer lens, which can reduce low-light capabilities. If you're shopping for a real howitzer-equipped unit, remember to check its sensitivity rating.) *Power zooms* permit smoother zooming without risk of camera shake—some models even feature variable-speed (pressure-sensitive) power zoom. The lenses found on many camcorders also permit "macro" close-ups as little as 1 inch from the subject or even closer.

The *electronic viewfinder*—a miniature video screen—inside the eyepiece of most camcorders provides what-you-see-is-what-you-get shooting. Most viewfinders are black-and-white, which is adequate for framing and lighting a shot though not ideal for color photography. A few expensive camcorders, such as the Philips CPJ810 (\$1,988), a full-size S-VHS model, provide color LCD viewfinders. An important viewfinder feature for the hard-of-seeing is a *diopter adjustment*, which can sharpen things up whether you're nearsighted or farsighted.

Editing Features

If you're out to make anything better than the crudest of home-movie videos, look into camcorder editing facilities. The most basic, a *flying erase head*, permits glitch-free shot-to-shot transition; it's found on most models above the middle of the line these days. Many more-elaborate editing features are available, such as a *built-in synchronizer* that can lock the camcorder in sync with a compatible (in other words, same-brand) editing VCR for clean assemble-edits just like the ones the pros do. Many top models also permit clean *insert edits*—adding a new shot in the middle of an existing one without video or audio stumbles. A slew of digital effects can also be found in the camcorder aisles. *Titling* and *time/date stamping* are the most popular. Several models also include a *still-frame memory*, permitting effects in which a shot can be faded, "blossomed," or "wiped" into or out of the memorized still, or even superimposed on it.

Perhaps the ultimate in camcorder effects is offered by Panasonic's PV-535 (\$1,700), a *dual-camera* VHS model that perches a tiny auxiliary camera atop the main unit. The PV-535's twin cameras permit a host of high-production-value effects, including split-screen images and "chroma-key" superimpositions *à la* the TV weatherman.

FINALLY, the list of available camcorder conveniences is lengthy indeed. The most basic one is an informative *tape counter*. The best designs can display elapsed time accurately in minutes and seconds, and many can also calculate remaining time—frequently a necessary warning. A family must is a *self-timer* feature. In conjunction with a tripod, this lets you get into the picture yourself. *Interval timers*, found on several camcorder models today, let you do time-lapse shooting of sunrises or flower-openings and even some animation. A number of different *auto-search/indexing* systems are available, too; such systems can automatically index shots and quickly retrieve them on playback.

But the most important camcorder aspect of all remains the ergonomic one. While the compact formats have a clear weight and size advantage, many full-size VHS models are astonishingly comfortable and easy to use. And manufacturers of all formats have been quick to add such comfort features as reversible grips for southpaws and tiltable viewfinders for low-angle shooting. Given how complex even the simplest camcorders are, ease-of-use options can begin to seem overwhelming. The only true test is the hands-on one. Fortunately, that's the most entertaining test of all. □



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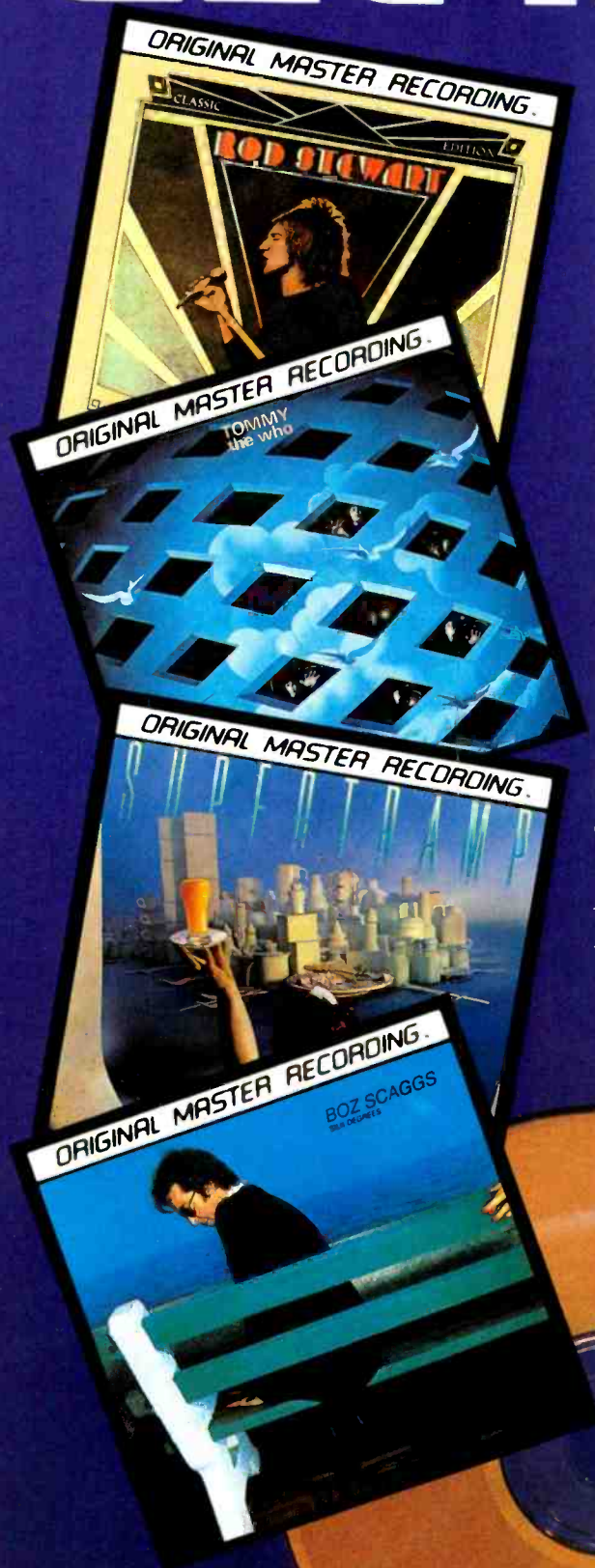
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BEST RECORDINGS OF THE MONTH

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SINÉAD O'CONNOR: AWAKENINGS

SINÉAD O'CONNOR'S second album begins with a petition ("God grant me the serenity to accept the things I cannot change") and ends with a conviction ("I have all that I requested, and I do not want what I haven't got"). In between, she grapples with her own rebellious will as it finds itself tested by motherhood, fame, broken relationships, and difficult moral choices in what Bob Dylan has called the "political world." Titled "I Do Not Want What I Haven't Got," the album unfolds like an odyssey through consciousness, full of awakenings, evolutions, convolutions, and arrivals that present new questions. O'Connor revels in the mystic, tempering her fiery muse with a maternal concern for the world and for those who are not strong enough to make their own ways through it.

Her voice is supple and elastic, swooping from an earthy alto to a soaring soprano, displaying timbral nuances and colorations, veering from sharp Celtic phrasing and passionate bursts of temper to a more conversational delivery as mood dictates. Unbound by stylistic constraints, she shapes the music to suit her lyrics, drawing from sources both ancient and modern.

In *I Am Stretched Out on Your Grave*, she contrasts funky bass and drum samples with Irish fiddle and vocal stylings, resulting in a hip-hop version of a folk-type death ballad. *The Emperor's New Clothes* and *Jump in the River* are given a rougher edge by Marco Pirone's hard-rock guitar and O'Connor's tigerish, sensual vocals. *Three Babies* and *Black Boys on Mopeds* are haunting and ethereal as O'Connor accompanies herself on an acoustic guitar, her vocals emanating as if from a

dream. In the latter song, about racial violence in Britain, she sings, "These are dangerous days/To say what you feel is to dig your own grave."

O'Connor is all of twenty-three now, hardly the autumn of one's life, but she is wise and knowing beyond her years. You can almost hear the onset of maturity in the title song, *I Do Not Want What I Haven't Got*, as innocence yields to experience, delight to disappointment. Yet there is something viscerally exciting about this sojourn, most notably the stirring of the maternal instinct. *Feel So Different* captures the unutterable strangeness and wonder of the post-adolescent passage to self-actualization. As sonorous, impressionistic strings swell and pulse kinetically around her, she sings passionately of disorientation and wonder, climaxing with the realization, "The whole time I'd never seen/That all I'd need was inside me." Words to live by from an album worth living with. *Parke Puterbaugh*

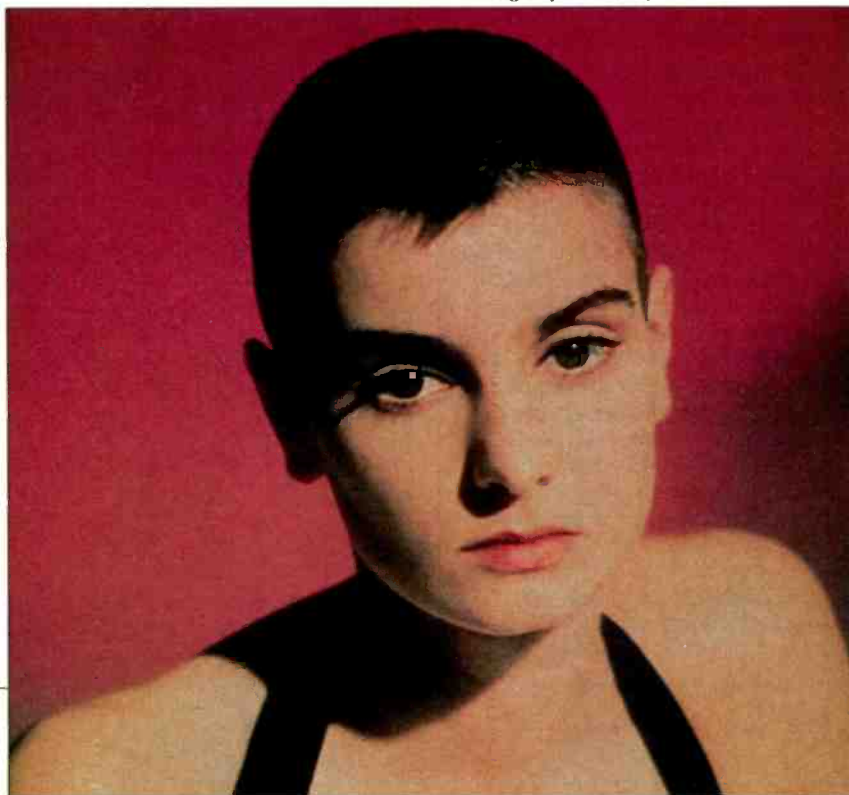
SINÉAD O'CONNOR: *I Do Not Want What I Haven't Got*. Sinéad O'Connor (vocals, guitars, keyboards, percussion); other musicians. *Feel So Different*; *I Am Stretched Out on Your Grave*: *Three*

Babies; *The Emperor's New Clothes*; *Black Boys on Mopeds*; *Nothing Compares 2U*; *Jump in the River*; *You Cause as Much Sorrow*; *The Last Day of Our Acquaintance*; *I Do Not Want What I Haven't Got*. CHRYSALIS © F4 21759, © F2 21759 (54 min).

A DELIGHTFUL NEW "COSÌ FAN TUTTE"

NO recording of Mozart's *Così fan tutte* could ever equal the now-ancient Fritz Busch 1935 Glyndebourne set—I thought. If the new one from Deutsche Grammophon does not supersede that earlier landmark, it is certainly on a par with it in spirit and for its evocation of pure musical pleasure. Any shortcomings? Well, yes. James Levine's orchestral enthusiasm sometimes leads him to overpower the singers, and his dynamics are occasionally exaggerated. But you can't help admiring his feeling for what the opera is really all about—a delightful, frequently farcical masquerade devoted to the battle of the sexes. No heavy "hidden meaning" here.

Sinéad O'Connor: wise and knowing beyond her years



BEST RECORDINGS OF THE MONTH

CHRISTIAN STEINER, METROPOLITAN MUSICAL BUREAU



Kiri Te Kanawa: her finest yet

Kiri Te Kanawa, as Fiordiligi, turns in what must be her finest operatic performance on disc. Hers is a pure, silvery, well-schooled voice, limpid and facile, one of the finest instruments before the public today. When she is caught up in what is going on dramatically, as she assuredly is here, the results are convincing and charming. She is well matched by the Dorabella of Ann Murray, who sings with warmth and a beguiling sense of humor. Marie McLaughlin, a pert and witty Despina, delights in the machinations suggested to her by Ferruccio Furlanetto as Don Alfonso; her piquant quality is a good foil for the baritone, who takes Alfonso a bit too seriously. Hans Peter Blochwitz as Ferrando and Thomas Hampson as Guglielmo sing and play the two lovers with ebullience and taste. The chorus makes as much as it can of its small share in the action, while the Vienna Philharmonic, so completely at home in this music, plays deliciously.

The opera is recorded uncut, and although a stage performance of this length might seem a bit drawn out, the armchair listener can only sit back and delight in this winning vehicle of Mozart's incredible invention. The joyous spirit of the performance remains the salient feature of the recording, and for that we are primarily and happily beholden to James Levine.

Robert Ackart

MOZART: *Così fan tutte*. Kiri Te Kanawa (soprano), Fiordiligi; Ann Murray (mezzo-soprano), Dorabella; Marie McLaughlin (soprano), Despina; Hans Peter Blochwitz (tenor), Ferrando; Thomas Hampson (baritone), Guglielmo; Ferruccio Furlanetto (baritone), Don Alfonso. Vienna State Opera Chorus; Vienna Philharmonic, James Levine cond. DEUTSCHE GRAMMOPHON © 423 897-2 three CD's (193 min).

BOBBY WATSON'S WELL-ROUNDED JAZZ INVENTIONS

ANYONE who still has doubts that alto saxophonist, composer, and arranger Bobby Watson is one of the most impressive new figures on the jazz scene will surely have those doubts erased by Watson's latest Blue Note album, "The Inventor." Like so many young players, Watson is an alumnus of Art Blakey's perpetually changing group of Jazz Messengers, and although he has already attracted a great deal of critical attention, he remains relatively unknown

outside of jazz's inner circles. I predict, however, that he will soon be as celebrated as such other ex-Messengers as Lee Morgan, Freddie Hubbard, Woody Shaw, and Wynton Marsalis.

But Watson is no budding artist waiting in the wings. Listen to his new album, and you'll hear a mature performer capturing the very essence of jazz in a brilliant way. It is not enough to say that "The Inventor" is an exceptionally fine recording. It is also a work of art that will outlive most of the dross that's dumped into the "jazz" bins these days. There is so much happening on this disc, so much clever writing and so many fine improvisations, that fresh musical discoveries will delight the perceptive listener for many spins to come.

To hear Watson take flight in the opening number, *Heckle and Jeckle*, and again in *The Inventor*, then strut Caribbean-style in *Children of All Ages* and lazily ease into *The Long Way Home*, is to hear a well-rounded artist playing with a rare blend of deftness and sensitivity. It is also a measure of Watson's talent that he has assembled such a fine group of musicians for the record-

Bobby Watson: the very essence of jazz



CAROL FRIEDMAN/BLUE NOTE

BEST RECORDINGS OF THE MONTH

ing. They perform in various combinations, and they all do a splendid job, but I must make particular mention of pianist Benny Green, trumpeter Melton Mustafa, and tenor saxophonist Willie Williams. The drummer throughout is Victor Lewis, another fast-rising star.

Chris Albertson

BOBBY WATSON: *The Inventor*. Bobby Watson (alto saxophone); Melton Mustafa (trumpet); Willie Williams (tenor saxophone); Benny Green (piano); Victor Lewis (drums); Don Alias (percussion); other musicians. *Heckle and Jeckle; The Inventor (For Dad); P.D. on Great Jones Street; The Sun; For Children of All Ages; Dreams So Real; The Shaw of Newark; Homemade Blues (For Bo)* (CD only); *The Long Way Home*. BLUE NOTE ● C1-91915, © C4-91915, © CDP-91915 (59 min).



Bernard Haitink: illuminating

HAITINK'S VAUGHAN WILLIAMS

THE First Symphony of Ralph Vaughan Williams, a gorgeous and often moving choral-orchestral sprawl titled *A Sea Symphony* that sets poems by Walt Whitman, fares superbly in the new EMI/Angel recording by the London Philharmonic under Bernard Haitink. As in his illuminating reading of Vaughan Williams's *A London Symphony* two years ago, Haitink's tempos are marginally slower than those of Sir Adrian Boult and the other British conductors who have recorded this music, yet there is no sense of stasis or tedium. The Cantilena Ladies Choir and London Philharmonic Choir are wonderfully trained, and the orchestra itself is dedicated in its responsiveness.

From the very opening brass fanfare and the choral outburst on the words "Behold, the sea itself," you sense the beginning of a telling musical experience—and so it is throughout the more than 71 minutes of the performance. Soprano Felicity Lott is oddly appealing in the slightly febrile quality of her singing, as in the passage "O we can

wait no longer" that leads toward the work's final climax, and baritone Jonathan Summers, whose singing has a slightly tenorish quality, projects both music and text splendidly on his own as well as in his duets with Lott.

In recording music so wide-ranging in dynamics and so demanding in its need both for a sense of vast space and for clarity of textual communication, the skill of the conductor and the production team are put to a severe test. They must create and maintain a proper balance between the vocal soloists, the semi-chorus and full chorus, and the changing orchestral fabric, which will feature a solo violin at one moment and a full tutti with organ reinforcement at another. By and large, Haitink and the EMI team come through with flying colors. Comparison with the CD reissue of the 1968 Boult recording shows Haitink's new one to be a shade more assertive in the midrange and to have distinctly more presence throughout the spectrum. Overall, it provides richly satisfying listening.

David Hall

VAUGHAN WILLIAMS: *Symphony No. 1 ("A Sea Symphony")*. Felicity Lott (soprano); Jonathan Summers (baritone); Cantilena Ladies Choir; London Philharmonic Orchestra; Bernard Haitink cond. EMI/ANGEL © CDC 49911 (71 min).

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- **LENA HORNE:** *Stormy Weather*. BLUEBIRD/BMG 9985-2-RB. Recordings made in New York and Hollywood between 1941 and 1958.
- **JEFFERSON AIRPLANE:** *Crown of Creation*. RCA/MOBILE FIDELITY UD CD 523. "Good humor, acerbic wit, and flawless instrumental work" (Best of Month, December 1968).
- **MODERN JAZZ QUARTET:** *The Complete Last Concert*. ATLANTIC 81976-2 (two CD's with two previously unreleased tracks). Recorded at Avery Fisher Hall, Lincoln Center, on November 25, 1974.
- **LEON RUSSELL:** *Hank Wilson's Back!* SHELTER/DCC SRZ-8009 (with two previously unreleased tracks). "Country standards that really cook" (April 1974). *Will o' the Wisp*. SRZ-8007. "A rinking-tinking dandy" (August 1975).
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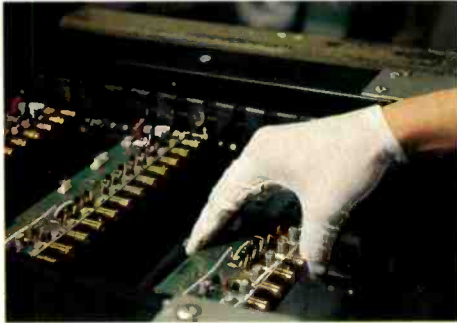
- **BEETHOVEN:** *Symphonies Nos. 1-9*. Karajan. DEUTSCHE GRAMMOPHON 429 036-2 (five CD's). The first of his three Beethoven cycles for this label with the Berlin Philharmonic: "Interpretations of valid artistic truth" (October 1963).
- **KHACHATURIAN:** *Violin Concerto*. D. Oistrakh. Khaichaturian.
- **KABALEVSKY:** *Violin Concerto*. D. Oistrakh, Kabalevsky. LE CHANT DU MONDE LDC 278 883. "The best performances of these works one could hope to hear" (May 1967).
- **PUCCINI:** *Turandot*. Nilsson; Molinari-Pradelli. LEGATO LCD-153-2 (two CD's). One of Nilsson's greatest performances as Turandot, recorded live in Vienna in 1961.
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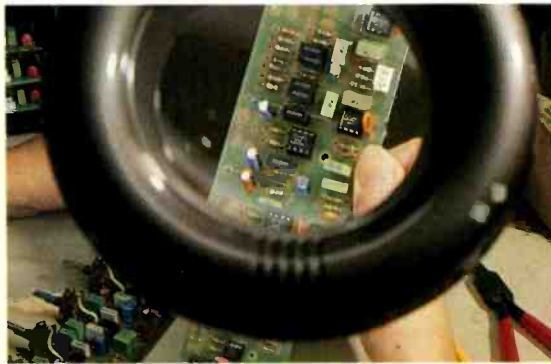
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*Discs and tapes reviewed by
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PATTI AUSTIN: *Love Is Gonna Getcha*. Patti Austin (vocals); vocal and instrumental accompaniment. *Through the Test of Time; Too Soon to Know; In My Life; Love Is Gonna Getcha; Ooh-Whhee (The Carnival); Believe the Children*; and five others. GRP ● GR-9603, © GRC-9603, © GRD-9603 (55 min).

Performance: *Delightful*
Recording: *Excellent*

What a joy it is to hear Patti Austin in a pure, uncluttered setting that allows her fine musical spirit to soar. There is a minimum of artifice in the instrumental backing provided by a battery of top studio musicians. Real drummers, foremost among them Harvey Mason, are used instead of drum machines, and the few electronic embellishments are unobtrusive. The focus is on Austin, who shows just how accomplished a vocal interpreter she is in what turns out to be an exceptionally tuneful batch of songs.

One obvious point of interest is Marvin Hamlisch's *The Girl Who Used to Be Me*, which Austin sang on the soundtrack of the film *Shirley Valentine* and on this year's Academy Awards telecast. It's an earnest ballad that she endows with plenty of emotion, but my real favorite is *Ooh-Whhee (The Carnival)*—lyrics by Austin, music by Don Grusin—with its shifting beat and playful quality. Otherwise, the program ranges from the more conventionally styled *Love Is Gonna Getcha* to the pensive *In My Dream*, each selection chosen with a keen ear for quality. This album is a delight from beginning to end. *P.G.*

MARK COLLIE: *Hardin County Line*. Mark Collie (vocals); James Burton (electric guitar); Marty Stuart, Mac McAnally (acoustic guitar); vocal and instrumental accompaniment. *The Good News and the Bad News; Something with a Ring to It; Let Her Go; What I Wouldn't Give; Where There's Smoke*; and five others. MCA MCA-



SUZANNE VEGA'S VISION

SUZANNE VEGA'S first two A&M albums were like poetry recitals accompanied by a very polite folk-rock band. Her spoken-sung vocals were the crystalline focus of attention, and the spare arrangements were meant to enhance the words, but not to disturb them. "Days of Open Hand," Vega's third for A&M, takes some liberties with that approach; she omits her acoustic guitar in a number of tracks and relies less on fixed rhythms. The new album still has the sound of folk music in places, but overall it sounds like delicate, introspective pop. As before, the lyrics have the delicacy of bone china, only now they are set more beautifully on the table.

As before, Vega refuses to compromise her vision. Her blank, inward gaze takes in unsettling details, which she shapes into disquieting narratives and chilly portraits of the world within and without. A song about abortion, *Men in a War*, compares the numb feeling of an amputee with that of a woman who has aborted. The song does not take a moral stance on abortion, yet it is all the more powerful because it focuses on the emotional consequences of the act.

Elsewhere in the album are equally traumatic images, of blockage, wounds, suicide. The overall theme is of trauma and its aftermath. There are some indications of hope, however. In *Tired of Sleeping*, Vega sings of renewal: "Oh Mom/The dreams are not so bad/It's just that there's so much to do/And I'm tired of sleeping." And in *Book of Dreams* she claims to have "healed the hole that [I] ripped in living." But even the optimistic moments have a tough, desperate quality.

Vega doesn't provide catharsis lyri-

cally or musically. She doesn't sing so much as recite. Each word lands quietly and carefully, with light but firm inflection. She sets down her lyrics much the way a toddler plants his feet—with such extreme caution that you get the sense of an underlying instability. The life of the mind, which matters more to Vega than anything else, is hard to understand and even harder to regulate. At least she can control the way she sings. It's not much, but it's a beginning.

Musically, the album is restrained, though less so than its predecessors. In four of the songs, the lack of a steady rhythmic pulse at the center of the arrangements lets the music wander a little. The instrumental backing underscores the agitation or exhilaration or rectitude of the songs through texture and atmosphere. You don't hear them so much as feel them. Synthesizers provide an edgy aural backdrop in *Institution Green*, a song about dislocation in a mental facility, and the persistent clacking percussion is almost loud enough to be nerve-racking, but not quite.

You might say the same thing about "Days of Open Hand" as a whole. It is unsentimental in the extreme. It is not fun to listen to. Yet it has the power to change us. Suzanne Vega is in a class by herself. *Ron Givens*

SUZANNE VEGA: *Days of Open Hand*. Suzanne Vega (vocals, guitar, keyboards); vocal and instrumental accompaniment. *Tired of Sleeping; Men in a War; Rusted Pipe; Book of Dreams; Institution Green; Those Whole Girls (Run in Grace); Room off the Street; Big Space; Predictions; Fifty-Fifty Chance; Pilgrimage*. A&M 5293-1, © 5293-4, © 5293-2 (46 min).

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infidels and pop stars/While the bomb loses patience we line up and just lean against the bar."

Most of the songs in "Waking Hours" are concerned with the small details of an affair that has ended, or ought to. The arrangements are salted with fiddles, banjos, and acoustic guitars, lending the album a friendly, approachable glow. From the irresistible toe-tapping opener, *Kiss This Thing Goodbye*, to the last acoustic strains of *Nothing Ever Happens*, "Waking Hours" is an honest, wise, and charming album. *P.P.*

EN VOGUE. *Born to Sing.* En Vogue (vocals); instrumental accompaniment. *Party; Strange; Lies; Hip Hop Bugle Boy; Hold On; Part of Me;* and five others (six others on CD). ATLANTIC 82084-1, © 82084-4, © 82084-2 (51 min).

Performance: *Great*
Recording: *Satisfactory*

The four young women who make up En Vogue are definitely not just another girl group: They have a lively sense of humor that sets them apart, and they make their way through some pretty whimsical fare in this album. They retain the cohesive harmonic qualities of earlier girl groups but update the traditional approach with snatches of high-

ly humorous patter and an occasional bit of rap. For an idea of how they merge the old with the new, listen to their short but imaginative treatment of an Andrews Sisters' vintage World War II ditty in *Hip Hop Bugle Boy*. The opening *Party* track will leave you laughing, and the one that follows, *Strange*, has a weird but captivating off-beat quality. Their ballad style is best demonstrated in *Waitin' on You*, which is the CD bonus track. All in all, a promising debut. *P.G.*

M. C. HAMMER: *Please Hammer Don't Hurt 'Em.* M. C. Hammer (vocals); vocal and instrumental accompaniment. *Here Comes the Hammer; I Can't Touch This; Have You Seen Her; Yo!! Sweetness; Help the Children; On Your Face;* and seven others. CAPITOL 92857-1, © 92857-4, © 92857-2 (60 min).

Performance: *Boisterous*
Recording: *Good*

This is the year in which rap has totally crossed over, appealing to whites as well as blacks and to country folks as well as urbanites. M. C. Hammer is as good an example of this phenomenon as any. He makes catchy, danceable, thoughtful music, and his new "Please Hammer

Don't Hurt 'Em" is an enjoyable album. It also pays serious attention to urban problems.

At the heart of Hammer's music is rhythm. The beats come from synthesizers, percussion, "scratching," vocals, and you-name-it. But, unlike other rap songs, these push melodic fragments at you in a dazzling variety of ways. Riffs give way to counter-riffs. Counter-riffs make way for bridges. Hammer raps to the accompaniment of grunts, doo-wop swoops, and fully sung melodies. In one sense it may be a traditional call-and-response approach, but he gives it a contemporary twist. You never know what kind of response you'll hear to his call.

Hammer can swagger with the best of today's rappers, yet there's a moral side to the guy as well. *Help the Children*, a wholesale remake of Marvin Gaye's *Mercy Mercy Me (The Ecology)*, retains Gaye's basic melody, but Hammer has written new words, about saving kids from drugs and the troubles of the world, that update the idealism and commitment Gaye showed back in 1971. In his entertaining, multifaceted music, M. C. Hammer refutes the notion that rap is simply the expression of anger and hatred. Anyone who thinks it is, or even that it has to be simplistic



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and predictable, should listen to "Please Hammer Don't Hurt 'Em." R.G.

PEGGY LEE: *There'll Be Another Spring.* Peggy Lee (vocals); instrumental accompaniment. *Circle in the Sky; I Just Want to Dance All Night; He's a Tramp; There'll Be Another Spring; Johnny Guitar; Fever;* and seven others. MUSICMASTERS © MMD 60249 K (45 min).

Performance: *Purr-fect Lee*
 Recording: *Intimate*

What an apt title for a new album made up entirely of songs whose lyrics Peggy Lee has written over the years (with such collaborators as Sonny Burke, Johnny Mandel, and Victor Young)—sung as only she herself still can. There's a refreshingly uncynical, perennially forward-looking, and springlike tang to all these songs. Best of all, Lee sings them with the same kind of sparkle, lilt, and sexily purring style that have been her trademarks for some five decades—and with a voice that, remarkably and happily, shows fewer of the ravages of time (or her recurring health problems) than the voices of most of her contemporaries.

In addition to such Lee classics as *Fever* (with some newly amended lyrics), *Where Can I Go Without You*, and *The Shining Sea*, there are recent collaborations with John Chiodini—all of them first-rate, especially the wistful *I Just Want to Dance All Night* and the wryly self-mocking, easy-swinging *I'll Give It All to You*. May there be many more such wonderfully musical springs from Peggy Lee! R.H.

PETER MURPHY: *Deep.* Peter Murphy (vocals); Peter Bonas (guitars); Teal Bryant (drums); Eddie Branch (bass); Paul Stratham (keyboards, guitar). *Deep Ocean Vast Sea; Shy; Crystal Wrists; Marlene Dietrich's Favorite Poem; Seven Veils;* and five others. RCA 9877-1-H, © 9877-4-H, © 9877-2-H (54 min).

Performance: *Spellbinding*
 Recording: *Atmospheric*

On the basis of his prior work with Bauhaus and on his own, Peter Murphy could be dismissed as another doomy Brit making cold, technological music. But in "Deep" he's found a way to make himself more accessible without diluting his obscure, often impenetrable lyrics. It's really quite simple: Pick up the beat. There's not one moment of drudgery in "Deep," in which nine tunes set dense, cryptic verse against a lacy, diaphanous musical atmosphere and a moderate dance beat. The rhythmic backbone of the songs is joined by attractively angular guitar lines and Murphy's arresting voice, which ranges from rumbling low tones to a chalky, dramatic tenor à la David Bowie.

A heretofore recessed pop streak helps give *Crystal Wrists* and *Cuts You Up* their surface appeal. Dig deeper,

though, and you'll find a mind obsessed with the ways in which life thwarts and frustrates man's nobler instincts, leaving him at an existential impasse. Placed in a context where the beat drives the songs forward and the music is mysterious and oddly pretty, Murphy's mordant meditations upon the void seem curiously appealing—possibly because he is engaged in the positive act of aspiring to transcendence.

Several songs, like *Marlene Dietrich's Favourite Poem* and *A Strange Kind of Love*, are acoustic and delicate, while others, such as *Shy* and *The Line Between the Devil's Teeth*, are jittery and angst-ridden, portending chaos. The opening cut, *Deep Ocean Vast Sea*, is a fascinating excursion into the labyrinthine depths of the mind, submerging below consciousness to probe for ultimate motives. The song is emblematic of the perspicacious nature of Murphy's inquiry and the graceful way in which he casts cool light on subterranean shadows in this enchanting and hypnotically alluring album. P.P.

SINÉAD O'CONNOR: *I Do Not Want What I Haven't Got* (see *Best of the Month*, page 75)

ROBERT PLANT: *Manic Nirvana*. Robert Plant (vocals); vocal and instrumental accompaniment. *Hurting Kind; Big Love; SSS&Q; I Cried; She Said; Nirvana*; and five others. ES PARANZA/ATLANTIC 91336-1, © 91336-4, © 91336-2 (50 min).

Performance: *Neo-Zep cash-in*
Recording: *Artificially bright*

It must chagrin Robert Plant to see groups like Whitesnake and Kingdom Come making a mint from their blatant Led Zeppelin mimicry while his sales figures as a solo artist are drooping. "Manic Nirvana" is an attempt by Plant to reclaim his market share by recording an album in the frisky, panting style of the indomitable Zeppelin. His band members do their best to rattle the rafters like the erstwhile Zeppelin crew, while Plant sings in a voice close to the maniacal shriek of *Immigrant Song*.

An act of commerce as premeditated as any Whitesnake album, "Manic Nirvana" places the singer in a ludicrous position: Robert Plant ripping off David Coverdale ripping off Robert Plant. There's a shameless *Whole Lotta Love* rewrite entitled *Hurting Kind*, a raunchy love-in-an-airplane grinder called *Big Love*, and boot-stomping riff-rockers like *SSS&Q* and *She Said*. Deeper into the album he shifts gears from the fist-in-face rock of "Led Zeppelin II" to the denser and more ambitious strains of later Zeppelin albums, but the effect is still calculated.

All of a sudden, Robert Plant is coming on like the horny rocker who sang "squeeze my lemon till the juice runs down my leg" two decades ago. Will

anyone be fooled? Didn't H. L. Menck-en say that no one ever went broke underestimating the taste of the American public? P.P.

CHRIS REA: *The Road to Hell*. Chris Rea (vocals, guitars, keyboards); other musicians. *The Road to Hell; You Must Be Evil; Texas; Looking for a Rainbow; Your Warm and Tender Love; That's What They Always Say*; and four others. GEFEN GHS-24276, © MSG-24276, © 24276-2 (55 min).

Performance: *Starts strong, but...*
Recording: *Very good*

You've got to love Chris Rea's voice. When it goes high, it has the tenderness of a sigh. When it goes low, it breathes of experience. The more it purrs, the more you feel it. Rea knows this. So do the European record buyers who have made him one of the most successful rockers on the Continent. Americans, to their discredit, have not figured this out. We're too busy listening loud.

Last year, Rea's record company released his "New Light Through Old Windows," a sort of "greatest hits" album in the sense that it contained new versions of songs that were chartbusters east of the Atlantic Ocean. It was a good idea, but it didn't make Rea an overnight success.

"The Road to Hell" probably won't either. Rea applies his world-weary voice and quiet insights to the awful state of the world. His matter-of-fact tone actually counterbalances some of the overbearing messages in his songs. (Television, he says, is the root of evil, and Texas is the new paradise.) And his steely, quicksilver guitar leads propel the music forward at a breathless clip, in a way that reminds folks of Dire Straits. This could be music for the Thinking Man's Top 40, but not in this country.

Unfortunately, after the first six songs, the focus is lost. Why is he singing a love song to a car (*Daytona*)? The closing songs are also well off the point, including *Let's Dance*, a snappy little number recycled from "New Light." It's as if Rea had become tired of hectoring us about the sorry life we lead and decided to coast. "The Road to Hell" is paved with good intentions, but it comes up short. R.G.

DIANNE REEVES: *Never Too Far*. Dianne Reeves (vocals); vocal and instrumental accompaniment. *Hello (Haven't I Seen You Before); Never Too Far; Come In; How Long; Eyes on the Prize; We Belong Together*; and four others. EMI 92401-1, © 92401-4, © 92401-2 (48 min).

Performance: *Disappointingly slick*
Recording: *Very good*

Ever since Dianne Reeves made her recording debut back in 1982 with the album "Welcome to My Love," I have considered her to be one of the freshest

and most versatile of today's popular singers, and one of the few among the younger generation who can handle jazz. Her striving for excellence distinguished her 1987 album on Blue Note, "Dianne Reeves," which embraced both pop and jazz and was crowned by her stunning rendition of Herbie Hancock's *Never Said (Chan's Song)* from the movie *'Round Midnight*. That album was produced by George Duke, who also produced "Never Too Far," but this time he's done Reeves an artistic disservice by reverting to the predictably slick commercial sound that has characterized most of his work over the past decade.

At times here, a glint of Reeves's true talent shines through; even the tacky arrangement can't hold her down in the rousing *Hello (Haven't I Seen You Before)*, in which she's accompanied by the wonderful gospel group Take 6. But since this record marks Reeves's debut on EMI, it does not bode well for the course her career might take in the future. She may appeal to a broader audience with this stuff, but even so, she deserves better material. P.G.

DAVID SCHNAUFER: *Dulcimer Player Deluxe*. David Schnauffer (dulcimer, jew's-harp, harmonica, bells); Chet Atkins (guitar); Mark O'Connor (fiddle); other musicians. *Morning Birds; Here Comes the Sun; Santa Anna's Retreat; Last Date; San Antonio Rose; Beautiful Dreamer; Wings of a Dove; Greensleeves*; and eighteen others. © SFL 3 (73 min). SFL Discs & Tapes.

Peter Murphy: spellbinding





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6, 7 & 8 (Morning, Noon &
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Kanawa, Milnes. Montreal
Symphony led by Charles
Dutoit. London 15321

Davis: Mahler, Sym. No. 1
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Performance: *Joyful*
Recording: *Good*

It comes as a surprise to flip on David Schnauffer's all-instrumental disc and hear the music of the Beatles, Stephen Foster, Bob Wills, and Harold Arlen emanating from an Appalachian mountain dulcimer. But Schnauffer delightfully shows that the humble dulcimer is capable of much more than the strum-and-drone accompaniment to which it's usually relegated. Though his own four-string instrument benefits greatly from the fiddle, guitar, and autoharp that populate many of these selections, he proves he can adapt the dulcimer to a lead role and be remarkably entertaining on his own, offering lovely, low-key performances of several original numbers as well as of traditional folk material, contemporary pop music, and mainstream standards. His treatment of some of the numbers may put off anyone weaned on the better-known arrangements, but Schnauffer, the past winner of the National Mountain Dulcimer Championship, still plays with respect, with love, and, unquestionably, with joy. *A.N.*

BOBBY WATSON: *The Inventor* (see Best of the Month, page 76)

JULIE WILSON: *Sings the Cole Porter Songbook*. Julie Wilson (vocals); William Roy (vocals, piano). *Most Gentlemen Don't Like Love; My Heart Belongs to Daddy; Easy to Love; All of You; You'd Be So Nice to Come Home To; Experiment; Dream Dancing*; and twenty-three others. DRG © SLC 5208, © CDSL-5208 (57 min).

Performance: *Elegant and playful*
Recording: *Congenial*

The tremolo may be more prominent on certain notes than before, and some tones may sound a bit frayed, but there's still no other chanteuse today who can get to the heart of our greatest theater songs quite the way Julie Wilson can. Actually, her half-singing, half-speaking style, matched with her savvy way of getting right to the pith of a lyric, is perfect for projecting the knowingly wise, sometimes saucy, occasionally impudent, but always graceful, pungent, and, yes, deeply passionate songs of Cole Porter.

Thirty songs, including medleys, fill this generous studio-recorded set, deftly split between those we've long heard everyone else do (if rarely as stylishly and meaningfully as Wilson does them here) and those less familiar gems she's made her own through her cabaret performances. Wilson's long-time musical director William Roy, in addition to providing his usually vivacious and marvelously clean-lined accompaniments, joins in for several delightfully on-target vocal duets. *R.H.*

JAZZ

FIRST HOUSE: *Cantelina*. Ken Stubbs (alto saxophone); Django Bates (piano, tenor horn); Mick Hutton (bass); Martin France (drums). *Cantelina; Underfelt; Dimple; Sweet Williams; Low-Down (Toytown)*; and five others. ECM © 839 619-2 (38 min).

Performance: *Ear-pricking*
Recording: *Excellent*

First House is a British quartet whose repertoire embraces a broad range of modern jazz, but it has yet to develop the kind of ensemble identity that might place it firmly on the map. Still, judging by its second album, "Cantelina," it's a group that bears watching or, shall we say, listening to. Alto saxophonist Ken Stubbs, who formed the group in the mid-Eighties, is skilled but has a somewhat dull way of expressing himself, so it is up to others in the group to create the excitement. No one does that better, here, than thirty-year-old Django Bates; his piano work is consistently interesting, and on one track (*Dimple*) he contributes an irresistible horn solo. He's also responsible for half of the album's ten compositions, with most of the others credited to Stubbs. Altogether, this is a good album, even though it offers only a skimpy 38 minutes of playing time. *C.A.*

CARMEN MCRAE: *Carmen Sings Monk*. Carmen McRae (vocals); Charlie Rouse, Clifford Jordan (saxophone); Larry Willis, Eric Gunnison (piano); George Mraz (bass); Al Foster (drums). *Get It Straight; Dear Ruby; It's Over Now; Monkery's the Blues; You Know Who; Little Butterfly; Listen to Monk*; and six others (eight others on CD). NOVUS © 3086-1-N, © 3086-4-N, © 3086-2-N (66 min).

Performance: *Wonderful*
Recording: *Very good*

It takes a singer like Carmen McRae to blend lyrics with the wordless music of Thelonious Monk. Only a singer with an intellectual grasp of Monk's music can really appreciate its quirks, the nooks and crannies that give it his personal stamp. Then, too, McRae is an accomplished pianist who once provided intermission music at Harlem's famous cradle of bop, Minton's Playhouse. In "Carmen Sings Monk" the words are by Mike Ferro, Abbey Lincoln, Jon Hendricks, Bernie Hanighen, and Sally Swisher. The tunes were all first established as instrumentals, and for some reason all but one of them, *'Round Midnight*, have been given new names, which is confusing but probably resolves some legal complication. In any case, McRae's performances are wonderful, and so are the superb accompaniments by saxophonist Clifford Jordan, pianist Eric Gunnison, drum-

mer Al Foster, and, especially, bassist George Mraz.

Two of the tracks, *Get It Straight* (instrumentally known as *Straight, No Chaser*) and *Suddenly (In Walked Bud)*, are live recordings; they also feature Foster and Mraz but with longtime Monk sideman Charlie Rouse on tenor and pianist Larry Willis. Studio versions of these two selections are the CD's bonus tracks. Now that Sarah Vaughan's left us, Ella Fitzgerald's voice has left her, and a good many new ballad singers sound either like diluted Doris Days or horror-movie victims, it is a blessing that we still have Carmen McRae. *C.A.*

LEE RITENOUR: *Stolen Moments*. Lee Ritenour (electric guitar); Alan Broadbent (piano); other musicians. *Uptown; Stolen Moments; 24th Street Blues; Haunted Heart*; and four others. GRP © GRC-9615, © GRD-9615 (47 min).

Performance: *Lucid*
Recording: *Very good*

Lee Ritenour's "Stolen Moments" arrived in the mail with a personal note to me from GRP. "At last, the album you've been waiting for," it began. "Enjoy," it urged at the end. Correct on both accounts. The thirty-eight-year-old former California session man has given us here a superb album of the kind of music he does best. Along with tenor saxophonist Ernie Watts and a rhythm section comprising pianist Alan Broadbent, bassist John Patitucci, and drummer Harvey Mason, Ritenour effortlessly winds his way through eight tunes, half of them from his own pen. This is real jazz performed in a lucid style that knows no time frame. *C.A.*

Carmen McRae: a blessing



ESQUERITA: THE LAST OF THE WEIRD?

by Steve Simels

A WHILE back I was watching MTV (we needn't go into why) when I heard the news that Geffen Records had been sold to MCA (parent company of Universal Pictures) for a sum slightly in excess of the gross national product of several Third World countries.

Now, don't get me wrong. I'm not about to launch into some weepy old Bolshie-rock-critic harangue about corporate greed and people starving in Ethiopia. As far as I'm concerned, there's no reason a (still-young) former William Morris Agency mailroom worker like David Geffen shouldn't get rich in the record business, even if that means he releases three-record boxed sets by the late Tommy Bolin.

Still, when I heard the news I found myself muttering, "Uh-oh," like Dustin Hoffman in *Rain Man*. Because if Geffen, the last really big independent pop label, is being swallowed up by a major conglomerate, it means the record business, worldwide, is now controlled by only six or seven humongous companies, an unsettling turn of events if you believe the record business differs (or should differ) on some fundamental level from, say, the soft-drink business.

But back, however obliquely, to MTV, itself a wholly owned subsidiary of one of those aforementioned mega-companies. Now, there is much to be said about MTV, some of which I will say someday in another column. But this particular time, after staring at the screen, glassy-eyed and sweating, for a couple of hours, I came away with a fairly depressing insight—that the Sex Pistols were right when they said there's No Future.

What brought on this epiphany? Simple: I suddenly noticed that just about nobody on MTV these days—of any gender, in any genre, from dance pop to rap to heavy metal to college-radio rock—seems

to have the slightest shred of originality, personality, or artistic ambition beyond getting incredibly rich in a hurry.

Think I'm being overcritical? Okay, consider if you will a random example, like Paula Abdul. Regardless of your opinion of her records, you'd be hard pressed to make a case for her as much more than a Las Vegas showgirl who got lucky. Janet Jackson, anybody? C'mon . . . a Disneyland Animatron; you can see the money they spent on her dance lessons. New Kids on the Block? The Partridge Family come to ghastly contemporary life. And the list goes on and on.

Anyway, all that's an extremely roundabout way of getting to my real worry, which is, simply put, that because the vast sums of money to be made in the record business today have raised the corporate stakes so precipitously, no future performer who is not on some level a clone of an already established star is ever going to get a chance in front of the public again. Okay, okay, I'm deliberately overstating my case. But face it: It's not altogether alarmist to worry about whether the space for the emergence of a genuine against-the-grain weirdo—the kind of misfit/genius who has fueled rock-and-roll from Buddy Holly and Elvis on down—has been permanently foreclosed.

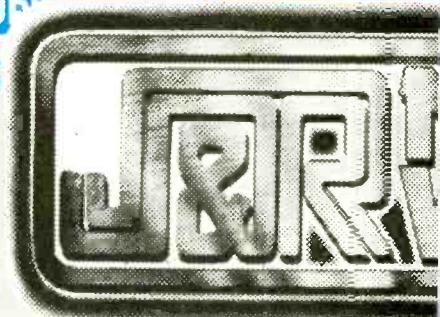
And so, lately, I've been thinking a lot about Esquerita, an obscure Fifties rocker whose work was recently exhumed on a remarkable Capitol CD. This was a guy who never sold many records, and judging

from some of the tracks on this "Best Of" collection, that's no particular mystery. Simply put, the man was either years ahead of his time—an impossible cross between Sun Ra and Little Richard on acid—or else an out-and-out nut. Song after incredible song here finds him raging seemingly out of control, whooping in estrogenic falsetto at the most improbable moments, banging out what should be conventional rock-and-roll piano parts with so many wrong notes you have to assume they were planned, while his band—featuring crack West Coast session cats—abandons any attempt at keeping up with him. By all objective standards, this is preposterous, perhaps deranged stuff. And yet, and yet . . . weirdo or not, Esquerita was onto something, and somebody was willing to give him a shot at expressing it.

Of course, that was back in 1958, when record-industry rules were still made to be broken, and I suspect that if a contemporary weirdo, an Esquerita for the Nineties, is lurking out there in the darkness, he or she is not about to land a deal with, say, Geffen Records. Stranger things, of course, have happened, like an ex-mailroom guy selling a company for half a billion dollars. But if you think this situation bodes well for the state of music in the declining years of the twentieth century . . . well, then it's time for you to check the ship movements in the vicinity of Fantasy Island. In the meantime, get the Esquerita CD and prepare to have your life changed. Or at least your speakers. □

Esquerita, a Fifties rocker who was either years ahead of his time or an out-and-out nut, reissued on CD in Capitol's Collectors Series





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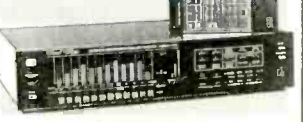


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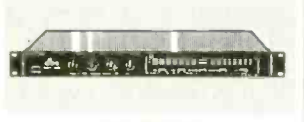


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Discs and tapes reviewed by Robert Ackart, Richard Freed, David Hall, Stoddard Lincoln, Eric Salzman, and David Patrick Stearns

BACH: Goldberg Variations (BWV 988). Daniel Barenboim (piano). ERATO © 2292-45468-2 two CD's (81 min).

Performance: *Uneven*
Recording: *Clangy on top*

Erato flatters buyers of this set by assuming they know all about the *Goldberg Variations*, providing by way of annotation only Daniel Barenboim's own note on "the true nature of the piano" and his confrontation with this work. He says he had "been studying and working on" it for more than twenty-five years before he performed it in public for the first time; this is that performance, recorded live at the Teatro Colón in Buenos Aires last October. If you do know all about the work you may be especially unhappy with the applause and bravos left in at the end, since such an outburst would have worked against the alleged purpose of the music, which was to help old Count Keyserlingk get to sleep.

There is, however, nothing soporific in Barenboim's well-ordered, lively performance, which has a most agreeable dancing quality in many of the individual variations. What I missed, on the one hand, was a sense of real variety from one variation to the next and, on the other, a sense of continuity. Barenboim seems to be settling in, finding his level, as he makes his way through the set, and it's only in the last half-dozen variations that his performance takes wing. In those final sections he seems suddenly transformed from one who has been confidently but cautiously exploring a mystic shrine to one who knows every hidden cranny and the password to open it to him. *That* is the sort of playing that puts one on the edge of one's seat with excitement and wonder—what a joyous thing the final variation is, a real capstone to the sequence before the *Aria da capo!* But these final sections constitute only a smallish portion of the work, and the recording itself not only includes the applause but has a



Leonard Bernstein with, from left, Michael Barrett, William Sharp, Judy Kaye, and Steven Blier

SONGS OF LOVE

L EONARD BERNSTEIN'S *Arias and Barcarolles* receives its world-première recording in a new CD of his vocal music from Koch International Classics, one of the first releases from that label. The set of eight songs is performed with duo-piano accompaniment, and while an orchestral version is to be issued soon on another label, I can't imagine that anyone would feel anything missing in this fine performance with pianos. Some listeners, in fact, may well feel that the songs gain in directness of impact in the more intimate setting.

Bernstein took the title of the set from a remark made by President Eisenhower thirty years ago contrasting likable music "with a theme" with "arias and barcarolles" that have none. These *Arias* and *Barcarolles*, however, do have a common "theme," namely love. Five of the texts are by the composer. One sets a bedtime story his mother used to tell. Another uses a marvelous Yiddish piece, *Oif mayn khas'neh* (*At my wedding*) by Yankev Yitzchak Segal, about a wild young fiddler who played at a wedding with such passion that the old folks present called for mercy. And the last one, *Nachspiel* (*In Memoriam*), has no text at all but just humming, to a tune that was originally one of Bern-

stein's *Anniversaries* for piano. William Sharp is stunning in the Yiddish piece, and both he and Judy Kaye seem to find just the right level of emotion, wit, or humor for all the songs.

The disc also includes eight songs from Bernstein's early musicals—*On the Town*, *Wonderful Town*, and *Peter Pan*—and his 1977 orchestral collection, *Songfest*. Except for *Carried Away* from *On the Town*, the songs are some of the less familiar, less expected numbers from the shows, and they are all presented in great style. Sara Sant' Ambrogio's luscious cello obbligato for Kaye's singing of *Dream with Me* from *Peter Pan* ends the sequence on a dreamy note indeed. Duo-pianists Michael Barrett and Steven Blier are sensitive and enlivening accompanists at every point, and they have provided their own comprehensive notes. The recording itself is demonstration-class, and the booklet includes the full texts for *Arias* and *Barcarolles* but not for any of the other songs. *Richard Freed*

BERNSTEIN: *Arias and Barcarolles; Songs and Duets.* Judy Kaye (soprano); William Sharp (baritone); Michael Barrett, Steven Blier (duo pianos); Sara Sant' Ambrogio (cello). KOCH INTERNATIONAL CLASSICS © 3-7000-2 (60 min).

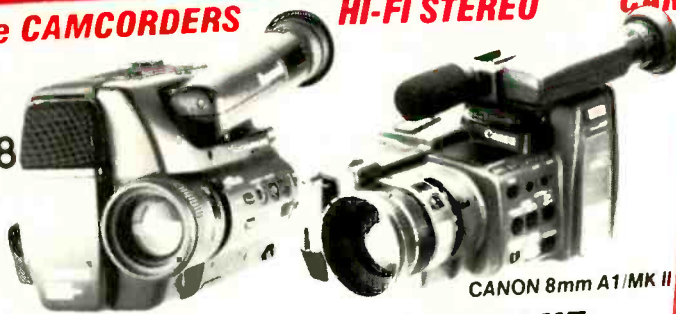
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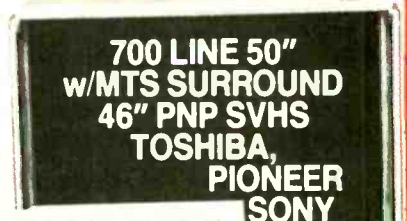
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conspicuously clanging quality on much of the upper end. It is, in short, a less than ideal performance, less than ideally recorded, and costly to boot.

Among still-current piano recordings of the *Goldberg Variations*, those by András Schiff and Glenn Gould (in both his 1955 and 1981 versions) are more consistently satisfying, and each of them fits on a single CD. R.F.

DEBUSSY: *Jeux, Poème dansé; Images for Orchestra; Music for "King Lear"* (orch. Roger-Ducasse). City of Birmingham Symphony Orchestra, Simon Rattle cond. EMI/ANGEL © 4DS-49947, © CDC-49947 (62 min).

Performance: *Atmospheric*
Recording: *Translucent*

The pieces collected here were the last orchestral works to come from Debussy's pen. The incidental music for *King Lear* (1905) consists of a fanfare of a suitably solemn and regal character followed by a brief, brooding section called *Le Sommeil de Lear*. The other five movements planned for the production were never written, and the two survivors were orchestrated posthumously. In any case, it is not music of major consequence. Quite the contrary for the balance of the program.

Ibèria, the second of the three *Images*, is one of the most brilliant and atmospheric works of the standard repertory, and Simon Rattle does well by it, most notably in a gorgeously sensual rendition of the central movement, "*Les Parfums de la nuit*." I would have liked just a shade more snap and verve in the opening movement, but the climactic finale is dazzling. The bitter-sweet *Gigues* and *Rondes de printemps*, which frame *Ibèria*, are interpreted with a fine sense of underlying nostalgia.

The atmospherically cinematic tennis ballet, *Jeux*, composed for Diaghilev and Nijinsky in 1912—*L'Après-midi d'un faune* in sports clothes, someone once called it—is done with a fascinating combination of delicacy and panache. Like the rest, it is recorded in an acoustic surround that has just the right combination of space and detailed presence. D.H.

DVOŘÁK: *Symphony No. 7, in D Minor, Op. 70; Symphony No. 8, in G Major, Op. 88*. Philadelphia Orchestra, Wolfgang Sawallisch cond. EMI/ANGEL © 4DS-49948, © CDC-49948 (73 min).

Performance: *Warmhearted*
Recording: *Glowing*

If other conductors have unraveled the tragic drama in Dvořák's D Minor Symphony, Wolfgang Sawallisch, working with the Philadelphia Orchestra in a richly burnished acoustic surround, has searched out its lyrical essence. His performance may be more Brahmsian than Czech in flavor, but it is a very fine one. Particularly fetching is his way of flexibly shaping a phrase and adding just a

touch of nineteenth-century string portamento in the right spots.

He takes the same general approach to the more militantly nationalist G Major Symphony, where it works better in the two central movements than in the outer ones. The sound in general is satisfyingly rich, and the production as a whole is decidedly more successful than the earlier Sawallisch-Philadelphia recording of Dvořák's *New World* Symphony. D.H.

GLUCK: *Iphigénie en Aulide*. José van Dam (baritone), Agamemnon; Anne Sofie von Otter (mezzo-soprano), Clytemnestre; Lynne Dawson (soprano), Iphigénie; John Aler (tenor), Achille; others. Monteverdi Choir; Orchestre de l'Opéra de Lyon, John Eliot Gardiner cond. ERATO © 245 003-2 two CD's (132 min).

Performance: *Quicksilver*
Recording: *Excellent*

Although *Iphigénie en Aulide* was the first opera Gluck wrote specifically for Paris, in 1774, it is almost always performed today in orchestrations by one of two later German composers, Richard Strauss and Richard Wagner. Wagner's version, which dates from 1846, falsifies the Gluck original at least as much as Rimsky-Korsakov's orchestration did Mussorgsky's *Boris Godunov*. Wagner cut many of the decorative choruses and ballets that make the opera distinctively French and changed the libretto to make it resemble the Euripides drama, even though the source of Gluck's inspiration was the Jean Racine play. While Wagner's version is more streamlined, Gluck's uncut version presents the characters with a greater sense of light and shade.

This new recording from Lyons is an important, exciting restoration. From the opening bars of the celebrated overture, you're reminded why Gluck's music was hailed for its flexible expression of emotion. While Wagner's version seems weighted down with nobility, Gluck's is like quicksilver.

Gluck operas can be a headache to cast, but you'd never know it from the elegant, idiomatic performances here. Lynne Dawson's *Iphigénie* is a bit bland, but then so is the role in comparison with what Gluck did with it in the sequel, *Iphigénie en Tauride*. José van Dam as Agamemnon, Anne Sofie von Otter as Clytemnestre, and John Aler as Achille fulfill all expectations as the extremely accomplished singing actors they are. Few tenors color their high notes as tastefully as Aler does in this performance.

John Eliot Gardiner is the hero of this set, however. While the funereal tempos adopted by many conductors condemn the music to a slow, stately death, Gardiner's pointed rhythms and the lean orchestral textures he achieves give it a real theatrical electricity. He proves that Gluck was right after all. D.P.S.

MCLAUGHLIN: *Guitar Concerto ("The Mediterranean"); Brise de coeur; Montana; Two Sisters; Until Such Time; Zakjr*. John McLaughlin (guitar); Katia Labèque (piano); London Symphony Orchestra, Michael Tilson Thomas cond. CBS © FMT 45578, © MK 45578 (61 min).

Performance: *Lively*
Recording: *Beautiful*

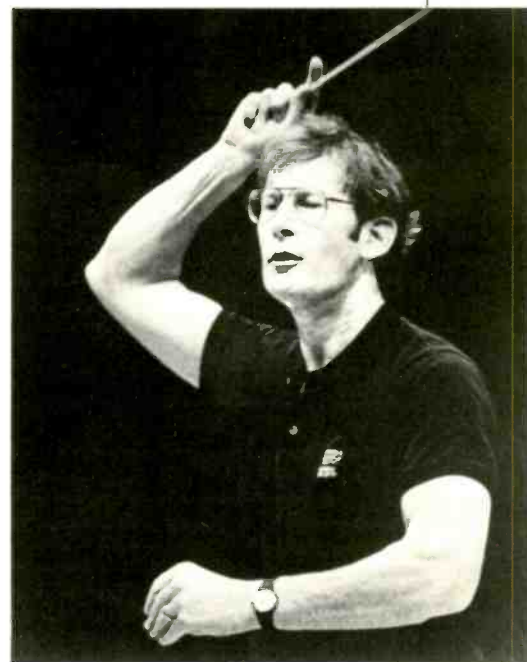
A lively, racy pops concerto and five attractive, jazzy duets for guitar and piano are the offerings here. John McLaughlin is not the most original composer in the world, but he is surprisingly at home in the big-concerto form (someone else has done the orchestrations). Nevertheless, his duos with pianist Katia Labèque—intense, personal, very attractive—provide the strongest musical moments. All is beautifully recorded, the concerto in England, the duets in France. An English performer/composer, French pianist, Mediterranean-style music with American overtones, American-Japanese company: in short, the quintessential international classical crossover record. E.S.

MOZART: *Flute Concerto No. 1, in G Major (K. 313); Andante in C Major for Flute and Orchestra (K. 315); Concerto in C Major for Flute, Harp, and Orchestra (K. 299)*. Susan Palma (flute); Nancy Allen (harp); Orpheus Chamber Orchestra. DEUTSCHE GRAMMOPHON © 427 677-2 (58 min).

Performance: *Very good*
Recording: *Very good*

This is a sensibly programmed package containing all the concerted works Mozart composed originally for the flute. And it is not only convenient but very

Gardiner: back to Gluck



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JULY

handsomely accomplished. The Orpheus ensemble has sometimes left me feeling that it was in a little over its head without a conductor, and I did approach K. 299 here with less than the highest expectations, but I needn't have; it moves with all the flexibility one could ask. The whole disc offers lovely playing from everyone involved, natural phrasing and momentum, near-ideal balances between the various performing elements in the three works, and tasteful cadenzas by Susan Palma and Bernard Rose. Warm, lively, well-defined sonics, too, as in all the recordings Deutsche Grammophon has made at the Performing Arts Center of the State University of New York at Purchase. It's a winner on all counts. *R.F.*

MOZART: *Così fan tutte* (see Best of the Month, page 75)

PREVIN: *Piano Concerto; Guitar Concerto*. Vladimir Ashkenazy (piano); Eduardo Fernandez (guitar); Royal Philharmonic Orchestra, André Previn cond. LONDON © 425 107-4, © 425 107-2 (58 min).

Performance: *Charming*
Recording: *Very good*

André Previn wrote his Piano Concerto in 1984 for Vladimir Ashkenazy, who, as might be expected, plays it very well. The work itself is quite Neoromantic in a mild, entertaining sort of way. The Guitar Concerto was written in 1971 for John Williams and is, especially in its finale, the quirkiest and more interesting of the two pieces here. The opening, a bit in the spirit of the group of French composers known as Les Six (Poulenc, Milhaud, and the others), and the finale, which pits an electric guitar against the acoustic instrument, played here by Eduardo Fernandez, have both character and spirit. Charm is mostly what Previn has to offer, and a very charming sort of charm it is. *E.S.*

RACHMANINOFF: *Piano Concerto No. 3, in D Minor, Op. 30*. PROKOFIEV: *Piano Concerto No. 3, in C Major, Op. 26*. Santiago Rodriguez (piano); Sofia Philharmonic Orchestra, Emil Tabakov cond. ELAN/ALLEGRO IMPORTS © CD 2220 (70 min).

Performance: *Good solo work*
Recording: *Good*

Santiago Rodriguez goes at the Rachmaninoff Third with a great deal of vigor and dash, befitting the name chosen for his record label. He may be a little short on poetry, but his bracing approach, touched here and there by considerable brilliance, manages to present the work as free of longueurs as of cuts. It is free of the episodic spotlighting of favorite moments, too: Rodriguez finds a natural momentum that allows the "moments" to shine without interrupting the sweep. His playing is at least as fluent in the Prokofiev, but he is sadly

let down in both works by the orchestra, which is simply not competitive in works that demand the same level of virtuosity from that quarter as from the soloist. The strings are weak, the solo winds, which have conspicuous passages in both concertos, are at best undistinguished, and the sonic balance puts the entire orchestra in a rather dim aural recess. A good deal of care must have gone into other aspects of this production—there is a fine set of notes by Roger Dettmer—but there can be little of the give-and-take that makes such super-virtuoso concertos come fully alive when the solo and orchestral elements are so unevenly matched. *R.F.*

VAUGHAN WILLIAMS: *A Sea Symphony* (see Best of the Month, page 77)

WEILL: *Die Dreigroschenoper (The Threepenny Opera)*. René Kollo (tenor), Macheath; Helga Dernesch (soprano), Mrs. Peachum; Mario Adorf, Peachum; Ute Lemper, Polly; Milva, Jenny; others. RIAS Chamber Choir; RIAS Berlin Sinfonietta, John Mauceri cond. LONDON © 430 075-4, © 430 075-2 (74 min).

Performance: *Not exciting*
Recording: *Close encounters*

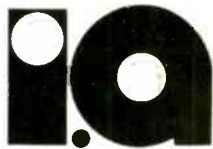
What is it with *The Threepenny Opera*? The Broadway production with Sting was, as everyone agreed, a snooze. And now this recording with Milva, Ute Lemper, René Kollo, and company directed by the estimable John Mauceri—another entry in the race to turn the most dynamic, bitter, vital, cutting, funny music-theater work of the century into yet another bore-and-snooze.

This recorded version is in itself a series of compromises. Some numbers have been condensed so that, by omitting most of the dialogue, the performance fits onto one CD. Opera, pop, cabaret, and theater singers are thrown together, and there's a curiously pokey emphasis on what is undoubtedly the original funky orchestration. Nothing wrong with any of this in principle. Quite the contrary. It might all have been quite wonderful.

It's not. Everyone and everything is somehow mismatched. The performers sound as though they were singing in different rooms. Tempos drag; big movement and real interactions never happen. There is no dramatic direction; nothing motivates the vocal performances. The rich, poor, funky, mythic London of Peachum and Macheath as conceived by Bertolt Brecht and Kurt Weill has vanished, to be replaced by the sanitized ho-hum of the recording studio.

Brecht, in his writings on music theater, loved to rant about what he called "culinary" opera, cooked up by formula for the well-heeled. Have we lived long enough to see his own work canonized, sanitized, and cuisinized? *E.S.*

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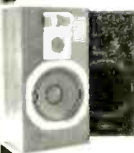


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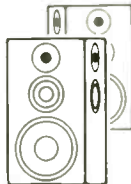
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by *Ralph Hodges*



FASHIONS IN MONITOR LOUDSPEAKERS

IN addressing this month's topic, I should first introduce my chosen mentor, Mark Gander, marketing vice president for JBL Professional Products. Gander actually started out as an engineer, but he was not greatly pleased with the financial rewards. The engineering expertise remains, however, along with a particular way of experiencing sonic sensations. Gander creates sound systems for the town of Topanga Canyon, just north of Los Angeles, and he does this with the belief that they will survive the rigors of the annual festivals that the town revels in. The Canyon is an awesome job for any sound engineer. If I can believe the reports I've heard, Gander is doing brilliantly.

In an extended conversation, we first discussed a constant puzzle: Why do audiophiles not listen to recordings through the sort of loudspeakers they were created with? It does not seem to be a matter of expense; professional monitor speaker systems are costly, but many large audiophile arrays make them seem a comparatively paltry investment. And the logic appears

to be there, if the idea is to hear what the recording engineer heard. But the answer, as well as Gander and I can determine, is that most of us do *not* want to hear what the recording engineer heard.

What the recording engineer wants to hear is what is wrong with a recording, not what is right, and he chooses a number of specialized tools to accomplish his aim. The large, soffit-mounted speaker system may be one of them, and other, smaller systems may play a part as well. But an important point to keep in mind is that when a speaker system errs, as it must, the designer of an audiophile system is likely to opt for a depression in the response curve, to make the sound more polite. The monitor-speaker designer may very well go for an exaggeration, putting the problem with a master tape right in the face of the sound mixer.

The priorities for a recording studio dictate a main system that will play very loud and not break. Things like low distortion, smooth and extended frequency response, good imaging, depth of stage, whatever, are secondary. The loudness requirement may not be at the request of the engineer, however. Many recording engineers travel with small speakers that they can sneak into a control room and use for the fundamental mix. In this case, the big soffit speakers come into use only when the band wants to listen in the control room to the tracks they've just laid down, and you'll often find the engineer leaving the control room at this point to save his hearing. The big speakers may be put into production use to discover extraneous sounds that have crept into individual tracks as they were generated. But less and less are they being used to prepare a final mix.

In the Sixties, Gander says, you began running a tape through three separate types of speaker to evaluate its viability: a big monitor, a smaller, bookshelf-size monitor like the hi-fi speakers that many listeners were beginning to buy, and the Auratone. The Auratone is something of a curiosity, being a device that was eagerly bought because it was so bad. Its success paralleled the

growth of multitrack recording, when recording engineers had to learn what a complicated stereo mix would sound like on a bad mono car radio. The Auratone became a standard for poor sound, and it remains one, although the company made a futile stab at the hi-fi market not long ago.

So, when we get right down to it, monitor speakers come in many shapes, sizes, and characters, and what you'll find in any given facility is not predictable. The master tape may have been set up with ancient Altec atrocities meant to punch their sound through motion-picture screens; but it might have been finished off in a disc-cutting suite, either LP or CD, with Quad electrostatics on duty. It's amazing to consider the number of devices that records have been auditioned on before they're released. It's troubling to wonder whether the process has been carefully considered from beginning to end.

But Gander holds out some hope. The monitoring loudspeaker is getting closer to the home loudspeaker by incremental but meaningful stages. There is a wish, he says, to replace the usual compression drivers firing through horns for higher-frequency reproduction with direct-radiator types, particularly with dome diaphragms. The problem is that the direct-radiator drivers cannot endure the stresses of studio situations, and more refined horns have so far been the only solutions. In other words, when you produce a record, you can listen to it genteelly for much of its birth process, but you will also have to listen to it very aggressively from time to time.

JBL is also concerned about continuity. Many of its products are out there, and the company feels it must maintain a family resemblance as new products are introduced, lest radical changes disturb established customers. "Family resemblance" means that new JBL's must sound recognizably like old JBL's. It's a necessary marketing formula, but Gander sees the possibility in it of a great achievement: Eventually, this slow evolution will produce monitor loudspeakers and home loudspeakers that sound exactly the same. □



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