Signa Constant of the critical center channel Ustrening tests: six top center-channel speakers Hot New

76 ddv

TEST REPORTS Harman Kardon A/V Receiver, Marantz DCC Deck, and more



STEREO REVIEW

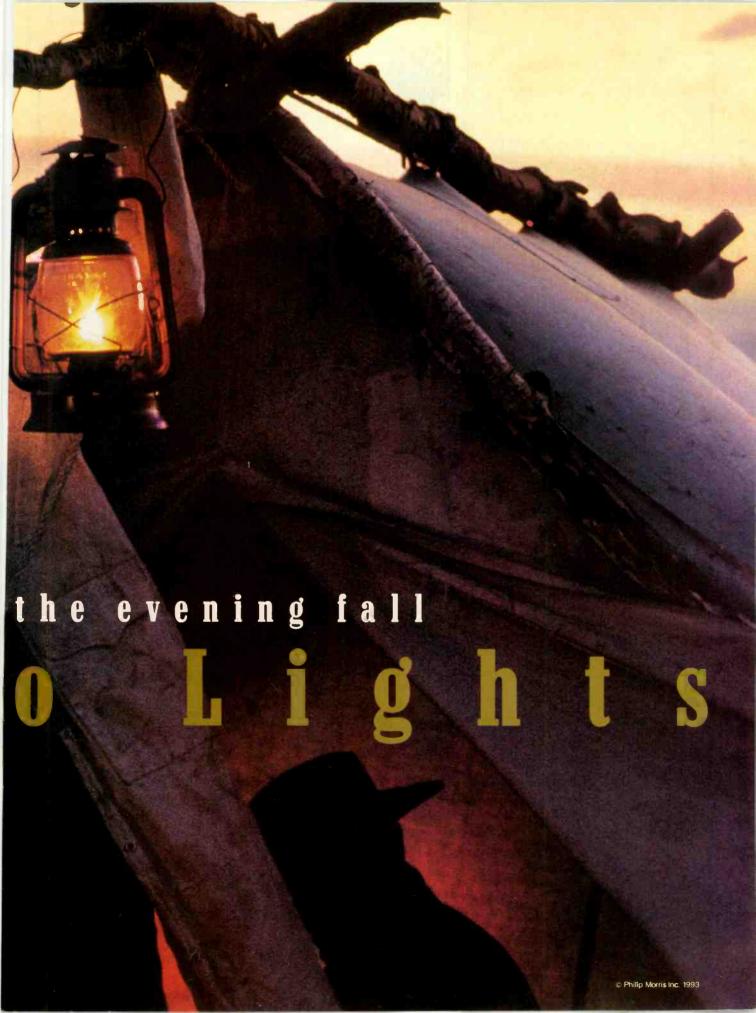
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These days "home theater" is a term liberally applied and widely advertised.

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redefine it. So here goes: True home theater must rival or

exceed the very best movie theaters.

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Of course, no television can be better than the medium it projects. So at the heart of our system is the Elite We invented the liquid-cooled, aspherical LD-S2 LaserDisc Player. The most acculers to deliver the highest resolution on the rate device for the reproduction of a widest screen.

moving picture and sound in the home. Any "home theater" without a laser picture source is not a contender.

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sound. As does the extraordinary system pictured here.

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features the detail that is our hallmark. Gold-plated Handpicked complementary capacitors reduce cross talk terminals. Hand-selected while improving imaging and transient response. components. And five amps driving five discrete amplification channels.

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We invite you to visit your Elite dealer to see Home Theater as intended by its maker. And discover the ultimate way to watch a movie.





Cover

A good home theater system might include an Infinity Kappa Video center-channel speaker (shown on top of a Proton 27-inch monitor/receiver), Infinity Kappa 6. I's for the main front speakers, a Pioneer CLD-M301 combi-player/changer for laserdiscs and up to five CD's, and a Harman Kardon AVR30 audio/video receiver (test report on page 29). See page 50 for more on center speakers, page 63 for more about combi-players.

Photograph by Roberto Brosan

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Stereo Review

PHILIPS

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EQUIPMENT

Equipment Test Reports

Harman Kardon AVR30 Audio/Video Receiver, page 29 Niles NSW-100 In-Wall Subwoofer System, page 35 Marantz DD-92 DCC Recorder, page 38 Rock Solid Sounds Solid Monitor Loudspeakers with Twin Bass Subwoofer, page 46

Center Field

Choosing the right speaker for the critical center channel in an A/V system, including user's reports on six top center speakers • by Daniel Kumin 35 Years of Rodrigues

35 Years of Rodrigues An anniversary retrospective of cartoons by Charles Rodrigues

The Combi Connection What to look for in a CD/laserdisc combi-player • by Edward J. Foster

MUSIC

Music Makers

What's new from Nancy Griffith, Philip Glass, the Nuclear Whales, Alvin & the Chipmunks, Robert Shaw, and more

Lucinda Williams A rebel hits the big time • by Alanna Nash

Best Recordings of the Month

The Loud Family, Tchaikovsky's Symphony No. 6 and Stravinsky's *Pulcinella*, Joan Baez, Balanescu Quartet



You need three front speakers - left, right and center - to achieve realistic home theater, because a stereo pair would place the dialog in the center (where it belongs) from only one listening position. You can't use conventional hi-fi speakers for the center channel, even shielded models, because their dispersion patterns prohibit raising them too high or laying them on their sides.

KEF's proprietary Uni-Q[®] driver, which places its tweeter at the center of the wooter, allowed KEF's engineers to create the ideal center channel speakers, the Models 100 and 90. Their uniform dispersion patterns let them be placed beautifully above or below the screen, creating the impression

that the sound is coming *directly* from the screen.

Moreover, the Models 100 and 90 are both Reference Series, which not only



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ensures their quality and consistency; it permits their use as satellites (front or rear/with or without a subwoofer) and their seamless integration with other KEF Reference and Q-Series loudspeakers.

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Why won't conventional hi-fi speakers work for Home Theater?

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> Audit Burra MA

another dance album with "hooks."

PAUL L. PHILLIPS Camp Hill, PA

JULIE MITCHELL

Yorktown, VA

Ron Givens replies: Sorry, I blew it (so to speak).

Audio Pioneer

Madonna's Deeper

on Givens dropped the ball in his Febru-

bum. First off, the song referring to "oral sex" is Where Life Begins, not Deeper and Deeper.

Also, I believe the release would have been

better received had there not been so much

hype about the book. It's a good album except

for the rap song Did You Do It? Forget the book

adonna's tune pertaining to cunnilingus

Mand fellatio is Where Life Begins and not

Deeper and Deeper. "Erotica" goes deeper

than Ron Givens gives credit. The deep, rum-

bling rhythms reflect the times, and the lyrics

are preoccupied with the persecution of gays,

death, AIDS, and the danger and necessity of

sex. I don't think Madonna set out to make

and let the music stand on its own.

ary review of Madonna's "Erotica" al-

ulian Hirsch's statement in "Audio's Top Ten" (February) that the Yamaha DSP-I from 1988 was the first consumer-oriented digital signal processing (DSP) component doesn't ring true. I have owned an Advent Model 500 SoundSpace Control since 1980, and I believe this to be the first such product. ROGER FLARE

Susanville, CA

The Advent 500 was essentially a sophisticated digital delay line, and though an early example of the breed, it was not the very first. Unlike the DSP-1, however, it was not a programmable digital signal processor capable of simulating multiple independent reflections off the surfaces of a real room.

Acoustic Dylan

arke Puterbaugh falsely states in his February review of Bob Dylan's latest album, "Good as I Been to You," that it is his first allacoustic effort since his 1961 debut. Dylan's second album, "The Freewheeling Bob Dylan," does have one song that seems to use an amplified guitar, but both his third, "The Times They Are A-Changin'," and his fourth, "Another Side of Bob Dylan," are clearly allacoustic. How curious that Mr. Puterbaugh refers to Dylan's "mixed-up confusion."

> JOHN DEANGELIS New York, NY

Most people in the record industry take "allacoustic" to mean acoustic guitar only, maybe with a little harmonica thrown in, and that's why Sony's publicity for Dylan's new album called it

his first all-acoustic recording since his debutin his third and fourth albums he also played piano from time to time. But since it wasn't an electrified piano, you have a point.

Keeping Count

s a member of Maura O'Connell's "cult" following, I feel obliged to correct one item in Alanna Nash's February review of her "Blue Is the Colour of Hope." It is O'Connell's fourth solo album, not her third. In addition to three Warner Bros. releases, she recorded the excellent "Just in Time" for Philo (1989).

> STEVE RICHARDSON Sierra Vista, AZ

anuary "Music Makers" called the percussionist Evelyn Glennie's "Rebounds" her third RCA album. In fact, it is her fourth: "Rhythm Song" was first, in 1990, followed in 1991 by "Dancin' " and "Light in Darkness." Apparently "Dancin' " has not made RCA's domestic-U.S. distribution list, but it is readily available as an import from the U.K.

> SONNY HAYS Tulsa, OK

Surround-Sound Speakers

ebruary's guide to upgrading for home the-ater by Peter Mitchell emphasized the importance of tonal matching of the main, center-channel, and surround speakers. I need speakers that will serve double duty for listening to music with DSP ambience enhancement and to video with Dolby Surround. I am considering a full complement of five Definitive Technology speakers, including bipolar towers. A local audio salesman, however, insists that bipolar speakers are absolutely wrong as the main speakers in a surround system because their radiation pattern will degrade the surround effect. Is he right?

> PAUL E LOBERT Spring Lake, MI

Use of bipolar speakers for the main left and right channels will normally create a somewhat different front stereo image from that produced by speakers with only forward-firing drivers, but it should not impair the surround effect, which is generated by the surround-channel speakers at the sides or back of the room.

Tape Ethics or Economics?

eaving aside the moral issue in doing as Eric Turkel suggested in February "Letters" and taping hundreds of pieces of music from FM broadcasts, think about the economics of the record business. Let's say he's convinced just 1,500 readers of STEREO REview to do likewise. Consider, for example, the artist Graham Parker, who has made many excellent albums but doesn't sell well and has gone through his share of record labels. If his current label decides that his sales are just barely high enough to keep him under con-

LETTERS



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6

Tanqueray A singular experience®

Imported English Gin, 47.3% ALC/Vol (94.6°), 100% Grain Neutral Spirits. © 1992 Schieffelin & Somerset Co., New York, N.Y. tract, and then 1,500 lemmings tape his next CD instead of buying it, what will happen to his next album after that? None of us may ever hear it. You could apply the same scenario to Richard Thompson, Tom Waits, the Roches, the Proclaimers, Jane Siberry, or Gregorian chants. I'd hate to lose any of this music.

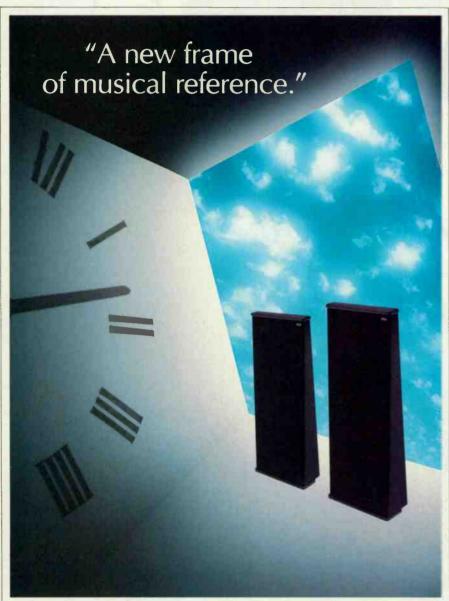
> JOHN GLASSFORD Akron, OH

"n concerned that Eric Turkel could record "1,695 works" from FM broadcasts of CD's without realizing the severe degradation of quality inherent in such dubbing. He should be shocked to make comparisons between his tapes and the original CD's. What a terrible waste of the \$1,700 he spent on blank tapes.

I. C. WHITTEMORE, JR. Boynton Beach, FL

Failure Modes

The section on "speaker sorrows" in December's interesting "Troubleshooting" by Daniel Kumin failed to address the most common loudspeaker failure. True, more often than not midranges and tweeters fail from abuse or too little power, but woofers with



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TF-600s, and the full line of DCM TimeFrame™, TimeWindow™ and Monitor Series™ speakers, please call 1-800-878-TIME.



foam surrounds fail most often from age. The foam material is subject to decay and rot over time, which allows the cone/voice-coil assembly to become off-center, resulting in buzzing and scraping sounds.

While exact replacement drivers are virtually nonexistent for speakers fifteen to twenty years old—and "generic" drivers should be avoided because they change the entire response pattern—we can repair such units with new surrounds. SEAN P. RYAN

Simply Speakers, P.O. Box 22673 St. Petersburg, FL 33742

The kind of foam surrounds that decay over time are no longer used, but many old speakers out there may have or develop this problem.

D aniel Kumin said that "most CD problems are traceable to servo-circuit misalignment or failures in an integrated-circuit chip." We repair approximately 150 CD players a month. Without question, the most common failure is a defective laser pickup. I will concede that some players could be restored to operation by performing a detailed realignment, but the misaligned condition is often a result of laser aging, and realignment seldom offers any long-term solution. J. T. PRICHARD Manager, Expertech Biloxi. MS

The Dummy Button

think you guys need to end your conspiracy of silence and confront the Dummy Button issue. It seems that every time I encounter an unfamiliar stereo system I am able to locate this button almost immediately, yet I never seem to see it mentioned in STEREO REVIEW. The Dummy Button is the one you push that causes everything to stop working, and then it takes you several minutes to figure out what you've done. JAMES C. McCOOL Westland, MI

Gottschalk Collector

Can any reader help me locate a copy of the catalog of compositions by Louis Moreau Gottschalk edited by Robert Offergeld that STEREO REVIEW published for Gottschalk's centennial in 1969 along with an annotated edition of his journal, "Notes of a Pianist"? No copies remain at the magazine's offices.

> C. G. NIJSEN, Secrétaire-Général International Vintage Phonograph & Mechanical Music Society 19 Mackaylaan, 5631 NM Eindhoven The Netherlands

Correction

n February's Equipment Buying Guide, the Bose 901 Series VI speaker system was incorrectly described. It has eight rear-facing drivers and one front-facing driver.

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

| Batman (1989) | *0642504 |
|------------------------------------|------------------|
| Batman Returns | * 1029909 |
| Wayne's World | *0853705 |
| The Sound Of Music | *0003905 |
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| Allen | 0000208 |
| Aliens | 0360909 |
| The Abyss | * 0881102 |
| Die Hard | *0367607 |
| Die Hard 2 | *0041806 |
| Ghost | *0826008 |
| E.T.: The Extra- Terrestrial | * 0681106 |
| The Silence Of The Lambs | 0805309 |
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| The Godfather: Part III | 0842302 |
| Back To The Future | +0211409 |
| Back To The Future | |
| Part II | *0921304 |
| Back To The Future Part III | *0497008 |
| Predator | *0364901 |
| Predator 2 | *0104307 |
| Robin Hood: Prince Of Thieves | * 0976803 |
| Home Alone | *0104208 |
| Scarface (1983) | 0216804 |
| Goodfellas | *0969808 |
| The Blues Brothers | 0211706 |
| Dune | 0211102 |
| Kindergarten Cop | 0523407 |
| Lethal Weapon | 0630806 |
| Lethal Weapon 2 | *0642702 |
| National Lampoon's Animal House | 0211508 |
| Boomerang | * 1064005 |
| Bugsy | *0853408 |

* 1046507 Far and Away **Fried Green Tomatoes** 1005404 The Man Who Would Be King +0085803 The Hunt For **Red October** *0825000 The Bible *0074708 Jaws 0100008 Edward Scissorhands 0104604 The African Queen 0051102 Beetlejuice 0633008 American Graffiti 0211300 Blue Velvet *0515007 Harry Connick, Jr.: Singin' & Swingin' 0968107 Star Trek The Motion Picture +0203505 Star Trek II: The Wrath Of Khan + 0201301 Star Trek III: The Search For Spock * 0201608 Star Trek IV The Voyage Home +0430603 Star Trek V: The Final Frontier *0448605 Star Trek VI: The Undiscovered Country *1001007 Superman: The Movie #0001305 Superman II 0601500 Hard To Kill 0953505 Born On The Fourth *0489104 Of July Field Of Dreams 0920306 Presumed innocent *0962100 **Road Warrior** 0602805 Chinatown +0202507 Bird On A Wire *0497305 Hearts Of Darkness: 1002500



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Free Magazine sent every four weeks (up to 13 times a year) reviewing our Director's Selectionplus scores of alternate choices including many lower-priced laserdiscs. And you may also receive Special Selection mailings up to four times a year. (That's up to 17 buying opportunities a year.)

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TIME DELAY



35 years ago

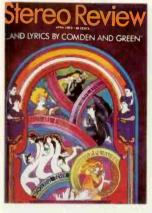
In his "Sounding Board" column in the April 1958 issue, Managing Editor David Hall declared, presciently, "It now looks as though stereophonic discs for the home-and the equipment on which to play them-will be with us before next Christmas." Worried about the fate of outstanding older mono performances, Hall also predicted that "if some audio genius should be able to perfect a magic black box Ito simulate stereo], then so much the better!"

New equipment tested this month included the Weathers K-730-D turntable, tonearm, and pickup ("virtually distortionless through more than the audible range"), the Electro-Sonic C-60 cartridge ("familiar records never sounded better than when the C-60 played them"), and



Tandberg's Model 3-266 stereo tape player ("The lady of the house will appreciate the tasteful mahogany casing").

Like, Dig, Man: An article featuring jazz greats Billie Holiday and Lester Young, who had appeared in a TV special, ran opposite a profile of society schmalzmeister Lester Lanin.



20 years ago

Surroundmania: Reflecting the vogue for quadraphonic (fourchannel) recording, Julian Hirsch's review of Lafayette's LR-4000 SQ quad receiver ("better than average") was followed closely by an ad for a Columbia SQ quad album in which the listener was invited to join Pierre Boulez "in the center of Bartók's 'Concerto for Orchestra.' " A few pages later, another ad sang the praises of Koss's four-channel Quadrafones, puzzling some readers lacking ears in the front and back of their heads.

In the Best of the Month section, reviewer Lester Trimble waxed enthusiastic over a Candide disc of the Swiss composer Frank Martin conducting his own Harpsichord Concerto, and Steve Simels recommended the Move's "Split Ends" if "David Bowie has as little relevance to your sensibilities as Jim Bowie." Elsewhere in the review section, the legendary rock critic Lester Bangs described the Beach



Boys' "Holland" as "perfect aural Valium" (which he meant as a compliment), George Jellinek pondered a revival of Joachim Raff's Third Symphony conducted by Richard Kapp ("Hardly a theme worth whistling"), and Chris Albertson dismissed Buddy Rich's "Stick It" because of (among other failings) the drummer's inexplicable vocal performance of Kermit the Frog's theme song, *Being Green*.

Profiles in Courage: In "Audio Questions and Answers" a reader asked Technical Editor Larry Klein which speakers were preferable, those with or without active equalizers. Klein's reply: "It is possible to achieve excellent results either way."



10 years ago

Audio Family Values: Back from the 1983 Winter Consumer Electronics Show, William Livingstone's uncharacteristically cranky editorial noted the presence of such products as vibrating musical panties and a Darth Vader SpeakerPhone. He also complained about the so-called "marriage" of audio and video, observing, "I'm now very tired of that metaphor."

The Basic Repertoire: Critic **Richard Freed pondered** performances of the Beethoven symphonies, both complete sets and separates. and declared Karl Böhm's Vienna Philharmonic cycle on DG to be "the most thoroughly recommendable such package at any price." He also had high praise for Toscanini's old New York Philharmonic/RCA version of the Seventh ("a touchstone despite faded sonics") and found Leonard Bernstein's DG version of the Ninth to be charged "with mystic intensity.

Profiles in Courage II: In an otherwise enthusiastic "Best of the Month" review of Michael Jackson's blockbuster "Thriller" album (35 million sold!), Phyl Garland noted in passing, "I still think Jermaine Jackson is a better writer."

Shower Alert: An alarming "Bulletin" item warned SR readers that Revox was developing a water-cooled integrated amplifier. -Steve Simels



Two Reasons To Trade In Your Speakers Now!



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

The Bose Acoustimass 5 Series II speaker system. Technology that sets the standard for purer sound with even smaller size.

The Acoustimass-5 Series II speaker system uses Bose patented Acoustimass speaker technology



to simultaneously overcome the placement limitations of large speakers and the performance compromises of conventional small speakers.

We believe its combination of full fidelity sound and small size give you the best reason to trade up from your present speakers.

"In fact, the more I use Acoustimass speakers, the more amazed I am."

-Julian Hirsch, Stereo Review

A \$100 trade up allowance from your Bose dealer.

For a limited time, our participating dealers nationwide will give you at least \$100 off the regular price when you trade up to the new Bose Acoustimass-5 Series II speaker system or an Acoustimass-7 home theater speaker system.

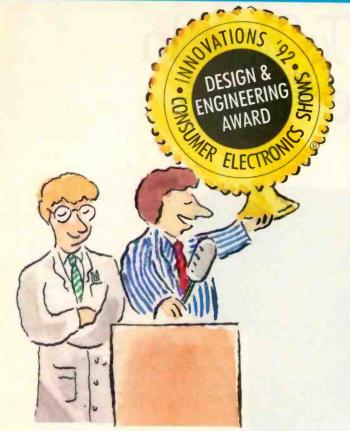
Bonus! Get 50% off the price of a pair of Bose 101° speakers for rear channel use when you buy an Acoustimass-7 system.

To find out more about this limited time offer, and for names of Bose dealers near you, call toll-free:





GFA-2535 Multi-Channel Power Amplifier



"We wish to thank Mom; our 3rd grade music teacher; the members of the Academy."

The Multi-Channel GFA-2535: yet another award-winning amplifier from Adcom.

A pattern appears to be taking shape here: Adcom introduces a new power amplifier, Adcom wins an award. The GFA-535, GFA-555, GFA-555II, GFA-565, and now the GFA-2535 every single one has earned the immediate praise and plaudits of the industry's most respected authorities...perhaps because Adcom packs more performance and innovative technology into its amplifiers than you'll find in components that cost twice as much or more.

The innovative GFA-2535 is a worthy new standard-bearer. The GFA-2535 is really two GFA-535's in one case, with the flexibility to drive three *or* four channels. With individual level controls for precise control of each amp's volume, it's the ideal foundation for an authentic, ultra-realistic surround-sound theater system, or for a multi-room or multi-speaker audio system.

The Versatility of 3 Channels or 4.

A single switch on the GFA-2535's rear panel lets you select 4-channel operation, or bridge two of the channels for a 3-channel configuration. In the 3-channel mode, the GFA-2535 brings your home theater to life, delivering 200 watts of clean, distortion-free sound to the center channel, and 60 watts to each of the rear channels. Add it to your existing 2-channel amp, and you'll be at the center of a superbly balanced, awesomely powered stage with sound so real, you can practically touch it.

For audio applications, the GFA-2535 in the 4-channel mode acts as a pair of 60 watts-perchannel amps to drive two sets of speakers. With two of the channels bridged, it delivers 60 watts each to a pair of satellites, and 200 watts to a single subwoofer for an incredible display of musical strength so real, you definitely can feel it.

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WESTLAKE AUDIO

The Concert Series is Westlake's lowest-price speaker line. The 39½-inch-tall C-6 (pictured, \$1,750 a pair) uses a 6-inch woofer and a ¾-inch soft-dome tweeter. Models C-8 (\$2,880 a pair), C-10 (\$3,460 a pair), and C-12 (\$4,250 a pair) are threeway systems with 8-, 10-, and 12inch woofers, respectively. A black-satIn veneer finish is standard. Westlake Audio, Dept. SR, 2696 Lavery Ct., Unit 18, Newbury Park, CA 91320. • Circle 121 on reader service card

NEW PRODUCTS



SONY

MiniDisc hits the road with Sony's MDX-U1, which squeezes an MD player, an AM/FM tuner, and a preamp into a DIN chassis that will fit in the dash of most vehicles. Highlights include a shock-resistant buffer memory that stores 10 seconds of music, a twelve-character scrolling display for track and disc titles, controls for Sony UniLink CD changers, diversity FM tuning capability, a digital clock, a wireless remote control, and a detachable faceplate for security. Price: \$980. Sony, Dept. SR, 1 Sony Dr., Park Ridge, NJ 07656.

BONY



< HARMAN KARDON

To commemorate its fortieth anniversary, Harman Kardon has **Introduced three Signature Series** components-the PT2300 preamp/ tuner (\$529) and the 65 wattper-channel PA2100 (\$429) and 100-watt-per-channel PA2200 (\$569) power amps. The PT2300 boasts A/V switching and a subwoofer output. The PA2100 and PA2200 are rated to handle peak current demands of ± 40 and ± 80 amperes, respectively. Harman Kardon, Dept. SR, 8380 Balboa Blvd., Northridge, CA 91325. · Circle 122 on reader service card



CELESTION

Celestion's Trinity package teams a pair of 10-inch-tall Celestion 1 speakers with the CS-135 subwoofer, which features an 8inch dual-volce-coil woofer. Lowfrequency response is rated as - 6-dB at 38 Hz. The bass module measures 20½ x 13% x 7½ inches. Price: \$399. Celestion, Dept. SR, 89 Doug Brown Way, Holliston, MA 01746.

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NEW PRODUCTS

AIWA

Aiwa's AMD-100 portable MiniDisc player/recorder stores music in a buffer memory to prevent gaps in playback that would otherwise occur when it is jolted. Features include twenty-one-track programming and an editing mode that enables the user to divide, combine, erase, and reorder tracks. The unit measures 4½ x 1% x 5½ inches. Price: \$800. Aiwa, Dept. SR, 800 Corporate Dr., Mahwah, NJ 07430. • Circle 124 on reader service card



ALLSOP

Allsop's DCC cleaning system uses a special cassette to remove contaminants from the tape path of Digital Compact Cassette decks. Price: \$30. Allsop, Dept. SR, P.O. Box 23, Bellingham, WA 98227. • Circle 125 on reader service card

AUDIOSOURCE

AudioSource's CD-Ceiver One features a six-disc CD changer with a sequence memory for ten different magazines, an AM/FM tuner with twenty-six station presets, a preamp with video inputs, and a 60-watt power amp—all in one 17 x 4¾ x 14inch component. Price: S500; S600 with a pair of VS Three speakers (shown). AudioSource, Dept. SR, 1327 N. Carolan Ave., Burlingame, CA 94010.



Designed to be placed behind the seat in a pickup truck, Impact's Truck Bass Boxx BB-T210.2 features two 10-inch woofers in an unconventional bandpass configuration that's designed to deliver high output from a relatively small enclosure. Frequency response is rated as 37 to 113 Hz and sensitivity as 95 dB. Dimensions are 38½ x 12½ x 7½ inches at the base. Price: \$410. Ai Research/Impact, Dept. SR, P.O. Box 159, Stillwater, OK 74076. • Circle 127 on reader service card



PREF HI-FI

Pref Hi-Fi's Model 250 speaker features a swivel-mounted "satellite" section with a 1-inch dome tweeter and a 4-inch midrange speaker and a subwoofer section with a 10-inch driver. The 40-inch-tall pyramid is made of a nonresonant material called Polydan, which is a mixture of polymer and ground marble. Frequency response is rated as 25 to 22,000 Hz ± 4 dB and power handling as 250 watts. Price: \$2,748 a pair (black finish), \$2,652 a pair (marble). Pref Hi-Fi/Rysgaard Ltd., Dept. SR, 2899 Agoura Rd., Suite 157, Westlake Village, CA 91361. • Circle 128 on reader service card



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A MIND'S EYE

The DJ-108 rack from Mind's Eye Design is made of sturdy \$/16inch-steel rods and holds 108 CD's. Available by mail order for \$40 pfus \$4.95 shipping and handling. Mind's Eye Design, Dept. SR, P.O. Box 567, So. Wellfleet, MA 02663.

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🔻 BASF

BASF calls its T-200 VHS videotape the "frequent flyer's tape" because it can record ten hours of programming when the VCR is running at the extendedplay (EP or SLP) speed. Three hours and twenty minutes of recording time is possible at the standard-play (SP) speed. Price: S9.99. BASF, Dept. SR, Crosby Dr., Bedford, MA 01730-1471. • Circle 132 on reader service card





PINNACLE

Pinnacle's Arctic speaker series comprises the 11¼-inch-tall Arctic 1 (S360 a pair), featuring a 5¼-inch woofer and a 1-inch tweeter, and the 14½-inch-tall Arctic 2 (pictured, S440 a pair), which has two 5¼-inch woofers. Both are available in black or white and carry a seven-year warranty. Pinnacle, Dept. SR, 255 Executive Dr., Suite 310, Plainview, NY 11803.

• Circle 131 on reader service card



APOGEE 🕨

Apogee's Ribbin Wall speaker teams a 1 x 26-inch ribbon tweeter element with a boxed 6½-inch woofer in a frame specially designed for in-wall mounting. Its low-frequency limit is rated as 40 Hz and power handling as 200 watts. A 12½ x 50½-inch cutout with 3½ inches of rear clearance is required. Prices: \$1,350 a pair; wall-mount version, \$1,450 a pair. Apogee Acoustics, Dept. SR, 35 York Ave., Randolph, MA 02368. • Circle 133 on reader service card Bob James And Earl Klugh: Cool (Warner Bros.) 63299

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BY ROBERT RIPPS, MARYANN SALTSER, AND STEVE SIMELS

AST November the Brook-lyn Academy of Music's Next Wave Festival presented the world première of the composer Philip Glass's new work, Low Symphony, which is based on three pieces by David Bowie and Brian Eno from Bowie's late-Seventies album "Low." Point Music, a division of Philips Classics under the supervision of Glass, has released a recording of the work with Dennis Russell Davies conducting the Brooklyn Philharmonic. "Point Music is about progressive work, Glass says, "but not necessar-ily work that's institutional or academic." Also on the label are "Mapa" by the Brazilian



Smith and SNL Band

ensemble Uakti, John Moran's opera The Manson Family, and a Glass collaboration with Foday Musa Suso composed for a 1989 production of Jean Genet's play The Screens.

WHALECO

CO.

FTER eight seasons on television, G.E. Smith and the Saturday Night Live Band are making their recording debut with "Get a Little" on Liberty. Smith has numerous prior record credits, primarily with Hall and Oates, but this is his debut as a bandleader. The

MUSIC MAKERS



Bowie and Glass: pointing the way

album features the same mix of blues, jazz, and R&B styles featured on SNL's betweensegment breaks, except that here the songs are nearly all Smith originals. Marshall Crenshaw, billed as "Mr. Excitement," guest stars on guitar in the band's version of Fattenin' Frogs for Snakes

HE Nuclear Whales Saxophone Orchestra's latest album is "Gone Fission," and, as usual, the six-member, allsaxophone group essays a broad array of music, from Tiptoe Through the Tulips to seventeeth-century viol fantasies as arranged by Percy Grainger. Last fall the Whales played a fund-raiser for candidate Bill Clinton, during which he was moved to join in on the 6-foot, 8-inch contra-

Clinton with mighty axe



bass-the world's largest sax. The orchestra also played during January's week of inaugural festivities, but without President Clinton's musical participation.

ONDHEIM: A Celebration at Carnegie Hall, last summer's gala concert, has been released by RCA Victor in two versions: a two-CD set of the entire concert and a single disc of highlights. The tribute to the composer/lyricist Stephen Sondheim featured artists from the worlds of Broadway, pop, jazz, opera, and cabaret, including Glenn Close, Jerry Hadley, Michael Jeter, Madeline Kahn, Dorothy Loudon, Patti LuPone, Liza Minnelli, Bernadette Peters, Regina Resnik, and the Boys Choir of Harlem. Paul Gemignani, a frequent Sondheim collaborator, conducted the American Theatre Orchestra.

CARNEGIE Hall has an-nounced the release of a new video, "Robert Shaw: Preparing a Masterpiece, Volume 2-A Choral Workshop on Beethoven's Missa Solemnis." The 90-minute tape features highlights from the sixday workshop for choral conductors, teachers, and singers that Shaw gave during Carnegie Hall's 1991-92 season. Volume 1, released in December 1991, features the Brahms German Requiem; both tapes can be purchased by phone through Carnegie Charge at 212-247-7800. Shaw returned for a third choral workshop this January, focusing on the Berlioz Requiem, and a tape from it will appear as Volume 3 in the series later this year.

HE Emerson String Quartet is celebrating its fifteenth anniversary season, and Deutsche Grammophon has joined in the festivities with the release of the ensemble's fittingly titled CD "American Originals," featuring quartets by Ives and Barber. (The Barber quartet, by the way, includes the original version of the famous Adagio for Strings.) The Emerson plans more recordings of American music. A disc of works by John Harbison, Gunther Schuller, and Richard Wernick is due out later this year, and other proj- 2

Peters celebrates Sondheim

MUSIC MAKERS

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ects include Barber's *Dover Beach* with the baritone **Thomas Hampson**, part of a complete recording of the composer's songs that will also feature the soprano Cheryl **Studer** and the pianist John **Browning**. The Emerson, which records exclusively for DG, is the only chamber-music ensemble ever to win a Grammy for Classical Album of the Year (for a recording of Bartók's complete quartets).

anci Griffith's Elektra debut (after a string of albums on Philo and MCA) is a major musical departure for the self-proclaimed "folkabilly" singer. Titled "Other Voices, Other Rooms," the album finds Griffith paying tribute to the songs that have most influenced her, including both traditional folk songs and more contemporary material. Fittingly, Griffith is joined on the album by numerous guest artists, among them John Prine (his Speed of the Sound of Loneliness is a highlight), the Indigo Girls; Odetta, Em-



Maxim Vengerov: touring the U.S.A.

Chicago Symphony, and in January Teldec released its third recording with the young virtuoso. It features sonatas by Mozart, Beethoven, and in Kansas City, Berkeley, and Chicago (Ravinia).

GELESS pop superstars Alvin & the Chipmunks are back with a new album, "Chipmunks in Low Places" (Epic/Nashville), the furry trio's first country effort since their late-Seventies "Urban Chipmunk" (just reissued on compact disc). Among the many guest stars on the album are hunk-of-the-month Billy Ray Cyrus, who reprises his Achy Breaky Heart hit with Alvin, Simon, and Theodore (plus Alvin's cowgal pal Brittany), as well as Waylon Jennings, Aaron Tippin, Alan Jackson, and Queen of Country Tammy Wynette. "I've been in love with Alvin for many years," Wynette observed, "and to record with the Chipmunks has been a lifelong dream." The Chipmunks have sold 40 million albums worldwide since their record debut thirty-five years ago, in 1958—coincidentally, the year that STEREO REVIEW made its debut.

GRACENOTES. The Juilliard School and Sony Corporation of America have announced the creation of the Sony ES Awards (ES as in "Elevated Standards") for exceptionally talented and financially needy students, part of a Sony program that will provide the school with up to \$500,000 over a five-year period. . . Shanachie Records, heretofore best known as a world-music label, has re-



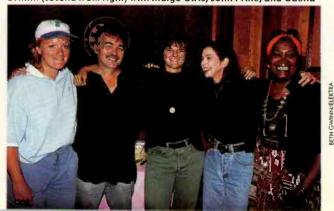
Tammy & the Chipmunks

leased "Tar Beach," the first solo album in sixteen years by the former Lovin' Spoonful frontman John Sebastian... The American-born conductor Andrew Litton becomes the fifteenth music director of the Dallas Symphony in June 1994 when Eduardo Mata steps down. Litton is currently principal conductor of Britain's Bournemouth Symphony.

Emerson Quartet: American originals

mylou Harris, Guy Clark, Arlo Guthrie, and Bob Dylan—who contributes his trademark harmonica to back Griffith's version of his *Boots of Spanish Leather*.

At eighteen years of age, the Russian violinist Maxim Vengerov is already a very busy man. This season he made his debuts with the Los Angeles Philharmonic and the Mendelssohn with the pianists Alexander Markovich and Itamar Golan. Vengerov's earlier recordings on Teldec were a Paganini / Waxman / Saint-Saëns disc with Zubin Mehta and the Israel Philharmonic and one of sonatas by Beethoven (the "Kreutzer") and Brahms, also with Markovich. His U.S. appearances this year include recitals at New York City's 92nd Street Y and Griffith (second from right) with Indigo Girls, John Prine, and Odetta



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Y KEN C. POHLMANN

Less Is More

HE introduction of the MiniDisc (MD) and Digital Compact Cassette (DCC) formats represents an important milestone in the development of consumer audio technology. For the first time in history we abandon the attempt to record and reproduce a literal representation of an audio waveform in favor of a very different representation—a perceptual representation.

Edison's cylinder recorder, like all analog recorders, stored acoustical waveforms with a mimicking pattern —an analog, if you will—of the original. For example, if the waveform makes an abrupt change, the cylinder groove does likewise (as does the magnetic flux field on an analog tape). Digital formats such as CD and DAT do essentially the same thing, except that the continuous mechanical (or magnetic) pattern is replaced by a series of numbers that represent the waveform's sampled amplitude over time. In both cases, the goal is to reconstruct on playback a waveform that is as physically similar to the original as possible within the audio band.

SIGNALS

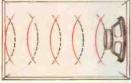
The MD and DCC formats are also digital, but one look at the audio signal leaving an MD or DCC player will convince you that the formats are doing a supremely lousy job of mimicking the original waveforms. For example, you'll observe that much low- and high-frequency information is missing, as are many of the small details in the original signal. But this "lossiness" is not a sign that MD and DCC are defective. These second-generation digital audio formats are performing as designed—their output signals are not *intended* to look exactly like the input.

The discrepancy is actually an indication of the new formats' advance, thanks to what's called perceptual coding, beyond the brute-force pulsecode modulation (PCM) used in CD and DAT. In perceptual coding, the content of the input signal is analyzed according to a model of human hearing. The system codes only those parts of the signal that the model, based on their frequencies and amplitudes, indicates will be audible. Everything else is discarded. The outcome of this sophisticated processing (an example of DSP chips hard at work) is that a considerable amount of information is deemed extraneous: For example, an MD stores only about a fifth as much

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data as a CD for the same music. Less data equals smaller, lighter, and perhaps eventually less costly media.

At first glance, even the most technology-mad audiophile must wonder about the fidelity of a perceptually coded recording. How on earth can we reduce the amount of data so drastically without sacrificing sound quality? (That question, of course, echoes concerns from the earliest days of digital audio, when many wondered how a continuous waveform rendered as a series of discrete points could ever sound as good as the waveform itself.) The answer is that a well-designed perceptual coder, using a conservative level of data reduction, can rival the sound quality of conventional digital recording because it codes the data in a much more intelligent fashion. Quite simply, we don't hear much of what is recorded on a CD or DAT anyway.

Think of it this way: The bits on a digital tape or disc are like dollars in a bank account. If you're smart, you'll budget your bits as effectively as possible. A CD, alas, spends recklessly. It gives every sample a full 16 bits of data, without regard for the importance of the sample. MD and DCC are more frugal, giving the most bits to samples representing the most audible parts of the sound, the fewest bits to the least audible, and none at all to the totally inaudible. Data storage is thus tailored to the acuity of our perception, saving lots of space that would otherwise be filled up with useless information.

This smart approach to data storage is what enables perceptual-coding systems to greatly surpass CD in efficiency while still remaining competitive sonically. It may even enable them to surpass the fidelity of CD. A CD devotes 16 bits to every sample, no matter how important it is. As we've seen, perceptual coders are much more flexible. The PASC algorithm used in DCC, for example, can choose to devote up to 19 bits of resolution to a single sample. In other words, for the most significant parts of a signal, a perceptual coder can sound better than CD; the trick is to avoid defeating such improvements by audibly degrading less important portions of the signal.

Perceptual coders offer another advantage over first-generation digital recording systems: It is possible to improve their sound quality without making any change to the decoders used for playback. As encoders get smarter and smarter, doing a better and better job of reckoning audibility, the recorded signal will also get better and better. The decoder's sole purpose is to put the recorded data into a form that can be handled by a standard digital-to-analog (D/A) converter, a task that is unaffected by changes in the perceptual-coding scheme itself, so improvements in the coding pass right on through.

Finally, the "less is more" approach of perceptual coding may actually improve the ability of sound systems to reproduce audio signals. For example, a perceptual coder removes considerable amounts of inaudible low-frequency energy. Without this extraneous energy, the signal should be easier for amplifiers and loudspeakers to handle. This is particularly significant for portable applications, where only modest amplifier power is available and the headphones have a hard enough time reproducing the audible, let alone the inaudible.

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CIRCLE NO. 33 ON READER SERVICE CARD

AUDIO Q&A

BY IAN G. MASTERS

Discount Equipment

What's the story on discount-store components that have great prices but only store warranties because the dealer isn't "authorized"? Are such products inferior to the identical models sold through authorized dealers? CLIFTON S. DEVORE

Hempstead, NY

Chances are there's nothing technically wrong with the equipment itself unless it's secondhand, in which case it may be somewhat battered. Even if the stuff is brandnew, however, it should be approached with caution. The very lack of a warranty is probably reason enough to avoid such goods: A/V equipment is pretty hardy, but if it does break the discounter may not be there to honor the warranty, and even if he is he may not actually be able to do it. True "gray market" equipment-purchased overseas and imported directly by the retailer-may not conform to local technical standards. A tuner designed for use in Japan won't work in North America, for example, because the FM band is different. Or a component designed for 100-volt, 50-Hz operation overseas might not be happy with our 115-volt, 60-Hz current. At worst, the equipment may be stolen, possibly leaving you open to an unexpected visit from the constabulary.

Surround Speaker Placement

My surround-sound speakers have brackets for wall mounting, but I'm not quite sure what to do with them. Is there an ideal position for surround-sound speakers? KENNETH J. SCHULTE

Verona, NJ

The ideal position for any speaker depends largely on the listening room and the arrangement of the other furniture in it, so whatever advice you may be given, be prepared to experiment. Most authoritiesincluding Dolby Labs, which invented the Dolby Surround system-suggest that the surround speakers should be placed to the sides of the listening position, rather than in the rear corners of the room. This may be less than ideal if you listen to a lot of DSP-enhanced conventional music, which often sounds best with the speakers at the back, so some compromise might be necessary.

The one thing to remember is that the aim of Dolby Surround is to create a diffuse sense of depth and ambience without your being able to locate specific sounds at the surround speakers themselves. If you find your attention being drawn to the surround units, the system needs adjustment. First, just try reducing the surround level, which you can almost always do from the remote control. It may also be necessary to increase the delay

time, especially in small rooms, and adjusting the position of one or both speakers might help. Often where the speakers are aimed will have a dramatic effect as well: Home THX systems, for example, use dipole speakers with the "dead spot" aimed at the listeners and the sound reaching them only by reflection; you can achieve a similar effect with non-THX speakers by aiming them at the ceiling or into the rear corners of the room.

Dynamic Noise Reduction

My father's car cassette deck includes something called DNR (Dynamic Noise Reduction), whereas mine is marked merely NR-neither mentions Dolby. What do these systems do, and what effect, if any, do they have on tapes that were recorded with Dolby noise reduction? JOHN HUXHOLD St. Louis, MO

Although there are no accepted standards for such systems, most work by varying the high-frequency response (depending on the treble content of the signal) to cut some of the hiss when there is no high-frequency energy in the music to mask it. These are single-ended systems, working only in playback, and the level at which they kick in varies. DNR is one of the best of such systems. There is no compatibility at all with a properly encoded Dolby recording, so what you get when you combine the two systems is largely a matter of chance: Sometimes it sounds okay, sometimes it doesn't.

Ultrasonic Response

I have noticed that some components claim to have frequency response exceeding the 20- to 20,000-Hz limits of human hearing. Is there any reason at all for a speaker or other component to respond higher than 20,000 Hz. or are such specs meaningless numbers intended to dazzle the uninformed buyer?

> KEVIN HAWTHORNE Austin, TX

Extended response is not necessarily worthless, but it's seldom very important, either. At one time various manufacturers touted it as a means of achieving good transient response-the ability of a component to react to sudden signal changes. There may have been some merit to that argument on paper, but for even a minimal effect there would have to be substantial output at the second harmonic (30,000 Hz for a 15,000 Hz signal, for example). Since we can't hear that high, however, any benefit would be inaudible; it matters little whether the upper limit is in the equipment or in our ears.

And, in fact, there's nothing up there anyway: Cassette decks rarely respond even as high as 20,000 Hz, FM signals roll off at 15,000 Hz, and digital signals are deliberately filtered

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AUDIO Q&A

immediately above the audio spectrum. Nevertheless, audio equipment tends to be less linear at the ends of its range, so pushing the response somewhat beyond the audible range might in some cases make for slightly better behavior in the part we can hear.

Violins on CD

I find that the difference between good and bad classical CD's often lies in the ability to reproduce the sound of violins—bad CD's have violins that sound fuzzy, while other instruments don't seem to have this problem. Is there any particular reason CD's should have a more difficult time reproducing violins than other instruments? DAVID M. CAPLAN Alfred, NY

Don't blame the poor old CD. The violin has one of the most complex waveforms of any instrument, rich in high-frequency harmonics, and so it has always been one of the most difficult instruments to get right. It's true that recordings vary enormously in their ability to capture this elusive sound, but that has mostly to do with the microphones used, where they are placed relative to the instruments, and what is used to make the original master. If there is just one compact disc that has realistic violin sound—and there certainly is—the system can handle it, and the fault lies elsewhere.

Clicks and Pops

I have read about "click and pop machines" that totally eliminated the subtle random noises typically associated with vinyl records, but I realize that with the growth of CD's these devices are probably no longer manufactured. Did they work as well as I have read? And if so, would it be worth trying to find one on the used market? KEVIN PARKS Littleton. CO

The first demonstration I saw of the SAE 5000 Impulse Noise Reduction Systemthe best known of the small handful of click-and-pop suppressors that came to market-was quite dramatic: The salesman scratched the surface of a record with a nail, and when he played it the scratch had no audible effect. But though the machine did work on gross surface problems (and then only if the record didn't actually skip), it did nothing for lower-level noise. If you adjusted the threshold to the point where the device could sense the tiny gritty noises that inevitably crept into an LP's sound, it started to chop off musical peaks. So this and other cleanup devices (such as the Burwen 1201A, which tended to be better on small pops and worse on big ones) had very limited effectiveness and needed constant adjustment, even from place to place in a single record track. They were neat toys, but never a substitute for a good record-cleaning regimen. Still, they do crop up from time to time on the used market and might be worth pursuing as long as you don't expect miracles. For true archival purposes, Packburn Electronics makes a costly professional noise-suppression unit that borrows from—and advances considerably—the technology of those old devices.

Video Copies

I have been trying to make back-up copies of movies I have bought on videocassette, but the copies all show a severe color shift to red and orange, regardless of whether the machines were connected from line out to line in or from RF out to antenna terminals. Is there some sort of built-in copy protection on prerecorded tapes, or am I experiencing some incompatibility between my VCR's?

> JAMES M. MRVOS Lexington, KY

There is indeed a copy-inhibiting system applied to most prerecorded videocassettes (but not, strangely, to laserdiscs), and it often has just the effect you saw. It's built into the signal itself and so has nothing to do with how you connect your VCR's together. Recorders vary in how they react to the doctored signal, some hardly reacting, others dishing up the inevitable Blue Screen. Some TV's even react badly to such tapes, too.

Long Leads

For the front and rear channels of my surround-sound system I use four power amplifiers, each bridged to mono. I have been considering relocating two of the amplifiers closer to the rear speakers, both to free up some space in the equipment stack and to eliminate long speaker cable runs. Would running long line-level cables to amplifiers located near the rear speakers improve performance or would the effect be negligible? JASON TURNER Keene, NH

Sonically, there is no inherent reason to prefer one approach over the other. Long speaker wires tend to be less problematic than comparable runs of line-level cabling, but in most cases either can be made to work well if you take the appropriate precautions. With speaker wires, you want to keep the series resistance low enough that you're not wasting power or increasing the amplifier's effective output impedance (decreasing its damping factor) to the point that it starts interacting with the speaker's impedance and thereby altering the system's frequency response. That means that the cable needs to be thicker (smaller gauge) for long runs than for short ones. Typically, you could get by with 16- or even 18-gauge copper zip cord for runs up to 15 or 20 feet, whereas beyond 50 feet or so you should use 12 gauge. Long line-level runs can be prone to hum pickup and radio-frequency interference (RFI), so make sure you use highquality cables with good shielding and that you route them away from things like AC power cords. Another potential problem is high-frequency rolloff, so make sure that the output impedance of your surround processor and the capacitance of the cables are both as low as possible.

Dolby Boost or Cut

I have always understood that Dolby noise reduction lowered a signal on recording to drop out the noise and then boosted it on playback in such a way that the noise didn't come back. Recently I read that the signal was boosted on recording and reduced on playback, but I'm not sure how that would work. Which is correct? WILLIAM F. DUNLAP Van Nuys, CA

Although they differ in detail, the various types of Dolby noise reduction all compress the signal in recording and expand it again in playback. That means that when a recording is made, the quiet signals are boosted according to their level and their frequency—the lower the level and their frequency—the lower the level and the higher the frequency, the greater the boost. The boost helps keep the signal level high relative to the hiss contributed by the tape. When the signal is decoded in playback, a specific amount of attenuation is applied to these signals to restore them to their proper levels; as the signal level is reduced, so is the high-frequency noise contributed by the tape.

Slow-Speed Tapes

My ancient Norelco four-speed open-reel tape recorder finally gave up the ghost. Is it possible to buy a new deck that plays at the 1⁷/₈- and ¹⁵/₁₆-ips speeds, which I used to record much radio material in the Sixties?

> PETER KARMAN Rockfall, CT

Yes, but the answer might not help you. Those very slow speeds were exceedingly uncommon even when you bought your machine (1% is now the cassette standard, of course, but using a narrower tape). Today the only machines that will play those speeds are the 4000 family by Uher: The Uher 4400 is the quarter-track version, which matches the configuration of your old Norelco. The problem is that the 4400 accepts only 5-inch reels, so any tape made on a 7-inch reel, which the Norelco could accommodate, would have to be cut in half to be played.

If chopping up your precious tapes doesn't appeal to you, however, there is a way to rerecord them at more conventional speeds even without a slow-speed machine, but you'll need two open-reel decks. For a 17%-ips original, play it back on the first deck at 3¼ ips and dub it to the second running at 71/2. The resulting tape should play back properly at 3³/4. A ¹⁵/16-ips original can be converted by doing the above operation twice, or once by running the second machine at 15 ips if that speed is available. These techniques may involve some degradation of the signal, but at those low speeds the material is likely to be pretty low-fi to begin with.

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Audio Developments

HE Winter Consumer Electronics Show, held in Las Vegas in early January, usually introduces new developments in many product categories, of which audio is by no means the largest. Despite the heavy emphasis this year on video and related fields, including electronic games, I found a number of interesting audio products, as well as examples of more fundamental developments that will affect the high-fidelity world in the coming months and years.

Possibly the most important of these developments is the use of digital signal processing (DSP) to correct for the aberrations introduced by the listening room itself as it affects the frequency response of the loudspeakers operating within it. This technique was demonstrated, in a crude developmental form, at the previous CES, last June in Chicago, by Snell Acoustics and Audio Alchemy. At that time, they were able to dramatically reduce the coloration of bass sounds by room resonances, using one of Snell's standard speaker models and a commercially available programmable digital filter, the SigTech AEC-1000 from Cambridge Signal Technologies.

Since then, Snell and Audio Alchemy (among others) have been refining the process, and at the January show they demonstrated the next stage in its development. This time they used a digital filter system and a new loudspeaker specifically designed to work together. The speakers were deliberately placed in a room having poor acoustics, including an audible echo in addition to the numerous reflections that normally modify the sound at the listening position.

With the filter switched out, the echo was plainly audible (no doubt there were many other aberrations, but for me this was the most disturbing). Switching the filter into the circuit produced a dramatic change. The echo disappeared, and the reproduction became noticeably clearer and more listenable—in part, presumably, because other reflections were attenuated as well.

TECHNICAL TALK

JULIAN HIRSCH

The demonstration was brief and hardly conclusive, but it left no doubt in my mind that the adaptive digital filter technique works and delivers genuine benefits to the listener. Snell and Audio Alchemy are still in an early stage of their development program, but other companies are also actively pursuing the same and related methods of minimizing room effects. In the meantime, for affluent audiophiles with a technical bent, Cambridge Signal Technologies (whose products are used in numerous professional sound applications) is offering the SigTech TF10D-3 Timefield Acoustic Correction System, an improved, consumerized version of the general-purpose unit used in Snell's demonstration a year ago.

Two well-known companies noted for very good, yet affordable speakers are entering the high end of the audio market. Acoustic Research has introduced its Limited Series of components, featuring the Model 3 loudspeaker. Although its name recalls the much less expensive, pace-setting AR-3 speaker of a few decades ago. and it also has a generally similar driver complement, the new Limited Model 3 is dramatically different in appearance and sound (to say nothing of price). It uses a 12-inch acousticsuspension woofer and two 3-inch soft-dome midrange drivers with a single 1-inch soft-dome tweeter between them. The middle- and high-frequency drivers are mounted on a narrow baffle above the woofer enclosure. With an optional metal grille installed, the Model 3 resembles a small electrostatic speaker, but its drivers are plainly visible behind the grille.

I listened to the AR Limited Model 3 in two different rooms, and I cannot recall ever having heard more natural and musical sound reproduction. It is clearly a speaker to reckon with, although the \$6,000 a pair (without grilles) price tag may hold sales down a bit. AR's new Limited Series electronics (preamplifier, power amplifier, and equalizer) are of comparable quality, giving the company a strong entry into the upper end of the audio market.

Boston Acoustics has also entered

the ranks of high-end manufacturers. with a line of unusual speakers that were first shown in an earlier form last year. The new Lynnfield Series consists of two models whose drivers and cabinet structure share many features. most notably an acoustic Amplitude Modification Device (AMD) that is said to greatly reduce the level of diaphragm resonances and other narrow-band aberrations. Their cabinets are extremely rugged and handsomely finished, and they sounded great. The price was given merely as "high," which was not surprising-the kind of sound I heard from them does not come chean!

I also heard a demonstration of a product whose effect is unlike that of any other signal processor I know of. Cogent Research's imposingly named Simultaneous Polyphonic Isolator (SPI) takes a standard two-channel stereo program and converts it into four channels, which are reproduced through four speakers across the normal listening area of the room. The effect is to remove dependence on speaker imaging for placing virtual sound sources at points between the usual pair of speakers. By adding a second pair of speakers identical to the first, with their own driving amplifiers. and processing the program through the SPI, you obtain a very solid, unambiguous soundstage whose spatial properties do not change with listening location. On first hearing, it sounds fine, but to really appreciate it, the SPI processor should be shut off while playing. The effect is not unlike that of shutting off the surround speakers in a good surround-sound system (which is sometimes likened to turning off the lights in the room). It does not sound at all artificial and seems to be a genuine improvement. The catch? Cost, in the form of another pair of speakers, another stereo amplifier, and the SPI decoder, which is available in several models in the general range of \$750 to \$1,000 (a considerably simplified version is available for about \$300).

Although massive publicity has been given to other, more popular offerings at the CES, it was those I've described, plus quite a few more, that impressed me as signs of a still healthy and innovative audio industry. Every so often, a product is introduced that's so good, it serves as the benchmark for an entire industry. Yamaha's critically acclaimed DSP-A1000 is such a product.

And Yamaha's new DSP-A2070 is another.

Unquestionably, the most advanced digital sound field processor/amplifier you'll find on the market. Due in no small part to a Yamaha development that makes going to the movies actually pale by comparison.

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more spatial depth and impact in your home than you probably ever imagined.

All made possible by Yamaha's new LSI technology. A major accomplishment that creates sound fields three times more detailed than even our critically acclaimed DSPA1000.

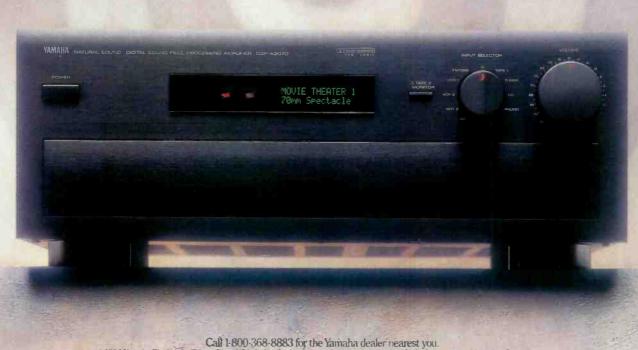


Other notable features include an on-screen display for sound field adjustment. Seven-channel ampli-

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TEST REPORTS



Harman Kardon AVR30 Audio/Video Receiver

JULIAN HIRSCH HIRSCH-HOUCK LABORATORIES

HE Harman Kardon AVR30 is a complete audio/video receiver that would be equally compatible with a stereo music system or a home theater installation. Although none of its five audio-amplifier channels would be considered exceptionally powerful by today's standards, they are conservatively rated, and the receiver's total power capability is more than sufficient for almost any home installation.

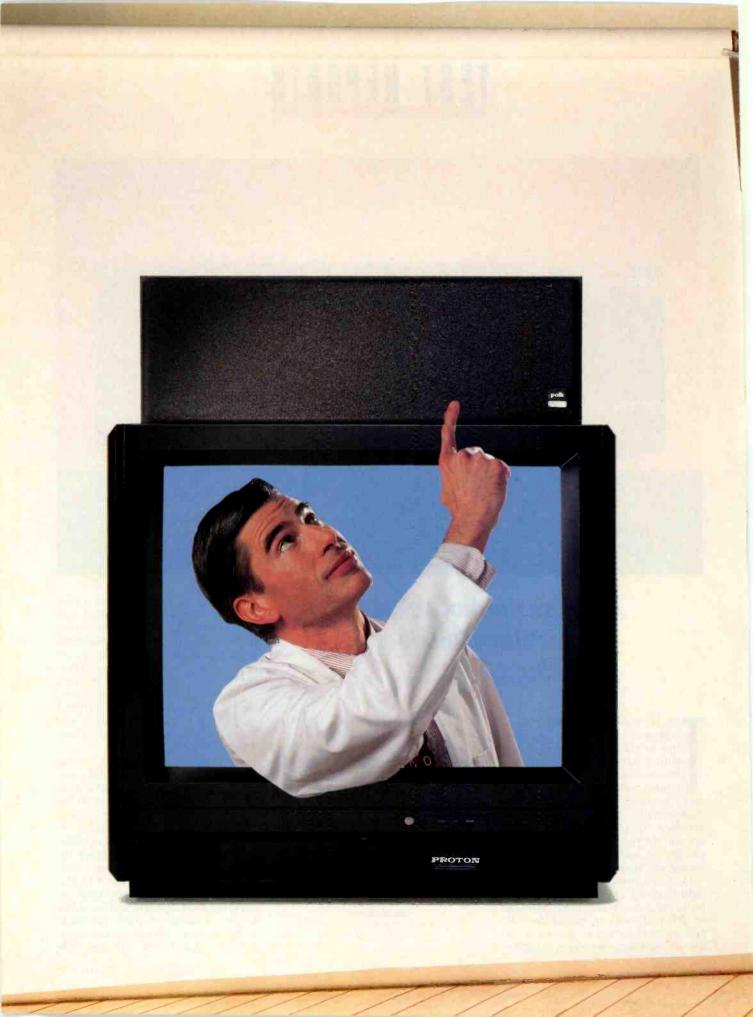
In stereo mode, the front left and right channels are rated to deliver 60 watts each, into 6-ohm loads, from 20 to 20,000 Hz with no more than 0.09 percent total harmonic distortion. In five-channel surround mode, the three front channels (left, center, and right) are each rated at 50 watts from 20 to 20,000 Hz with no more than 0.09 percent distortion, and the rear channels at 20 watts each into 4 ohms with less than 0.3 percent distortion.

In the AVR30's Audio Direct mode, only the front left and right channels

> Dimensions 17% nches wide, 5 inches high, and 13% inches deep Price \$1,049

Manufacturer Harman Kardon, Dept. SR, 8380 Balboa Blvd., Northridge, CA 91325 are active, and it functions as a conventional stereo receiver. When it is switched out of Audio Direct (with a front-panel pushbutton), the Surround Mode button selects one of the receiver's digital signal processing (DSP) modes, which drive the rear speakers with different combinations of slightly delayed program signal. The surround modes are identified as Pro Logic, Movie, Simulated Surround, Club, Theater, Hall, and Stadium.

For each of these modes, which activate the surround amplifiers and speakers, the initial delay can be set to 15, 20, or 30 milliseconds. For all but the Dolby Pro Logic mode, whose parameters are fixed, the Effects Level buttons vary the level and duration of the delayed signal to produce the desired effect in rooms having a wide range of acoustic properties. A Center Mode button controls the center channel in the Pro Logic and Movie modes, offering a choice of Wide (full-bandwidth center), Normal (center-channel bass sent to the left and right



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TEST REPORTS

MEASUREMENTS

AMPLIFIER SECTION All figures are for main front channels only except as noted.

| 1,000-Hz output at clipping |
|---|
| 8 ohms |
| 4 ohms 100 watts |
| Dynamic power output |
| 8 ohms |
| 4 ohms 132 watts |
| 2 ohms 126 watts |
| Maximum distortion (20 to 20,000 Hz into 8 |
| ohms) 0.09% at 60 watts |
| Sensitivity (for a 1-watt output into 8 ohms) |
| CD |
| phono |
| A-weighted noise |
| (referred to a 1-watt output) |
| CD -74.7 dB |
| phono - 78.6 dB |
| Phono-input overload |
| (1,000-Hz equivalent levels) |
| 20 Hz |
| 1,000 Hz |
| 10,000 Hz |
| Phono-Input impedance 50,000 ohms |
| in parallel with 110 pF |
| Tone-control range |
| 100 Hz |
| 10,000 Hz ±11 dB |
| RIAA phono-equalization error (20 to |
| 20,000 Hz)+0.8, -0.1 dB |
| |

| Frequency response | |
|--------------------------|---------|
| (tone controls centered) | |
| 20 to 20,000 Hz | ±0.2 dB |
| 200,000 Hz | 2.2 dB |
| | |

TUNER SECTION

All figures are for FM only except frequency response.

| Usable sensitivit | y (mono) |
|------------------------|--|
| 50-dB quieting s | ensitivity |
| mono | |
| stereo | |
| Signal-to-noise | rotio (at 65 dBf) |
| mono | |
| stereo | |
| Distortion (THD | + N at 65 dBf) |
| mono | 0.125% |
| stereo | |
| Copture rotio (at | 65 dBf) |
| AM rejection | |
| Selectivity | |
| aiternate-channel. | |
| adjacent-channel. | |
| Pilot-carrier lea | kage |
| 19 kHz | —————————————————————————————————————— |
| 38 kHz | —————————————————————————————————————— |
| Hum (at 120 Hz). | 73 dB |
| Channel separa | tion |
| 100 Hz | |
| 1,000 Hz | |
| 10,000 Hz | |
| Frequency resp | onse |
| FM | 30 to 15,000 Hz ±0.2 dB |
| AM | 20 to 2,400 Hz +2, -3 dB |

speakers), or Phantom (when no center speaker is used). Like all Dolby Pro Logic systems, the AVR30 has a builtin random-noise test signal, for balancing the levels from the various speakers, that switches successively to the left, right, center, and surround channels.

The knob-operated controls of the AVR30 include bass, treble, balance, rear (surround) and center level, speaker-output selection (it can drive either or both of two sets of mainchannel stereo speakers, or only the front-panel headphone jack), and master volume. There is also a subwooferlevel knob, which adjusts a full-bandwidth line-level output on the back panel for driving powered subwoofers.

Large buttons across the top of the panel select AM or FM, with signalseeking tuning in stereo or manual tuning in mono, and tune up or down in frequency. The display window, in addition to presenting the receiver's audio operating status, shows the tuning mode, frequency, and preset-channel number. Eight buttons store the frequencies of up to sixteen AM or FM stations in two groups of eight (AM and FM channels can be mixed).

The input source is selected by means of two parallel rows of large buttons across the bottom of the front panel. They are identically marked, with the upper row designated LISTEN TO and the lower row REC FROM. An LED in each button lights to show its activation (green for listen and red for record). The AVR30 provides for a full complement of signal sources, including phono, tuner, CD, auxiliary, TV, satellite, a videodisc player, two VCR's (inputs and outputs), a videocassette player (whose audio and video input jacks are on the receiver's front panel), and two audio tape decks (with inputs and outputs). There is also a Simulcast button, which can be used to record or watch a video program from one of the available sources while listening to or recording an audio program from another source, such as the tuner. At the right end of the row of selectors are a button for loudness compensation and one that converts any stereo audio program to mono.

When the AVR30 is connected to a video monitor via the Monitor Out jack on its rear panel, the monitor also provides an on-screen menu system for adjusting and verifying the status of most of the receiver's controls. It comes with two remote controls: a system remote control (SRC) and a home theater controller (HTC). The SRC, which has some sixty-seven clearly marked buttons, duplicates most of the front-panel control functions. It includes five keys that simplify operation of the on-screen menu system and has groups of buttons to control compatible Harman Kardon cassette decks and CD players. The remote can also operate the rear-level and master-volume controls, which are turned by small motors when adjusted from a remote.

The HTC, with only forty-one buttons, controls most of the receiver's basic operating functions, though not as completely as the SRC. Its source selection is also slightly less complete than that of the SRC, but it has more functions related to home theater operation. Harman Kardon says that the HTC is preprogrammed to operate most remote-controlled devices likely to be connected to the AVR30, even from other manufacturers.

From the rear, the AVR30 appears considerably less formidable than most comparable receivers. Although it has a full complement of input and output jacks, the size of the receiver prevents its rear apron from having the over-packed appearance of some we have seen. In addition to the inputs (and outputs, where applicable) for its many signal sources, it has line-level outputs for front, center, rear, and subwoofer channels and insulated spring-clip connectors for right and left surround speakers and a center speaker. The two pairs of left and right front speaker outputs use conventional insulated multiway binding posts.

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|--|----------------|
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| "Jelly's Last Jam" Original Cast (Mercur 44 | y) 7∙748 |
| Best Of Miles Davis | (Blue |
| Note) 43 | 5-206 |
| Dave Grusin—No Bo | orders |
| (GRP) 44 | 6•724 |
| Pattl Austin-Live (0 | GRP) |
| 44 | 5•304 |
| Louis Jordon-No N | lore |
| (Verve) 44 | 5•130 |
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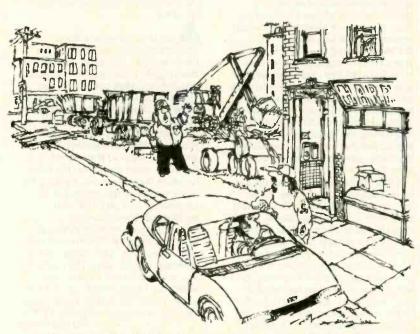
supplied AM loop antenna, there are inputs for 300- and 75-ohm FM antennas, all small binding posts. Two small jacks provide for a remote infrared sensor input and an output to other Harman Kardon components for system remote control. There are three AC outlets, two of them switched.

The performance of the AVR30's tuner section was, in most respects, typical of today's medium-price component tuners. Its 2-dB FM capture ratio and 63-dB alternate-channel selectivity measurements are good, although its 45-dB image rejection would be considered marginal in a location near a busy airport. We were surprised at the high level of 19- and 38-kHz leakage from the multiplex decoder into the audio. Only 35 dB below maximum program level, it prevented direct measurement of the tuner's total harmonic distortion plus noise (THD + N) in the stereo mode. But a spectrum-analyzer measurement of the significant harmonics showed that the distortion was acceptable-about 0.3 percent at most signal levels, reaching a low of 0.12 percent only at a very high input of 95 dBf (30,000 microvolts). The FM frequency response was good, but the AM tuner, like almost all we have tested in recent years, had a very limited bandwidth.

The receiver's audio control section had a very wide, flat response, down only about 2 dB at 200,000 Hz. The tone controls had a maximum range of about ± 11 dB, with the bass control having a sliding turnover frequency from 300 Hz to below 100 Hz and the treble response curves hinging at about 2,000 Hz. The loudness compensation boosted only the frequencies below 400 Hz, to a maximum of 8 or 9 dB, as the master volume-control setting was reduced. The phono-preamplifier input overloaded at very safe levels.

The front three power-amplifier channels delivered a maximum output of about 70 watts each into 8 ohms and 100 watts into 4 ohms (we did not test them with their rated load of 6 ohms, where the performance would be between the limits of our 8- and 4-ohm measurements). At 50 watts output, the distortion (THD + N) was between 0.03 and 0.04 percent from 20 to 20,000 Hz, and at a constant 0.1-percent distortion the output over that range was between 60 and 66 watts.

Although no useful measurements of the amplifier's various surround modes were possible, we used them for most of our listening. The spaciousness added by the receiver's internal delay and DSP circuits was unmistakable, and quite natural and pleasing if not done to excess. When the Effects level was set too high, however, multiple echoes (particular-



"Hey! Turn down that bloody car stereo, we're tryin' ta blast here!!!"

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ly of human voices) were clearly audible, producing a most unnatural sound. That is a potential weakness of signal processors that create an insufficient echo density and that have too long an initial delay. Since the few DSP components we know of that do

N first encounter, the Harman Kardon AVR30's most distinctive feature is the shape of its front panel, which has two cylindrical bulges that together hold most of the receiver's pushbutton controls. This individuality is refreshing in a component category filled with me-too industrial design. It created no significant operational side effects except the feeling that one's fingers could slip off the switches in the steeply curved upper section.

The biggest problem during setup was adjustment of relative speaker levels when using the receiver's Dolby Pro Logic decoder. The centerchannel level is adjustable only by means of a knob on the AVR30's front panel; there is no equivalent control on either of the supplied remote controls. This makes setting the proper relative speaker levels in a full five- or six-speaker Dolby Pro Logic home theater system just about impossible without an assistant either to turn the knob or to sit in your usual listening position and tell you when everything is balanced. Fortunately, once set, the center level adjustment need never be altered unless you change your front or center speakers. If you use a simpler four-speaker surround-sound hookup (two front, two rear, with a "phantom" center image created by the front stereo speakers), the center level control has no effect

Aside from this logistical difficulty, installation was completely straightforward. Some may find it annoying that rear-panel audio-input jacks are not color-coded. And the use of spring-clip connectors instead of binding posts for the important center speaker was a little surprising, particularly since the AVR30's center channel is rated for the same output power as the left and right main speakers. The very wide array of inputs (nine line-level sources!) should prove useful in a home theater system well equipped with multiple VCR's and videodisc players. You can never have too many line-level inputs. I was a little disappointed to find no provision for S-video signal hookup

TEST REPORTS

not exhibit this effect happen to cost considerably more than the entire AVR30 receiver, this really is not a serious criticism. With the Effects level set to one of the two lowest available positions, the overall result was highly satisfactory with most material.

SECOND OPINION

and routing, although this feature is commonly found only in higher-price units (and is by no means a crucial one in any event).

The SRC remote was logically laid out, although it would be helpful if there were some differentiation among the buttons by spacing, size, shape, or texture. That would make the remote easier to operate in a darkened room. The HTC, with fewer buttons, was only slightly easier to operate. It was good, however, to have direct numeric-keypad access to the tuner presets on both remotes. And the remote-activated on-screen menu was quite handy when using the digital signal processing modes, eliminating the need to strain to read the receiver's front-panel display from a distance.

Unlike many other A/V receivers with multiple music-oriented soundprocessing modes, the AVR30 has several that are suitable for enhancing pop music. The Club, Theater, and Simulated Surround modes could be set to enhance the vividness of the original sound without adding too much of a sense of space, a common fault of ambience enhancement when applied to nonclassical music. Also, the Movie setting was suitable for many types of music (more so than straight Dolby Pro Logic decoding), if you don't mind the Pro Logic circuitry steering much of the sound into the center speaker. (Ideally, you'd have identical speakers across the front when using the Movie mode with music, and that's a good, if not always practical, arrangement for soundtrack decoding as well.)

These four modes were appropriate to pop and classical chamber music only at the lowest of their five possible level settings, however. Indeed, I thought that all the sound-processing modes were at their best when used at their lowest settings. The Theater, Hall, and Stadium modes were otherwise unbearably cavernous, even echo-prone, depending on the music. And, regardless of setting, the Stadium mode seemed useless for anything but simulating the acoustics of a cheap Overall, the Harman Kardon AVR30 is a good value, capable of serving as the heart of a good audio/ video entertainment system. It is easy to use, the installation and operating instructions are clear, the performance is good, and the price is right.

seat at the Super Bowl (if there are such things). Efforts at making music sound reasonable with it proved futile. Thankfully, there were no such difficulties in decoding Dolby Surround movie soundtracks: The AVR30's Dolby Pro Logic mode did its job very well.

Although the AVR30 did an outstanding job of movie-sound playback, with power reserves adequate for all but deafening levels, I did notice more background noise from this receiver than I'm used to hearing. Even at idle-with the volume turned all the way down and with no sound-processing modes activated-the surround outputs were rather noisy, with hiss and a buzz audible a foot away from the speakers. That won't be a problem if the surround speakers are mounted at a reasonable distance from the listening position (especially if they are placed. as recommended, toward the ceiling), but the noise may become irksome at low signal levels if the surround speakers are positioned much closer to the listening position than the front speakers.

MPLIFIER noise was also somewhat greater than usual in the front channels, though not to a degree that is likely to be significant in most installations. Most curious are the signal-to-noise measurements showing the phono input a few decibels quieter than the high-level inputs and my discovery that there were certain volume-control settings (between ten and eleven o'clock) that yielded distinctly lower noise from the front speakers than others did. Luckily, this is the volume range appropriate for moderately loud playback with speakers of typical sensitivity.

Despite this somewhat puzzling behavior, the AVR30 performed well overall, was very easy to use, and is a reasonably good value. The money you save with it can be sunk into additional VCR's, which the unit will gladly accept through its many inputs. You can never have too many VCR's! -David Ranada

TEST REPORTS



Niles NSW-100 In-Wall Subwoofer System

JULIAN HIRSCH HIRSCH-HOUCK LABORATORIES

N-WALL loudspeakers are growing in popularity because they offer one of the most practical solutions to the problem of bringing hi-fi music to homes in which the architectural design or furnishings are incompatible with the installation of conventional full-size speakers.

Most in-wall speakers consist merely of a small woofer (6 to 8 inches in diameter) accompanied by a dome tweeter and a simple crossover net-

EUNG

OOK P.

PHOTO:

Dimensions

NSW-8 subwoofer (with enclosure): 14¼ inches wide, 45 inches high, 3¼ inches deep SA-100 amplifier: 17 inches wide, 3½ :nches high, 12 inches deep

> Price \$899 (second subwoofer, \$330 more)

Manufacturer Niles Dept. SR, P.O. Box 160818, Miami, FL 33116 work, all mounted on a flat baffle that can be installed between wooden studs in the room wall (a space normally limited in width to about 14 inches). Although this sort of speaker can deliver surprisingly good sound (assuming it is installed in the optimum location, which is another matter), the effective volume of the space enclosed by the walls and studs is limited to less than 4 cubic feet, restricting the system's low-bass performance.

Good low-bass response also requires a rigid enclosure, but a typical in-wall speaker installation is compromised by the less-than-ideal rigidity of the large panels of wallboard serving as one or more of the enclosure walls. In addition to flexing, which may affect the spatial distribution of the sound, the wallboard is likely to transmit appreciable sound to the room on the opposite side of the wall.

Niles has come up with a solution to the bass limitations of in-wall installations in its NSW-100 in-wall subwoofer system. The NSW-100 consists of an NSW-8 in-wall subwoofer, with an 8-inch cone driver, and an NSW SA-100 power amplifier.

The subwoofer's enclosure is a 45inch-high sealed box made of $\frac{1}{2}$ -inch vinyl-clad MDF fiberboard. It is best installed between the studs of a dry wall at the time of construction, screwed to the studs next to it. The driver is positioned near the bottom of the enclosure (for the best coupling to the room at low frequencies) and is normally covered by a white, perforated-metal grille, which can be painted to match the wall.

The NSW-8 is driven by a dedicated amplifier, the SA-100. This solidly built single-channel (mono) amplifier includes an electronic crossover that rolls off the output above 100 Hz at 24 dB per octave. Its specified bandwidth is 20 to 100 Hz, over which it is rated to deliver 100 watts into 8 ohms with less than 0.05 percent total harmonic distortion (THD), or 140 watts into 4 ohms with 0.1 percent THD. Its signalto-noise ratio (S/N) is rated as greater than 90 dB.

The amplifier has a set of goldplated phono-jack stereo inputs marked Main In and two pairs of linelevel output jacks marked Full Range Out and Hi Pass Out. Sub Out/Main jacks, normally jumpered together, are provided for use with an optional Niles accessory that allows the volume to be adjusted remotely. There are also two pairs of speaker-level inputs, two pairs of pass-through speaker-level Full Range Output connectors, and a pair of subwoofer outputs, for one or two subwoofers, all multiway binding posts on ¾-inch centers. The back of the amplifier also has controls to adjust gain and sensitivity, two DC fuses, and a pushbutton-reset power-line circuit breaker.

The front panel has a rocker-type power switch (normally left on at all times), a level knob, and two pushbutton switches, Bypass and Phase Normal/Reverse. The level knob controls only the subwoofer output level (one of the rear-apron controls provides a coarse setting to match the knob's range to the installation requirements). The Bypass button switches off the subwoofer drive signal and restores the full bandwidth to the main channels. To obtain the best low bass at the listening location, the Phase switch can be used to invert the polarity of the subwoofer signal.

The SA-100 amplifier is signal-controlled, remaining in standby mode until a signal appears at its inputs, which turns on power to its active circuits and lights the Active LED on its front panel; the SA-100 shuts down automatically about 2 minutes after input signals have ceased. The Bypass LED indicates that the subwoofer signal has been turned off, and the Protect LED lights when the amplifier's protective circuit has been activated by an overload or short circuit.

The SA-100 can be driven from the main system amplifier's speaker outputs or from a preamplifier or amplifier's adjustable-level line outputs. Either the Full Range or Hi Pass outputs on the SA-100 can be used for the main speakers, depending on the installation requirements. Niles says that if small bookshelf speakers, or most fullrange in-wall speakers, are used for the main system, driving them via the SA-100's Hi Pass output (limited to 100 Hz and over) can improve the sound quality, but high-quality main speakers are likely to sound better with its Full Range signal. In either case, the Niles NSW-8 subwoofer is driven with the frequency range below 100 Hz from the subwoofer output.

Although all of the SA-100's inputs and outputs are marked for left and right channels, its subwoofer outputs are mono. Using two NSW-8 sub-

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TEST REPORTS

woofers (each having 8 ohms impedance) in parallel is said to increase the amplifier's power rating by 40 percent and enhance the system's low-bass performance, however.

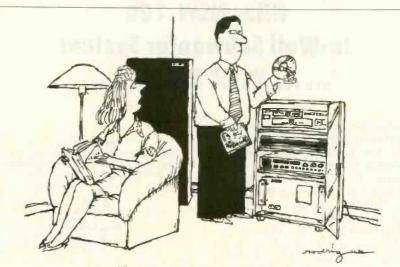
Minimum system impedance was just under 7 ohms, reaching a maximum of 17.5 ohms at the bass resonance of 63 Hz. Frequency response (including the SA-100 amplifier) varied within a 3-dB range from 50 to 95 Hz, with its maximum at 63 Hz. It fell to -6 dB at 38 and 115 Hz, with a cutoff rate of 24 dB per octave at both ends of that range. Measured separately, the amplifier's response had a moderate low-frequency rolloff (down about 5 dB at 20 Hz), although it could easily have been made flat, thereby improving deep-bass response. I presume that it was not made flat because the NSW-8's driver was not designed for the larger cone excursions that could result from such operation.

Speaker sensitivity is irrelevant in this system, whose amplifier is more than powerful enough for any likely use of it. We did measure the speaker distortion, however, using a 90-dB sound-pressure level (SPL) at 100 Hz as a reference. In a close-miked measurement, the distortion was less than 1 percent at 100 Hz and above, rising smoothly to 3.3 percent at 60 Hz and 8 percent at 50 Hz. It appeared to consist largely of the second harmonic.

The amplifier's characteristics were measured with a resistive load. Into 8 ohms at 100 Hz, the power output at the rated 0.05 percent distortion was between 107 and 108 watts at frequencies from 30 to 120 Hz and 106 watts at

20 Hz. Unfortunately, we could not make these full-power measurements into 4 ohms because the DC powersupply fuses blew after a few seconds of full-power operation. That does not reflect on the amplifier's suitability for driving a 4-ohm speaker load-we tried it with a pair of NSW-8 subwoofers, whose combined impedance was 4 ohms, at high levels without difficulty. It should also be noted that the SA-100 amplifier is beautifully constructed, with the sort of workmanship and component quality usually associated with "high end" audio components.

Although we measured the performance of the NSW-8 subwoofer only as part of the NSW-100 system, we used it with a pair of small two-way speakers for our listening tests. As with any system of this type, some experimenting was needed to set the relative levels for the subwoofer and main speakers, and the optimal settings depend considerably on the program material and the user's listening tastes. There was no doubt, however, that the Niles system can do an excellent job of restoring the low bass to speakers lacking in that range (which category includes just about all conventional in-wall speakers). The resulting bass performance, though not equaling that of good free-standing subwoofers (which go down to 20 or 25 Hz), should be sufficient to satisfy almost anyone with a competently installed in-wall system. Best of all, if the installation is done properly, none of the speakers will be visible or intrude on the room space.



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the PL100 with our new low-profile Center Channel Plus speaker and our highly acclaimed surround speaker, The Surround. Center Channel Plus is a magnetically shielded speaker with four 3" long-throw woofers and a ring radiator tweeter. Because of its wide, low profile (25" wide, 4" high, 6½" deep), it is ideal for placement directly on top of, or, with optional support unit, *beneath* a TV. The frequency range of the outer pair of 3" woofers is intentionally limited to maintain proper dispersion. We don't know of any speaker, at any price, that outperforms Center Channel Plus.

The surround speakers in this system are The Surround, a dipole radiating speaker with higher volume level capability than The Surround II. We feel The Surround is one of the very best surround speakers made, despite the fact that it costs hundreds less than competing models.

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and center level, and a Phantom mode enabling the use of the PL100 without a center speaker. Purchased separately, the factory-direct price of the PL100 is \$399.

TEST REPORTS



Marantz DD-92 DCC Recorder

KEN C. POHLMANN HAMMER LABORATORIES

HE Marantz DD-92 is the fourth DCC deck to come our way and stakes a claim to the high end among DCC recorders yet released. That status is certainly borne out by appearances: The front panel is pure Marantz, with a rich, anodized gold luster. Thick, solid-metal side panels and a copper-clad metal chassis give the deck considerable heft—about 26 pounds, all told and stability.

The DD-92's operating controls provide complete mastery over its many features. Primary transport controls are clustered in the upper right-hand corner, including buttons for forward and reverse play, previous track, next track, stop, pause, fast forward, and reverse. The record button places the deck in recording-pause mode, and a record-mute button is used to insert blank spaces on a tape. The Record-Append button is used to initialize a blank tape or to find the last recorded material on a partly recorded tape. (It is important to use the Append button whenever you make a tape; otherwise the necessary time and track information will not be recorded.) A Sync-Record button enables you to synchronize dubbing from a compatible CD player linked to the DCC deck on a remote-control bus.

The DD-92 provides switches to select analog, optical-digital, or coaxialdigital inputs for DCC recording and Dolby B, Dolby C, or no noise reduction for analog-cassette playback. Analog input levels are controlled by a large knob, input channel balance by a smaller knob nearby, and headphone volume by a third knob next to a

> Dimensions 18 inches wide, 5 inches high, 14¼ inches deep

> > Price \$1,199

Manufacturer Marantz USA, Dept. SR, 1150 Feehanville Dr., Mount Prospect, IL 60056 standard quarter-inch phone jack. An open/close button operates the cassette drawer, and a timer switch can be used to automate recording or playback with an external timer. Lessoften-used controls occupy a smaller portion of the front panel.

One button turns automatic startmarker generation on or off. When this feature is turned on, the DD-92 automatically marks the beginning of each recorded track, based either on trackstart markers in the data stream from one of the digital inputs or on a 3second silence in the signal from the analog inputs.

When automatic start-marking is turned off, the user can manipulate start and other markers manually by means of a cluster of five buttons. The Start-Marker button is used to mark the beginning of a track manually. The Renumber button checks the track numbers on a tape and alters them if necessary to avoid duplications or gaps in the sequence. The Next button writes a marker indicating the end of a tape side, which will prompt a deck playing the tape to fast-wind to the start of the other side. The Reverse button causes the deck to flip sides # immediately and begin playing from g the corresponding point on the other

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CAMBRIDGE

We're pleased to announce two new speakers designed by Henry Kloss specifically for use as center channel speakers in Dolby Surround Pro Logic systems-the Center Channel and Center Channel Plus. Our experience with Dolby Surround Pro Logic systems has shown that the center channel is *very* important. A significant portion of movie soundtracks is directed to the center channel. It's very important to use a speaker that reproduces that material





accurately, with the proper volume level and dispersion pattem.

Center Channel by Henry Kloss.

Center Channel is a compact, two-way acoustic suspension speaker with a 4" woofer and a ring radiator tweeter. Because of its compact size $(8\%" \times 5\%" \times 4")$, it's simple to place Center Channel directly on top of or below your TV screen, so that dialog and sound effects will seem to emanate from their on-screen source.

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

Center Channel Plus by Henry Kloss.

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

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

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TEST REPORTS

MEASUREMENTS

Record/playback measurements were made through the analog inputs, playback measurements at the analog outputs. Measurements listed are for the worse of the two channels.

| Fast-wind time (| C-90/DCC-90). 14 | 5 seconds |
|--------------------|-------------------|------------|
| Speed error | | |
| analog | | 0.77% |
| digital | below measures | ment limit |
| Wow-and-flutter | r (IEC peak weigh | nted) |
| analog | | 0.13% |
| digital | below measures | ment limit |
| Line input for inc | dicated 0 dB | 230 mV |
| Line output for i | ndicated 0 dB | 2.21 volts |

DIGITAL PLAYBACK

| Frequency response | |
|---------------------------------|-----------|
| +0.02, -0.05 dB, 16 to 2 | 20,000 Hz |
| Channel separation | |
| 1,000 Hz | 100.3 dB |
| 10,000 Hz | 103.2 dB |
| Signal-to-noise ratio | |
| A-weighted | 105.3 dB |
| unweighted | 97.9 dB |
| Distortion (THD+N at 1,000 Hz). | 0.0036% |
| Linearity error (at -90 dB) | +0.4 dB |
| | |

DIGITAL RECORD/PLAYBACK

 Frequency response

 +0.04, -0.14 dB, 16 to 20,000 Hz

 Channel separation

 1,000 Hz
 97.5 dB

 10,000 Hz
 84.7 dB

 Signal-to-noise ratio
 A-weighted

 A-weighted
 93.0 dB

 unweighted
 90.3 dB

Distortion (THD + N at 1,000 Hz) ...0.0046% Linearity error (at -90 dB) + 0.1 dB

ANALOG PLAYBACK

| Frequency response | |
|---------------------------------|----------|
| +0.73, -1.15 dB, 32 to 1 | 8,000 Hz |
| Channel separation | |
| 1,000 Hz | 35.0 dB |
| 10,000 Hz | 32.4 dB |
| Signai-to-noise ratio | |
| no noise reduction (A-weighted) | 57.2 dB |
| no noise reduction (unweighted) | 54.5 dB |
| Dolby B (unweighted) | |
| Dolby C (unweighted) | 61.9 dB |
| Distortion (THD+N at 1,000 Hz) | i . i2% |
| | |

side. And the Erase button is used to cancel any marker.

The DD-92 can be put into monitor mode so that you can listen to an input source either when the deck is stopped or while it is recording. It can be set to repeat the current track or an entire tape, and a Blank-Skip button automatically fast-winds it to the next selection. The AMS (automatic music scan) button sequentially plays the first 10 seconds of each track on a tape until you choose one you want to hear.

Three buttons control parts of the deck's large fluorescent display. The Text button steps through a commercially prerecorded tape's album title, track titles, artist's name, total number of tracks, and total time. The Time button selects the elapsed time from the beginning of the tape, elapsed time in the current track, or remaining time. When an analog cassette is loaded, the Time button selects a tape counter.

The display also includes two bar graphs showing audio levels, from -50 to 0 dB for digital signals or -40to +10 dB for analog. In addition, various labels indicate when markers are being written, the type of input signal, the type of noise reduction (for analog cassettes), repeat-mode selection, copy prohibition, the sampling rate in use, and virtually anything else you might want to know about the deck's operating status.

The back panel has three pairs of phono jacks providing analog line inputs and fixed- and variable-level line outputs. Two more phono jacks serve as the coaxial digital input and output, and a pair of Toslink jacks are provided for optical digital input and output. There are also two phono jacks for connection to a D-Bus remote-control system for coordinated operation with other Marantz components.

The supplied thirty-one-button remote control largely duplicates the front-panel controls but adds a few perks of its own. You'll find transport controls, text and recording controls, and a hugely extraneous drawer open/ close button. More useful are volume up/down buttons, a power button, and a ten-digit keypad that provides direct DCC track access.

The DD-92 employs many of the same Philips chips that I have seen in other DCC recorders. Bitstream technology is used for both analog-to-digital (A/D) and digital-to-analog (D/A) conversion. Marantz says that the

STEREO REVIEW APRIL 1993

The Powered Subwoofer That Has The Audio And Video Press Jumping Out Of Their Seats.

NEW FROM CAMBRIDGE SOUNDWORKS

A jet roaring in *Top Gun*. The heavy-footed killer robot in *Robocop*. A semi

hitting concrete after a 20 foot fall in *Terminator 2*. These are examples of the substantial, very low-frequency effects on the soundtracks of today's movies. Such frequencies are rare in music, and are beyond the capabilities of most speakers designed for music.

The new Cambridge SoundWorks Powered Subwoofer by Henry Kloss was created to reproduce those ultra-low, ultra-strong bass signals with the power and impact you would experience in movie theaters with the very best sound systems. It's designed to

supplement (not replace) the subwoofer(s) of Ensemble or Ensemble II. It will also work with speakers from other companies.

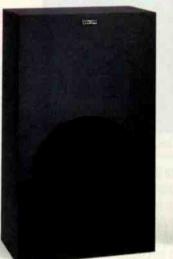
Remarkable bass performance.

The Powered Subwoofer consists of a heavy duty, 12 inch long-throw acoustic suspension woofer integrated with a 140



watt amplifier-all in a high-pressure black laminate cabinet. Its control panel includes a bass level control and an 18dB per octave, four-position electronic crossover frequency selector (to match the subwoofer to your other speakers).

Additionally, an optional electronic crossover* will provide 18 dB per octave,



Powered Subwoofer

Slave Subwoofer

high-pass, line-level filters for the main and center amplifiers. These filters allow you to keep strong, low frequencies of sound effects out of the front speakers. These signals can cause distortion, even in speakers designed for full-range music.

The Powered Subwoofer's bass performance is simply *awesome*. It reproduces accurate bass to below 30 Hz. You'll hear soundtracks the way they were meant to be heard. In fact the bass is *better* than most

> Our Ultimate Home Theater Speaker System consists of our dual-subwoofer Ensemble system; our low profile Center Channel Plus speaker; a pair of our critically acclaimed surround speakers, The Surround; our Powered Subwoofer; our Slave Subwoofer; Ractory-direct price: \$1,999.

theaters! At the press event when we introduced our Powered Subwoofer, we had startled members of the audio and video press literally "jumping out of their seats" during demonstrations of movie soundtracks. The factory-direct price of the Powered Subwoofer is \$599. Optional "slave" subwoofer.

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

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

No compromises. No apologies.

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

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

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The Critics Love Ensemble And Ensemble II. What's The Difference, Anyway?

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

And Then There Were Two.

Now Cambridge SoundWorks has introduced Ensemble II, a more affordable version of Ensemble using only one cabinet to hold both subwoofer drivers. Ensemble II has joined Ensemble in the ranks of the country's best-selling speak-



The real difference is in the subwoofer.

ers. We believe Ensemble II is a better system than the new Bose* AM-5 Series II. And because we sell it factory-direct, it's half the price. Stereo Review said "Ensemble II performs so far beyond its price and size that it can be compared only with much larger speakers at substantially higher prices." We agree with the writer who said, "It's hard to imagine going wrong with Ensemble." The question is, which Ensemble system is right for you?

The Same Satellite Speakers.

When you listen to either Ensemble system, almost 90% of the music you hear is being reproduced by the satellite speakers. Both Ensemble and Ensemble II use satellite speakers that are virtually identical.* Unlike many competing systems, Ensemble's satellites are true two-

way speaker systems, each containing a high performance tweeter and a 4-inch woofer. Stereo Review said, "The Ensemble satellites delivered a smoother output than

True acoustic suspension. sealed subwoofer cavity.

filter.



"Ensemble may be the best value in the world." Audio

many larger and more expensive speakers."

Small $(8\%'' \times 5\%'' \times 4'')$ and unobtrusive, they'll fit into the decor of any room. They're available in scratch-resistant gunmetal grey Nextel, or primed so you can paint them any color you wish.



Ensemble satellite speakers are available primed for painting, so they can match your decor exactly.

The Same Overall Sound.

In many rooms, Ensemble II sounds virtually the same as Ensemble, especially when Ensemble's two subwoofers are placed right next to each other. The real difference between the two systems is that Ensemble, with its two ultra-compact subwoofers $(12" \times 21" \times 4\%")$, gives you *ultimate placement flexibility*.

The Same Attention To Detail.

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

The Same Factory-Direct Savings.

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

The Same 30-Day Total Satisfaction Guarantee.

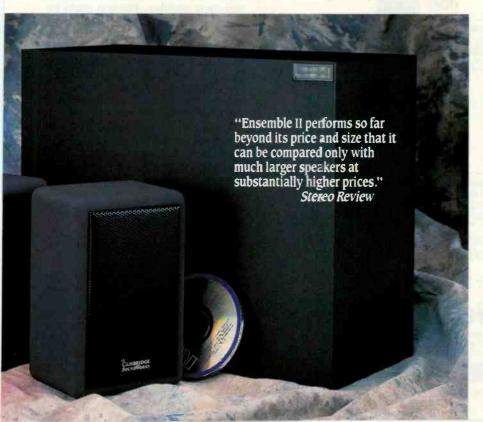
Choosing a loudspeaker after a brief listen at a dealer's showroom is like deciding on a car after one quick trip around the block. So we make it possible to audition our geneticer the right uni-

tion our speakers the *right* way-



Stereo systems featuring Ensemble and Ensemble II speakers with Pioneer or Philips electronics start at only \$799, including CD player. Dolby Surround Sound systems start at only \$999.

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



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



The only difference in satellites is that the original Ensembles use gold-plated connectors that allow use of even the heaviest gauge wire.

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

Placement of bass and high-frequency speakers in a room-and how those speakers interact with the acoustics of the room-has more influence on the overall sound quality of a stereo system than just about anything. As an alternative to spending hundreds (or thousands) of dollars on this or that "latest" amplifier or CD player design, you should invest some of your time experimenting with various speaker positioning schemes. Ensemble's two ultra-slim (41/2") subwoofers give you more placement flexibility than any speaker system we know of (including Ensemble II), and is most likely to provide the performance you want in real world...in-your room.

How To Order.

The dual-subwoofer Ensemble system is available in two versions. With handsome black-laminate subwoofers for \$599. Or with black vinyl-clad subwoofers for \$499. Ensemble II is priced at \$399. For more information, a free 48-page catalog, or to order...

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TEST REPORTS

converters used are, in fact, capable of 18-bit resolution and that the DD-92 is thus the first DCC deck on the market capable of taking advantage of the full dynamic range claimed for the new format.

As one might expect, the upgraded electronics inside the Marantz DD-92 yielded very good measurements. Using a digitally recorded DCC to test playback through the DD-92's analog outputs, we obtained uniformly superb measurements for frequency response, channel separation, signal-tonoise ratio (S/N), distortion, and lowlevel linearity. These results are a testament to the quality of DCC's PASC data-reduction algorithm and of the DD-92's D/A converters.

Test recordings made through the DD-92's analog inputs and measured through its analog outputs were also excellent. Overall, the A/D converter contributed only minor degradation to the signal. The biggest loss was, as usual, in S/N, and the low-level linearity actually improved slightly.

The analog cassette measurements were pretty good, though certainly no match for their DCC counterparts. The DD-92 is not the world's very best analog cassette player, but it should do nicely until your analog cassettes are all worn out.

I spent a rainy afternoon acquainting myself with the DD-92's features and sonic abilities. The text mode for prerecorded DCC tapes is quite handy. For example, with the deck stopped, you can step through the track titles on a prerecorded tape using the track-skip buttons, stop on the one you'd like to hear, and then hit the play button. The deck finds the selected track and plays it. Very nice.

It's unfortunate that DCC decks do not let you record text information to a blank tape. Philips has enforced this restriction to give added value to prerecorded DCC tapes, but the MiniDisc format lets you record your own text, and it's very convenient to be able to mark your recordings in this way, particularly if you've recorded a compilation of varied material. I hope Philips rethinks this limitation.

Also unlike MD recorders, but like other DCC decks, the DD-92 permits recording and playback at all three standard sampling frequencies—32, 44.1, and 48 kHz—with corresponding upper frequency limits of 14,500, 20,000, and 22,000 Hz, respectively.

TEST REPORTS

The ability to record at sampling frequencies other than 44.1 kHz may become invaluable in the future, since future DAB (Digital Audio Broadcasting) formats may employ any or all of the three. And the capability is already a convenience for anyone who has 48kHz DAT recordings.

The DD-92, like DCC in general, does suffer one weakness compared with CD and MD: Tape is inherently slower than disc. Whereas CD and MD players can cue up a track almost as fast as you can push the button, the DD-92 must wind through the tape to find it. If the tape was properly recorded with time and track information, the DD-92 can find the shortest distance to the desired selection (flipping sides immediately, for example), but it can still be a relatively long wait. Philips has indicated that higher-speed transports are possible and may become available in the future.

On a more positive note, the DD-92 showed no signs of any tendency to head clogging. I ran an analog tape through the machine for 48 hours straight and encountered no problems afterward with analog or digital playback (or recording).

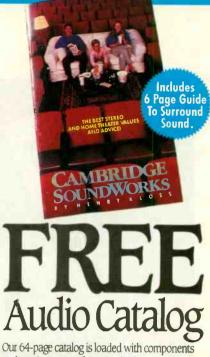
Appropriately, I used a Marantz CD-11mkII CD player as my reference to evaluate the DD-92's sonic performance. They make quite a rich-looking pair stacked together; even better, they both deliver excellent sound quality. In listening comparisons using a very high-end sound system—including a Conrad-Johnson Motif preamplifier and power amplifier and KEF Model 107 loudspeakers—I could detect little or no difference between CD's and digitally copied DCC's. When a subtle difference was detectable, I registered it as simply a difference, not a preference. In other words, one was not inferior to the other. If the analog inputs are used, the recording quality also hinges on the performance of the source's D/A converters and the deck's A/D converters. The high-quality converters in this Marantz duo produced little or no audible degradation.

In my opinion, for most listeners a digitally copied DCC tape will sound as good as the original CD. And, as with other consumer digital recorders, the DD-92 incorporates the Serial Copy Management System (SCMS), which permits unlimited direct digital copying from a digital original but prevents the resulting copies from being digitally copied on an SCMS-equipped deck. Thus, multigenerational digital dubbing is prohibited. SCMS has no effect on copying via the analog inputs, however.

With products such as the DD-92, the DCC format has already reached a high level of refinement, a level that is both startling for first-generation technology and necessary in today's competitive market. The DD-92 provides analog and digital compatibility, solid construction, distinctive styling, a wide range of useful features, excellent technical performance, and remarkable sound. In short, the DD-92 is the best DCC deck yet introduced and thus sets the reference standard. You can't launch a new audio format with products much better than this one.



"Sorry to disappoint you, but up here everybody's hearing range is set at 1,800 to 2,150 Hz."

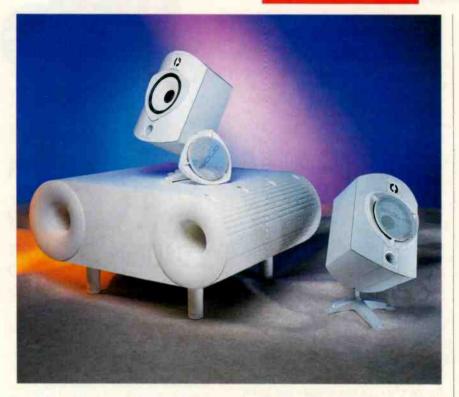


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TEST REPORTS



Rock Solid Sounds Solid Monitor Loudspeakers With Twin Bass Subwoofer

JULIAN HIDSCH RSCH-HOUCK LABORATORIES

HE unusual loudspeakers sold under the Rock Solid Sounds name were designed in England by B&W Loudspeakers, well known for its high-quality (and often high-priced) speaker systems. The Rock Solid Solid Monitors, actually manufactured in Japan, feature construction and styling as unusual as their name itself.

The Solid Monitor is a small, distinctively shaped speaker with an integral cast-metal tripod, connected to the molded-plastic cabinet by a ball joint, that offers considerable flexibility in installation. The speakers can be oriented horizontally or vertically, or at any intermediate angle, and supported by a horizontal surface or fastened to a wall or ceiling. For commercial installations, a special mounting bracket can support an array of four speakers.

The main driver is a 4-inch plasticcone woofer, with the enclosure port below it. Above the woofer is a dome tweeter about 34 inch in diameter. The input terminals are multiway binding posts on 3/4-inch centers, recessed into

Dimensions

Monitor: 61/2 inches wide, 101/2 inches high (including stand), 6 inches deep Supwoofer: 231/2 inches wide, 171/4 inches high, 7% inches deep

Finish Monitor: black, white, two-tone gray, black/purple Subwoofer: black or white

> Price Monitor: \$299 a pair Subwoofer: \$350

Manufacturer Rock Solid Sounds, B&W Loudspeakers of America, Dept. SR, P.O. Box 1470, Buffalo, NY 14240-1470

the rear of the cabinet. Each speaker weighs 51/4 pounds.

According to the manufacturer, the Solid Monitor's vented bass enclosure has a fourth-order alignment. The system's rated frequency response is 75 to 20,000 Hz \pm 3 dB, the sensitivity 90 dB sound-pressure level (SPL) with an input of 2.83 volts. It has a nominal 8ohm impedance and is recommended for use with amplifiers rated at up to 150 watts output. The system is protected against damage from overload by a fast-acting switch, and it is magnetically shielded to allow placement close to a video monitor or TV.

The Solid Twin Bass Subwoofer was designed as a companion to the Solid Monitor, extending its lower limit (at the -3-dB point) to 45 Hz. It contains 120-Hz crossover filters with 12-dB-per-octave slopes on the outputs to the satellites and subwoofer. The subwoofer's enclosure is made of wood, with separate sections for each of its two drivers, which are specified as 61/4-inch but actually measure about 5 inches in effective cone diameter. It is fitted with molded half-round plastic end sections, each having a ducted port with a flared opening.

The Twin Bass Subwoofer, unlike the Monitor, is made in England. It weighs 23 pounds and has four 33/4inch feet on the surface carrying the woofers and connectors, enabling it to be installed in any of several positions. It can be placed on the floor (underneath a piece of furniture, if desired) with the driver cones at the bottom and the ports facing in any direction. Alternatively, it can stand on one side with the cones facing the wall and the feet holding it away from the wall. In this position, which we used, the ports face upward. Another possibility is suspension from the ceiling, with the drivers facing upward.

The subwoofer has separate springclip connectors, which also accept dual banana plugs, for the inputs and outputs of each channel. The amplifier outputs go to the input terminals, and the outputs connect to the Solid Monitors. As with most other subwoofers, its placement relative to the satellites is not critical. Specifications include a sensitivity of 91 dB SPL, a nominal 4ohm impedance, and a power-han-dling capacity of 150 watts. Like the Solid Monitors, the subwoofer is protected against overload. We placed the Solid Monitors on 27-

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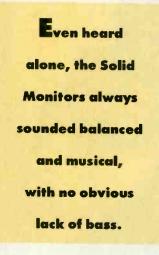
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inch stands, about 8 feet apart and 2 feet from the wall behind them. The Twin Bass Subwoofer was placed upright against that wall, near the left speaker. We listened to and measured the response of the satellites both with and without the subwoofer.

The room response of the Rock Solid Monitors was smooth above 400 Hz (an unavoidable floor reflection created a 5-dB bump in the octave from 200 to 400 Hz). The average level above 3,000 Hz was about 2.5 dB below the



reading at lower frequencies, but the overall response of $\pm 3 \, dB$ from 350 to 20,000 Hz was very good. Output fell off slightly below 200 Hz but still varied only $\pm 3 \, dB$ from 100 to 20,000 Hz (ignoring the floor reflection) and was down 7 or 8 dB at the rated 75-Hz lower limit. A quasi-anechoic groundplane MLS frequency-response measurement showed a variation of 3 dB overall from 300 to 5,000 Hz, falling off about 6 dB at 20,000 Hz.

The subwoofer's response, measured separately from the satellites. varied over a ± 2 -dB range from 37 to 150 Hz, falling off at 12 dB per octave below and 6 dB per octave above those frequencies. Creating a composite frequency response from three sources involved even more uncertainty than is usually the case with two sources. Nevertheless, our experience with the speakers made it clear that the Solid Monitors alone had a useful response down to between 80 and 100 Hz, and with the subwoofer added the whole system's useful lower limit was 40 to 45 Hz, essentially as claimed.

The sensitivity of the Solid Moni-

tors was even better than rated, measuring 92.5 dB SPL at 1 meter with a 2.83-volt input of random noise. The impedance, however, was much lower than the rated 8 ohms, falling to 3 ohms or less in the midrange. When they were used with the subwoofer, the system impedance was even lower, measuring only 2.3 ohms at 98 Hz.

The high-frequency dispersion of the Solid Monitor's tweeter was excellent, dropping off only about 3 dB up to 10,000 Hz at 45 degrees off-axis and reaching -7 dB at 20,000 Hz. The woofer's distortion, measured with a 2.12-volt input (equivalent to a 90-dB SPL), was between 0.4 and 1 percent from 120 to 2,000 Hz, rising to 3 percent at 80 Hz and 6.5 percent at 70 Hz. The Twin Bass Subwoofer's distortion at the same level was just under 1 percent at 100 Hz, rising smoothly to between 5 and 6 percent at 45 Hz and less than 10 percent at 30 Hz.

The subwoofer's cones reached their excursion limits with audible rasping sounds at a 100-Hz input of about 330 watts. The Solid Monitor's woofer and tweeter, although their waveforms showed some signs of distortion, were not damaged by onecycle inputs of 1,600 watts at 1,000 Hz or 1,050 watts at 10,000 Hz.

When listening to the Rock Solid system, we were never able to think of the satellites as minispeakers. Even heard alone, the Solid Monitors always sounded balanced and musical, with no obvious lack of bass. They produced a very good stereo image, and it was easy to forget their diminutive proportions.

Adding the subwoofer made no dramatic change in sound quality. Programs with significant output from 50 to 100 Hz sounded fuller, but much of the time there were no obvious auditory clues to the subwoofer's presence in the system. When there was substantial energy in the subwoofer's range, however, it rarely gave any clues to its location, despite its relatively high crossover frequency.

With this Rock Solid duo, B&W has demonstrated that it can do as outstanding a job in the lower price brackets as it does with high-end speakers. Although there are a number of more conventional speakers costing no more than \$650 a pair that sound just fine, very few of them offer the installation flexibility of these novel and interesting products.

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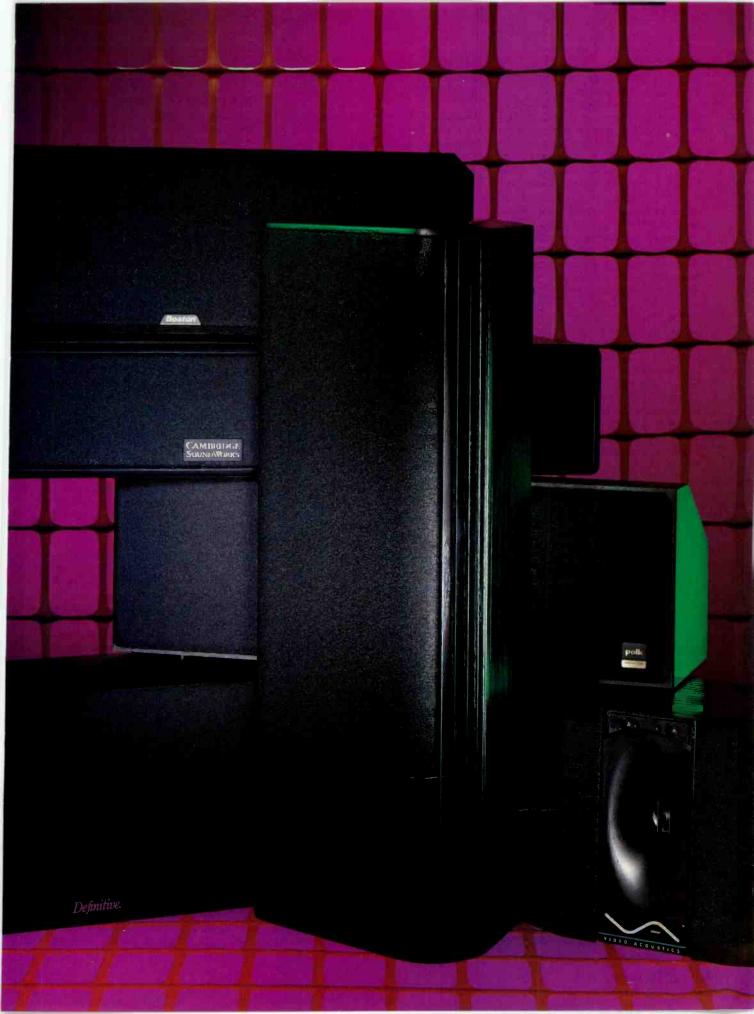
The right speaker for the critical center channel

NOT too long ago, the centerpiece of most hi-fi boutiques was the high-end display room—the one equipped with top-price, esoteric components. Today, however, you're more likely to find a home theater room fully tricked out with the latest in surround-sound and big-screen goodies.

At the root of this trend are more and more moderately priced receivers and integrated amplifiers designed with home theater in mind. Most have not only on-board surround processors but also built-in multichannel power to drive a surround system's four or five principal loudspeakers. It's entirely possible today to assemble a respectable home theater sound system for close to \$1,000. And even in that price range, chances are pretty good that the receiver will incorporate the premium Dolby Pro Logic surround processing system rather than simple, basic Dolby Surround decoding.

Along with improved separation of main-channel and surround signals, one of Pro Logic's primary advantages is its ability to extract a discrete front-center channel instead of relying on a "phantom" center image created by a conventional stereo pair. When reproduced by a dedicated center speaker placed precisely between the "main" stereo left and right duo (usually directly on top of the TV set or video monitor), Pro Logic's center channel improves clarity and imaging. In fact, the center channel is far from the add-on or "accessory" many seem to think. For movie sound the center channel is . . . well, *central*.

In a good commercial theater equipped with the cinema-standard Dolby Stereo sound system, the preponderance of film sound comes from large, powerfully amplified, wide-range loudspeakers located directly behind the acoustically transparent projection surface. Thus, the center-channel



sound emanates from a precisely centered, on-screen source.

This "on-screen-ness" is crucial to moviemakers because, naturally, they want all dialogue (with rare off-stage exceptions) to originate from the actors' mouths, which normally are on the screen, not off to one side or the other. A phantom center channel created by a pair of separated speakers, as in normal stereo and basic Dolby Surround playback, works fine as long as you sit dead center. As you move off-axis to one side or the other, however, the central sound image will seem to move toward the speaker nearer to you-not such a big deal when you're listening to music without pictures, but disconcerting when there is a picture of what is supposed to be the sound source several feet away from where the sound actually seems to originate. A dedicated center-channel speaker also improves clarity and dialogue intelligibility even for a centrally seated listener/viewer.

But dialogue is far from all that moviemakers assign to the center channel: Much of the music and many sound effects originate there as well. sold as singletons, that are specifically designed for center-channel duties.

Most of these center speakers are low and wide, the better to perch on top of a typical 20- to 35-inch TV set. Belowscreen placement is also possible in some cases, but it's usually less practical. Rear-projection sets also usually lend themselves to on-top placement, but two-piece, front-projection systems can require a little ingenuity. Mounting a horizontal center speaker directly below the screen's bottom edge on a low stand or even right on the front wall of the room is usually the best solution. Or if you use Uni-Screen's new AS 1000 acoustically transparent screen, you can actually mount the center speaker behind it.

As in selecting any other loudspeaker, choosing and using a center speaker is at least to some extent a matter of taste. But there are some do's and don't's peculiar to the breed that are worth considering:

Do use a single, discrete center loudspeaker if your surround processor, A/V receiver, or amplifier offers Dolby Pro Logic. A real center speak-

The center channel is not just for dialogue:

Much of a movie's music and

many sound effects originate there, too.

Indeed, over the course of a typical movie the center channel will deliver perhaps two-thirds of the total acoustic energy. Thus, in a carefully assembled home theater system the centerchannel speaker and amplifier should be anything but afterthoughts. They should be integral parts of the system, preferably with the center speaker designed and balanced to complement the left and right front speaker pair.

The ideal is to use three identical, fullrange speakers for the front left-center-right trio. Practically speaking, however, many of us already own good stereo loudspeakers that we are quite reasonably a bit reluctant to junk. The obvious alternative is to add a single center speaker that is as well matched as possible to the sonic character of the existing front stereo pair. Happily, there are now plenty of speakers on the market, packaged and er will give improved localization and intelligibility, and, suitably powered, it will substantially increase your system's overall dynamic range.

Don't use the small stereo speakers built into many TV's as "dual" center speakers. Because they are so close together, acoustical interference between their outputs will degrade clarity and on-center localization, and the speakers themselves and their associated amps are usually mediocre.

Do think of the center speaker as a third full-range, high-fidelity transducer. Speaking voices can dip significantly into the bass region—think of James Earl Jones—and the centerchannel signals in modern movies routinely include a large proportion of wide-band music and sound effects. If you use Pro Logic's Wide mode, the center speaker should ideally respond as far down in the bass as the other two front speakers; if you use Normal mode, which redirects low frequencies in the center channel to the left and right front speakers, or a subwoofer, the center speaker should work well down toward 100 Hz.

Don't skimp on power. The center channel is at least as important as its front left and right brethren: In most systems it should be assigned equal power. A/V receivers with unacceptably low (or no) center-channel power should be supplemented with an outboard power amp. You can even use the other channel of a stereo power amp to drive both surround speakers in parallel, as the surround channel in Dolby Surround is monaural.

Do audition center speakers much as you would a stereo pair (though singly). Listen in mono, particularly to voices—speaking voice if possible (recordings of poetry or children's stories are great for this). Cock an ear for open, unrestricted tonal balance with both male and female voices, speaking and singing; they should be free of honky tones or "chestiness." Listen to music, too, for even bass and reasonable extension—the lowest notes on a bass guitar can be down a bit, but almost everything else should sound solid, defined, and evenly powerful.

Don't listen only directly on-axis. Move to one side, so that your position is about 30 degrees off-center. (That is about as far off-axis as the audience is likely to be in a typical living-room home theater.) Voices should not change very much in tonal quality. A good audition trick is to listen to broadband noise such as interstation FM hiss and move from the center to the side. The top treble hiss will dull slightly, but the midrange roar should remain largely unaltered; if it changes dramatically, the speaker's off-axis response is less than ideally even.

Do listen at substantial levels. If your home theater is to match movietheater loudness, the center-channel speaker must keep pace by delivering clean sound at outputs approaching and even exceeding a 100-dB soundpressure level (SPL). Audition center speakers with a good, powerful amp, and play voices and music significantly louder than a natural speaking voice, as this is how dialogue is reproduced in theaters. Make sure there's no breakup on voices at high levels. (If there is, make sure the amp isn't clipping before you blame the speaker.)

Do include some Pro Logic-mode movie listening. Ask to audition a center-speaker candidate set up with left and right speakers similar to your own—identical, or at least the same make, wherever possible. Repeatedly play several short scenes (laserdiscs make this easy to do) with voices, music, and centered effects; include at least one with a full left-center-right pan, in which the sound moves all the way across the screen (the plane takeoffs in *Top Gun* are classic examples). Listen for smooth panning: Ideally, you won't be able to tell where speaker-to-speaker transitions occur.

Don't get distracted by the picture. The moving image is so compelling that it makes it tough to concentrate on the sound, however hard you try. Close your eyes, or, better yet, turn off the TV and *really* listen. (Turning off the surround speakers removes an additional distraction.)

Do put the center-channel speaker in the center. On top of the TV is best in most setups. The idea is to get the speaker as close to the screen as possible. While you're at it, move the center speaker forward, toward the audience, until its front surface (baffle) is flush with the screen surface or even slightly forward of it. That will reduce reflections from the screen and the top of the cabinet that may affect clarity.

Don't put an unshielded speaker on top of or very close to a direct-view TV. Most speakers produce strong magnetic fields that can induce color distortion (usually a purpling effect) when they are placed less than a foot or two from a picture tube. All speakers designed for center-channel operation include magnetic shielding to prevent such distortion.

Do balance the center channel properly. All Dolby Pro Logic receivers, amps, and processors include a setup mode that sends broadband noise to each channel in turn. Listen carefully and adjust the levels so that the three front speakers sound equally loud at a more-than-solid listening level.

Don't be afraid to fine-tune levels under real movie listening conditions—the center channel frequently ends up sounding a bit weak, and it will vary from film to film. Dialogue should be clearly audible in all scenes without overpowering music or effects.

Finally, do do your bit to make sonic excellence a routine element of the home A/V experience. Insist on good audio as well as video when you buy or rent. Home theater is the first true revolution in home entertainment since the CD. And, just as with compact discs, we won't get our full money's worth until we pressure the software producers to catch up and fully exploit the latest technologies.

USER'S EVALUATION

Six Center-Channel Loudspeakers

HERE are dozens of centerchannel speakers on the market, covering a wide range of prices and styles. We chose six representatives of the relatively long, lowprofile genre for informal evaluation, to give you a feel for what's available, but we have not attempted anything approaching an exhaustive survey. So make no assumptions based on the absence of any

particular model from this group. I listened to each speaker both by itself and in a home theater setupmuch as you might in a store audition. My temporary (I wish it were otherwise!) home theater included two 100-watt-per-channel NAD Model 2400THX stereo power amplifiers, with one of the four channels powering the center speaker in every case, fed by a Harman Kardon AVP-1 surround preamplifier in Dolby Pro Logic mode. The surround speakers were Rock Solid Sounds Solid Monitors (for clarity's sake, however, I did much of my listening with the surrounds off). Left and right front speakers were Snell Type B-minors: large, fullrange, high-accuracy dynamic speakers. My 31-inch video monitor, set on a very low base, raised the center speakers 36 inches off the floor; the listening position was 10 feet from the screen.

I auditioned all six center speakers in the same way: on their own, fullrange, with monaural program material, and in the complete system with Dolby Surround programs decoded using standard (fourchannel) Dolby Pro Logic and with the surround channel turned off. In both cases, the Pro Logic processor was set to the Normal mode, which distributes all centerchannel bass below about 150 Hz to the left and right front speakers, which were capable of reproducing strong deep bass. (None of the center speakers being evaluated was designed to operate much below 100 Hz.) I deliberately used several seating positions—oncenter, moderately off-center, and extremely off-center—to simulate what might be encountered in a packed living room on a typical Saturday night. I also pursued much of my listening with the TV off to avoid visual distraction.

Sources included music and spoken-word CD's as well as a DAT recording of familiar voices of family and friends that I made for the occasion-a valuable reference in evaluating voice reproduction. Pinknoise signals were also useful for certain tests. I also played several Dolby Surround-encoded movie soundtracks from laserdiscs using Pioneer's excellent CLD-95 Eliteseries combi-player. I used three scenes in particular repeatedly: one from the newly reworked Apocalypse Now soundtrack, one from Indiana Jones and the Last Crusade, and one from Die Hard.

For best system performance, the tonal balance of the center speaker should be closely matched to that of the left and right front speakers, so I've tried to predict (guess, really) how each of the six models might complement common types of stereo speakers. While there were clear differences among the six when auditioned alone, all were able to deliver solid, intelligible centerchannel movie sound-their primary responsibility. That goes to prove that a true center channel is a vital element of modern home theater and that almost any decent center speaker-even one chosen under tough size or budget limitations-is a valuable system addition.

Individual evaluations begin on the next page.



BOSTON ACOUSTICS

- Dimensions: 17% inches wide, 5% inches high, 6 inches deep
- Driver complement: 5¼-inch copolymer woofer, 5¼-inch copolymer passive radiator, ¾-inch soft-dome tweeter
- Specifications: bandwidth, 100 to 20,000 Hz; sensitivity, 90 dB SPL; impedance,
- 8 ohms; maximum recommended input power, 100 watts
- Price: \$249
- Manufacturer: Boston Acoustics, Dept. SR, 70 Broadway, Lynnfield, MA 01940

BOSTON ACOUSTICS 525V

OSTON Acoustics' top center-channel model is in the conventional horizontal mold, but instead of the usual dual woofers it has a single woofer and a similarly sized passive radiator flanking a small, wide-dispersion dome tweeter. (The tweeter is the same one used in the company's HD5 minispeaker, and the woofers are very similar except that the HD5 is an acoustic-suspension system.) The idea is to prevent the off-axis response irregularities that can occur when the outputs of two or more drivers covering the same frequency range interfere with each other. Boston Acoustics also says that the Model 525v was designed and balanced in position on top of a large-screen direct-view TV, to account for the effect of the acoustically reflective video screen on its output.

The 525v's cabinet is simple and unadorned, with a black woodgrain vinyl finish and a black knit grille plus a single "style" element: the distinctively beveled corners found on all the company's HD series loudspeakers. The package is more than usually compact and quite attractive.

The 525v's sonic performance was

exemplary in almost every respect. Tonal balance was natural, open, and detailed, with highly articulated top octaves; it matched my left/right pair very well, though with a touch less precision in the highest-treble sounds. The midrange was open and transparent, perhaps even a touch prominent in its upper reaches—not necessarily bad for a center-channel speaker. The bottom end (to about 100 Hz) was solid and defined, without the artificial upper-middle bass hump that many small speakers use to give the impression of better bass response than they really have.

The 525v handled high input power very well, producing no untoward noises with midrange inputs of 100 watts or more. Intense low frequencies (approaching 200 watts peak) did cause audible woofer distress, so using a subwoofer or Dolby Pro Logic's Normal center mode, which sends deep centerchannel bass to the left and right front speakers, is probably a good idea. The speaker's radiation pattern was unusually even, with no serious change in midrange timbre until I moved beyond about 30 degrees off-axis-equivalent to sitting on the end of a 15-foot sofa in my setup. Lateral panning was smooth and well integrated.

All in all, the Boston Acoustics 525v is a very fine-sounding center speaker that

should blend well with any but unusually dull-sounding main front speakers. Free of sibilance and chestiness, it's eminently suited to the task of center-channel reproduction in even ambitious home theater systems—a good value, too.

CAMBRIDGE SOUNDWORKS CENTER CHANNEL PLUS

AMBRIDGE SoundWorks, which sells its Henry Kloss-designed products factory-direct via mail or phone order only, has come up with a uniquely low and wide center-channel speaker. The Center Channel Plus achieves its eyepleasing profile, just 4 inches tall, by using four small woofers in place of the customary two. The enclosure is painted matte black, with a black cloth grille. An unusual crossover design is said to exploit all four woofers only at the lowest frequencies in order to minimize "lobing" of the radiation pattern in the midrange and the off-axis response irregularities that would result.

The Center Channel Plus's very low profile also facilitates *under*-monitor placement in many cases. For such setups, Cambridge SoundWorks offers an accessory base for the speaker that will support the rear feet of a monitor (up to about 32 inches in screen size) for \$25.

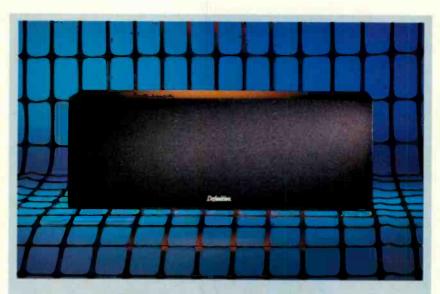
I auditioned the Center Channel Plus primarily on top of my monitor, where it yielded good intelligibility and lifelike vocal tones. (I also tried under-monitor placement, which worked well, tooperhaps even better.) The Center Channel Plus did not have the solidity in the lowest reaches of deep male voices that some of the other center speakers offered, but in normal Pro Logic use this was virtually unnoticeable, as the flanking left and right speakers picked up most of the slack. Similarly, the top end was somewhat less sparkling than that of some of the others, but this characteristic also tended to be masked in normal listening. The Center Channel Plus probably will mate better with smooth-sounding left and right speakers than with an obviously bright pair. In the midrange, its balance was neutral and accurate, with very good clarity and openness.

Off-axis response was fine out to about 20 degrees on either side—about like sitting on the end of an 8-foot sofa in a smallish setup. Further sideways there was some loss of high-treble clarity and a modest change in midrange color. Power handling was good, though large-excursion transients and heavy low bass caused audible woofer bottoming when I auditioned the Center Channel Plus solo, full-range at very high levels. In the full system setup, however, the equivalent volume setting was decidedly unneighborly and far too loud for reasonable athome listening. With the Pro Logic decoder set to Normal mode (sending center-channel low bass to the left and right front speakers instead), the Cambridge SoundWorks design had more than ample dynamic range.

The Center Channel Plus sounded excellent in the full system, and it hit the primary center-channel mark—intelligible dialogue—squarely. Its very low profile appears to cost it a bit of bass, and its unusual driver array some horizontal dispersion, but it also makes for an extremely attractive and usable design.

DEFINITIVE TECHNOLOGY C1

EFINITIVE Technology's centerchannel offering has dual 5¼-inch woofers spaced about a foot apart on the front baffle of a relatively large matte-black cabinet with a black knit grille. Between them are a 1-inch soft-dome tweeter and two ports that function as a single, larger-diameter vent. The C1 has a Link-



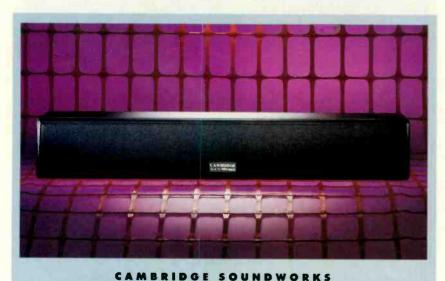
DEFINITIVE TECHNOLOGY

- Dimensions: 19 inches wide, 6¼ inches high, 8½ inches deep
- Driver camplement: two 5¼-inch woofers in vented enclosure, 1-inch soft-dome tweeter
- Specifications: bandwidth, 45 to 28,000 Hz; sensitivity, 90 dB SPL; impedance,

8 ohms nominal, 4 ohms minimum; maximum recommended input power, 200 watts

- Price: \$299
- Manufacturer: Definitive Technology, Dept. SR, 11105 Valley Heights Dr., Baltimore, MD 21117

witz-Reilly crossover—a steep (24-dBper-octave), time-aligned design that's unusual for this type of speaker. The tweeter is actually about 2 inches offcenter, though this was undetectable by



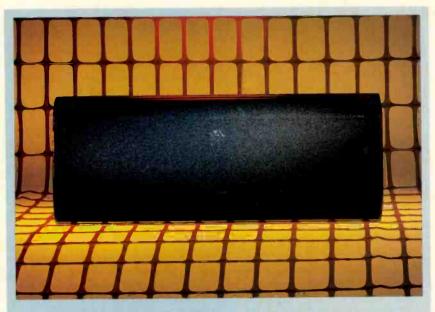
CAMBRIDGE

- Dimensions: 25 inches wide, 4 inches high, 61/2 inches deep
- Driver complement: four 3-inch woofers in sealed enclosure, ½-inch ring-radiator tweeter (domed cone)
- Specifications: none provided
- Price: \$219
- Monufacturer: Cambridge SoundWorks, Dept. SR, 154 California St., Newton, MA 02158; telephone, 1-800-367-4434

ear, as was any difference between leftand right-side off-axis response.

Definitive Technology claims high power handling for the C1, and it accepted clipping-level center-channel input. and even strong wide-band music signals, without audible distress (and played very loud in the process). Tonal balance was open and accurate in the middle, with a markedly extended and slightly emphasized low end that with some program material occasionally sounded a bit strong. The treble range was natural-sounding, smooth, and unobtrusive. Dialogue articulation was excellent (though some male voices took on a very slightly warm cast), as was offaxis response. I noticed very little change in either treble presence or midrange timbre out to about 30 degrees on either side.

Panned sounds moved smoothly across the stage with only minimal ratcheting, but with a slight richening as they crossed center. Definitive's C1 did one of the best jobs of the speakers reviewed in presenting complex centerchannel signals—music, effects, and speech all going full bore—with maximum intelligibility. It proved capable of close to full-range performance and excellent dynamic range, and its fairly neutral balance should match well with a wide variety of other speakers.



INFINITY

- Dimensions: 20¼ inches wide, 8½ inches high, 6¾ inches deep
- Driver complement: two 5¹/₄-inch woofers in vented enclosure, 1-inch EMIT-R circular-planar tweeter
- Specifications: frequency response, 90 to 35,000 Hz ±2 dB; sensitivity, 89 dB SPL;
- impedance, 6 ohms; maximum recommended input power, 150 watts
- Price: \$400
- Manufacturer: Infinity Systems, Dept. SR, 9409 Owensmouth Ave., Chatsworth, CA 91311

but this characteristic only emphasized the Kappa Video's extremely good dialogue articulation.

Power handling was also first-rate: The Kappa Video accepted highly dynamic input from the 200-watt-peak center-channel amp without audible complaint, and when run full-range it exhibited impressive bottom-end solidity and clarity to near the amplifier's limit-though I would probably employ the Pro Logic Normal (bass-splitting) mode nonetheless. The Kappa Video maintained intelligibility very well during dense, busy center-channel scenes. Off-axis response sounded fairly evenly balanced: A perceptible high-treble rolloff began at about 15 degrees to either side, but there was only a slight midrange timbre shift somewhat beyond that point, and that's a more important factor for a center-channel speaker. Both effects became more noticeable at 30 degrees off-axis, suggesting that with the Kappa Video, a very wide seating arrangement is probably not ideal.

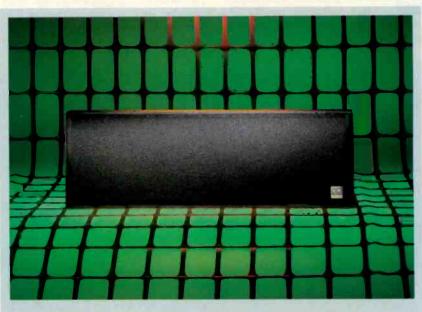
Infinity's Kappa Video is a high-performance speaker that should suit home theater systems at almost any level. Its neutral voicing should make it a good match for a wide range of speakers, though favoring those with extended rather than smoothed or rolled-off treble.

INFINITY KAPPA VIDEO

NFINITY'S Kappa Video has a rounded-edge, trapezoid-profile cabinet finished in attractive honey- or blackoak veneer; the grille is black knit. A clever sliding prop on the back enables the user to adjust the speaker's vertical tilt over about 115 degrees to direct sound precisely toward the listening position.

The dual 5¼-inch woofers are spaced about 7 inches apart, with the EMIT-R planar tweeter centered between them and offset toward the top; ports at each end of the baffle function as a single large vent. In addition to gold-plated, fiveway binding-post inputs, the rear panel includes the tilt-prop bar and predrilled (plugged) holes to accept an optional wall-mounting bracket.

The Kappa Video delivered well-defined, wide-range response with a detailed and clearly extended upper register. Its midrange was well balanced, presenting both male and female voices naturally and without any boominess or nasality. The lower ranges of male voices were not quite as warm as from some of the other speakers reviewed,



POLK AUDIO

- Dimensions: 18 inches wide, 6 inches high, 61/2 inches deep
- Driver complement: two 4-inch woofers in vented enclosure, ⁷/₈-inch dome tweeter
- Specifications: bandwidth, 35 to 20,000 Hz; sensitivity, 89 dB SPL; impedance,

8 ohms; maximum recommended input power, 100 watts

- Price: \$170
- Manufacturer: Polk Audio, Dept. SR, 5601 Metro Dr., Baltimore, MD 21215

Writing in February's Audio Magazine, Technical Editor and industry expert Len Feldman said the Atlantic Technology System 150 "certainly puts to rest the notion that a good home theater installation has to cost \$20,000, \$30,000 cr more. Here, for under \$1000 is a six module system that not only provides all of the speakers needed for a superb home theater installation, but also reduces the additional expenditure that would be needed for extra amplifiers beyond the normal stereo system."

Atlantic Technology System 150 components include the world's first "powerdirected" subwoofer, a unique center channel speaker, two front speakers and two specially designed rear surround speakers. All components can be purchased

separately or in custom configured systems. The complete 150 HT home theater system (pictured here) retails for approximately \$900. For our full line brochure and preferred customer information, please fill out and mail.

Name/Address/Phone (please print)

Do you own a Doly Pro-Logic™ receiver or outboard decoder? If so, what brand and model?

What other home entertainment components do you own?

What type of home entertainment components do you foresee purchasing in the next 12 months?

What was the last home entertainment component you purchased and when?





343 Vanderbilt Avenue Norwood, MA 02062-9124

POLK AUDIO **CS100**

OLK Audio's center-channel entry is compact, unobtrusively styled. and intelligently fashioned: Its half-trapezoid profile permits either level monitor-top placement or under-monitor location with a desirable upward tilt. The cabinet is nicely finished in matte black and has a black grille. Dual 4-inch woofers flank a dome tweeter, with a single vent at the left end of the baffle. Amplifier connections are via push-terminals on the back panel.

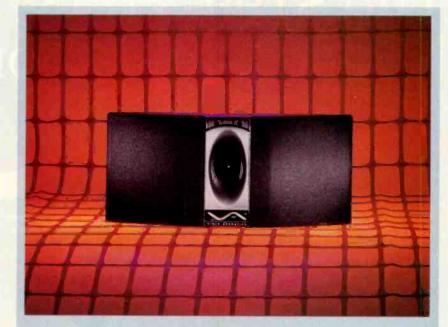
The CS100's sound was quite clear and well balanced. It did not have the low-end impact of some of the costlier. larger-driver designs, but its bass response was surprisingly solid, controlled, and accurate down to about 100 Hz. That's perfectly adequate for use in Pro Logic's Normal (bass-splitting) mode. Power handling was also unexpectedly good, with the speaker's limits becoming apparent only with full-bandwidth music signals at 100 watts or more.

The CS100's top end sounded unrestrained and open, with only a slight lack of top-octave extension. Voices of every type were natural and lifelike; there was little of the chestiness or honkiness that frequently plagues small speakers-just a hint of dryness around 500 Hz. Treble reproduction remained unusually consistent off-axis, holding up well to 30 degrees or more to either side. The midrange timbre also held up very well in listening positions quite far to the sides. which should enable the CS100 to work well in small rooms that have widely spaced seating arrangements.

I'd expect the Polk CS100 to match most contemporary stereo loudspeakers except, perhaps, those with obviously exaggerated midrange outputs. Boasting the lowest price of our group, the CS100 is nevertheless a good performer and thus a conspicuous value.

VIDEO ACOUSTICS VA 1300

IDEO Acoustics is a new branch of Thomson Consumer Electronics. better known for its RCA, Pro-Scan, and GE television lines. It makes a complete series of loudspeakers designed specifically for use in Dolby Pro Logic surroundsound systems, including the VA 1300



VIDEO ACOUSTICS

- Dimensions: 151/2 inches wide, 71/4 inches high, 71/8 inches deep
- Driver complement: two 51/4-inch woofers in sealed (capacitive-coupled) enclosure, 11/1-inch domed-cone tweeter
- Specifications: frequency response, 10 to 19,000 Hz ±4 dB; sensitivity, 90 dB SPL;

center-channel speaker. The VA 1300 is one of the most interesting such speakers we have encountered. Its roughly triangular cabinet-said to reduce internal standing waves that can roughen response-angles each of its dual 51/4-inch woofers about 30 degrees back from the centrally located tweeter, which itself is horn-loaded for increased efficiency (and, presumably, controlled directivity). The arrangement is intended to improve coverage, yielding a wider "sweet spot" in the listening area with maximum clarity, intelligibility, and balance.

The speaker's sealed enclosure is also "capacitive loaded"-electrically tuned by a large capacitor at the signal input to yield slightly greater low-frequency extension (though with a steeper rolloff below its lower limit) without sacrificing efficiency. The VA 1300 is rather nicely finished in black woodgrain, with separate black knit grilles for each woofer and a black plastic fascia/horn around the central tweeter.

The sound was bright and well defined, with highly intelligible, crisply articulated dialogue. The speaker also exhibited noticeably higher sensitivity than some of the others reviewed. Off-axis midrange response was excellent, as one

impedance, 8 ohms nominal, 5.5 ohms m.nimum maximum recommended input power, 200 watts • Price: \$349

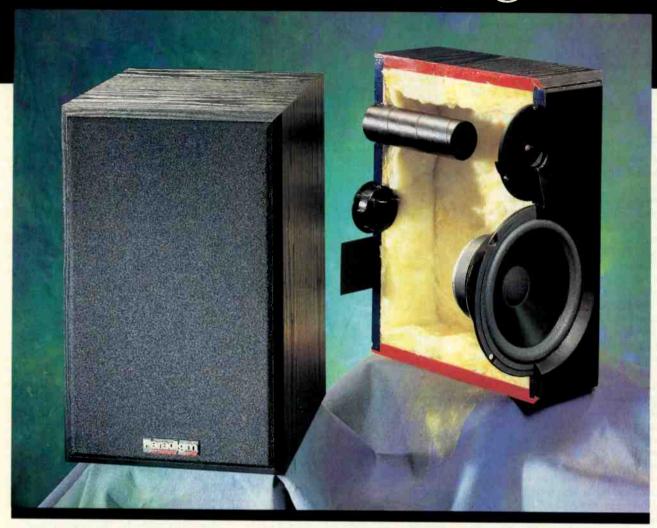
- Manufacurer: Thomson Consumer Electronics, Dept. SR, 6225 Running Ridge Road, Syracuse, NY 13212-2510

would expect from the driver layout, but I did hear a distinct reduction in treble beyond about 15 degrees off-axis. In fact, overall balance and naturalness were superior about 15 degrees to either side, with a slight low-treble peak audible on-center.

Bass response was tight and quick, and though not notably extended (useful response reached down to perhaps 120 Hz) it was ample for use in Pro Logic's bass-splitting Normal mode, which sends low frequencies in the center channel to the front left and right speakers instead. With full-range music, the VA 1300 ran out of headroom short of the amplifier's 200-watt-peak limit, but power handling was more than adequate for full-system center-channel chores. Timbre matching with my main stereo speakers was excellent, and full side-toside pans were smooth except for a slight accent on bright sounds as they passed through dead center (to a centered listener-this effect was less obvious a few feet to either side of the tweeter's axis). The Video Acoustics VA 1300's overall neutral balance should prove an excellent match with just about any good, modern pair of front speakers having an open, extended top end.



The \$199^{*} TITAN. Music... for a Song!



YOU ONLY GET WHAT YOU PAY FOR. Right? Well, not always. PARADIGM, the leader in speaker performance/value, has done the impossible - made a speaker system that is an absolute audiophile delight for an incredible \$199/pair... the TITAN!

WHAT DOES IT TAKE to build the finest speaker at this price? Quite simply, better design execution and better materials. So, rather than typical inferior cone-type tweeters, the TITAN uses a wide-dispersion *dome* tweeter complete with high-temperature voice-coil, aluminum former and ferrofluid damping and cooling. Instead of lesser paper-cone-type woofers, the TITAN woofer uses a polypropylene cone with a high compliance suspension, high-temperature voice-coil and kapton former. Add to this a seamless dividing network and the results are outstanding! Musical, three-dimensional, the TITAN offers performance that belies its astonishing low price.

YOU WON'T FIND PARADIGM speakers everywhere. Product this good requires the expertise of a qualified audio specialist. So, before you buy any inexpensive speaker, visit your AUTHORIZED PARADIGM DEALER and listen to the amazing TITAN. What you will hear is music... for a song!

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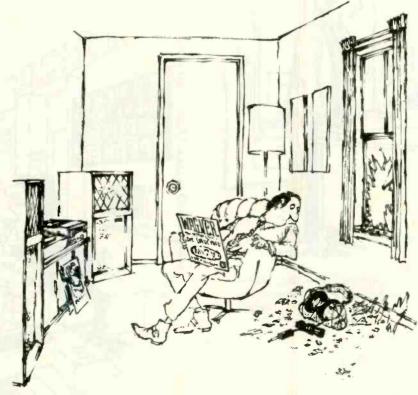


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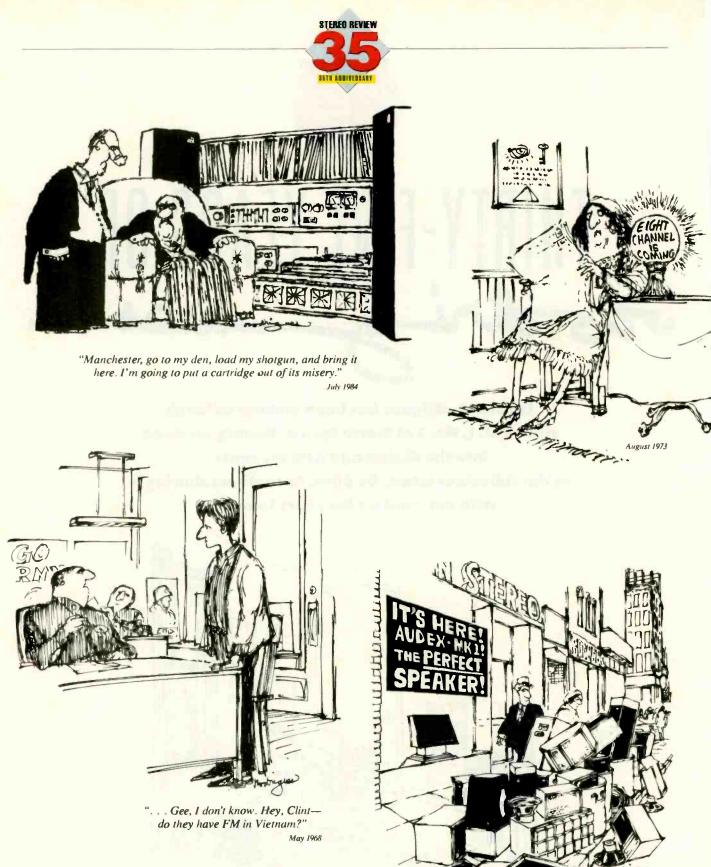


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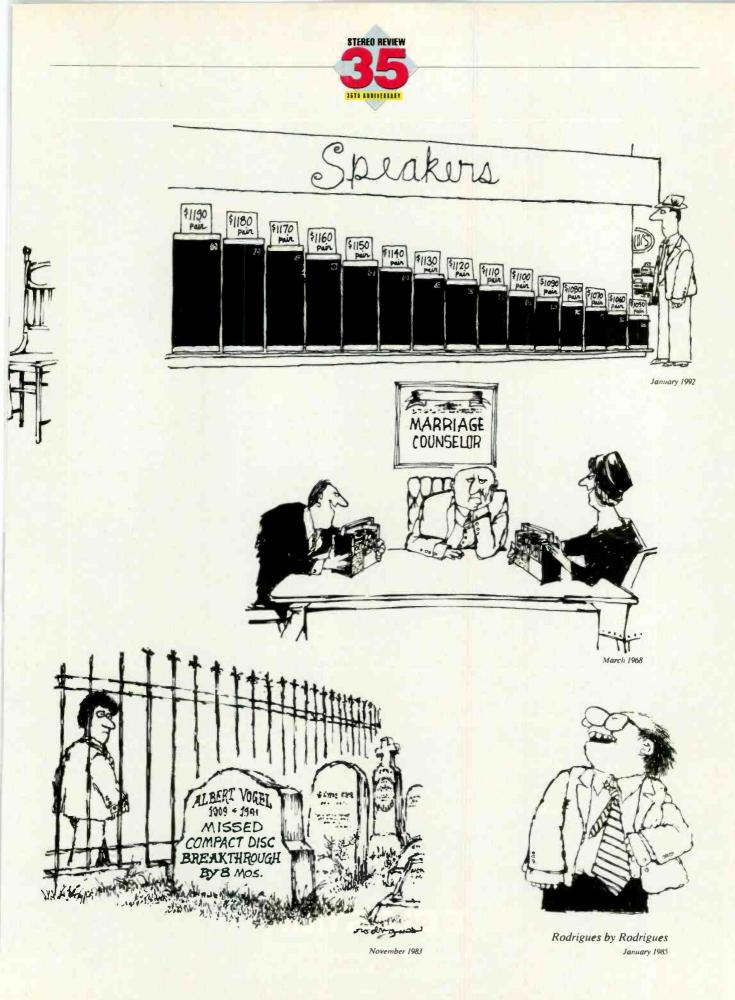
Charles Rodrigues has been making us laugh since Vol. I, No. 1 of STEREO REVIEW. Having survived into the digital age with his sense of the ridiculous intact, he plans to continue sharing it with our readers for years to come.



August 1972



August 1975



PURE PERFECTION



The unique Celestion 300 Transmission Line loudspeaker with its slim and beautifully finished cabinet, transcends expectations.

The newly designed Celestion Transmission Line system-C.T.L.*- produces a deep extended and dynamic bass response, which, combined with its perfectly balanced high fidelity sound, makes this floor standing loudspeaker a unique listening experience.

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COMBI CONNECTION

I'M not sure who coined the cliché about "the marriage of audio and video," but for years writers have used it liberally; sometimes it's apropos, but more often it's not. If there's one piece of hardware that really "ties the knot," however, it's the combi-player.

Combis come in a variety of forms, but their hallmark is the ability to play 8- and 12-inch optical videodiscs, usually called laserdiscs, and CD's. And, although all combi-players are equipped with a wireless remote control, some are designed for the inveterate couch potato and play both sides of a videodisc so you don't have to flip the disc manually every hour or so. A few are combi-changers that handle as many as five CD's on a rotating carousel. Some combis even have built-in karaoke, or sing-along, systems with microphone inputs, a pitch control, digital reverb, and, in some cases, lead-vocal removal. In whatever form, combi-players have given new life to disc-based video and new meaning to home entertainment. If you see one in your future and need to know more, read on.

First Things First

CUBII

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In choosing a combi-player, you must first decide *how* the player will be used in your system. Will it be the video centerpiece of your home theater, or will it share program honors with a hi-fi VCR? On the audio side, will it be your *primary* CD player? Or will serious listening be done with other equipment? Are you into karaoke? (It can be addictive!) Or do you prefer to confine your singing to the shower? If you're not sure, check out a karaoke bar before you buy a combi-player. It makes more sense to buy a player with built-in karaoke than to add it later.

However you answer these questions, I advise you to think of a combi-player first as a video source, and only then as an audio source. If you're exclusively interested in playing CD's, buy a CD player. Don't get me wrong. Technically speaking, a combi-player can do a fine job of playing CD's, but it's a waste of money if you're not going to use it for video.

There's another reason to place the emphasis on *video* performance. Even if you have a hi-fi VCR to play rental tapes and record TV programs (laserdisc players cannot record), once you experience laserdisc quality you're unlikely to settle for anything less. Pictures are sharper. Colors are clearer. There's less snow and less color blotching.

And the sound of today's laserdiscs is super—far better than that of videotape because it is digital, just as it is on CD's. You may come across a few old videodiscs with only analog soundtracks and CX noise reduction, but these are going the way of the horse and buggy. Don't worry: Combi-players handle analog soundtracks automatically and produce sound from them that's on par with that of a hi-fi VCR.

Laserdisc players have actually been around longer than CD players, but the format was slow getting off the ground because of the relatively limited availability of laserdiscs in the rental market (which has always struck me as odd since laserdiscs, being practically indestructible and nonrecordable, would seem to be the *ideal* rental medium). In the past year or so, however, laserdisc rental outlets

Whał ło look for in a combi-player





Pioneer's CLD-M401 (\$760) is a five-disc carousel-type CD changer and laserdisc player in one; you don't have to remove CD's from the tray when a laserdisc is inserted for playback. It features a "front surround" mode and a shuttle dial.

Kenwood's LVD-820R (\$899) features a "Midnight Theater" audio-compression mode that boosts quiet dialogue passages and softens loud sounds. It also offers automatic dual-side video playback and digital time-base correction.

RCA's LDR600 (\$749) has a novel "16x9 CinemaScreen" mode for displaying widescreen-format video programs on a compatible TV. Highlights include automatic dual-side playback and an S-video output with comb filter.

Denon's LA-3100 (\$1,200) features an 8-bit digital memory for video special effects, automatic dual-side playback, two S-video outputs with comb filters, and a jog/shuttle dial on both its front panel and its remote control.

The digital servo mechanism in Panasonic's LX-600 (\$800) is said to improve picture and sound quality as well as track/chapter access time. The player also features dual-side playback and digital time-base correction.

The Realistic MD-1000 (\$400) from Radio Shack features a memory mode to resume playback where you left off, sequence programming for twenty CD tracks or video chapters, on-screen display, and both analog and digital audio outputs.







have become more widespread in major urban areas, and laserdiscs are available for purchase both by mail order and through major chains like Tower Records.

The Video Side

If you're considering an upscale combi-player, one of the first things to look for is *digital frame memory*. This not only upgrades performance, but it allows for some very useful specialeffect features that would otherwise be lacking when you're playing the most popular type of laserdisc. That's right, there are two kinds of laserdiscs: CAV (constant angular velocity) and CLV (constant linear velocity). Each has strengths and limitations, but the CLV type is far more common.

To understand why, it's best to start with an explanation of CAV type discs. As the name implies, CAV discs spin at a constant *angular* rate: 1,800 revolutions per minute, or 30 per second. Since video frames (pictures) occur at this very same rate, each frame occupies a track length equivalent to one revolution of the CAV disc.

Under these conditions, special video features—like freeze-frame and slow- or high-speed scanning forward or backward—are easily achieved. All that's necessary is to keep the disc spinning and either freeze or move the laser pickup along the disc radius at the desired speed. It also happens that each frame on a CAV disc has its own address code so that it can be easily located. This makes CAV discs ideal for interactive applications like whodunnit games and self-help productions ("Improve Your Golf," etc.), since playback can be directed to any chapter or frame by the user.

The problem with CAV discs is their short playing time. Because each frame occupies one entire revolution of the disc—whether the space is physically needed to accommodate the video information or not—a 12inch CAV disc accommodates only 30 minutes of full-motion video per side.

Unlike the CAV variety, CLV discs allocate a specific *length of track* for each frame. Near the center of the disc, where the track length is smallest, the disc spins at 1,800 rpm and one frame occupies the full track. As the laser scans towards the outer edge and the track length increases, the disc gradually slows to keep the linear track velocity constant. By the time the laser reaches the outer circumference of a 12-inch disc, the speed has dropped to 600 rpm, enabling three frames to fit into one revolution.

Karaoke Tips

If you're interested in a karaoke-ready system, there are four key things to investigate:

Vocal-enhancement

options and their sound quality. Karaoke players typically employ DSPbased reverberation to "enrich" your volce and make you sound better than you thought you ever could. But the systems differ in quality and realism, so you should try them out. Some karaokeequipped cambi-players also use the DSP system for sound-field simulation, which means that you may be able to recreate a concert hall, a stadium, or some other ambience effect when playing a CD.

• Pitch-control range.

Many karaoke players enable you to vary the pitch of the musical accompaniment to sult your vocal range.

• Number of microphone inputs and the quality and flexibility of the

microphone-mixing facilities.

Two microphone inputs will come in handy if you plan on crooning with a friend.

• Effectiveness of the lead-vocal removal system.

Does it do a good job of suppressing the vocals on a CD so you can substitute your own golden-throated tones? (Karaokespecific discs are usually recorded without a lead vocal.)

Since CLV discs make more efficient use of their recordable area, they have twice the playing time of CAV discs (1 hour per side); that's why they're far more popular. The downside is that special effects like freezeframe and slow- and high-speed scanning are difficult to attain because the number of frames per revolution varies with the portion of the disc being played.

Digital frame memory restores these features to the CLV format by providing the ability to store a frame as it is read from the disc and to read it again and again from memory. This provides basic freeze-frame action. Multispeed scanning is achieved by adjusting the rate at which the memory is updated. You don't get direct access to each frame, as is provided by the CAV frame-numbering system, but you do get all of the motion special effects of a good videotape system (including jog/shuttle dials and the like) with laserdisc quality.

Digital technology can also be used to enhance performance. Digital timebase correction, for example, keeps pictures rock steady provided you have a good monitor. Multiline digital comb filters separate chroma (color) from luminance (brightness) information more cleanly than typical analog filters, which means better resolution (picture sharpness) and less "dot crawl" on sharp edges. By averaging video signals on a frame-by-frame basis, digital memory can also be used to reduce picture "noise" (snow and color blotching). But whenever video signals are averaged to reduce noise. some blurring and loss of picture resolution will occur during fast-moving scenes. The more averaging that's done, the less noise will be apparent. On the other hand, too much averaging causes unacceptable blurring, so this is a feature that you want to be able to control and defeat when it's not needed

With most laserdiscs you shouldn't need much (if any!) video noise reduction, so it's a shame to sacrifice the format's superior resolution needlessly. Laserdiscs provide better signalto-noise ratio (typically 48 dB or more) than either VHS or S-VHS videocassettes and horizontal resolution that's *at least* equivalent to S-VHS and vastly superior to conventional VHS.

In some cases, especially when using a player that has a digital comb filter, it may make sense to use the Svideo output to feed your monitor. (An S-video connection keeps the chroma and luminance parts of the signal separated on their way to the monitor. Pin-jack hookups transfer composite video, in which the chroma and luminance information is combined.) It depends on the relative quality of the comb filters in the laserdisc player and in your video monitor. If your monitor has the better comb filter, use the composite connection; if your laserdisc player has the better filter, use S-video. Of course, an S-video connection assumes that your monitor is fitted with an S-video input. If it isn't, it may be time to upgrade; if it is, try both composite- and S-video connections and choose the one that gives the better picture.

The Best of Everything

if cost is no object, here are some features to consider in choosing the "ideal" combi-player:

Audio Features

• Everything you've come to expect from a quality CD player—like a dynamic range of 96 dB or more, negligible distortion, and response from 20 to 20,000 Hz that is flat within a small fraction of a decibel.

• Digital as well as analog outputs, so you can use an external D/A converter if you want to or make direct digital copies from CD to a digital recorder.

Reasonably fast access time (not a strength of most combi-players).

• As friendly a display system as you can find (again, not a strength of most combiplayers).

• CD-changer capability (because it's nice).

Video Features

 A digital frame memory so you can have CAV-type freeze-frame and special effects when playing CLV discs.

 Multiline digital comb filters for better color separation with less dot crawl.

• A digital time-base corrector for superior picture accuracy.

Horizontal resolution of 425 + lines
 with a video S/N of 50 dB.

• A defeatable digital video noisereduction system, preferably with adjustable averaging.

Both S-video and composite-video connectors.

• A full-featured, easy-to-use (which is to say, intuitive) remote control with jog and shuttle controls.

• Full CAV capability—chapter and frame display and addressability, with reasonably swift access to any frame.

• And, last but not least, dual-side

playback (because you're a couch potato at heart).



Sony's MDP-455 (\$599) is equipped with memory indexing for quick access to CD passages or video scenes, eleven speed-play modes, and digital circuitry for time-base correction and dropout compensation.



Special video effects like freeze-frame, strobe, and picture recall are the province of the Philips CDV-600BK (\$1,100). It also features S-video and fiber-optic digital audio outputs and five CD repeat modes.

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Samsung's DV-505K (\$650) boasts a karaoke section with two microphone inputs and controls for vocal/music balance and vocal

echo-guaranteed to be the instant favorite of all Elvis Impersonators.

The Audio Side

As far as audio performance is concerned, shopping for a combi-player is pretty much like shopping for a regular CD player. The digital-to-analog (D/A) converter chips used in today's top combi-players are similar or identical to those used in midprice CD players. You'll find dual 1-bit converters as well as traditional multibit converters claiming 16- to 20-bit resolution. Performance specifications are similar to those of midprice CD players, too perhaps a trifle less impressive than top-of-the-line CD players because of the presence of the video circuitry and the possibility of noise contamination, but certainly adequate.

As noted earlier, although most combi-players accommodate only one CD at a time, a few feature five-CD carousel-type changer mechanisms. And with some of these combi-changers, you can even leave a set of CD's in place while you load and play a laserdisc. But track-access time is likely to be less swift on a combi-player than on a dedicated CD player, and the combiplayer's design may force you to use your TV for a display. Just be aware of the limitations and judge accordingly when you shop.

SPECIAL ADVERTISING SUPPLEMENT

SOUND THAT MOVES

America's almost century-long love affair with the automobile and the lifestyles that relationship has created are unique in all the world. Nowhere else has so much effort and energy been expended on the adaptation of hardware to the special needs of the mobile audiophile. The challenges la d down by automotive sound have created a whole industry and allowed the development of a global marketplace for American technology and engineering excellence. What began long ago as a afterthought is now a multibillion dollar business responsible for some of the most creative and unique technical innovations ever brought to the world of audio. When this all began a half century ago who would have imagined the power and precision reproduction available today with the first dedicated car radio speakers and electronics. The stories that unfold on the fellowing pages tell the history and show the drive and dedication of the all-American innovators who gave the world sound on the

move."

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SPECIAL ADVERTISING SUPPLEMENT

INTERNATIONAL JENSEN INC.



Made in the U.S.A.? You bet. International Jensen Incorporated (IJI) is the largest vertically integrated manufacturer of car speakers in the USA. It started more than three quarters of a century ago when a brilliant young Danish immigrant named Peter Jensen invented what we know today as the modern loudspeaker. That single device was the foundation upon which the power of American innovation built the high-fidelity industry.

In 1927, the Jensen Manufacturing Company produced the world's first commercially available movingcoil direct radiator loudspeaker, the

first permanent magnet dynamic loudspeaker, and the first commercially available compression-driven horn tweeter, followed soon by the first molded hi-fi speaker diaphragm.

Creativity and innovation continued to be essential parts of the Jensen philosophy. In 1932, the company produced a series of loudspeakers specifically designed to match the first automotive radios, produced by another all-American pioneer, Paul Galvin of Motorola. Once again, Jensen was



the trailblazer in opening another new market and creating another whole industry—mobile audio. The pursuit of ever-higher fidelity in the automobile, exemplified by the explosive growth of FM radio, brought forth the first true high-fidelity car stereo speaker in 1972.

The mid-1970s saw the birth of a legend in automotive sound—the Jensen Triaxial(R) 3-way car stereo speaker system. Suddenly the performance capabilities of home audio were available in the car.

The Jensen legacy of American engineering excellence and innovative products is now part of International Jensen Incorporated. The IJI family of companies includes: Acoustic Research, Advent, Advent Mobile, Day Sequerra, Magnat, NHT, and Phase Linear. Although its headquarters are in Lincolnshire, Illinois, IJI manufactures its own metal and plastic in Pennsylvania and magnets in Texas.

Voice coils and cones are made in their North Carolina plants, where final assembly occurs. These companies prove that Made in the USA means high-quality, globally competitive products.

Industry recognition of the commitment to engineering and design excellence at IJI was shown when the company received an impressive six Design and Innovation awards at the 1992 Summer Consumer Electronics Show. Among those was an award for the unique Jensen BBE amplifier and the newest Jensen Triaxial.

Today, Jensen has 1,600 employees across the U.S. who are continually refining and improving the products. Jensen has recently introduced a new series of receivers featuring detachable receiver security panels. Advent Mobile's U.S.-made speaker line with ICT (Inductive Coupling TechnologyTM) is unique in America because the ICT plug cannot be blown like a conventional tweeter. The low-profile design fits behind virtually all OEM grilles. And its performance has been acclaimed by critics from sea to shining sea. The Phase Linear car audio line has graphite cone speakers that offer superior responsiveness, and Phase Linear Series 48 models allow the purchaser to customize and grow their system, since the speakers operate in 4- or 8ohm loads.

The long heritage and many firsts associated with the Jensen name continue to drive the engineering and product development professionals at IJI who are dedicated to producing Americanmade quality audio systems.

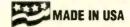
Jensen

Creativity and innovation continue to be essential parts of the Jensen philosophy.

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SPECIAL ADVERTISING SUPPLEMENT

PYLE



For more than four decades the American heartland has been home to a company whose name is synonymous with superior quality, high power loudspeakers. Pyle Industries, in Huntington, Indiana, is a classic example of American entrepreneurship, dedication to quality, and the best traditions of all-American craftsmanship.

Collectively, the key members of the Pyle team have amassed more than three centuries of experience in the design and engineering of loudspeaker products. This amazing resource base was started when key individuals at Pyle were also an integral part of another legendary name in American audio—Utah. That company's loudspeakers, made just a few miles from the current Pyle factories, led the way in innovative engineering throughout much of the 1950s, 60s and the early 1970s.

Frank Pyle and his son Frank Pyle Jr., along with other family members and associates, founded Pyle and are still actively involved in every facet of the business. This homegrown, individualistic and uniquely personal style is refreshing in an industry often known more for its faceless mega-corporations. Pyle's more personal approach allows them to produce products that deliver performance without compromise.

That same style continues throughout the organization, all the way to the factory floor. For example, in an industry where many companies mass produce thousands of drivers each hour and batch test just a few on automated equipment, each and every speaker Pyle produces is built by hand and individually tested and approved before packaging and shipping. The workforce at Pyle takes great pride in being able to marry the latest technologies and materials with the superior, artisan-like quality that this personal attention provides.

Ever since the company developed and marketed the first genuine high power woofers in the late 1960s, it has sought to extend the potential for mobile audio to new levels. This desire produced the now legendary Pyle Driver and multi-element car stereo speakers in the 1970s. In the 1980s, Pyle engineers, pushed by a passion for audio perfection, designed a series of enclosed systems optimized for specific types of vehicles, again breaking new ground in mobile fidelity and power. By doing this they were able to maximize performance for their customers and eliminate many of the variables that negatively impacted realworld installations.

Now in the 1990s, Pyle again has raised the standard with the introduction of its World Class subwoofers, full range Pounder(r) systems and ToobzTM bass systems. The all-American technological basis for the sonic and mechanical performance of the company's loudspeakers is the merging of IronClothTM spider material with Iron-GlazeTM magnet wire coating to produce Iron-MaxTM, the industry's most indestructible voice coil and motor assembly.



By integrating and controlling a proprietary mix of precision materials, Pyle has created a series of subwoofers and other products that exceed every measurable standard for ruggedness, resistance to failure, and pulse-pounding performance. The use of massive magnetic configurations, vent-cooled motor structures, high energy rare earth Neo-Dome™ tweeters, ProLinear™ polyfoam suspensions, and polymer laminate cones provide the professional mobile sound installer and audio enthusiast with a carefully crafted collection of units to meet any requirement.

The multi-generational heritage of innovation and no-compromise engineering has built Pyle into one of America's leading mobile sound technology companies. As the choice of enthusiasts worldwide, Pyle is now guiding the development of products that will continue to change the rules for sound on the move.

Pyle

Pyle Industries' personal approach allows them to produce products that deliver performance without compromise.

Sound that makes an Impression

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After all, isn't making a great impression what it's all about? New Pyle multi-element automotive speakers combine exciting technical innovations and handcrafted quality to deliver impressive clarity and outstanding power.

Our new high performance, rare earth neodymium (NeoDome¹⁴) tweeters give you exceptional output in small spaces, while our exclusive IronMax** technology virtually ensures an indestructible voice coil and motor assembly.

Impressive? Sure, but we think you'll find Pyle sound even more impressive visit the Pyle dealer nearest you and listen for yourself.



Made in U.S.A.



We've created four distinctive categories of multi-element speakers: New Wave " Multi-Element Speakers, Pyle Driver" Multi-Element Speakers, Pyle Driver® Drop-In Replacement Speakers and Pyle Driver® Component Systems.



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A Harman International Company

CIRCLE NO 41 ON READER SERVICE CARD

lucinda uilliams

by alanna nash

Y the time Lucinda Williams logged two semesters at the University of Arkansas in Fayetteville, she had already lived in Jackson and Vicksburg, Mississippi, Atlanta and Macon, Georgia, Lake Charles and Baton Rouge, Louisiana, and Mexico City and Santiago, Chile. Her father, the poet Miller Williams, taught creative writing, and so the

family picked up every few years and moved to yet another college town almost always Southern—and another rented frame house, whatever a college professor could afford on a lowermiddle-class income.

A shy child, Lucinda liked the freshness of a new house and the excitement of fixing up her room. Still, "I was so happy if there was grass in the yard," she said, laughing, her voice crackling over the telephone from a hotel room in Buffalo. "We didn't have any money, so it was never one of these big, two-story brick houses. There was always a screen door, and it was a big deal if the house had a manicured lawn.

"I still like change," she continued in her slow, languid style. "An astrologer told me once I was always going to have a lot of nests in different places. And wherever I was, I would always make that my home."

Sometimes psychics know their stuff. Since dropping out of college in 1971, Williams has lived in New Orleans, Nashville (where she unsuccessfully auditioned for Opryland), Austin, Houston, New York, and Los Angeles. Currently based in Austin (for the second time), Williams is contemplating moving back to Nashville now that she's enjoying a higher profile, with such mainstream performers as Mary-Chapin Carpenter (*Passion*ate Kisses) and Patty Loveless (*The Night's Too Long*) covering what she calls her "country songs with rockand-roll lyrics."

The stimulation of frequent moving has paid off in big songwriting dividends for the forty-year-old Williams, since all but two songs, *He Never Got Enough Love* and *Memphis Pearl*, in her much-praised, supremely understated Chameleon album, "Sweet Old World," come from personal experience and the complexity of her intimate relationships, which always seem to swirl in chaotic motion.

Yet throughout her many moves and the evolution of her music-from covers of Delta blues in her debut album, 1978's "Ramblin'" (the first of two on Folkways) to an original hybrid of country, rock, R&B, folk, and swing first heard in her breakthrough 1988 album, "Lucinda Williams" (Rough Trade)-one thing has remained constant: Williams's total devotion to her art. And that has meant an absolute insistence on having her music recorded the way she and her co-producers, the guitarist Gurf Morlix ("my musical soulmate") and Dusty Wakeman, heard it-that is, with a stripped-down production and an energetic interplay of anticipation and release, salve and sting.

Such refusal to give in to the conventional wisdom of record-company executives, who wanted to couch her confrontationally direct lyrics, raw emotion, and poetic ruminations in slick layers of guitars, keyboards, heavy bass, and loud drum sounds, simply meant that on two occasions Williams walked away from majorlabel deals—first with Columbia and most recently with RCA—rather than compromise her sound.

"This last time," she said with a heavy sigh, "they had a guy mixing it who'd never mixed country or folk music, and an A&R guy who thought 'Blonde on Blonde' was a band. Then they tried to splice Gurf's guitar off the first session onto the second. That's when I said, 'Let me off here. I don't want to do this anymore. This is not fun.'"

Born in January 1953 in Lake Charles, Louisiana, Williams grew up the eldest of three children in a Methodist/Unitarian household, absorbing a respect for words and literature from her father and a love of music from both parents. Her mother, who'd majored in music at Louisiana State and played piano, liked the pop sounds of Judy Garland and Nat King Cole, while her dad favored country, jazz, and blues, especially Ray Charles's landmark 1962 album, "Modern Sounds in Country and Western."

When Lucinda was twelve, she picked up a guitar left at the house by a writer friend of her father. Her parents had just split up, and in the next few years a lifetime of emotion spilled out, first as she listened to the records of Hank Williams, Peter, Paul and Mary, Bob Dylan, Neil Young, and Joan Baez, trying to pick out the chord progressions on the guitar, and then, at fifteen, with the darker songs she made up after discovering Robert Johnson, Bobbie Gentry, Jimi Hendrix, the Doors, Jefferson Airplane, the Rolling Stones, and the Southern Gothic writings of Flannery O'Connor and Eudora Welty. "I spent a lot of time in my room," she remembers. "It's all I wanted to do." At sixteen, she began singing in coffeehouses and got expelled from high school for refusing to salute the flag. "I was a rebel," she said, "My dad was proud."

The books and records were an obvious stabilizing factor through all the

"Writing is the only thing I can hold on to, really."

moving around, her parents' divorce, and her father's remarriage. But songwriting proved to be an even better friend than singing. Recently, a critic called Williams's plaintive and unadorned soprano "the most expressive voice in popular music," which Williams finds baffling. She took voice lessons in L.A. and hoped in vain to replicate the high, pure tones of Joan Baez. "That's why I really pursued my songwriting," she said, freely conceding that her voice lacks an expansive range and takes some getting used to. "I felt like I was never going to be able to compete with the likes of Linda Ronstadt and all those great singers, so I thought, 'I'd better buckle down here and learn how to write songs."

Williams's writing, with the literary attention to detail that would become her trademark, was not only a way to

solidify her bond with her father (who suggested "sad blue dress" instead of "faded dress" in He Never Got Enough Love), but a form of therapy. "That's how I keep my sanity," she admitted. "It's like exorcizing, like I have to do it. It's my life blood." Divorced from Greg Sowders of the Long Ryders (many of the songs in "Lucinda Williams" are about their relationship), and currently trying to repair a strained and distant relationship with her siblings (she wrote Little Angel, Little Brother about her own brother, Robert), Williams feels that her writing is "the only thing else I can hold on to, really."

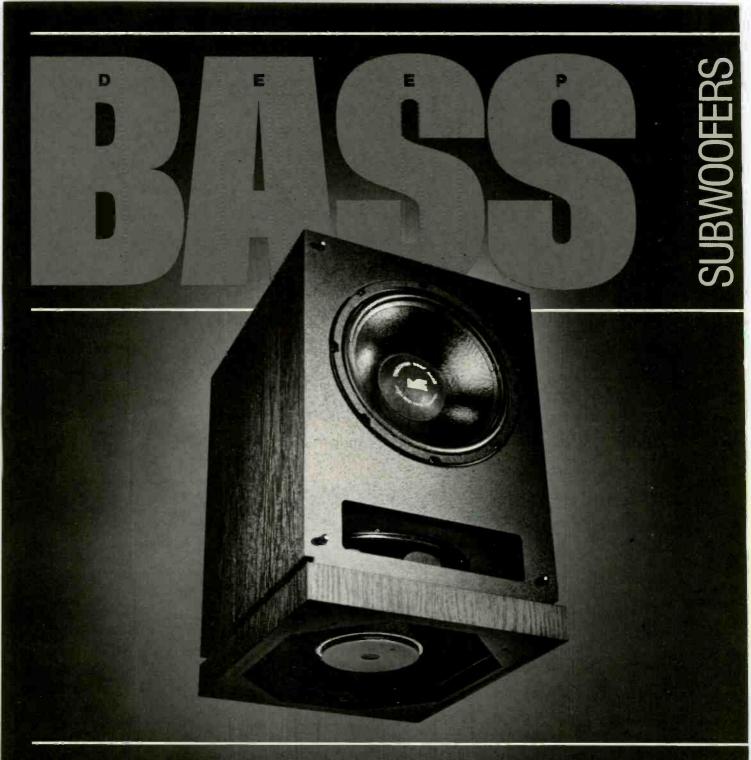
Not even the happy four-year romance she's alluded to in interviews?

She erupted into wild laughter. "We broke up. I just said that because I didn't want people to know about my personal life. And I was trying to make myself believe that it was going to work out." A beat. "The truth is, I've never been in a happy relationship. My dream—what I've been searching for—is to find a relationship I could be in and still feel creative. I think that's a dilemma for any creative person."

If longing, desire, and the loss of love are the overwhelming themes of "Lucinda Williams" (recently rereleased on Chameleon, along with the Rough Trade EP, "Passionate Kisses"), her new album, "Sweet Old World," cuts a deeper groove in the heart from the more profound losses of alcoholism, child abuse, and suicide. Two songs, in fact, deal with suicidethe title song, which details the simplest and truest pleasures of being alive ("The sound of a midnight train / Wearing someone's ring"), and Pineola, a chilling short story told from the point of view of the survivors that rivals the work of any of Williams's literary idols.

Williams presents these stories with so much heart, grace, and kindness (she asks in *Sweet Old World*, "Didn't you think you were worth anything?"), you get the feeling that if she'd just been able to talk to the departed beforehand they'd still be around. Such vulnerability is what separates her work from the melodrama and overblown formulas that dominate country radio. But Williams figures she doesn't have much choice.

"I have people constantly asking me, 'How can you show yourself like this? Don't you feel self-conscious about it?' And I say, 'I just feel like it's necessary.' I want to make people think, and make a statement. Otherwise, what's the point?"





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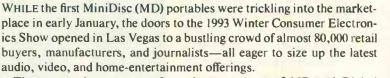
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SHOWSTOPPERS





There was plenty to see: from the next wave of MD and Digital Compact Cassette (DCC) components, highlighted by the first production-ready car players from Sony (MD) and Panasonic (DCC), to demonstrations of revolutionary products using digital signal processing to improve speaker performance by correcting for listening-room deficiencies, to impressive new home theater speaker ensembles from KEF, B&W, and others. In addition to showing a preliminary version of its forthcoming Home THX Reference Series, KEF demonstrated a simpler five-piece Reference Series grouping that should be available this spring for about \$3,000.

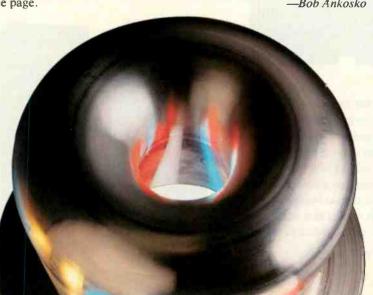
The first acoustically transparent front-projection video screen also made a splash. Uni-Screen's THX-certified AS 1000 boasts an incomprehensible 57,600 perforations *per square foot*, which means that you can place a center-channel speaker directly behind it. Diagonal screen sizes from 72 inches (\$1,295) to 125 inches (\$3,095) are available.

FM radio even made a rare appearance in the CES spotlight as Blaupunkt, Denon, Kenwood, Onkyo, Sony, and others displayed tuners featuring the new Radio Data Broadcast System (RDBS). RDBSequipped tuners convey information such as a station's call letters and music format (country, rock, etc.) on an oversize display, and RDBS car tuners also automatically receive traffic bulletins as well as switch to alternate frequencies to improve reception. Denon is expected to offer two RDBS car cassette receivers this spring at \$450 and \$600.

Other products deserving a mention include Martin Logan's forthcoming hybrid electrostatic center-channel speaker, Digital Phase's AP.5 minispeaker, which uses a patented technology to achieve deep bass from a 4-inch woofer, and NHT's four-way Model 3.3, an unusual speaker designed for consistent bass-loading. For a glimpse of some of the items that stopped STEREO REVIEW's editors in their tracks, just turn the page. —Bob Ankosko



New products from the 1993 Winter Consumer Electronics Show





Coustic's DR-328 BassPump (\$179) is a compact car subwoofer system that bolts to the rear deck much like other speakers; installation requires 9 inches of clearance beneath the deck. The system is optimized for "free-air" loading, so an enclosure is not necessary. Output from its two 8-inch woofers is channeled into the interior via a 4-inch port. Frequency response is rated as 35 to 2,000 Hz – 3 dB.



Altec Lansing's six-piece home theater speaker package (\$3,000) gets the nod for being the least-expensive THXcertified combo yet. It includes the AHT-2300 subwoofer, featuring two 10-inch drivers, a built-in 100-watt amp, and a low-frequency limit of 26 Hz.



Surround-channel chores in Altec's Home THX package are handled by a pair of 15% x 11 x 61/4inch AHT-2100 wallmount speakers, each of which houses two 4-inch woofers, a pair of 31/2inch midrange drivers, and two 3/4-inch tweeters. The midranges and tweeters are on angled panels to create a diffuse sound pattern.



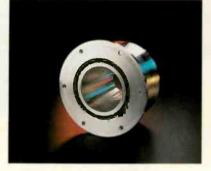
speakers—for front right, center, and left placement—are the primary sound reproducers in Altec's Home THX lineup. Measuring 7% x 15% x 7 inches, each speaker houses two 5%-inch woofers and a ½-inch dome tweeter. Frequency response is rated as 80 to 16,000 Hz ± 3 dB and power handling as 100 watts.

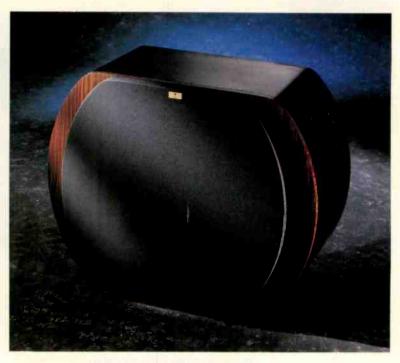












Parasound's GMAS-18 powered subwoofer (\$3,600)-appropriately dubbed the "Great Mother of All Subwoofers"-is the first American-made speaker to use a new high-efficiency magnet technology developed by a company called AuraSound from a patent

once held by the Russian government. The post-Cold War payoff: clean transient response to below 16 Hz-even at high output levels. A built-in 800-watt amplifier powers the 18-Inch driver. Cabinet dimensions are about 36 x 26 x 20 inches.



The core of Fisher's Studio 24 CD changer/management system (\$500) is a jukehox-like carousel that



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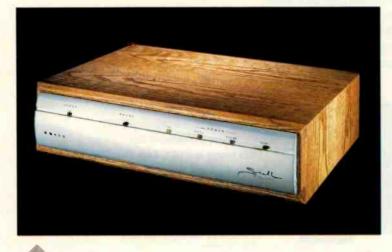
APRIL 1993 77





SigTech

Due out this summer, Panasonic's RQ-DP7 portable DCC player (\$549) features an optical digital output, a scrolling LCD readout, and a rechargeable 2-hour battery. Dimensions for the 1.1-pound unit are 4% x 1% x 4% inches.



Two years in the making, the flagship of Boston Acoustics' new high-end speaker line—the 48-Inch-tall Lynnfield Series 500L (\$5,000 a pair in rosewood) boasts two 6½-inch woofers in a bandpass enclosure that's tuned to 38 Hz. A discrete cabinet houses the midrange and tweeter, which feature aluminum diaphragms and novel acoustic filters to eliminate resonances.

Similar in principle to the Snell CQ-10 (left), SigTech's TF10D-3 TimeField Acoustic Correction System (\$4,750) goes a step further in counteracting the evils of room acoustics: It's designed to work with any high-quality speaker system. Slated for summer release, the TF10D-3 has three filter settings for different rooms or target responses.

Snell's CQ-10 digital processor (\$2,500) applies radar-evasion formulas developed for the Stealth Bomber to home audio. The goal: To make the unwanted effects of listening-room acoustics—those caused by boundary reflections and standing waves— "disappear." The CQ-10 includes a plugin card with correction coefficients for a specific Snell speaker. The first card, due out this spring, is for the Type B speaker. RCA's ProScan PS34190 CinemaScreen TV (\$4,999) is the first U.S. set with a theaterlike 16:9 aspect ratio. It boasts a 34-inch diagonal screen, dual tuners for splIt-screen viewing, three Image-expansion modes, including one for letterboxed movies, and a Dolby Pro Logic audio package.



McIntosh's C-39 (\$2,795) is a versatile preamp offering six audio and six A/V inputs, a front-panel set of camcorder inputs, and a Dolby Pro Logic decoder with surround delay and level controls. An add-on Home THX module is \$410.



The world's first MiniDisc changer accepts three MD's and is built into Sanyo's MD-300 car stereo head unit (\$1,000), which sports a built-in tuner/ preamp, controls for two Sanyo CD changers, and a detachable faceplate for security. MD features include a buffer memory that holds 10 seconds of music to prevent gaps in playback when the going gets rough and CD-like functions such as repeat, scan/search, and shuffle play. Slated for release this summer, the MD-300 will fit into the dashes of most vehicles.





Kenwood's \$2,000 home theater duothe KM-X1 six-channel amp (top) and the KC-X1 A/V controller/tuner-constitute the lowest-price Home THX-certified electronics package available as of this writing. The KC-X1 offers several surround modes including Home THX Cinema, Dolby Pro Logic, and DSP Logic, five audio and four video inputs, and five video outputs. The KM-X1 delivers 100 watts into each of six channels.

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Meet the Loud Family

ET'S face it: Smart rock doesn't sell. Despite the best efforts of critics, despite the support of introspective collegiate humanities majors who have assimilation problems, even despite the soft spot certain record companies occasionally show for music with a brain, the market share is marginal. Therefore, to persevere at making hyperliterate music that has complex motives and is densely constructed relative to the immediate sparkle and shine of mainstream chart music, that is—is an act of bravery, commitment, or lunacy.

Scott Miller, the former leader of Game Theory, now the head of household for the Loud Family, whose Alias debut, "Plants and Birds and Rocks and Things," has just been released, probably has no choice in the matter. Like Robyn Hitchcock, Thomas Dolby, Michael Stipe, and Paul Westerberg, he is an entity unto himself, taking dictation from a mind working overtime without stopping to consider the possibility of success or banishment. Problem is, those others have squeezed through the needle's eye to varying degrees, while Miller still labors in semi-obscurity, his back catalog bulging like Ph.D. theses interred in some musty corner of a rarely visited library.

But maybe this fresh start with the Loud Family will kindle interest in the Miller oeuvre. Imagine a cross between Alex Chilton, James Joyce, and the Electric Prunes. His oblique but arresting musical overview cross-fertilizes guitar-driven power pop with realityaltering psychedelic flourishes and the studio technocrat's version of Burroughsian cut-and-paste. Songs begin in the middle, dissolve into one another, end abruptly, are interrupted with effectssamples, disembodied voices, computer-altered instrumentation, what-haveyou. Clearly, Miller views songs not as fixed entities but as a kind of amorphous musical Play-Doh to be shaped as much by whim as rules, giving latitude to experimentation and chance to make an event out of the recording process.

Abetted by producer Mitch Easter, who knows from both the accessible and deconstructionist ends of the pop spectrum, Miller and the Loud Family have fashioned "Plants and Birds and Rocks and Things"—title derived from America's *Horse with No Name* (!)—into a kind of aural sculpture, a hologram for the ears and a hypnotic for the mind. In terms of Miller's previous work, the album is a bulky, experimental tour de force, like "Lolita Nation," while incor-

TORENVALIAS

ROBERT 1

PHOTO-



The Loud Family (Scott Miller, center): pushing the envelope

porating some of the song-oriented, listener-friendly appeal of "2 Steps from the Middle Ages," the final Game Theory effort. The lyrics for these nineteen songs are dense, private cryptograms, the subjects ranging from the peculiar calculus of relationships to the onset of intellectual entropy in society as seen in the behavior of individuals, most often aimless youth.

Musically, the album is a trip for adventurous ears. Like the changing patterns inside a kaleidoscope, you never know which way the colored bits will array themselves. Every so often, the Loud Family will reward your perseverance for hanging tough through the more intricate passages with a killer chorus, like those in *Take Me Down (Too Halloo)* and *Idiot Son*. In the end, Miller probably thinks too much, but he knows intuitively when to back off and sugarcoat and when to push the envelope.

"Plants and Birds and Rocks and Things" is not so much an album as a slalom run through the cerebellum. It's pop enough to hook you and sufficiently challenging to ensnare you in its intellectual/aesthetic web. Parke Puterbaugh

THE LOUD FAMILY

Plants and Birds and Rocks and Things He Do the Police in Different Voices; Sword Swallower: Aerodeliria: Self Righteons Boy

Swallower; Aerodeliria; Self Righteous Boy Reduced to Tears; Jimmy Still Comes Around; Take Me Down (Too Halloo); Don't All Thank Me at Orace; Idiot Son; Some Grand Vision of Motives and Irony: Spot the Setup; Inverness; Rosy Overdrive; Slit My Wrists; Isaac's Law; The Second Grade Applauds; Last Honest Face; Even You; Ballad of How You Can All Shut Up; Give In World ALIAS A033-D (59 min)

Günter Wand's Compelling "Pathétique"

N his newest RCA Victor recording with the NDR Symphony Orchestra, Günter Wand is a long way from the Brahms and Bruckner we associate with his name, but he gives stunning assurance that he is no less at home in the improbable-looking coupling of Tchaikovsky's valedictory symphony, the "Pathétique," with Stravinsky's *Pulcinella* suite. I am convinced that these pieces were not chosen for the sake of novelty, but because both of them mean something special to this conductor.

Wand seems to home in on *Pulcinella* as if by instinct, with precisely the right



balance of elegance, broad humor, and warmth of heart. I cannot recall another performance of this charming but frequently elusive score so thoroughly refreshing or all-round satisfying. Another resounding validation of Wand's insistence on recording live, it is sensibly placed first on the disc, as it surely was in the December 1991 concerts from which both of these performances were taken. Fine as it is, it would have been shatteringly anticlimactic following any decent performance of the "Pathétique," and this one is a great deal more than decent. I would not hesitate to classify it as one of the most compelling accounts of this supposedly overexposed work to come my way in more than a half-century of



Conductor Günter Wand: at once objective and involved

active listening. It is on a level with Igor Markevitch's legendary version with the London Symphony (now available only in a four-CD set on Philips) and perhaps a handful of others in recorded form.

Of course, it is utterly free of any hint of hysteria or indulgence or eccentricity. Wand manages to be at once objective and "involved." That is, his emphasis is on structure, design, proportion, but he does not attempt to ignore the obvious emotional character of the work or to pretend it is unimportant-he allows it to develop out of the score, as naturally as the orchestral colors themselves. Tempos throughout the four movements are invariably convincing, the sense of momentum magnificently sustained. The outer movements are not merely powerful, but noble and exalting in a way that commands new respect for Tchaikovsky's own tastefulness as well as his great originality. The brass figure just before the final climactic statement of the march theme in the third movement might have been brought forward a bit more, and there are some reminders between movements that an audience was present, but overall the recording itself is absolutely first-rate, allowing the music to sweep everything before it. **Richard Freed**

TCHAIKOVSKY: Symphony No. 6 ("Pathétique") STRAVINSKY: Pulcinella, Suite NDR Symphony Orchestra, Wand RCA VICTOR 61190 (66 min)

Joan Baez's Covert Politics

HO would have thought that thirty-three years after her recording debut, and fifteen years after her last album on a major label, Joan Baez would make one of the finest records of her career? Surprises, however, are hardly in short supply in "Play Me Back-wards." Like Baez's 1972 effort "Come from the Shadows," the new album was recorded in Nashville, the only recording center that holds melody and story in as high regard as Baez does, and the best place for supplying the precise acoustic touches that give this album its resonant texture.

Yet "Play Me Backwards" is far from a country record. Just as it is also far from being a political record in the old sense of the word, even though the best song, the folk-rock Stones in the Road, comes from a current country star-Mary-Chapin Carpenter-and carries a political, moral, and social stick big enough to knock the yuppie generation senseless. The song suggests that today's aging baby boomers may have grown up cleaning their plates out of guilt over starving Third World children, but, whether desensitized by the political assassinations of the Sixties or their own selfishness, they have matured into materialistic adults who cheat on their expense accounts and can't look the homeless in the eye.

Instead of overt politics, the fifty-twoyear-old Baez, who co-wrote half of the program with her producers, Wally Wilson and Kenny Greenberg, seems most concerned with spiritual connectionfrom the ancient story of Isaac & Abraham, to lovers separated by geography but joined at heart (the exquisitely beautiful Steal Across the Border), to visiting with far-away or deceased parents in visions and dreams (the twin tunes The Dream Song and the Dylanesque Edge of Glory).

The theme carries throughout. In John Hiatt's Through Your Hands, an angel comes down to offer a warm coat to the occupant of a park bench and to promise a time of great action and great deeds. And in John Stewart's Strange Rivers, it is destiny and the pull of unseen forces that rule our lives.

If the overtly political times have changed, Baez's taste in music has likewise mellowed. I'm with You is the kind of pop confessional Baez would have

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PHOTO. LONDON RECORD

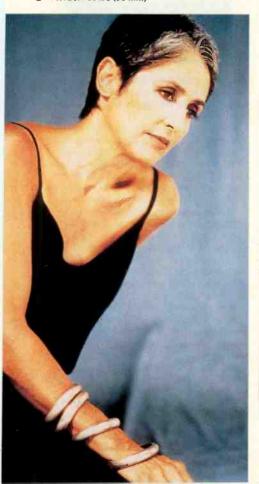
turned up her nose at years ago, as is the wistfully seductive Janis Ian-Buddy Mondlock song, *Amsterdam*, the album's second strongest offering, which details how the slightest thing—"Just the scent of perfume on the linen...just a ghost in the steam on the mirror"—hurls the heart into remembering "the taste of the kiss" and the "graceful goodbye" of a much-missed, long-ago lover.

As a singer, the mature and relaxed Baez isn't nearly the strident presence she was even as recently as a decade ago, though her phrasing remains somewhat clipped. Her tremulous vibrato is slower and less intense, her middle range larger, as if full of compassion for her material. In short, she is easier to take, and to appreciate, for longer periods at a time. What hasn't changed is the power of her instrument. When she hits the shimmering notes at the top of her register, not even the bravest spirit—on high or elsewhere—would dare to interfere. *Alanna Nash*

MELA

JOAN BAEZ Play Me Backwards

Play Me Backwards; Amsterdam; Isaac & Abraham; Stones in the Road; Steal Across the Border; I'm with You; Strange Rivers; Through Your Hands; The Dream Song; Edge of Glory VIRGIN 86458 (36 min)





A String Quartet That Swings?

HE Balanescu Quartet is Britain's answer to the Kronos Quartet. Just as the Kronos Quartet has looked to the Old World for a lot of its new music, the Balanescu has turned to the new American generation, in-

cluding composers better known for pop music such as David Byrne.

Byrne's brief High Life is an art rocker's appealing take on contemporary African pop music as transposed for classical strings-nine of them here, overdubbed by the four players of the quartet. John Lurie, founder of the Lounge Lizards, shares with Charlie Chaplin the distinction of having written music for films in which he stars. Stranger than Paradise, probably the best of the low-budget Jim Jarmusch "cult" movies starring Lurie, has a low-key, laid-back score that adapts itself quite well to string-quartet treatment, especially with two strong improvisational movements.

Michael Torke's liner-note comments about "life lived without apology or restraint" might lead one to expect something wild from him. In fact, *Chalk* is a highly controlled work, squarely in the great Western tradition (much more so than anything else in this album). It also just happens to be one of the best new works for string quartet in a long time.

In comparison, Robert Moran's adaptation of music from his opera *The Towers of the Moon* seems light and sweet. Moran's evolution from a ferocious, big-scale, Cagian-conceptual avant-gardism to the gentleness and elegance of music like this is one of the more remarkable composer transformations of modern times.

The Balanescu Quartet, led by Alexander Balanescu, is an excellent ensemble that combines Old World discipline with a much looser and more contemporary New World style and feeling; as David Byrne says, the quartet "truly swings." Tim Simmons's hilarious serial-killer portraits of the musicians take the curse off the ultra-serious liner notes, just as the quartet's flexible programming and performing takes the hard edges off the ultra-serious European string-quartet tradition. Eric Salzman

BALANESCU QUARTET

Byrne: High Life for Nine Instruments. Moram: Music from "The Towers of the Moon." Lurle: Stranger than Paradise. Torke: Chalk. ARGO 436 565 (52 min)



BLACK 47 SBK 80971 (27 min) Performance: Rousing Recording: Good

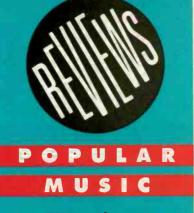
f you want to hear the pluck of the Irish, Black 47 is for you. This Irish-American sextet blasts away at all the usual targets-the British, provincialism, the British, exploitation of the working class, the British-and manages to seamlessly combine traditional folk sounds, primarily the uilleann pipes, with a hard-charging rock attack. All of the five songs on this EP are outstanding, but Funky Céili (Bridie's Song) is a classic number about expatriate bad luck: A young Irish lad gets fired from the bank only to have his girl friend tell him, "I'm two months late and it's not with the rent." Her father forces him to emigrate to America, where he loves his rock band but misses the lass terribly. Finally, he urges her to join him in the golden land where "the pubs never close." Throughout this rollicking tune, pipes and guitars trade off in exhilarating Celtic bursts. Even if you think you've heard enough Irish bands to last a couple of lifetimes, here's another worth living for. RG

TERENCE BLANCHARD Malcolm X

COLUMBIA CK 53190 (58 min) Performance: Big

Recording: Excellent

erence Blanchard's soundtrack for Spike Lee's bio-epic Malcolm X, hardly noticeable in the theater, makes a strong impression on disc. It doesn't cut across as many musical styles as Anthony Davis did in his opera about Malcolm X, nor does it have comparable intellectual reach. But it's a fine piece of work, especially coming from a musician heretofore known only as a trumpeter and small-group leader, with no experience in writing for strings or big band. Despite brief, telling solos



Discs and tapes reviewed by Chris Albertson, Phyl Garland, Ron Givens, Roy Hemming, Alanna Nash, Parke Puterbaugh, and **Steve Simels**

by the pianist Roland Hanna and that chameleon Branford Marsalis on saxophone, the emphasis is on Blanchard's writing, and the passages isolating his trumpet or the voices of the Boys Choir of Harlem are especially moving-far more effective than the movie itself in suggesting Malcolm's vulnerability and capacity for change.

Of course, the brevity of the individual selections and the necessary repetition of key motifs within them works against Malcolm X as an album, as it does most soundtracks. But what Blanchard has accomplished here bodes extremely well for his future. Francis Davis

> MARY J. BLIGE What's the 411? MCA/UPTOWN 10681 (53 min) Performance: Deeply funky

Recording: Very good

ary J. Blige has been called the inventor of New Jill Swing. At this point in time, when musical genres divide and subdivide like sex-crazed amoebas, that kind of innovation may not mean as much as it once did. But whether or not you buy the argument that Blige has taken New Jack Swing-the streetwise combo of R&B and rap made Platinum by guys like Bobby Brown-and made it safe for women, this album marks the debut of a major talent.

Combining some of the brittleness of Dionne

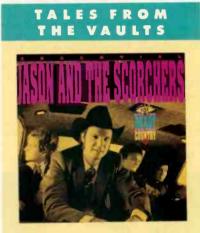


Warwick with the sass and brass of Aretha Franklin, Blige is perfectly suited for the groove-a-thon workouts of "Where's the 411?" In the spare, percussive Real Love and the soaring synth-swirler I Don't Want to Do Anything, she rolls over and through the repeating riffs with the deliberate, undeniable speed of a luxury liner. She can chew on a phrase with ruminative ecstasy or scat around the basic melody with sweet passion, but no matter what she chooses to do with these tunes about the ups and downs of love, she connects powerfully with the lyrics and music. The 411 on Mary J. Blige is that she's a natural. And she's not to be missed. R.G.

BILLY BURNETTE

Coming Home CAPRICORN 42007 (41 min) Performance: Took a wrong turn **Recording: Good**

n this enormously disappointing album, Bil-ly Burnette, son of Dorsey and nephew of Johnny, proves that just because you've got rockabilly DNA dancing in your genes doesn't mean you've got the magic. Most of this,



JASON AND THE SCORCHERS **Essential Jason and the Scorchers** Volume 1: Are You Ready for the Country EMI E2-95321 (70 min)

Among the many great mysteries of the Eighties, perhaps the most puzzling was how come Jason and the Scorchers never became megastars. Theoretically, they had it all: a blistering near-punk instrumental attack evoking both Hank Williams and the early Who, plus a frontman whose songs and singing were as smart and moving and original as those of his country-rock forebear Gram Parsons. So why didn't the Scorchers escape cult status? Beats me.

Anyway, let us now give thanks that EMI is reissuing the Scorchers' catalog on CD. This first volume resurrects the band's 1984 "Fervor" EP along with their 1985 debut album, "Lost and Found," in its entirety, the whole fleshed out with remixes, English singles (the Neil Young song that provides the compilation's subtitle), and previously unreleased live tracks. Not to mince words, this really is essential stuff; in fact, no better American music is likely to be on sale at any time in the near future.

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Klassically Kinks

The Kinks in 1964

ach time the Kinks jump to a new label, they consolidate their strengths and make a promising new start. "Phobia," their first full-length album on Columbia, is every bit the heartening equal of "Sleepwalker," their memorable first album on Arista, the one where they retreated from concept albums and campy posturing and got back down to songs. Similarly, "Phobia" further sharpens the Kinks' devotion to committed, purposive songcraft after the flameout of several indifferently received albums on MCA. It's got the halo of a concept about it, having to do with the plight of lost and lonely individuals trying to persevere in a world driven over the edge, which ties the album together without making it into a full-blown musical.

"Phobia" is 100 percent pure, uncut Kinks-just brothers Ray and Dave Davies, bassist Jim Rodford, and drummer Bob Henrit. Ray penned fourteen songs, Dave anted up his allotted two, and they produced the whole shebang in their own Konk studios. Ray's lyrics here are not as mirthful or wry as they've been in simpler times, but there's a gracious humanity in them. The titles alone tell a tale: Still Searchin', Surviving, and Scattered, to name three, express doubt, vulnerability, and dogged determination in unambiguously human terms. In Only a Dream, Ray recounts how a flattering remark made by an attractive stranger exiting an elevator left him feeling elated and optimistic, but when he returns to make her acquaintance, she won't even meet his eye, prompting him to muse, "Life's just like that elevator / It takes you up and brings you down." In Don't Look Down, a crowd beseeches a man on a ledge not to jump. with Ray chiming in, "Things might start looking up / You just never know."

"Phobia" is the most classically Kinkslike Kinks album in quite a while. The guitars chug in the agreeable not-guitehard-rock, not-quite-folk-rock vein of the "Arthur"-era Kinks in songs like Babies (a fearful diatribe sung from the womb) and The Informer (a touching song about how religion and politics can end friendships). There are a few disappointments, such as the plodding riff-rock of the title song and the synthetic bounce of Over the Edge. Then too, hearing the notoriously guarrelsome Davies brothers go at one another in Hatred isn't so much amusing as it is unnerving; besides, it misuses one of their sharpest, most driving musical tracks since the early days.

Still, "Phobia" is a treasure chest of precious kargo for Kinks kultists. Once you've heard 'em, you won't be able to live without Ray's blackly comic urban vignette Somebody Stole My Car, Dave's soulful Close to the Wire, and the heart-onsleeve ballad Still Searchin', which features some gorgeous Waterloo Sunsetstyle falsetto backing vocals that will have the faithful swooning. Parke Puterbaugh

THE KINKS Phobla

Still Searchin'; Surviving; Scattered; Only a Dream; Don't Look Down; Babies; The Informer; Over the Edge; Hatred; Somebody Stole My Car; Close to the Wire; and five others COLUMBIA CK 48724 (71 min)

including Tangled Up in Texas, is bland poprock posing as contemporary country, and about as relevant as Florence Henderson. If for some inexplicable reason you've just got to buy it, check out the rhythm numbers and skip the rest. A.N.

MICHAEL FEINSTEIN The Burton Lane Songbook, Vol. II

ELEKTRA NONESUCH 79285 (66 min) Performance: Engaging

Recording: Excellent

ichael Feinstein launched his innovative series of show-music albums featuring the composers themselves as the definitive accompanists with "The Burton Lane Songbook, Vol. I." Now, two years later, he sails exuberantly through twenty-four more songs by the long-undervalued Broadway and Hollywood composer. Included are familiar songs from the shows On a Clear Day You Can See Forever and Some Like It Hot (the 1939 version), but most welcome are Feinstein's resuscitations of such unfairly neglected lovelies as It's Time for a Love Song (from Carmelina) and The World in My Arms (from Hold On to Your Hats). As a pianist, the eighty-year-old Lane may not be as technically versatile as Feinstein, but his playing has the jauntiness of a man half his age. R.H.

> ICE CUBE The Predator PRIORITY 57185 (57 min) Performance: Mixed **Recording:** Good

o gangsta or not to gangsta: That's the question that increasingly faces Ice Cube, probably the single most talented rapper to emerge from the West Coast. First with N.W.A. and then with his solo albums. Cube has shown a gritty talent for inner-city melodrama. In "The Predator" he again turns his unblinking attention to matters of racism, violence, and moral confusion. When Will They Shoot?, for instance, makes the insecurity of violence-ridden blacks real ("They killed JFK in '63 / What the f--- you think they do to me"). But Cube seems to be chafing against the limits of the gangsta style. Either through lyrical references ("I'm down with O.P.P.") or guest appearances (the scatty Das EFX, for example), he seems to be trying to broaden his rap base beyond Compton, and a number of songs have a lighter, less explosive sound. These shifts are understandable, considering the somewhat repetitive nature of his solo work up to this point, but Ice Cube has yet to incorporate the new elements successfully. "The Predator" seems like a transitional album, with Cube more at ease with where he's been than where he's going. RG

> **REBA MCENTIRE** It's Your Call MCA 10673 (35 min) Performance: Heartbreaking Recording: Very good

Then Reba McEntire wants to bury herself deep in heartache-and, face it, f that very impulse has made her one of the bestselling artists in the history of country music-she bends her voice just about every way humanly possible. Whether it's a throaty sob, a swooping melisma, a silvery vibrato, or some

POPULAR MUSIC



dazzling combination of the three, McEntire's bag of vocal tricks seems naturally suited to the romantic melodramas that have dominated her career, including "It's Your Call." From the title tune, which starts the album, to Lighter Shade of Blue, which finishes it, McEntire keeps whipping up the suds. The most exaggerated example is He Wants to Get Married, in which she builds image upon image of blissful wedlock, only to reveal in the last line that the marriage-minded guy wants to get hitched to someone else.

Like "For My Broken Heart," her last album, "It's Your Call" doesn't strain to cross over from country to pop but effortlessly straddles the line between the two. In fact, these smooth-as-butter arrangements could easily be mistaken for TV ads or elevator music if it weren't for that crystalline voice breaking

over and over again. When it shatters, we fall to pieces. RG

NIRVANA

Incesticide GEFFEN 24504 (45 min) Performance: Uneven **Recording: Ditto**

ncesticide" is, pure and simple, a piece of product to keep Nirvana's name before the public before their 15 minutes are up and everyone forgets. Only three of the songs have never been previously released, which makes this a blatant consumer rip-off. Everything a group like Nirvana stands for-a fiercely moral independence, a disdain for corporate machinations, a fans-first mentality-is contradicted by a release so transparently profit motivated.

Okay, with that obligatory diatribe out of the way, I have to admit that there's some pretty neat material scattered among the B sides and EP tracks, obscure covers of Devo and the Vaselines, BBC sessions, and oddments from Northwest compilations. The cute, coy Silver (an A side from 1990) and the hyperactive, hooky Molly's Lips highlight Nirvana's hardcandy pop side. Some of these tracks, particularly the early demos, should have stayed in the can, and much of the trendy-come-lately alternative crowd will no doubt say "never mind" to the whole thing. But if you're a hardcore Nirvana fan, you'll find a lot of compelling curiosities here. P.P.

LOUDON WAINWRIGHT III

History CHARISMA 86416 (46 min) Performance: May leave welts Recording: Very good

n this exceedingly personal album about relationships, primarily with his family, veteran folkie Loudon Wainwright III brings the word "dysfunctional" out of the self-help manuals and throws it where it belongs-into the face of his loved ones, including ex-wives Kate McGarrigle and Suzzy Roche, who sing back-up for one of the tunes here.

Much of this is done tongue in cheek-When I'm at Your House, The Doctor, and People in Love employ a playful attitude and poke fun at Wainwright's private neuroses, cynicism, and paranoia. But things turn very somber indeed in Hitting You, about socking his daughter far too hard and the bruise it left for years, 4×10 , about the impenetrable walls his parents built around their hearts, and A Father and a Son, a veritable history of a screwed-up family in which Wainwright tells his nineteenyear-old offspring, "I know that I'm miserable / Can't you see? / I just want you to be just like me." Wainwright also returns to an earlier theme, his perpetual mid-level career, in Talking New Bob Dylan. But it's Sometimes I Forget that you'll remember-a monologue from a son to his long-dead father in which he tries to remember all the good things that held them together instead of the major issues that kept them apart. A.N.

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JAZZ

GERI ALLEN

Maroons BLUE NOTE 99483 (72 min) Performance: Mostly engrossing Recording: Very good

A movie about Geri Allen's influences might be titled *The Two Herbies*. Her most stimulating pieces here—the off-center blues *No More Mr. Nice Guy*, for example, or *Two Brothers*, with its bass-and-treble melodic dichotomy—resemble those of the late Herbie Nichols in their Rubik's Cube construction, and she interprets them with tough-minded wit. But, as in some of her earlier albums, she occasionally indulges an impressionistic streak reminiscent of Herbie Hancock at his most vacant.

That happens in A Prayer for Peace and the title track, which together take up very little time in a program lasting almost an hour and a quarter. Otherwise, "Maroons" fully justifies Allen's growing reputation as a pianist and composer. The basic instrumentation is a quartet with Wallace Roney or Marcus Belgrave on trumpet, Anthony Cox or Dwayne Dolphin on bass, and Pheeroan AkLaff or Tani Tabbal on drums. But one of the disc's most attractive features is the variety that Allen achieves by deploying her sidemen in novel combinations, ranging from spartan pianoand-trumpet duets to busy performances in which the trumpeters, bassists, or drummers are effectively paired off. Francis Davis

GARY BARTZ Shadows

TIMELESS SJP 379 (69 min) Performance: Thrilling Recording: Excellent

E ven if you're familiar with Sun Ra's record-ing of David Rose's *Holiday for Strings*. Gary Bartz's version here is going to catch you by surprise-the veteran alto saxophonist rips into that dreck classic with the same mixture of affection and skepticism Sonny Rollins brings to such tunes, and with similarly astonishing results. A hard bopper all the way, Bartz doesn't let up on ballads; his throaty exploration of Michel Legrand's How Do You Keep the Music Playing? pulses with emotions deeper and more complex than the cozy sentimentality the song usually occasions. Even so, the track to listen to first is John Coltrane's Song of the Underground Railroad, in which the drummer Victor Lewis duplicates Elvin Jones's triplet feel and Bartz issues notes as though spitting fire. ED.

JIMMY HEATH

Little Man Big Band VERVE 314 513 956 (52 min) Performance: Better late than never Recording: Excellent

Five of the eight selections on this whomping big-band CD are tributes to musicians far better known than Jimmy Heath. Ellington's Stray Horn should be self-explanatory, as should Trane Connections. The festive Without You, No Me, with its brass-section echoes of A Night in Tunisia, is for Dizzy Gillespie. The allusions to Coleman Hawkins in The Voice of the Suxophone—a section of Heath's otherwise unrecorded *The Afro-American Suite of Evolution*—are so subtle that they may pass right by, but what will grab you in this ballad is Heath's rich reed-section writing (worthy of comparison with Benny Carter's) and the way his tenor solo soars over the strategically massed low horns. *Forever Sonny*, for Sonny Rollins, likewise fails to evoke its honoree but scores points on its own.

In addition to Heath's arrangement of a catchy little number by Bill Cosby (who was the producer), the disc also includes successful enlargements of *C.T.A.* and *Gingerbread Boy*, two Heath compositions originally recorded by Miles Davis's small groups in 1953 and 1966, respectively. These amount to tributes to Heath himself, but nobody's more entitled. Although he's been recording since the late 1940's, this recording is the first opportunity he's been given to show off his mastery of the big-band idiom. He makes the most of it. *F.D.*



SUN RA AND HIS ASTRO INFINITY ARKESTRA My Brother the Wind, Volume II EVIDENCE ECD 22040 (40 min)

Performance: Flashback hallucination Recording: A vast improvement

E vidence, a small label based near Philadelphia, has so far reissued on CD ten Sun Ra albums originally released on his own hard-tofind Satum label. This obscurity from 1970 is hardly the best of the lot, yet I keep returning to it, probably on account of its period charm. Sun Ra reissues from the 1960's show him to have been ahead of his time, or at least independent of it. This one, ending with five Moog synthesizer solos so trippy they could have been recorded only in 1970, catches Ra and the masses momentarily in sync.

That said, the tracks on which Ra sets the controls for the heart of the sun are the ones I listen to least. My fascination with the late June Tyson-for decades the fierce-eved goddess on the prow of the Arkestra's shipkeeps bringing me back to her chants for the rhumba Somebody Else's Idea and the Dem Bones-like Walking on the Moon. With Sun Ra playing organ, several of the band's performances settle into an irresistible (if slightly warped) groove similar to those purveyed by Baby Face Willette and Brother Jack McDuff. And, along with the expected saxophone eruptions by John Gilmore, Marshall Allen, and Pat Patrick, there's a brief exercise in tonal modulation called Somewhere Else that's so potent it's practically dizzying. In other words, there's much to enjoy here, even if the Moog stuff leaves you cold. F.D.

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RED HOUSE CD 52 (55 min).

Calling these guys the greatest Alternative/ Country/Polka band in the world may be descriptively accurate, but it doesn't really convey the depth of their ineffable, wacky originality (Bob Wills' Texas Playboys on acid fronted by an American Robyn Hitchcock? Could be, could be). In any case, a highly diverting album. S.S.



FRANKIE'S HOUSE

EPIC SOUNDTRAX EK 53194 (41 min). Jeff Beck, still the world's greatest living rock guitarist, and Jed Leiber, son of half of rock's best first-generation songwriting team (Leiber and Stoller), collaborated on this soundtrack for a cable TV miniseries about Vietnam. What they came up with, alas, is mostly just blues-tinged mood-mongering reminiscent of Eric Clapton's contributions to the *Lethal Weapon* series, but Beck does make some ultra-cool noises in an instrumental version of the venerable *Hi-Heel Sneakers*. S.S.

THE JEFF HEALEY BAND

Feel This. ARISTA 18706 (57 min). Cliché arena rock is cliché arena rock even if you've got a torrid, bluesy guitarist like Jeff Healey to punch up the action. R.G.

THE LOVEMONGERS Battle of Evermore.

CAPITOL 15953 (22 min).

Hey, it's Heart's wacky Wilson sisters, doing live acoustic versions of songs by Led Zep, Todd Rundgren, the Temptations, and themselves. The resulting EP is entertaining enough, I suppose, but somebody should really pass on to these kids one simple phrase—MTV Unplugged. S.S.



MICHAEL NESMITH Tropical Campfires.

PACIFIC ARTS PAAD-5000 (58 min). Nesmith, the once and future Smart Monkee, returns with a very pleasant example of the kind of wry, country-tinged California pop people forget he had a hand in inventing. Pick hit: *I Am Not That*, which manages to find interesting connections between René Magritte and Richard Nixon. Tech note: The CD is encoded in Dolby Surround, so if you have a good home surround-sound system you'll be able to hear the music the way its laconic creator intended. *S.S.*

POUSSE-CAFÉ

AUDIOPHILE ACD-263 (45 min).

Pousse-Café, which closed after three performances in 1966, was Duke Ellington's last attempt at a book musical for Broadway. Supper-club singer Barbara Lea, a long-time P-C partisan, convinced the show's lyricist, Marshall Barer, to join her in this recording of the score, and along with Ellis Larkin and an instrumental combo they prove that whatever was wrong with the show, it wasn't the songs. R.H.

TELEVISION PERSONALITIES

Closer to God. SEED 14225 (79 min). Depending on my mood, the neopsychedelic / punk / power pop these Brit veterans churn out strikes me either as charmingly folk-primitive (*à la* Jonathan Richman) or as pretentious about its amateurism. Listening to their latest l'm leaning toward the latter. S.S.



TRIUMPH

Edge of Excess. VICTORY 383 480 012 (47 min). Excuse me, guys, but don't you mean *over* the edge? S.S.

EXCURSIONS IN AMBIENCE: A Collection of Ambient House Music. CAROLINE 1733 (60 min).

Just what the world needs—dance music inspired by Brian Eno in his birds-chirpingin-the-night mode. You are getting sleepy verry sleepy ... zzzz ... S.S.

WEIRD NIGHTMARE: MEDITATIONS ON MINGUS COLUMBIA 52739 (74 min).

Hal Willner, perhaps pop music's most creative producer, has crafted a tour de force by treating the works of the jazz bassist Charles Mingus like a screenplay open to interpretations. His iconoclastic cast—Art Baron, Chuck D, Elvis Costello—turns these tunes over, under, sideways, and down, making "Weird Nightmare" not so much a reverential tribute as a launching pad for (consistently successful) musical experimentation. *R.G.*

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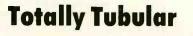
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EADERS who were sentient during the late Sixties may recall a popular poster of the period-"What if they gave a war and nobody came?" Well, we still don't know the answer to that, but perhaps we can provide one for a sort of early-Nineties equivalent. To wit: "What if they made a sequel to one of the most successful pop culture artifacts of all time, and nobody bought it?"



Mike Oldfield: one-idea man?

Obviously, I'm not referring to Alexandra Ripley's Scarlett, the appalling but best-selling continuation/travesty of Gone with the Wind. The work in question, rather, is Mike Oldfield's "Tubular Bells II," and if you're wondering why you missed it, you're not alone. There are, doubtless, a number of executives at Warner Bros. Records, which released the thing earlier this year, who are similarly scratching their heads over its near total absence from the CD players of the Western World. Of course, at this juncture a little history is probably in order, so bear with me, particularly if you became sentient in the early Seventies.

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Oldfield, then an alarmingly precocious twenty-year-old, wrote, arranged, played, and recorded the original "Tubular Bells" in 1973. Performed almost totally solo on a staggering variety of stringed instruments and keyboards, the 49-minute mostly instrumental composition ultimately required so many overdubs (more than 1,000, actually) that the master tape came perilously close to self-destructing from physical wear and tear. Nonetheless, the album was an immediate success in the U.K. and the U.S., and, after its main theme turned up as part of the soundtrack to The Exorcist, worldwide as well, ultimately selling over 11 million copies. In fact, it singlehandedly established the fortunes of both Virgin Records and its founder, now a squillionaire airline magnate. Richard Branson.

Why the more-or-less abstract "Tubular Bells" was such a megahit, given the pop audience's usual aversion to anything without vocals, is a rather complicated question. Obviously, being tuneful and accessible had something to do with it, as did the album's sheer novelty-in 1973, it didn't sound exactly like anything anybody had ever heard before. More crucially, I suspect, "TB" hit because it was the first record to combine two major musical motifs of the period: the pastoral, back-to-the-land strain (this was the tail end of the hippie era, remember) and the artsy, technocratic, rock-isclassical-music tendency (the album was grotesquely overpraised by all those academics who'd never gotten over their first exposure to the Beatles' "Sgt. Pepper"). In short, "Tubular Bells" was pretentious and populist at the same time, thus offering something for everybody.

We should note, by the way, that it also has a great deal to answer for. For one thing, constructed as it was out of harmonically static ostinato riffs, the piece was the mass audience's first real exposure to hard-core minimalism. and thus it's no exaggeration to say that without it Philip Glass would probably now be a downtown cult figure rather than a public nuisance. For another, its folkie instrumental solipsism made it in many ways the first certifiable New Age record, and while at the very

least it's a tribute to Oldfield's prescience that he birthed not one but two musical genres with the very same composition, it remains to be seen whether that was a good thing. I think you can guess what I think.

In any case, cut to the present and Oldfield's inability to make lightning strike twice. Or, to paraphrase our opening question, how come "Tubular Bells II" has died a commercial death? Well, it certainly wasn't from lack of record-company support; in fact, last fall Warner Bros. flew me and a few other journalists over to Scotland for the thing's première live performance, a display of corporate largesse all but unheard of these days, and in Britain, at least, the show was a major media event. Still, the album sold no better there than here, and once again we have to ask, why?

Well, the most obvious reason is that "TB-II" simply isn't as inspired as the original, but you could say the same thing about all of Oldfield's follow-ups, including 1974's "Hergest Ridge" and 1975's "Ommadawn." Essentially, the guy has already had the one great idea of his life. But there's also something else to consider, and that's the digital age we live in. Oldfield, you'll recall, made the original "TB" the old-fashioned way, painstakingly overdubbing and combining all those different instrumental takes to get sounds no one had ever imagined before. Regardless of what you think of the results, there's no denying the audible sense of struggle on the record; you can hear him fighting the technology every step of the way, and on some level it's really quite thrilling. The sequel, on the other hand, was made using the most sophisticated computer technology this side of NASA, which enabled Oldfield to get his effects without breaking a sweat. And this time you can hear the lack of effort in the finished product. No wonder, then, that the album couldn't get arrested.

The moral? Twofold, I'd say! First, while machines are good at many things, making music isn't necessarily one of them. And second, if you're going to be a boy wonder, have something like dentistry to fall back on after





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BRUCKNER: Symphony No. 5 Berlin Philharmonic, Barenboim TELDEC 73271 (72 min) Performance: Flery Recording: Powerful

Bruckner's Symphony No. 5 can be tedious unless the conductor commands an unerring view of its architectural grandeur and the vast reach of its thematic substance. One can take a solemn view, like Karajan in his imposing 80-minutes-plus 1977 reading for DG, or one can go for dramatic contrast, as Günter Wand did in his 1989 Hamburg recording for RCA. Daniel Barenboim, who previously recorded this score in Chicago a dozen years ago, here takes a view like Wand's, but for my money does it better, and he has the advantage of the wonderful acoustic of Berlin's Schauspielhaus.

Barenboim's interpretation not only works in terms of making Bruckner's music an earthy as well as exalted listening experience, but he has the Berlin Philharmonic with him 100 percent—replete with vigor in the opening movement, gorgeously rich-sounding in the slow movement, by turns mercurial and bucolic in the scherzo, and massive in the huge finale with its chorale proclamations by the magnificent brass choir and its cyclopean double fugue. Do not be fazed by a touch here and there of passionate vocal obbligato from the podium: It bespeaks conviction! Highly recommended. D.H.



FAURÉ

Requiem; Pelléas et Mélisande, Suite Cachemaille, Usbeck; choruses; Orchestre de la Suisse Romande, Jordan ERATO 45813 (53 min) Performance: Fine Recording: Exceilent

n addition to a very good performance of Fauré's Requiem, this CD offers the suite from the incidental music he composed for an 1898 London production of Maeterlinck's play *Pelléas et Mélisande*. The music captures the feeling of the mysterious and misty play while being typical of Fauré in its Gallic flavor, infused with a deceptive simplicity. A sort of beautiful, short symphony (only 17 minutes), it is admirably performed here under Armin Jordan's direction.

The same praise is due the performance of Fauré's tender, lyrical, and lucid Requiem, though Jordan's reading is slightly more foursquare than Emmanuel Krivine's in his notable 1991 Denon recording. Jordan's soprano and baritone soloists, Mathias Usbeck and Gilles Cachemaille, and organist, Daniel Fuchs, are all estimable, the Choeur de Cham-



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

bre Romande and the Choeur Pro Arte sing with real feeling, and the Suisse Romande Orchestra plays with precision and polish. R.A.

MAHLER: Symphony No. 9 Berlin Philharmonic, Bernstein DEUTSCHE GRAMMOPHON 435 378 (two discs, 82 min) Performance: Compelling Recording: Live, but okay

Among all the many great orchestras Leonard Bernstein conducted, he appeared with the Berlin Philharmonic on only one occasion, a pair of concerts on October 4 and 5, 1979, for which the program was a single work, Mahler's Ninth Symphony. The first of those two performances was recorded for broadcast by RIAS and has at last been made available to the public by Deutsche Grammophon. It is by no means a mere footnote to his career—this is Bernstein at his most incandescent, one of the high points of the Mahler discography, the orchestra's, and his own.

The Mahler Ninth was of tremendous importance to Bernstein personally, and the performance he drew from the Berliners is truly revelatory, as remarkable for its clarity as for its passion and altogether more convincing than the distended, overinflected account he recorded with the Concertgebouw Orchestra in May 1985 (also live, and also on DG). The details are limned even more sharply in Berlin, and the impact is so much greater because the momentum is so unflagging.

Indeed, the first and third movements are marginally faster than Bernstein's New York Philharmonic version of the late Sixties; only the final adagio extends beyond the dimensions of that earlier reading, to achieve what may well be its ideal proportions. From the very opening, not a gesture is missed, and not one jumps out as unduly highlighted. Little asides from the winds or brass grind and snarl or whoop, string phrases are poignantly inflected, and the pauses are eloquent—every gesture pointed yet unselfconscious, always in context. The adagio is no mere extended lament, but a flaming exaltation of truth that sears itself into one's memory. Never mind that the string tone is a little grainy here and there, that the audience occasionally reminds us of its presence, or that Bernstein himself can be heard at some points exhorting his troops both vocally and by stamping his feet; the sound quality is more than decent, and absolutely nothing takes away from the compelling power of the performance. R.F.



MARTINŮ: Cello Sonatas Nos. 1-3 Starker; Firkušný RCA VICTOR 61220 (54 min) Performance: Elegant Recording: Top-drawer

Three sonatas for cello and piano from a twentieth-century composer, even one as distinguished as Bohuslav Martinů, may seem a bit much, but as performed here by Janos Starker, with Martinů's Czech compatriot Rudolf Firkušný as his brilliant keyboard partner,

TALES FROM THE VAULTS

From the mid-1950's through the mid-1960's RCA Victor promoted the new storeo technology with its Living Stereo series of recorcings by the greatest classical-music artists on its roster. The famous logo is now back on a series of CD reissues newly remastered from the original multitrack master tapes by John Pfeiffer, who produced many of the LP's. The cover art, liner notes, and period photographs used for the origir als were also revamped for the smaller format. The first ten releases, eight for the first time on CD, include the 1954 Fritz Reiner/Chicago Symphony recording of Strauss's Zarathustra and Heldenleben, Arthur Fiedler leading the Boston Pops in "Hi-Fi Fiedler," and others by Jascha Heifetz, Arthur Rubinstein, Gregor Platogorsky, and Leontyne Price. Fiedler, by the way, appeared on the cover and was the subject of ar interview in the very first issue of this magazine, February 1958. **Robert Ripps**



"If You Love Me"

Songs and arias by seventeenth- and eighteenth-century Italian composers—sometimes called arle antiche—have enriched the recorded legacy of three generations of Italian singers, from Schipa to Pinza, from Muzio to Tebaldi. On a new London CD by the enchanting mezzo-soprano Cecilia Bartoli we are treated to no less than twenty-one of these gems, a wlder selection than has been offered by any of her illustrious predecessors.

As the informative notes by Kenneth Chalmers tell us, these arle are drawn from Alessandro Parisotti's three-volume, latenineteenth-century collection of love songs, pastoral romances, and da capo arias from operas of the Venetian and Neapolitan schools. Considering the relatively narrow range of this music, I frequently suggest that listeners sample such recordings in several installments rather than taking in a whole program at one sitting. No such caveat is needed here. Quite the contrary, I urge you to immerse yourself in Bartoli's recital and savor her singing. This captivating young artist never allows monotony to set in: Her light, dusky mezzo-soprano enfolds these lovely songs in caressingly warm and purely focused tones free of excessive vibrato. They flow with an unforced naturainess, and the decorative passages (Lotti's Pur Dicesti is a good example) are delivered with unostentatious ease.

Bartoli's art combines simplicity and sophistication. The passion in her singing is conveyed with a Baroque sensibility, with unfalling taste, and, whenever the texts call for it (as in the Paisiello operas), with an enllvening spark of humor. The unobtrusive piano accompaniments are sensitively played by György Fischer. G.J.

CECILIA BARTOLI If You Love Me

LONDON 436 267 (66 min)



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they amount to a stimulating and varied listening experience.

Sonata No. 1, written in Paris, dates from 1939 and reflects something of the Gallic Neoclassical influence Martinu absorbed during his seventeen years there. But the Czech national element is present, too, in the triadic harmonies and major-minor key fluctuations. Sonata No. 2 was composed in 1942, after Martinu had fled France for America. A bigscale piece, its opening movement is dominated by a recurrent abrupt figure; the outstanding slow movement is mournful in character, its spell broken by a dramatic recitative episode. The Third Sonata, composed in 1952 and dedicated to the memory of the cellistconductor Hans Kindler, is the most immediately accessible. The ghost of Dvořák haunts the opening movement, but the coda of the slow movement is quite clearly an elegy for Kindler. The finale has a rhythmic aspect redolent of a soft-shoe dance.

There is not one iota of monotony in these nine movements. Starker's cello is a marvel for the ear and mind, and Firkus'ng's pianism is scintillating in the fast episodes and entrancing in the slow ones. The sonics are perfection in terms of coloration, balance, and ambience. This CD is not just for cello enthusiasts; anyone who cares for superb musicmaking should enjoy it. D.H.



MENOTTI: Apocalypse DELLO JOIO: Meditations on Ecclesiastes LOPRESTI: The Masks Oregon Symphony, DePreist KOCH 3-7156 (58 min) Performance: Sympathetic

Recording: Resonant

he conductor James DePreist has put together an engaging program of first-rate works written in the 1950's by Italian/American composers who are often considered less than first-rate. Many of Gian Carlo Menotti's lesser-known works deserve their obscurity, but Apocalypse, a 1951 orchestral work that has never previously been recorded, is an exception. Though we don't think of Menotti as a symphonic composer, the first movement is thematically well argued, and the lyrical but canonic middle movement is the sort of disarmingly simple and utterly beguiling gesture that has become his hallmark. It's a vigorous, confident work with a theatricality that occasionally borders on melodrama, but it was obviously written at a higher level of inspiration than some of his more popular operas.

Though Norman Dello Joio won the Pulitzer Prize for his 1959 *Meditation on Ecclesiastes*, a series of variations inspired by the same words from the Old Testament that were later adapted for the folk-rock hit *Turn, Turn, Turn, Turn,* the music seems a bit literal and dated. It has some remarkable thematic transformations, however, and is an inspired exploration of stringsonly orchestral textures. The program is rounded out by Ronald LoPresti's two-movement student work, *The Masks*, an engaging, well-made piece in the style of Samuel Barber. Committed performances by DePreist and his capable Oregon Symphony make for satisfying listening throughout. *D.P.S.*

MOZART: Piano Concerto No. 17; Quintet for Piano and Winds

Uchida, Black, King, Lloyd, O'Neill; English Chamber Orchestra, Tate PHILIPS 422 592 (56 min) Performance: Mixed Recording: Blurred in quintet

his performance of the G Major Concerto (K. 453) completes the survey of Mozart's original concertos for one piano and orchestra in which Mitsuko Uchida and Jeffrey Tate have been exceptionally sympathetic partners. Since all the others had been accounted for, it is coupled with the directly contemporaneous Quintet in E-flat (K. 452). That turns out to have been a less than happy idea: While the concerto is given a cogent and satisfying performance-a little lacking in sparkle, but otherwise competitive with the finest available-the quintet is rather a disappointment. A heavy, self-conscious, somewhat static quality suggests that the players-Uchida is joined by Neil Black (oboe), Thea King (clarinet), Frank Lloyd (horn), and Robin O'Neill (bassoon)-had not really digested the work, or in any event had not arrived at a true mutuality of approach, and they are not helped by a closeup recording in which the instrumental lines tend to smear instead of achieving the desired balance. In an earlier Philips release Alfred Brendel and a group of all-star Continental wind players show exactly what is missing here: a comfortable sense of flow, a real giveand-take with the interweaving textures, and a leavening of humor that bring the work fully and convincingly to life. RF

PROKOFIEV: Symphonies No. 1 ("Classical") and No. 5

London Symphony, Thomas SONY SK 48239 (61 min) Performance: Intriguing Recording: Crystal clear

Michael Tilson Thomas is the soul of elegance when it comes to the Prokofiev "Classical" Symphony. The first movement comes through marvelously refined in texture, with inner voices superbly detailed and well balanced. It is good to hear the succeeding larghetto played with pulse and movement rather than in the usual soporific manner, and the gavotte has a nice lilt, graced with especially lovely sound. The finale goes like the wind, without a trace of strain.

The Fifth Symphony has always struck me as the nearest Russian equivalent to Beethoven's "Eroica" in terms of lofty musical discourse and an essentially Classical architecture. Some conductors take the heroic element so seriously, however, that the score becomes almost Brucknerian in weight. Thomas starts solemnly, but his flexible tempos in the andan-

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te keep things moving toward an impressive peroration. I'm not so sure that I like his very slow treatment of parts of the scherzo, but there's a smashing climax in the tragic slow movement, and the finale is notable for both lyrical detail and the dynamism achieved in the last pages. Big bright sound. D.H.

SCHUBERT: Winterreise

Schmidt (baritone); Jansen (piano) DEUTSCHE GRAMMOPHON 435 384 (72 min) Performance: Very satisfying

Recording: Excellent

Already known from his various recordings of opera and lieder, Andreas Schmidt may be counted among the best German baritones before the public today. His *Winterreise* enters an extremely crowded field yet holds its own. It is far from the wrenching experience interpreters like Hans Hotter could create from this desolate journey of despair and alienation. But this artist makes his points through subtle shades of expression, controlled passion, expert pacing of silences, and a fine sense of rubatos and rallentandos, to which his pianist collaborator, Rudolf Jansen, is finely attuned.

It certainly helps that Schmidt has a warm and caressing tone at his disposal, that he can produce a lovely *mezza-voce*, and that his enunciation is ideal. If there are few truly individual touches in his presentation, there are no exaggerations or mannerisms, either. Aside from occasional intonation blemishes, usually in high passages at loud levels, this *Winterreise* will give much pleasure. *G.J.*

SCHUMANN: Piano Quartets

Previn, Kim, Ohyama, Hoffman RCA VICTOR 61384 (47 min)

Performance: Appealing Recording: Very good

n addition to the well-known Piano Quartet in E-flat, Op. 47, composed in 1842, Schumann completed an earlier one, in C Minor, a few months before his nineteenth birthday in 1829. Its existence has always been known, but Schumann consigned it to the "juvenilia" bin, and apparently no one thought of performing it or publishing it for 150 years; this is the first recording. While it is hardly a major discovery, it is an engaging, well tailored work in which Schumann's affection for Schubert (who died about the time this piece was begun) is evident. Portions of the first two movements recall the geniality of the "Trout" Quintet, and, as in that work, Schumann's finale includes recollections of material from the preceding movements, but the finale itself, and the warm-hearted andante that precedes it, already offer more than a hint of the Schumann we know.

A photograph in the annotative leaflet shows André Previn (piano), Young Uck Kim (violin), Heiichiro Ohyama (viola), and Gary Hoffman (cello) performing together in summer dinner jackets, and one may assume this is



one of the works they have played in public. It certainly sounds as if they had really digested the music, believed in its worth, and found opportunities to prepare the kind of presentation that would give it its best shot. Their way with the familiar Op. 47 is thoroughly satisfying, too, and both works are recorded in virtually ideal chamber-music balance. *R.F.*

SHOSTAKOVICH: Symphony No. 4

National Symphony, Rostropovich TELDEC 76261 (65 min)

> Performance: Intense Recording: Very good

Although Mstislav Rostropovich, who was completed his still-amazing Fourth Symphony in 1936, did not directly experience the pre-World War II "Iron Age" of Sovjet Russia it





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chronicles, his recording surely conveys the sense of yet another chapter in the seemingly endless tragedy of the Russian people. The grim opening pages are just plain scary, and he preserves a relentless underlying pulse through the variety of near-cinematic episodes, by turns grotesque and tragic, in the nearly 30minute first movement. He also sees to it that the episodes are held together by recurrent thematic fragments and figurations; only in the wild string fugato midway through do things seem to get a bit out of hand, but this is music that could faze even the most experienced players. The brief and shadowy intermezzo movement seems a bit square in its waltzlike episodes, but in the finale-with its five sections again nearly half an hour in length-Rostropovich drives home the tragedy unrelentingly. The anguished quasi-chorale for brass and full percussion that leads to the mournful valedictory close is earthshaking.

While this may not be the most virtuosic realization of this complex symphony, for me it ranks with Rostropovich's reading of the Shostakovich Eighth as one of his most moving interpretive achievements. And Teldec's production does full justice to the interpretation from start to finish. D.H.

STRAVINSKY: Petrouchka; Le Sacre du Printemps Cleveland Orchestra, Boulez DEUTSCHE GRAMMOPHON 435 769 (68 min) Performance: The French correction Recording: Big-time

Richard Taruskin's program note for this recording is a brilliant analysis of how Stravinsky's *Rite of Spring* is deeply rooted in Russian tradition—so much so, he argues, that it is wrong to see it as the purely revolutionary or avant-garde work that many (including Stravinsky himself) have tried to make of it. Unfortunately, this is exactly the wrong version of *Le Sacre* to illustrate the point.

When Pierre Boulez was at the New York Philharmonic, the musicians used to call him "the French correction." It was a tribute to his extraordinary ear and, by implication, a criticism of his austere aesthetics. This recording illustrates very well the up and down sides of the Boulez approach. The performances (and the big-scale recordings) lay out and illuminate the orchestral tapestry and rhythmic complexity of the music in the most brilliant, clear aural light. You can literally hear things you never heard before. On the other hand, harsh frontal light also produces deep shadows. We perceive the fine details incredibly well, but the big lines are often lost to view.

Petrouchka particularly suffers; Taruskin's comments about Le Sacre actually apply even more strongly to the earlier ballet, still clearly within the Rimsky-Korsakov orbit. The big street-fair scenes are meant to be frescoes, and the paint is applied with a broad brush; close-up analysis of the brush strokes does not get us any closer to what is being represented.

Some of the same comments could be applied to *Le Sacre*, but, although it is derived from some of the same sources as the earlier ballets, it is really quite different from them. The leanness of sound, the modular structure, the use of repetition, and the emancipation of dissonance are striking features that are quite

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susceptible to the Boulezian objectivist analysis. So, on its own terms, it works.

Likable? Maybe not. Rimsky-Korsakovian? Definitely not. Boulez makes of Stravinsky what Stravinsky himself always wanted to be: the head of the class as one of the great founders of twentieth-century modern music. How ironic that this recording comes accompanied by a postmodern program note that implicitly contradicts the performance. *E.S.*

Collection

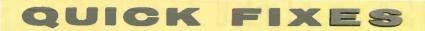


YOURI EGOROV: Legacy CHANNEL 9213/16 (four discs, 261 min) Performance: Superb Recording: Consistently good

ouri Egorov's career was in a state of partial eclipse when he died of AIDS at age thirty-three in 1988. The excitement over his entry in the Van Cliburn Competition (where people were appalled that he didn't win) had died down, and his last few recordings for EMI hadn't shown him at his best. But "Legacy," a four-CD set (the discs are also available individually) of live recital recordings of music from Bach (the Partita No. 6) to Babadjanjan (atonal bon-bons called Bilder, or Pictures), shows that he could play magnificently up to the very end. In fact, most of these performances are so good that it can hurt to listen to them, for it's a reminder of what a huge talent has been lost.

Egorov was a colorist on a par with Walter Gieseking. He often recalled the distilled purity of Dinu Lipatti, and he had the fire-and-ice quality of Rachmaninoff, a Dionysian temperament kept in check by a strict sense of classicism. That classicism became increasingly relaxed in his later years: The tempo in Schubert's Moments Musicaux here is incredibly slow but perfectly sustained. Had he lived, Egorov might now be an unrepentent romantic. Although Schubert's Sonata in C Minor never quite catches fire, virtually everything on these discs demonstrates a special sensibility. Egorov's considerable expressive qualities are heard at their most subtle in the Bach. which exhibits a seemingly limitless variety of touch, and at their most dramatic in the glittering fireworks of the Chopin Etudes, Op. 10. The Prokofiev Sonata No. 8 and the Shostakovich Sonata No. 2 have a wonderful iron-invelvet quality, and though the six Scarlatti sonatas seem a bit detached emotionally, they have breathtakingly colorful moments. Would it be too much to hope for live recordings of Egorov's previously unreleased concerto repertory? D.P.S.

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DVOŘÁK: Symphony No. 8; The Golden Spinning Wheel Czech Philharmonic, Bélohlávek CHANDOS CHAN 9048 (61 min) A fine, brisk, and outdoorsy reading of the much-recorded G Major Symphony under

Jiři Bělohlávek's baton, with brilliant sound and alert playing to match. The Golden Spinning Wheel, for all the gruesomeness of the story, is one of the most melodic late-Dvořák scores, but this performance is marred by a disfiguring 3½-minute cut that destroys the dramatic coherence of the musical narrative. Too bad! D.H.

GRANADOS: Danzas Españolas; Escenas Romanticas

Heisser (piano)

ERATO 45803 (78 min)

It takes nerve to record this repertoire if you're not Alicia de Larrocha or, at the very least, Spanish. You hear the difference immediately with Jean-François Heisser, whose understated performances are more elegant and less highly colored than usual. It takes some getting used to, and while he doesn't really pose substantial competition for De Larrocha, he at least presents the music in a more systematic, orderly fashion, allowing us to hear these sets of miniatures with a completeness and order not usually found in Spanish pianomusic anthologies. D.P.S.

HAYDN: Symphonies Nos. 99 and 102

Orchestra of the 18th Century, Brüggen PH1L1PS 434 077 (49 min)

Frans Brüggen often seems out to prove that historically authentic instruments can do everything conventional instruments can in terms of sustaining slowish tempos and producing a certain magnitude of sound. Though that seems to defeat the purpose of using the instruments, these performances do offer a greater transparency than a modern orchestra can, and, in all fairness, he takes the minuets at an authentically brisk clip. The main attraction here is the gorgeous playing. And though the interpretations aren't terribly original, they clearly work. D.P.S.



MAHLER: Symphony No. 1 ("Titan"); Lieder eines Fahrenden Gesellen Hagegård; New York Philharmonic, Masur TELDEC 74868 (70 min) Kurt Masur wins some points for avoiding

excess, but his reading of the Mahler First is rather prosaic, and he is downright heavy-handed in the songs, in which the recording's balance puts the baritone soloist, Håkan Hagegård, at a further disadvantage. Apart from superior recent recordings of the symphony alone, DG's budget-price disc of the same two works under Rafael Kubelfk, with Dietrich Fischer-Dieskau in the *Gesellen-Lieder*, is far more compelling than this one. *R.F.*

MENDELSSOHN: A Midsummer Night's Dream; Symphony No. 4 ("Italian")

Atlanta Symphony, Levi

TELARC 80318 (57 min)

From Mendelssohn's Shakespeare score we have the overture and the four most popular incidental pieces, with the thricefamiliar "Italian" Symphony as disc mate. The readings strike me as very Toscaninian—brisk, precise, virtuosic. The sound is top-drawer, and the Wedding March is a real showpiece. D.H.

MOZART: Symphonies Nos. 40 and 41 English Baroque Soloists, Gardiner

PHILIPS 426 315 (75 min)

John Eliot Gardiner offers no radical rethinking in these period-instrument performances of Mozart's last two symphonies, but his tight-clipped, rigorous, nonsensual approach toward them works well because the performances always draw you inside. And, of course, there's a *lot* happening inside these symphonies. Some may find the performances too severe, others minor revelations. D.P.S.

C. SCHUMANN: Lieder

Uecker, Polk

ARABESOUE Z 6624 (47 min) Nineteen of a total of two dozen or so of Clara Schumann's lieder, including several unpublished songs recorded here for the first time. Inspired by favored poets of the period-Goethe, Heine, Rückert, Geibel, and the lesser-known Hermann Rollettthey are brief, usually strophic settings dealing with familiar Romantic subjects. The most interesting of these expertly crafted but rarely memorable songs are those with adventurous piano parts: Lorelei (where the piano writing recalls Schubert's Erlkonig) and Am Strand. The soprano Korliss Uecker does justice to their modest charm with her limpid, youthful sound, and she is well supported by the pianist Joanna Polk. G.J.

DMITRI HVOROSTOVSKY:

Dark Eyes PHILIPS 434 080 (56 min)

Siberia's greatest recent gift to opera, the young baritone Dmitri Hvorostovsky, sings thirteen Russian folk songs of varying moods. Whether the songs are lusty or tender, he performs them with authenticity, vocal beauty, relish, and masculine strength. The Ossipov folk orchestra provides suitable accompaniment with plenty of balalaikas. *William Livingstone*

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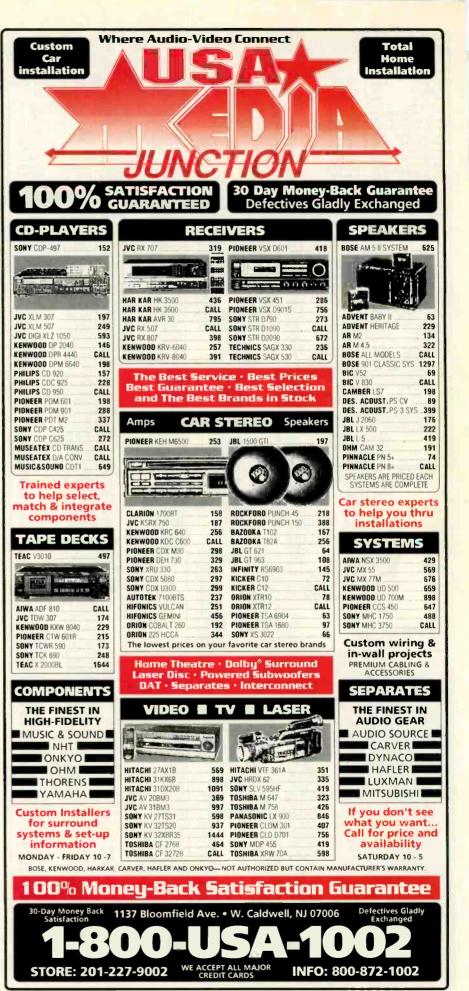
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| L758 PROX 6.99 68 L838 ES 4.2988 | 8mm 98 min Hi8 5,29ea 8mm 128 min Hi8 6,49ea | SSW10 SUBWOOFER SSW210 SUBWOOFER | GR303U HRPIU | MINI SUBWOOFER 129 | BOSE |
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THE HIGH END

BY RALPH HODGES

An Idea Still Coming

F the remnants of the oncemighty Cambridge, Massachusetts, loudspeaker industry, Allison Acoustics was the company that hewed most closely to the original pattern definitively established by Acoustic Research in the late Fifties. It employed drivers created specifically for its designs and not found elsewhere. It was conservative about these designs, changing them rarely and dropping them almost never. It was not aggressive about ventures outside its area of specialty (the original AR did offer turntables and electronic components now and then; Allison stuck to home speaker systems). And it was driven by an idea. In other words, the company isolated a factor in loudspeaker performance that, although not consistently recognized by any other manufacturer, was considered so important by Allison as to be the foundation of all its efforts.

Allison speakers are built to interact predictably and, insofar as it is possible, benignly with the interiors of normal listening rooms. This goal exists for most speaker designers of any competence, but not quite to the degree it concerns Roy Allison, who founded Allison Acoustics in 1974 to follow up, with actual products, research on room interactions that had occupied him for several years before.

For the midrange and treble parts of the spectrum, room interactions have in large part to do with driver directivity. As ever, different designers have different views on the matter, with Allison opting for wide but by no means omnidirectional dispersion. But it is in the low-frequency region, where many simply let what is going to happen happen, that Allison has taken a tack unlike almost anyone else's.

Because bass wavelengths are so much larger than the speakers reproducing them, woofers are essentially omnidirectional over much of their range, meaning that room boundaries not just in front of but also behind speaker systems become important reflective sources of acoustical energy. Allison found that sound reflected from behind a speaker system is capable of interfering strongly with the sound the system is trying to make as the reflection is occurring. The effect amounts to an acoustical comb filter. Wavelengths equal to some multiples or fractions of the distance from the woofer cone to the wall behind it will bounce back to reinforce what the cone is doing at the reflection's moment of return. For other multiples or fractions, the result will be cancellation. In the end, the speaker's response, when measured at a distance typical of a listener's position in a domestic room, will show a pattern of alternating dips and peaks somewhat resembling the profile of a very blunt comb.

This mechanism was well understood many decades ago, but the actual measurements and aural evaluations that Allison undertook persuaded him that it needed immediate attention in home-speaker design. Given that the problem is the distance between a speaker and a close reflecting surface, he reasoned, the solution is to eliminate that distance-or at least make it so small that it ceases to approximate wavelengths the speaker is producing. Hence the characteristic Allison speaker enclosure, intended to be placed back against a wall and configured so that the woofer is very close to that wall. The resulting box shapes, particularly for floor-standing models, are interesting and highly individual in appearance, even in an era when industrial engineers and architects often play a role in developing new speaker systems.

The artifacts that Allison has been trying to subdue have come to be called "boundary effects," and even though his company attracted few imitators when it began operations, and none that really stayed the course, the underlying concepts remain valid and provocative. They have even influenced microphone design, most notably in the PZM devices marketed by Crown International. Now they are experiencing an unexpected and largely unwitting renaissance in the form of so-called architectural speakers. In many cases these are simply drivers affixed to baffle boards that mount directly on the wall; but the pleasing sounds that some of them can make are undoubtedly attributable in part to the absence of boundary effects.

Unfortunately, you cannot expect whatever is within and behind a wall to constitute a suitable or reliable woofer enclosure, although it is often fine for tweeters and midranges, especially if they have closed backs. But Allison does give you a proper box and a woofer that's positioned just about where it should be.

That Roy Allison can make a proper box is not to be doubted. A thirteenyear veteran of the original Acoustic Research, he had a major hand in all models dating from the seminal AR-3a to the somewhat controversial LST, a speaker that even Mark Levinson has come to appreciate. Before that, he held important positions at *High Fidelity*, this magazine's strongest competitor at the time, and also developed his own short-lived audio journal.

AVING said all the above, I now must glumly report that Roy Allison and Allison Acoustics are no longer together—evidently the result of difficult economic circumstances. The Allison name will live on, as will, for the time being, the products. But their distribution will be through Stanford Acoustics, a subsidiary of a large South Korean outfit. Allison speakers just as Allison designed and built them are therefore still available, but it cannot yet be predicted what will happen when the current inventory is exhausted.

As for Roy Allison himself, there was a perilous moment when it looked like further evolution of his grand concept had been halted for good. Then in stepped Edgar Villchur, inventor of the acoustic-suspension woofer and one of the founders of the original AR, to assist in founding a new company, RDL Acoustics, "RDL" standing for Room Designed Loudspeakers. Thus, what at first looked like unequivocally bad luck has resulted in the reformation of one of U.S. high fidelity's most potent and influential design teams and has given a fine idea the opportunity to keep coming.

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