

Stereo Review

AUGUST 1996 • US \$3.50 • CANADA \$4.50 • UK £2.20

Add-On Home Theater

Surround-Sound Options For A Two-Channel System

Choosing A Processor

Matching The Speakers

ROLL YOUR OWN
A Drop-Dead
Drop-In System
On Wheels

PERIPHERALS
The Big Screen
PC/TV Is Here



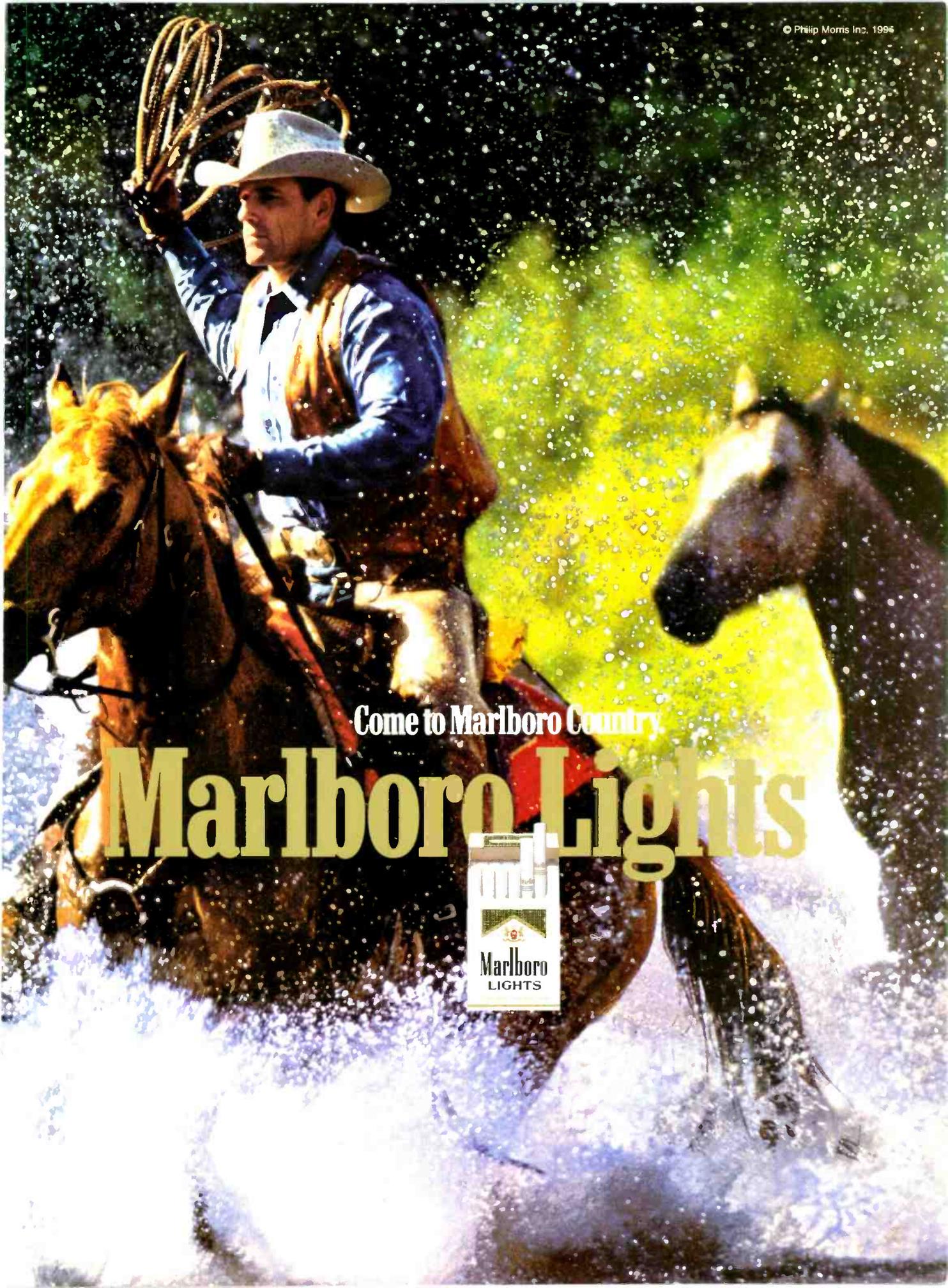
TEST REPORTS
PSB Speaker, Marantz
A/V Receiver, Adcom
Power Amp, and more

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Come to Marlboro Country

Marlboro Lights



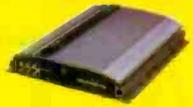
"AC/DC
Back in Black,
Track 2?"

0-25 FEET
Aroused by booming bass frequencies, giant river salamanders cling to the legs of wading villagers.

1,000-2,500 FEET
The dead are awakened, amazed by sound clarity, then return to their original, dead state.

1-250 MILES
Earth's tectonic plates shift during prolonged drum solos.

Hell's heating system frequently disrupted. (Deceased politicians rejoice.)



GROUND LEVEL

Driver turns on Pioneer car stereo system featuring a 2 Ω high-current amplifier with built-in crossover and Variable Bass Boost. Beverages on dashboard are blasted onto the laps of jammin' passengers.

50-100 FEET

Earthworms feel ground shaking above and fear it's the mythical Great Bird of the Apocalypse.

1,000-2,500 FEET

Rhythmic pumping causes diamonds to form into the shape of guitar picks.

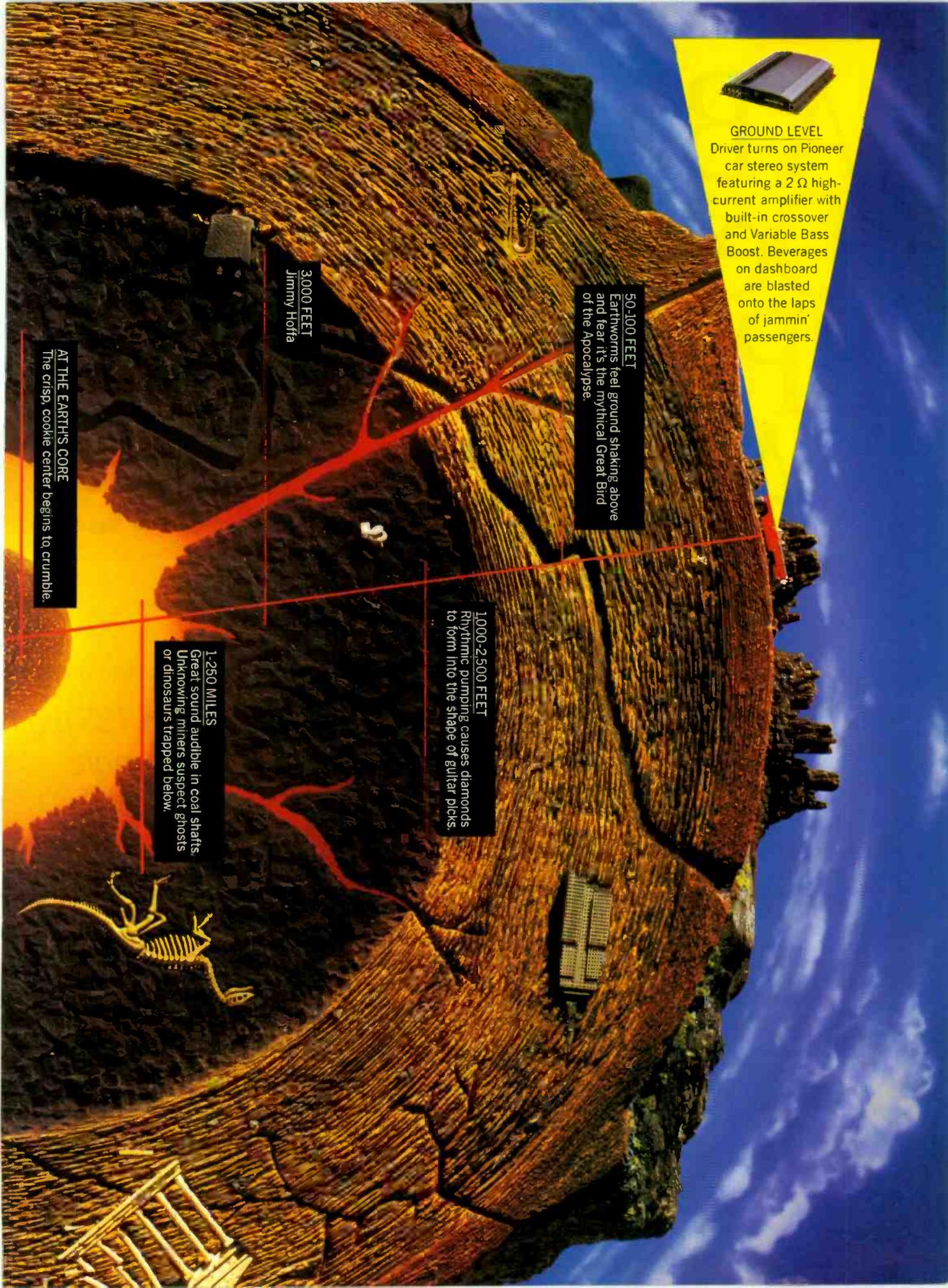
3,000 FEET
Jimmy Hoffa

1-250 MILES

Great sound audible in coal shafts. Unknown miners suspect ghosts or dinosaurs trapped below.

AT THE EARTH'S CORE

The crisp, cookie center begins to crumble.



A Breakthrough! “Definitive’s New BP2002 Achieves An Impossible Dream.”

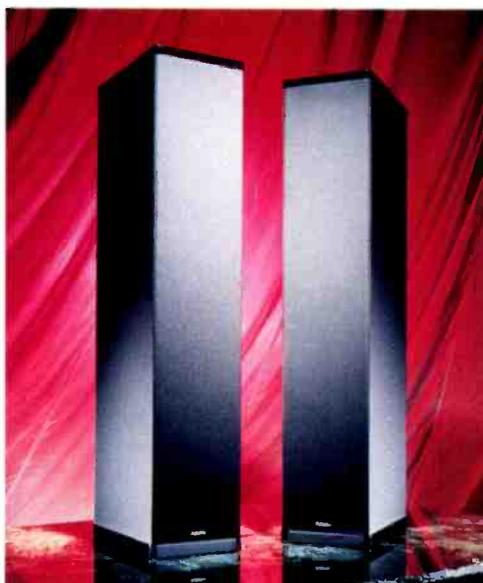
—Peter Moncrieff, *International Audio Review*

At \$999 ea., the bipolar BP2002 with dual built-in 125-watt powered 12" subwoofers approaches the ultimate performance of Definitive’s reference flagship BP2000.

Your Dream Comes True

When *Stereo Review*’s Julian Hirsch wrote of the BP2000, “...I would choose these speakers for myself,” we were thrilled and honored by this highest of compliments. In fact, since its introduction last year, Definitive’s top-of-the-line BP2000 has clearly established itself as the most award-winning and highly reviewed speaker of all time.

Now, our newest breakthrough, the BP2002, incorporates similar cutting-edge technologies in order to achieve mind-boggling sonic performance which closely approaches that of our flagship BP2000. And most importantly, the BP2002’s significantly lower price and more compact size will allow many more lucky listeners like yourself to own speakers of this ultimate quality level.



Experience sonic ecstasy! Hear for yourself why top high-end guru Peter Moncrieff raved the “BP2002 achieves an impossible dream.”

CIRCLE NO. 15 ON READER SERVICE CARD

See our dealer list on page 12

Music & Movie Perfection

The extraordinary BP2002s incorporate bipolar technology, which turns your whole room into a sweet spot with three-dimensional depth and a huge sonic image ideal for music and movie perfection. Truly a unique combination of delicately detailed musicality and totally controlled brute force for your ultimate listening pleasure!

Whether incorporated in a super audiophile stereo music system or combined with matching CLR2002 Center Channel (\$499 ea.) and our bipolar rears for a truly remarkable AC-3* ready home theater system, Definitive’s magnificent BP2002 will achieve your impossible dream, too.

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Visit us at <http://www.soundsite.com/definitive>. *Registered Trademark

Stereo Review

INCORPORATING HIGH FIDELITY

August 1996

Home-theater components on our cover include (from the top in Bell'Oggetti's Alpha Evoluto rack) a Panasonic PV-4662 hi-fi VCR, Carver CT-23 tuner/preamplifier, Rotel RSP980 surround processor, and Carver AV-705x five-channel power amplifier as well as KEF's Q70 slim tower speakers and Model 90 center speaker (on top of the 32-inch Toshiba CX32E60 TV). See pages 62 and 67 for tips on adding surround-sound capability to a stereo music system.

Photograph by Roberto Brosan.
Star Wars image, Fox Video.

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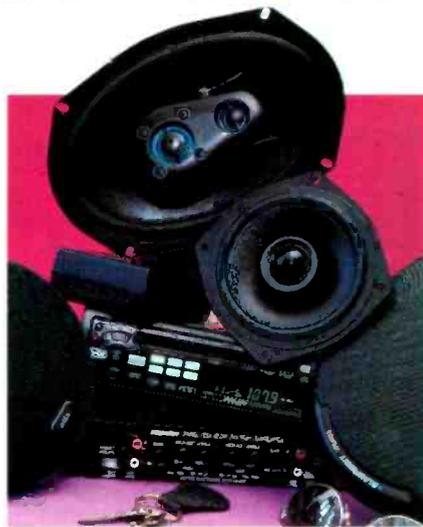
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79 Best Recordings of the Month

The Kennedys make it big, Radu Lupu plays Schumann, Semisonic builds a better poptrap, and Dawn Upshaw sings songs of the night



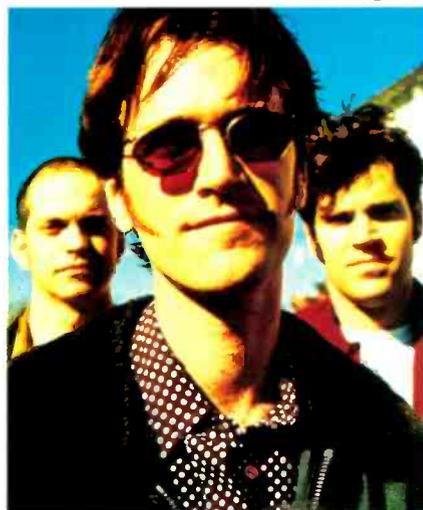
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BULLETIN

BY BOB ANKOSKO & WILLIAM LIVINGSTONE

CD'S TO DISPLAY TITLES!

Pop a CD in your player and the number of tracks and total playing time appear in the display. People have long wondered why other display information, such as the artist's name, is not also included in a CD's data ("subcode") area. While it is technically feasible to include text, provisions were never written into the original "Red Book" CD standard. Now co-inventors Sony and Philips have agreed to revise the standard so that record companies can include artist, album, and song data as well as other info. Text-capable CD's and CD players could be on the market in a year.

DEAD POET

The 200th anniversary on July 21 of the death of Scotland's national poet, Robert Burns, is being commemorated with an album of twenty-three of his nearly 400 songs, performed by the country's leading folk artists. Produced in Scotland by Linn Records and released in the U.S. by the Honest Entertainment Group, "Volume 1: The Complete Songs" is the first CD in a projected series of twelve collections.

A/V DIGEST

Denon plans to ship the industry's first Dolby Digital (AC-3) receiver with THX 5.1 processing in September. It will sell for \$2,800. . . . After an absence of several years, Tandberg is re-entering the U.S. audio market with the 4000 Series of slim-line components, including a preamp, a power amp, an integrated amp, two CD players, and a tuner. Ranging in price from \$1,095 to \$1,895, the products will be available from Jason Scott Distributing of Wyndmoor, PA. . . . Cambridge SoundWorks has acquired the RDL Acoustics brand name created a few years ago by audio luminary Roy Allison and hired

him as a consultant to design speakers under that brand. . . . Zenith is rolling out a high-end electronics brand called Inteq. Initial products will include direct-view and projection TV sets with Dolby Pro Logic decoding and BBE "high definition" audio processing, a giant-screen front-projection monitor, VCR's, DVD products, and home-theater speakers. A 35-inch TV with Internet access is expected to be available this fall. . . . Sony offers a free two-CD set with the purchase of certain Discman and CD boombox products. The Goo Goo Dolls, Blues Traveler, and the Dave Matthews Band are among the set's seventeen artists, in recordings from the national radio show *Modern Rock Live*.

CELEBRITY PRATFALLS

If you love to hear disastrous music made by famous people from other fields, two books will be of interest. *Hollywood Hi-Fi* by George Gimarc and Pat Reeder (St. Martin's Griffin, \$18.95) includes scathing descriptions of albums and singles recorded by such thespians as Bette Davis, Joe Pesci, Anthony Perkins, Goldie Hawn, and William Shatner. Ron Lofman takes a more sober look at these shaky career moves in *Goldmine's Celebrity Vocals* (Krause, \$16.95), which gives values for recordings by about 1,500 unwary celebs. Shaquille O'Neal's "Don't Take It Personal" (1993) nets a mere \$12, while Clint Eastwood's "Cowboy Favorites" (1959) commands \$100.

TEST REPORTS GALORE

Issue 3 of the *Audio Review Index* lists more than 2,500 reviews of stereo equipment published between 1988 and 1995 in *STEREO REVIEW* and eight other publications. Each listing includes key specs, date of manufacture, and new and used prices.



THE DOG DAYS OF SUMMER

If you think popular music is going to the dogs, well, Dog's Eye View appeared recently on *Late Show with David Letterman*. Tha Dogg Pound is still selling "Dogg Food," and the Further Festival includes Bob Weir and Ratdog. Disney, always one to sense a trend, is no doubt creating a high-profile soundtrack for its live-action remake of *101 Dalmatians*. Meanwhile, Kelly Hogan, formerly of the Jody Grind, has a new CD called "The Whistle Only Dogs Can Hear" — and her label, Long Play, sent us a promo package complete with a refrigerator magnet shaped like a dog bone. Not to be outdone, Rounder is distributing the Love Dogs' "I'm Yo Dog" (Tone-Cool) and stuffing its own promo with an actual dog biscuit. And you may have seen spots on MTV for the Zappa Records release of "Music for Pets" by the band Z, led by Dweezil and Ahmet Zappa; in one ad, Cindy Crawford hawks the album while cradling a skinny puppy (a thin dog, not the band). Pop doggerel actually goes back a way. Recall, if you will, Three Dog Night, the Bonzo Dog Doo Dah Band, and the Pointer Sisters.

There's also a one- to five-star rating for each product review. Price: \$15.95 plus \$3 postage from the Audio Review Index, R.R. 2, 106A Mennella Rd., Poughquag, NY 12570; phone, 914-724-5732.

CLASSICS FOR ROCKERS

London Records has an August 13 release date for "Exile on Classical Street," a compilation of classical compositions (or excerpts) chosen by such pop stars as

Bono, Paul McCartney, and Elvis Costello. Selections include Mozart's Violin Concerto No. 4 (chosen by Keith Richards), Elgar's *Enigma Variations* (Elton John), and Barber's Adagio for Strings (Michael Stipe). Proceeds from the CD will go to the NARAS Foundation of the National Academy of Recording Arts & Sciences to promote music education through the NARAS Grammy in the Schools program. □

ILLUSTRATION BY BOB SCOTT

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THAT ARE
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BIG
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AND
MOVIES.

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in the Design
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they've quickly
become one



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capture the earth-
shaking realism of films like Jurassic Park.



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Welcome to Stage 3. A new line of Kenwood home products designed to simplify the way people interact with their technology. The Stage 3 Home Theater Controller (KC-Z1) features Dolby® Digital (AC-3) and THX® Cinema for surround sound. But the heart of Stage 3 is the portable TouchPanel. This intuitive graphic interface lets you do every-



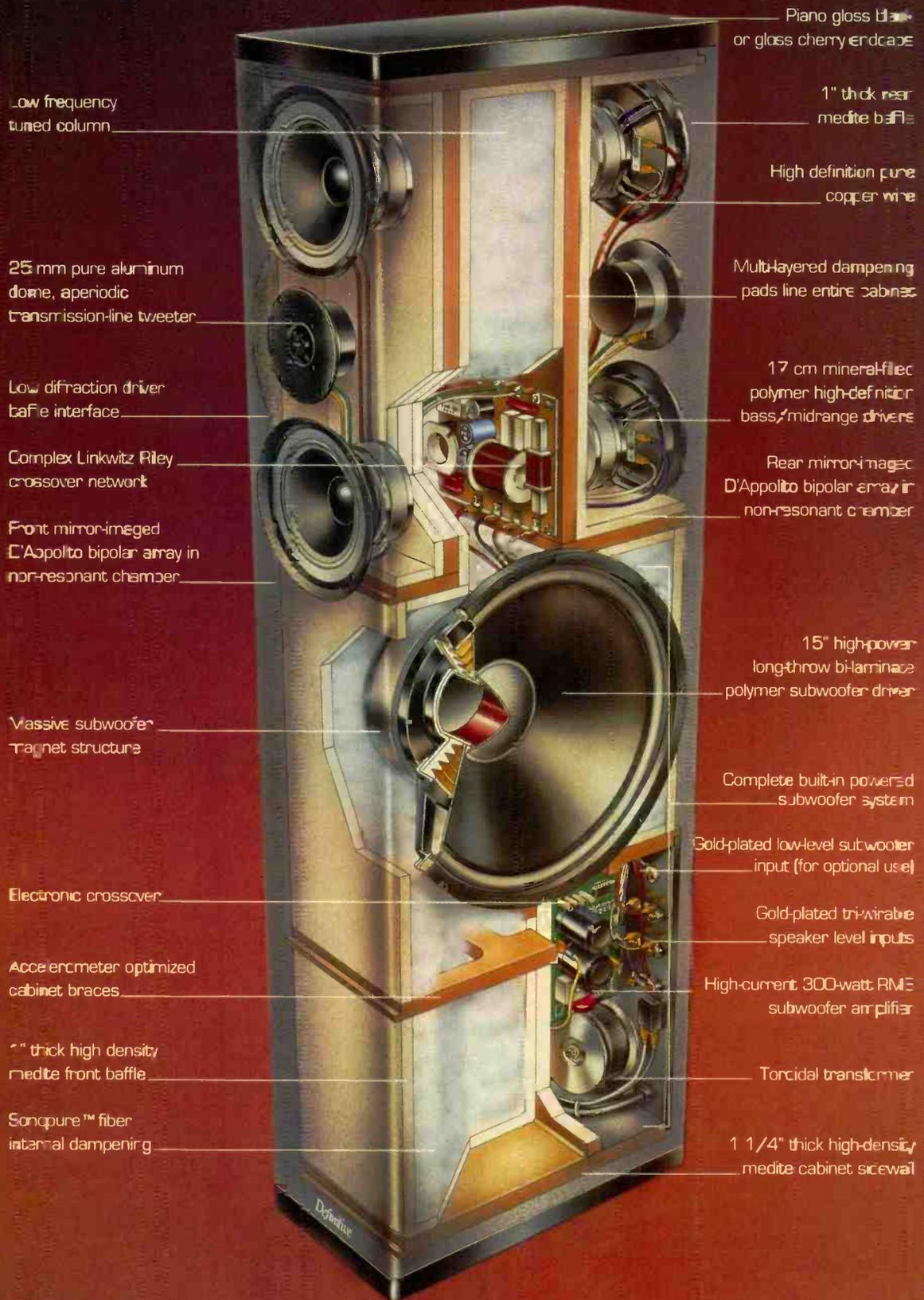
thing from adjusting the volume to cueing up your Laser Disc from any room in the house. The TouchPanel puts the power over technology back where it belongs. In the hands of the people. For the nearest dealer, call 1-800-KENWOOD or check out our new web site at www.kenwoodusa.com.

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CIRCLE NO. 22 ON READER SERVICE CARD

Inside Definitive's Revolutionary BP2000



Low frequency tuned column

25 mm pure aluminum dome, aperiodic transmission-line tweeter

Low diffraction driver baffle interface

Complex Linkwitz Riley crossover network

Front mirror-imagined D'Appolito bipolar array in non-resonant chamber

Massive subwoofer magnet structure

Electronic crossover

Accelerometer optimized cabinet braces

1" thick high density medite front baffle

Songpure™ fiber internal dampening

Piano gloss black or glass cherry endcap

1" thick rear medite baffle

High definition pure copper wire

Multi-layered dampening pads line entire cabinet

17 cm mineral-filled polymer high-definition bass/midrange drivers

Rear mirror-imagined D'Appolito bipolar array in non-resonant chamber

15" high-power long-throw bilaminar polymer subwoofer driver

Complete built-in powered subwoofer system

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

Gold-plated tri-wireable speaker level inputs

High-current 300-watt RME subwoofer amplifier

Toroidal transformer

1 1/4" thick high-density medite cabinet sidewall

"Definitive's new BP2000 absolutely kills most more-expensive speakers!"

— Brent Butterworth, *Home Theater Technology*

Julian Hirsch Says, "...I Would Choose These Speakers for Myself."

BP2000 is "the first speaker I have been able to audition in my own familiar surroundings that has given me that special thrill that usually costs ten or more times its price..."

—Julian Hirsch, *Stereo Review*

"This slammin' system will probably kill any other you've ever heard or seen."

—Brent Butterworth, *Home Theater*

Speaker of the Decade

The experts agree: Definitive's BP2000s are an amazing achievement! We have literally reinvented the loudspeaker and combined a six-driver dual D'Appolito bipolar array with a built-in (side-firing) 300-watt powered 15" subwoofer. (Yes, a complete powered subwoofer built into each speaker!) The result is extraordinary sonic performance beyond anything you've ever heard.

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



Definitive's complete AC-3 ready BP2000 Home Theater System is the perfect choice for ultimate music and movie performance.*

CIRCLE NO. 15 ON READER SERVICE CARD

See our dealer list on page 12

The Ultimate Home Theater

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

The complete system combines the BP2000s (\$1499 ea.) with a C/L/R 2000 center (\$650 ea.) and BPX bipolar surrounds (from \$399 ea.). Of course, dual 15" powered subwoofers are already built into the sleek BP2000 towers. Truly the ultimate listening experience! Visit your Definitive dealer today.

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VA: Myer-Emco; Falls Church; Tyson's Corner; Fairfax; Audio Connection; Virginia Beach; Audiographics; Roanoke; Home Media Store; Richmond; Stereo Type; Charlottesville.
VT: Audio Video Authority; S. Burlington.
WA: Aspen Sound; Spokane; Definitive Audio; Bellevue; Seattle; Evergreen Audio; Silverdale; Pacific Sight & Sound; Wenatchee; Tin Can; Kennewick; W. VA: Sound Post; Princeton.
WI: Audio Emporium; Milwaukee; Absolute Sound & Vision; Sheboygan; Hi-Fi Heaven; Appleton; Green Bay; Sound World; Wausau; Quartz Ridge; Precision Audio; Pro Pedras.
WY: Audio & B; Seaside; Calgary; Edmonton; Kelowna; Vancouver & Suburbs; Victoria; Advance Electronics; Winnipeg; Bay Bloor Radio; Toronto; Centre Audio; Chast; Trois Rivières; CORA; Dubech City; Digital Dynamics; Clearbrook; Great West Audio; London; Kebeccan; Montreal; Lipton's; New Market Ontario; Peak Audio; Halifax; Sound Room; Vancouver; Stereoland; Windsor; Triple Ctl; Ottawa; Mexico; Contact Grupo Vellum; Mexico City.

LETTERS

Psychic Audio

Ken Pohlmann's "Psychic Audio" (June) was truly pertinent. I had to turn to the cover to make sure it was not the April issue!

CARL HARRIS SEWELL
Norfolk, VA

Thanks to Ken Pohlmann for his enlightening explanation in June "Signals" of why analog audio sounds better than digital — preservation of psychic energy!

Experimentation, however, suggests that his hypothesis is a subset of a more comprehensive theory: The amount of psychic energy conveyed is inversely proportional to the amount of electronic processing used in recording and listening to a performance. This principle explains not only why purist audiophiles prefer LP's to CD's but also why they willingly pay more for playback apparatus with fewer controls.

Thus, although my LP's sound better than my CD's, my pre-1955 78's sound better than my LP's, and my treasured early acoustic recordings (with no electronics at all between performer and listener) sound best of all.

A. ELGIN HEINZ
San Rafael, CA

Thanks for Ken Pohlmann's "Psychic Audio." Now I understand why when I talk on the phone I sometimes feel like the other person is there and sometimes I don't. It's because sometimes I am calling across fiber-optic lines that have digitized my voice and filtered out all of the "real" communication going on.

PETE BULANOW
Petersburg, VA

Thanks to Ken Pohlmann's "Psychic Audio," I understand now why analog LP's are better than CD's. People must be envious of me because I own a Victrola (Mr. Pohlmann probably already knew I had one). I am now searching for the Holy Grail — a cylinder player. If I only had a wire recorder! Thanks for the chuckle!

TIM MASTEN
Bloomington, IL

I just called Ken Pohlmann's Psychic Audio Hotline, and I'm glad I did. As I listen to the grooves of a Barry White 45-rpm single, because of my newfound psychic audio acuity I can now "see" what was really going on during *Can't Get Enough of Your Love, Babe*. Right on, Barry! And thank you, Mr. Psychic Audio, for opening up a whole new "medium"!

RICK BERNAL
West Hills, CA

Remembering Heathkit

The first column I turn to almost every month is Julian Hirsch's "Technical Talk." Like Mr. Hirsch, I remember Heathkit (June). In fact, a Heathkit AR-29 AM/FM stereo receiver still powers my music system. The auxiliary input has been tripled up

with an external switcher to select the CD player, stereo output from our TV, or the cassette deck.

In 1970 I paid \$300 for the kit, which was rated for dynamic power of 50 watts per channel into 8 ohms, 35 watts continuous. I met the woman I married while I was building it. When it was finished, I called her on the telephone to listen to it.

The receiver has needed service a couple of times over the years, and a neighborhood technician repaired it as a labor of love. The last time he said it did not really warrant future repair. Well, it's still playing and sounds good to me. The AR2ax speakers have been replaced, the open-reel tape deck wore out, the AR turntable became a dinosaur, but the Heathkit lives on. We celebrated our silver wedding anniversary last year — and still listen to the Heathkit.

ARNOLD KINER
Brooklyn, NY

Computer Speakers

I was surprised to read William Haupt's April letter bemoaning low-fi computer speakers! I can't believe a STEREO REVIEW reader would expect a computer speaker to sound good! These are toys! A much cheaper solution that works for me is to run a cable from the computer's line output to an auxiliary input on a good stereo system. Even if the system is located in a different room, the sound could come from a pair of remote speakers hooked to the stereo system, and you could adjust the volume through the computer's software controls.

One caution: Physically disconnect the computer when it's not being used because it pumps a lot of noise into the line outputs. That's another reason to wonder about "hi-fi" multimedia PC's. If you check the specs on your computer's sound system, you'll find they're not even close to those of the cheapest CD player!

CARL VALLE
Webster Groves, MO

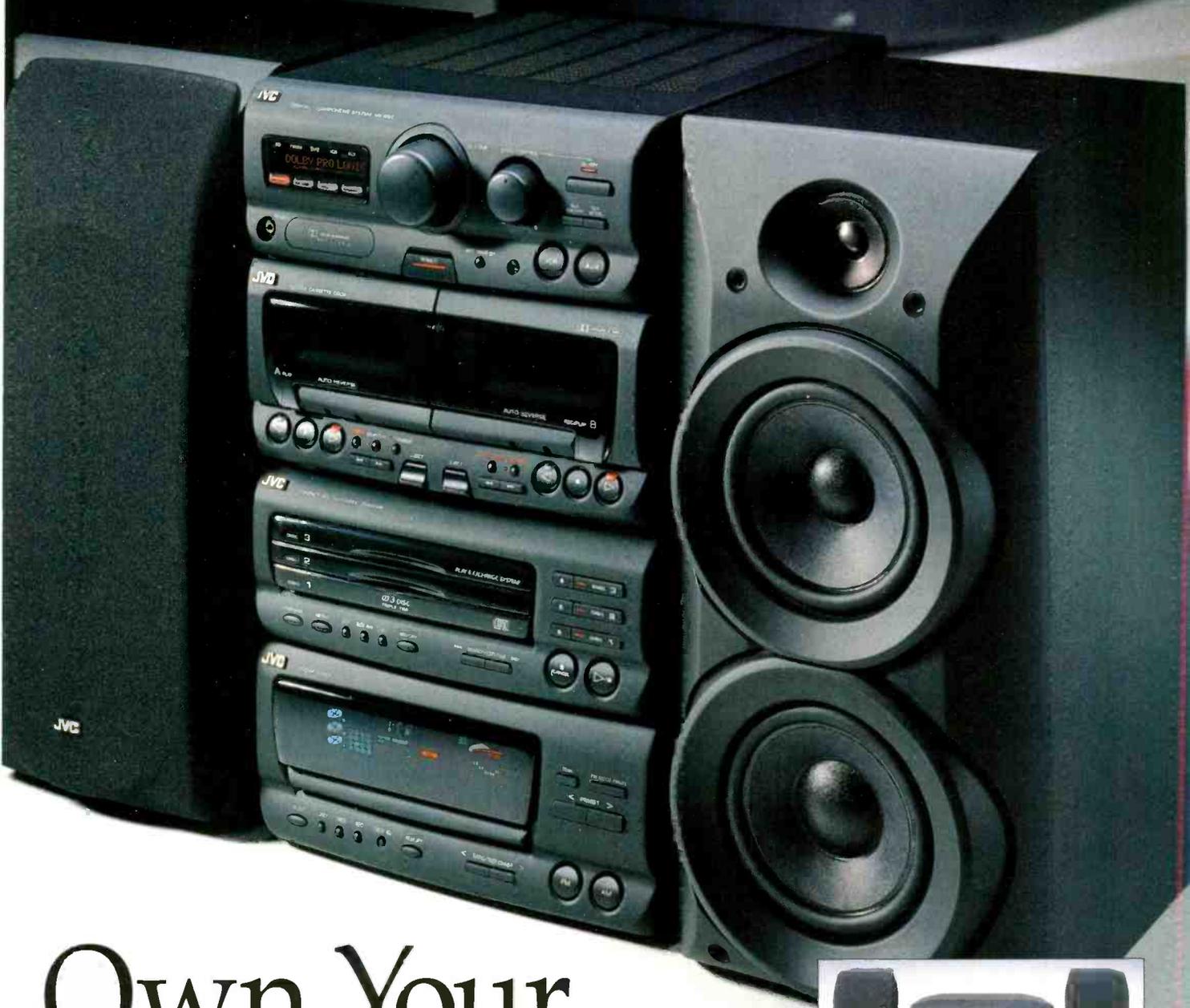
Dolby Digital Duplication?

In the article "Dolby Digital Surround" in the May issue, Daniel Kumin indicated that HDTV will use the Dolby Digital (AC-3) audio format. I was planning to buy a Dolby Digital receiver, a DVD player, and an HDTV. But if the HDTV set will include an AC-3 decoder, why should I buy an audio receiver with one? Couldn't I buy an HDTV set and the additional speakers and keep my present stereo receiver? I don't mind spending the money. I just don't want to waste it.

KENNETH D. EICHNER
Houston, TX

Neither HDTV's nor DVD players have come to market yet, so it's not clear whether most models will contain Dolby Digital decoders or rely on separate receivers or proc-

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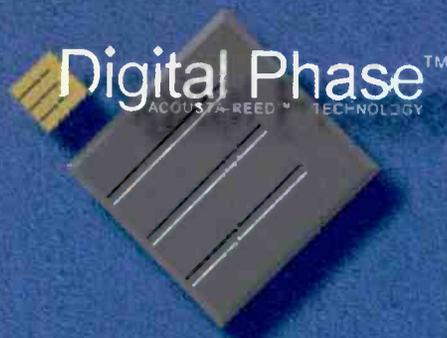
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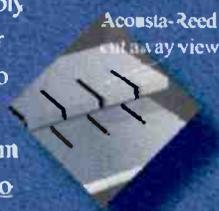
"For a small, affordably priced speaker with a pair of 3-inch woofers, such performance is nothing less than amazing...In fact, if I had to sum up the sound of the AP-7 in a few words, I

would describe it as "balanced, natural, and uncolored."

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LETTERS

essors for the audio decoding. It's a good bet that the first HDTV's, which are due in late 1997 or, more likely, 1998 will be high-end models with built-in decoders. Among DVD players, some will have decoders, but some won't.

Of course, even if you use the decoder in your DVD player or HDTV, you'll still need amplification for five speakers plus a subwoofer. Your stereo receiver might drive two of those speakers, but a five-channel A/V model may give you more flexibility and be easier to use. Another alternative to a Dolby Digital receiver would be to add a Dolby Digital decoder/amplifier to your stereo receiver, when and if such a product becomes available. See "Add-On Home Theater: The Processor" starting on page 62.

Video "dbx"

Reader Paul Gundlach's letter in March was mistaken about dbx noise reduction (NR) in hi-fi VCR's. The FM companding used in all hi-fi VCR's is very slightly similar to the old dbx Type II NR, but no VCR's use dbx NR encoding and decoding beyond that standard implementation. If a VCR has a label saying something about dbx, it is probably a reference to the stereo TV tuner in it, which uses the standard dbx MTS NR circuit that all stereo TV tuners have.

DAVID MORAN
Lincoln, MA

Subwoofers and Phase

I read Tom Nousaine's article in the March issue on subwoofers with great interest, but he did not answer one question I have had for years. Every review of subwoofers I have seen says that placement is important and that you need to experiment to find the best room location to avoid standing waves and provide the smoothest response. This has always bothered me, because unless all of the speakers are placed properly, the relative phase delay of the different frequencies will not be correct.

Many musical instruments produce a broad spectrum of frequencies in the transient when the note is first struck. It is the transient at the beginning of the sound from a bass drum or an explosion in a movie soundtrack that gives it "punch."

Before purchasing my last set of speakers, I auditioned a number in the \$1,000 to \$3,000 range. Some of the speakers had small bass drivers and did not have a strong low end. I always asked to hear them in conjunction with a subwoofer, but such combinations invariably sounded "soft" compared with speakers that had large low-end drivers (12- to 15-inch) and were consequently able to reach lower frequencies. I think that's because the integrated speakers had better phase linearity over the frequency spectrum than is possible with a separate

subwoofer that may be placed many feet away from the main sound source.

Have you noticed this effect in testing speakers and subwoofers, or is it my imagination?

BRUCE E. TRUAX
Southington, CT

Tom Nousaine replies: The phase problem you cite is the basis for the idea that time alignment is an important issue for subwoofers. But that has never been apparent to me in actual performance. In fact, all other things being equal, a separate subwoofer optimally placed in a corner always plays smoother, louder, and deeper than at any other room location.

Speakers with larger (12- or 15-inch) woofers can indeed be capable of delivering more punch than smaller ones, but that has nothing to do with the location of the subwoofer section. When a speaker system has a subwoofer located adjacent to or built into the main stereo speakers, the result is usually a large response "hole" between the two lowest modes associated with the room's width and length (usually between 30 and 50 Hz, depending on the room size). Placing the subwoofer in a corner away from the main speakers excites additional wall modes and helps fill in the hole.

Live vs. Recorded

Why is so much emphasis placed on reproducing the sound and ambience of a live performance? At a recent concert of the Pittsburgh Symphony Orchestra in Heinz Hall, I heard the Brahms Piano Concerto No. 2. At my seat in the middle of the upper balcony, the piano was too loud for the orchestra, and while the orchestra sound came from the stage, most of the piano's sound came from the canopy-like projection at the top of the proscenium. The lower notes came from somewhere in space above the piano. The sound of my midprice stereo system at home is much less distracting.

RAYMOND J. SCHUERGER
Pittsburgh, PA

Ever consider getting a better seat?

Correction

The price of the DCM TimeWindow SurroundScape II speaker system, which includes a built-in powered subwoofer (unlike the SurroundScape system reviewed in this issue), was misstated in June "New Products." It is \$1,999 a pair. □

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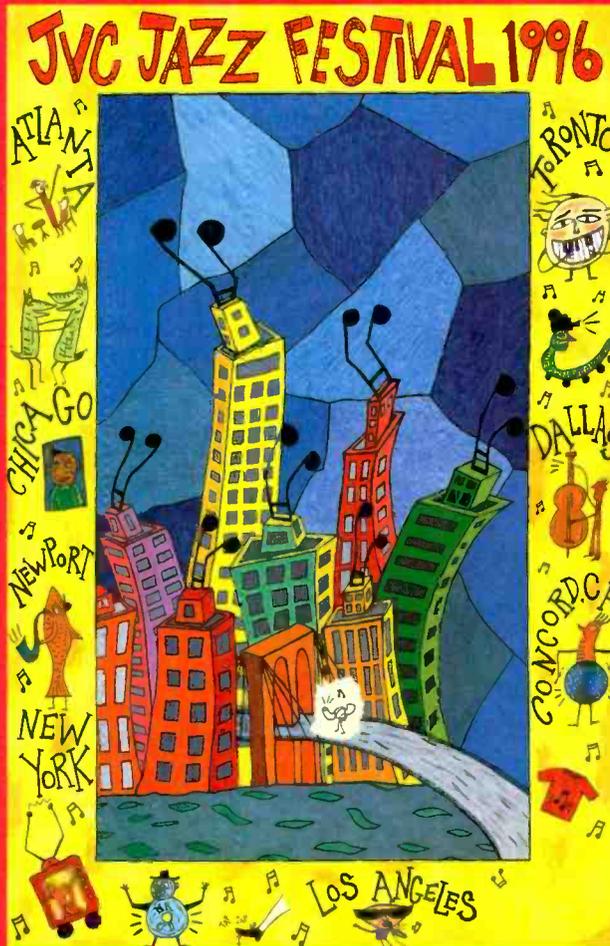


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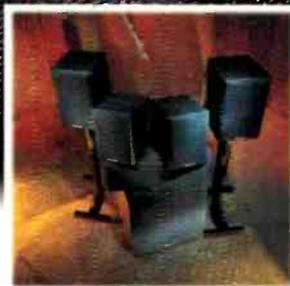
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NEW PRODUCTS

▼ CARVER

Carver's HTR-880 A/V receiver has Power Steering circuitry that is said to deliver up to double the rated power on any channel to meet program demands. An Infinite Decorrelation circuit expands the rear soundstage.

The HTR-880 is rated at 80 watts each for the front left, center, and right channels and 30 watts each for the surrounds. Price: \$859. Carver, Dept. SR, P.O. Box 1237, Lynnwood, WA 98046.

• Circle 120 on reader service card



▼ EOSONE

Eosone A/V speakers, engineered by long-time Infinity designer and Genesis cofounder Arnold Nudell, use a dipole configuration to widen the sound field. Shown are the RSF 600 three-way towers, each with six drivers in a 42-inch cabinet (\$900 a pair), the

RSC 300 center speaker (\$250), and the RSR 350 surrounds (\$430 a pair) displayed atop and in front of the RSP 912, a 12-inch powered sub (\$750). Eosone, Dept. SR, 2550 Britannia Blvd., Suite F, San Diego, CA 92173.

• Circle 121 on reader service card



▲ KLIPSCH

Each 8½-inch-tall satellite in the Klipsch Rebel KSS-3 sat/subwoofer system has a horn tweeter with a 1-inch diaphragm and a neodymium magnet. The horn is suspended over a 4-inch woofer in a "point source" configuration. The powered sub features a 50-watt amp and

a 6½-inch cone in an injection-molded cabinet measuring 15 x 9 x 21⅞ inches. System response is given as 40 Hz to 20 kHz ±3 dB, sensitivity as 93 dB. Price: \$750. Klipsch, Dept. SR, 8900 Keystone Crossing, Suite 1220, Indianapolis, IN 46240.

• Circle 122 on reader service card



▲ PIONEER

"Write-once" technology in Pioneer's PDR-05 CD-R deck records on blank CD's that can be used in any CD player. One-touch synchro recording senses an input signal and automatically begins recording; it then pauses the unit when the song is over.

A Talk-Back user interface on the front display also simplifies operation. Analog inputs and outputs are provided, as well as digital coaxial and optical inputs and outputs. Price: \$1,950. Pioneer, Dept. SR, 2265 E. 220th St., Long Beach, CA 90810.

NEW PRODUCTS



◀ A/D/S/

The a/d/s/ SW500 powered subwoofer, driven by a 250-watt amp, has a 12-inch Stiffilite paper cone woofer with a 2-inch voice coil. Rated low-end limit is 22 Hz ± 3 dB. The 22-inch cube, in black veneer or cherry wood, features an adjustable low-pass crossover, a level control, and an active compensation circuit said to boost performance. Price: \$1,500. a/d/s/, Dept. SR, One Progress Way, Wilmington, MA 01887.

• Circle 123 on reader service card

AUDIO PLUS ▶

The Reference Rack from Audio Plus measures 34 x 26 x 19 inches and holds four audio components. Its wood shelves (with painted rosewood finish) are isolated to reduce vibration, and the black steel frame can be filled with sand. A companion 42-inch-wide A/V rack is also available. Price: \$525. Distributed by Audio Plus Services, Dept. SR, P.O. Box 3047, Plattsburgh, NY 12901.

• Circle 124 on reader service card



▼ PARASOUND

Parasound's R/EQ-150 equalizer is intended for multiroom installations, with a separate stereo amplifier and R/EQ-150 recommended to optimize the sound for each room. But it can also serve as a full-system equalizer by connecting it to the processor or tape loop of a receiver or preamplifier. Measuring just 10 inches

wide and 2 inches tall, the R/EQ-150 offers five half-octave bands with 8 dB of boost or cut centered at 40, 80, 120, 2,500, and 6,000 Hz. It includes an output level control and an equalizer-bypass switch. Price: \$145. Parasound, Dept. SR, 950 Battery St., San Francisco, CA 94111.

• Circle 125 on reader service card



▲ SONY

Sony's STR-GA9ESG A/V receiver has twenty-four digital sound field settings, including modes for Dolby Pro Logic and Pro Logic Enhanced, video games, karaoke, and simulated venues. Users can adjust room size, wall type, seat position, reverberation time, and effect level. The VisionTouch

on-screen graphic interface allows system control from a one-button remote. Power is rated at 120 watts for the front left, center, and right speakers into 4 or 8 ohms and 50 watts for each of the surrounds. Price: \$1,300. Sony, Dept. SR, One Sony Drive, Park Ridge, NJ 07656.



▲ WAVEFORM

The egg atop the 42-inch-tall Waveform Mach 17 speaker is designed to eliminate cabinet diffractions and improve imaging. It houses a 1-inch silk dome tweeter and a 6½-inch midrange; the subwoofer cabinet has two 12-inch treated-paper cones. An active crossover with bass,

midrange, and treble adjustments facilitates triamping. Standard finish is black-walnut veneer; exotic woods are optional. Price: \$5,995 a pair. Available direct from Waveform, Dept. SR, R.R. 4, Brighton, Ontario, Canada, K0K 1H0; 1-800-219-8808.

• Circle 126 on reader service card

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▼ SOUND DYNAMICS

The THR-BP-1 bipolar surround speaker is part of the Sound Dynamics Theatrics series. Measuring 10½ x 10¼ x 6½ inches, it has two opposing baffles, each with a 5¼-inch injection-molded polypropylene woofer and a ½-inch titanium-

coated dome tweeter. Frequency response is given as 80 Hz to 20 kHz ±3 dB, impedance as 8 ohms. Price: \$330 a pair. Sound Dynamics, Dept. SR, 3641 McNicoll Ave., Scarborough, Ontario, Canada M1X 1G5.

• Circle 127 on reader service card

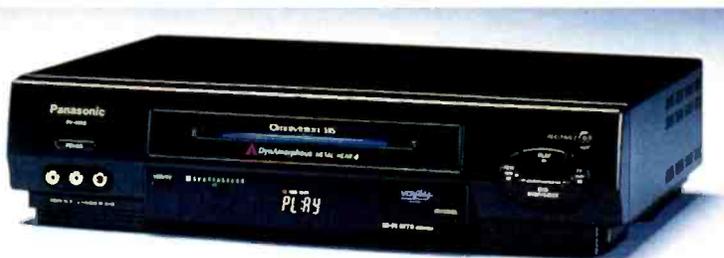


▼ PANASONIC

Panasonic's PV-4662 VHS Hi-Fi VCR offers Spatializer 3-D circuitry, intended to provide the sensation of enveloping sound from only two stereo speakers. The deck's range of video-related features includes automatic digital picture and tracking adjustment, VCR Plus+

programming, the Program Director on-screen interface, auto adjustment for daylight-saving time, DynAmorphous metal heads, and a universal remote. Price: \$380. Panasonic, Dept. SR, One Panasonic Way, Secaucus, NJ 07094.

• Circle 129 on reader service card



TDK ▶

TDK's CD'ing II audio cassettes use a high-output, high-resolution Avilyn Type II tape formulation, said to deliver wide dynamic range and low noise for recording CD's. The shell is designed to

suppress resonances. Prices: \$2.50 (60 min), \$3.20 (90 min), and \$3.70 (110 min). TDK, Dept. SR, 12 Harbor Park Dr., Port Washington, NY 11050.

• Circle 131 on reader service card



▲ TOTAL MEDIA SYSTEMS

The Adibat 8.5 from Total Media Systems uses an "adiabatic" enclosure said to eliminate the need for internal damping material and thereby improve tonal accuracy and power sensitivity. Each 42-inch tower houses a 2-inch ribbon tweeter, a 2-inch dome midrange, and an 8-inch carbonfiber/

polypropylene woofer. A time-aligned baffle and a "phase-locked" crossover are designed to help preserve imaging. Rated low-end frequency response is 34 Hz, and sensitivity is 91 dB. Price: \$3,950 a pair. Total Media Systems, Dept. SR, 50 Schmitt Blvd., Farmingdale, NY 11735.

• Circle 128 on reader service card



▲ KINERGETICS RESEARCH

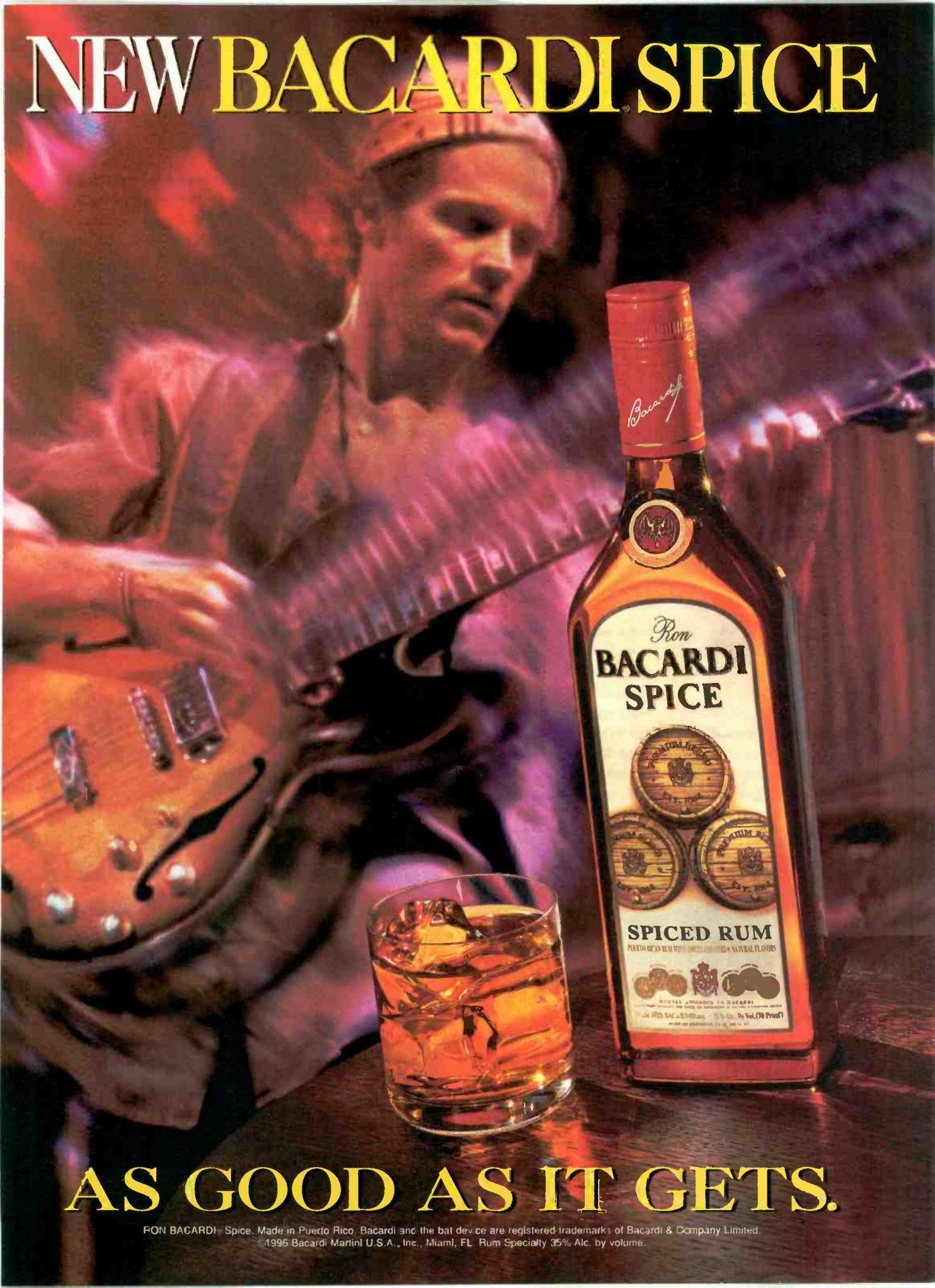
The Chiro C-190, a THX-certified mono/subwoofer amp from Kinergetics Research, delivers 200 watts into 8 ohms. An 80-Hz crossover is on board, as is Compusound II bass-compensation circuitry that is said to preserve

bass phase integrity for greater clarity. The amplifier has a sculpted aluminum front panel. Price: \$798. Kinergetics Research, Dept. SR, 4260 Charter St., Vernon, CA 90058.

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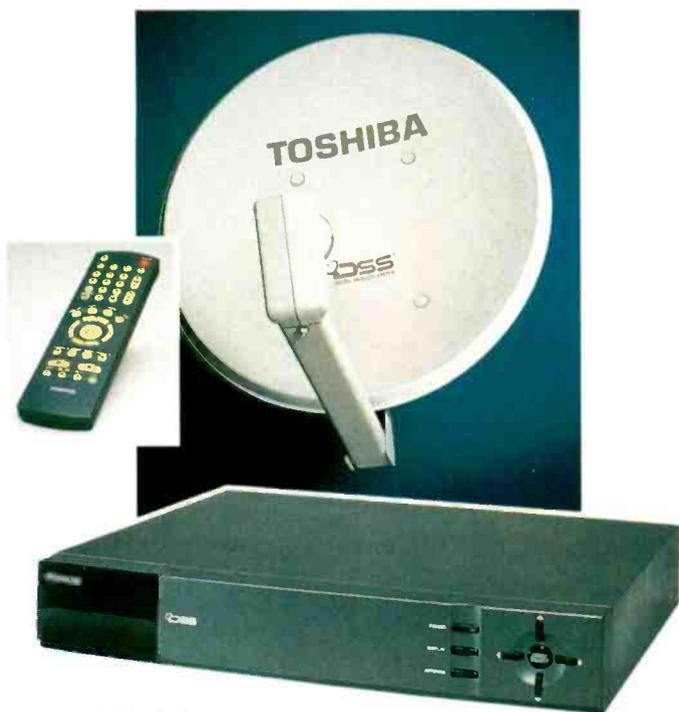
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NEW PRODUCTS



▲ TOSHIBA

Toshiba's TSS-111 Digital Satellite System includes a receiver, an 18-inch dish with single LNB output, and a back-lit universal remote control. The receiver offers StarSight direct tuning, channel-logo tuning, program search by theme, instant program-information

boxes, and a favorite-channel menu. RCA and S-video outputs are available. Selectable aspect ratio can be normal or widescreen. Price: \$599. Toshiba Video Communications Group, Dept. SR, 1010 Johnson Dr., Buffalo Grove, IL 60089.

• Circle 133 on reader service card



▲ AUDIOCONTROL

The Ten Series III equalizer from AudioControl provides up to 15 dB of boost/cut on ten bands centered at 32, 60, 120, 250, 500, 1,000, 2,000, 4,000, 8,000, and 16,000 Hz; twenty paired sliders offer independent EQ for each channel. A switchable subsonic filter is included, as is

a set of video/auxiliary inputs. A tape monitor switch and jacks allow connection of a deck when the equalizer occupies the tape loop of a receiver or preamp. Price: \$219. AudioControl, Dept. SR, 22410 70th Ave. W., Mountlake Terrace, WA 98043.

• Circle 136 on reader service card

▼ B•I•C

B•I•C's HTS-3 home theater speaker package offers four 11 $\frac{3}{4}$ -inch-tall C-5 satellites for the main left/right and rear surround channels, each with a 5 $\frac{1}{4}$ -inch woofer and a $\frac{1}{2}$ -inch dome tweeter. The V52CLR two-way center speaker has a pair of

5 $\frac{1}{4}$ -inch woofers and a $\frac{1}{2}$ -inch tweeter; like the satellites, it is magnetically shielded. The C-10 is a 10-inch powered sub with a 100-watt amp. Price: \$1,099.

B•I•C America, Dept. SR, 887-B Hampshire Rd., Stow, DH 44224.

• Circle 132 on reader service card



▼ TARA LABS

Klara speaker cable by Tara Labs has two 16-gauge conductors in a double-insulated jacket. The wire is wound under intense pressure for better contact among strands,

to help inhibit noise-inducing oxidation. Price: 79 cents a foot.

Tara Labs, Dept. SR, 2245 Ashland St., Ashland, OR 97520.

• Circle 134 on reader service card



▼ DYNASOUND

Each slot in Dynasound's Easy Access CD/CD-ROM case has a lift bar to open the jewel box when the storage tray is pulled.

The black plastic case is 18 inches wide and holds twenty-four discs. Price: \$34.95. Dynasound, Dept. SR, 125 Commerce Dr., Hauppauge, NY 11788.

• Circle 135 on reader service card



Our speakers speak for themselves.

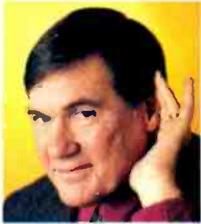


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AUDIO Q & A

IAN G. MASTERS

Digging into Gold CD's

Q *I am gradually replacing my old analog recordings with compact discs. Since I want the best replacements I can get, I have purchased audiophile-type gold CD's where possible, even though they tend to cost much more than standard discs. But do gold CD's reproduce the original source material significantly better than regular aluminum CD's?*

STEVE WINDOM
Colorado Springs, CO

A When used for the reflective layer in a CD, gold provides greater reflectivity than a conventional aluminum coating. In fact, gold is mandated in the CD-recordable (CD-R) standard to counteract a loss in reflectivity caused by the addition of a dye layer that creates a CD-R's artificial "pits"; it also won't interact with the dye the way aluminum might. At the same time, gold (and it usually is real gold) won't oxidize as readily as aluminum, so if there's a problem and air

gets through the lacquer layer to the reflective layer, it won't ruin the CD, as it might with an aluminum disc. Nonetheless, both benefits are questionable. Regular music CD's don't need the extra reflectivity, so you can't expect appreciably lower data error rates from gold-coated CD's played in regular CD players. And only a very few CD's experience problems with oxidation.

On the other hand, the companies that issue gold CD's take great care in the mastering and manufacturing processes, and that might well result in audible benefits and — maybe — justify the premium prices.

Subwoofer Connections

Q *I've heard that in the absence of a line-level subwoofer output, hooking up a powered sub to a receiver's Speaker B outputs could work if the B outputs run in parallel with the A outputs. How can I tell if my receiver's speaker outputs run in series or*

in parallel, and is it okay to hook up a powered sub to it that way? HECTOR D. SOTO
West Hartford, CT

A Hook up two pairs of normal speakers (not subwoofers) to your receiver in the manufacturer's recommended fashion, and play something through both pairs simultaneously. While the music is playing, carefully disconnect the left speaker in pair A. If the left speaker in pair B stops playing, too, then the A and B pairs are connected *in series*, and you cannot use these outputs for a subwoofer. If the left B speaker keeps playing, then you can use the B outputs to drive a powered subwoofer's *speaker-level* inputs.

Unbridgeable Chasm

Q *I am planning to add a Dolby Pro Logic decoder and use an old two-channel amplifier to run the center channel. The amp does not have a switch to bridge it to mono. Is there any way to hook up the center-channel speaker that will bridge the amp to provide a mono output with the combined power of both channels? If so, what would be the total output of the 40-watt-per-channel amplifier?*

JEFF MAR
Los Altos Hills, CA

A I'm afraid there's no easy way to bridge an amplifier to mono that is not already specifically designed to be bridged — and it appears that yours was not. You could use

Your dad thinks you oughtta Get A

Your buddies THINK you oughtta come SO you

Your Brother t h i n k s you oughtta Come

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If you're mechanically inclined, the Air Force could be the perfect place for you. Where else could you learn about Tactical Aircraft Maintenance, Aerospace Propulsion, and everything in between while earning a good salary and learning to

both channels to feed two center speakers situated together with identical signals, or you could simply run one channel. Because power output is measured with both channels operating, you could probably expect slightly higher output from one side when the other was idle, but the audible increase would be small or nonexistent.

Turntable Basics

Q I occasionally enjoy listening to music from my old LP's, and I was about to transfer them to a digital medium when my twenty-year-old turntable died. I have decided to purchase a new one, but I haven't been able to find much information on the specifications and options that should be considered. What should I be looking for?

WILLIAM J. GARDNER IV
Parsippany, NJ

A Elaborate control functions and automatic features can safely be dispensed with if your objective is simply to dub your LP's to tape. The main things to consider in the turntable itself are smooth rotation and quietness of operation. The first characteristic — low wow and flutter — can most effectively be checked by listening to a recording with lots of sustained piano notes, an infamous flutter-revealer. Pipe-organ records are also useful. If you hear a warbly or slightly honky-tonk sound, and the record itself is not to blame, there's too much flutter.

The published spec should be around 0.05 percent or lower.

Rumble, or low-frequency mechanical noise, is another potential problem. These days it's easy to check for rumble by playing the turntable through a system that includes a subwoofer. Sometimes rumble is recorded in the vinyl grooves, but if it shows up on all LP's and the turntable is well isolated from external vibrations, look to the turntable itself.

Tonearm operation should be simple, and the arm should accommodate a wide range of stylus-force settings. Consider buying a stylus-pressure gauge rather than relying on the tonearm's markings. Set the force at the top end of the cartridge manufacturer's recommended range. For the least amount of warp-generated wow, the vertical pivot of the tonearm should ideally be on the same plane as the record.

The cartridge you choose is crucial, so that's where you should concentrate the bulk of your budget. While lots of audiophiles swear by moving-coil cartridges, they tend to be expensive, require extra preamplification, and can be susceptible to noise and interference. Also, if you damage the stylus in any way, a moving-coil cartridge must go back to the manufacturer for stylus replacement. There are, fortunately, lots of excellent moving-magnet designs, and they allow you to replace the stylus yourself, although replacement styli can sometimes be as expensive as the original cartridge. Just stick

to the top models from the most prominent remaining manufacturers, and you can't go too far wrong.

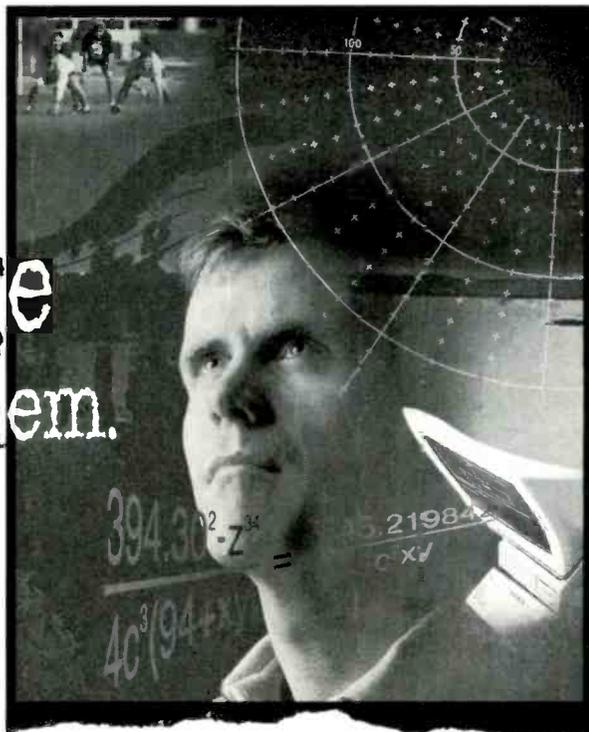
Serendipitous Surround

Q While playing ordinary music CD's through my Dolby Pro Logic decoder, I've noticed that different types of sound come from different speakers. Most vocals come from the center speaker, most bass material from the left and right, and sometimes there are even sounds coming from the surround channels. Are these discs really surround-encoded? If so, why don't they display the Dolby logo?

JEFF HUTTON
Topsfield, MA

A Dolby Pro Logic works by detecting program information that occurs in both stereo channels at equal levels and in phase (such as movie dialogue), then extracting that material and routing it to the center channel. If signal information is equal in level but out of phase, it is routed to the surround speakers. Movies on video have this information specifically placed so that the decoder can route it for the proper effect, but recordings of ordinary music contain lots of similar information. Most record producers put vocalists in the middle, and most recordings, especially of live performances, have a considerable amount of out-of-phase material. Your Pro Logic decoder doesn't "know" that your music CD wasn't

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specifically encoded and treats it as if it were. Sometimes the result is pleasant, sometimes not. If it's not, just switch off the surround decoder when you're playing CD's.

Video Resolution Overkill

Q The first product that I bought for my home-theater system was a 27-inch television monitor that has a horizontal resolution of 650 lines. If my laserdisc player and S-VHS VCR have less than 450 lines of resolution, why do television manufacturers make sets with so much more resolution?

GLENN SAVAGE
Virginia Beach, VA

A Such numbers games are by no means uncommon in consumer electronics; just check out amplifier distortion specs. As you say, there are (as yet) no consumer video sources that come anywhere close to the resolution claimed by some set makers, but there may still be some justification for this sort of overkill. On one hand, it may represent a high level of design and manufacturing competence (assuming you can confirm that the set does meet the spec). On the other, it may be a matter of extending performance beyond what is necessary to make sure the equipment behaves where it counts. Video-monitor resolution is analogous to high-frequency performance in audio equipment, and there are lots of audio manufacturers that push their equipment well be-

yond the limits of human hearing so that it will behave without strain in the audible range. In any event, it's always better to have performance limited by the recording medium than by the playback equipment.

Noisy CD Reissues

Q I recently purchased a boxed set of CD's containing reissues of music recorded between 1943 and 1952. The music is fine, but I'm not at all happy with the sound quality. When there is orchestral accompaniment to the vocals, there is a great deal of high-frequency noise, presumably from the original surfaces, overlaid on top of the music. My speakers do have a rising characteristic in the treble, and this may account for some of the noise, but even though it is reduced when played through other speakers, it can still be heard. Is there anything I can do other than rolling off the treble—and losing a lot of the music?

JACK HARVANEK
North Chelmsford, MA

A Records from the 1940's mostly come from 78-rpm masters, which are inherently noisy. Too much processing may interfere with the music, and many people associate the sounds of that era with a certain amount of surface noise. To get rid of most of it, I wouldn't use your amplifier's tone controls but an external equalizer. Try turning down the bands above about 4 kHz.

Screen Rattle

Q Within a week of buying a rear-projection television, I found that the screen was making an annoying rattling noise whenever I played movies with certain low-frequency sounds. The manufacturer serviced the set but only managed to reduce the noise by about half. I was told that I am setting the volume too high, and that all projection TV screens will rattle in the presence of high-level low frequencies. Is that true?

JAMES MUI
El Monte, CA

A That explanation reminds me of a friend who complained to the manufacturer of her stove that the knobs kept cracking and she had to replace them frequently. The manufacturer, of course, called this a normal effect: "It's the heat."

A video projector that can't stand the sorts of sounds common on today's laserdiscs and videotapes is obviously not of much use, and I have used a number that withstood extremely noisy sessions. But before you blame it all on the set or its manufacturer, check to make sure that the noise really is caused by something loose inside it. There have been occasions when I was plagued by such noises, and they turned out to be from a rattling mirror across the room or a cable dangling behind the set. The noise sources are not always easy to find, but, once found, they're usually simple to remedy. □



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SIGNALS

KEN C. POHLMANN

Yet Another Profound Revolution

If you are reading this magazine, you probably appreciate technology. You almost certainly have a good stereo or home-theater system, a car audio system, miscellaneous TV's, cassette players, and radios. In addition to receiving traditional broadcast signals, you are probably hooked up to cable, and you may have a satellite dish. Your personal computer probably has a modem and you are cruising the Internet. Congratulations. You are plugged in, turned on, and ready for the start of the twenty-first century, a mere fifty-three months away.

I enjoy technology too. But as the millennium draws to an end, I'm starting to get a little apprehensive. I willingly accepted technological breakthroughs such as men on the moon, supersonic transport, tissue cloning, and fast-food croissants. I was even able to handle Windows 95. But the rate of change is starting to worry me. Someone told me that the speed of information increased 10,000 times over the past ten years, and will increase another 10,000 times before the century is out. Now yet another revolution is dawning, and it will profoundly upset one of the most stable and reassuring technologies around.

Wireless transmission was invented in 1895 when Marconi broadcast the first signals in Italy and Popoff did the same in Russia. Although the advent of television ended radio's golden era, radio has survived and prospered. Without question, whether it's AM or FM, radio is the most popular form of communication in the world. But it's another, underground revolution that will really change history.

The Internet will enter the history books as one of the most significant technologies of the century. The way that it binds together people and their computers really is revolutionary. Its effects are expected to be so far-reaching that we can only vaguely understand the changes it will ultimately provoke.

A case in point is Webcasting. Using real-time audio software, it is possible to broadcast live audio programs across the World Wide Web. A program originator, such as a radio station, can direct its

broadcast signal to a server computer running the appropriate encoding software. Listeners log onto the Internet, visit the station's Web site, and listen to the broadcast with only a few seconds of delay.

While that technology seems fairly simple, its effects are radical. For starters, any radio station Webcasting over the Internet is no longer constrained by the broadcast coverage map strictly dictated by the Federal Communications Commission or any other regulatory body. A radio station in Miami can reach people in New York or Tokyo or Tibet — as long as they have access to the Internet. Conversely, anybody with a 28.8k modem can listen to any Webcasting radio station around the world. That means that instead of lis-

**Broadcasting on the
World Wide Web will cause
all kinds of established
structures to crumble.**

tening to a few dozen radio stations, you'll be able to listen to thousands.

Furthermore, because the cost of real-time audio encoding is ridiculously low, almost any institution or individual can Webcast. Universities, high schools, grade schools, corporations, government agencies, churches, theme parks, sports teams, advertisers, magazines, wackos, your mom — all can potentially go online with Webcast programming. In other words, in the past only radio stations could be radio stations. Now anyone can be a radio station. Moreover, although virtually all Internet connections are now hard-wired, companies are working furiously on wireless Net connections. You'll someday be able to receive millions of Webcast radio stations or transmit your own Webcast wirelessly over the Net.

Webcasting will cause all kinds of established structures to crumble. For example, record labels have traditionally relied on radio-station airplay to promote

new albums. Radio stations thus wield tremendous clout, acting as filters in determining what the public hears. Now that filter will be removed; record companies can Webcast themselves. Indeed, the record-label filter is itself removed. Musicians can use the Web to promote and distribute their own music. And because all national boundaries are removed, consumers potentially have direct access to every musician in the world.

Broadcast radio stations are tightly regulated. Valuable broadcast licenses are granted carefully by the FCC, and they can be withdrawn if stations fail to adhere to regulations. Stations have to tell the truth, or clearly state when they are expressing opinions. Broadcast programming is carefully logged and monitored by the government. But with Webcasting, anyone can say anything. Truth in advertising, moral codes, standards of decency, and royalties all become virtually impossible to legislate and enforce. Webcasting is yet another prime example of technology outpacing our ability to control it.

Sound implausible, like some kind of science-fiction story? Think again. E-radio is happening right now across the world. Check out the Web sites of Progressive Networks (www.realaudio.com) and VocalTec (www.vocaltec.com/iwawe.htm). Their encoder software is fairly cheap, and the decoder software is absolutely free. Hundreds of Web stations are already online with live or packaged programming. Check out WWOZ in New Orleans (nt.accesscom.net/wwoz), Teleparc magazine in Tokyo (teleparc.info/Web.or.jp/en/junc/yellow/index.htm), Radio Zurisee in Switzerland (www.world.ch/radio/), or Radio X in Italy (www.vol.it/uk/en/spettacoli/radiox). There's even a network of Webstations called the AudioNet (www.audionet.com) with talk, sports, and music. If you like to listen to the radio, fasten your seat belt.

My radio has twenty-four presets. That's enough for the broadcast stations that I can receive and enjoy listening to. Now, with Webcasting, I figure I'll need about 10,000 presets. My computer can easily handle that. The problem is that I may not be able to handle it. How can I possibly enjoy a few good Webcasts when I know that I'm missing another couple of thousand excellent Webcasts? Without radio stations and record labels to filter the music in my life, how can I possibly cope with the raw output of millions of musicians? It's impossible!

Okay. Settle down. Don't panic. Do the math: Suppose my computer receives a million Webstations. If I program it to play each station for 3 seconds, I can hit each station once a month. Then, in only fifty-three months, it'll be the twenty-first century. And that's the Future, when life will once again be easy and uncomplicated. Right? □

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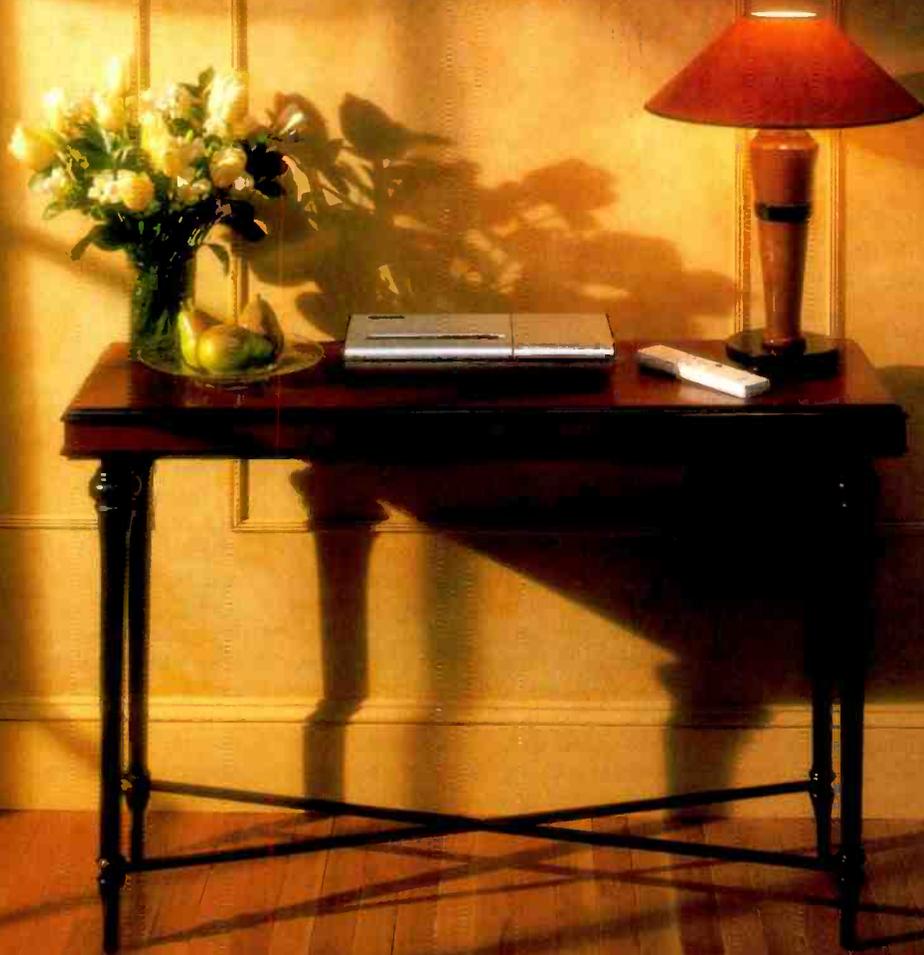
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© 1994 Bose Corporation. System includes hideaway Acoustimass® bass module (not shown). Mounting brackets sold separately. JN94831

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PRODUCTS AND TRENDS THAT
GO BEYOND MAINSTREAM AUDIO/VIDEO

It's a Computer! It's a TV! Actually, It's Both.

BY MICHAEL ANTONOFF

The promise of an all-in-one big-screen television/computer has been as elusive as a cheap airfare to Katmandu. But now I can honestly say I've been to Katmandu, and I only had to go as far as South Dakota.

Gateway 2000's Destination PC/TV is the first convergence device that combines audio/video and multimedia computing in a complete system, and rather than being a product that's coming later in the decade, it's available now for about \$4,000 depending on configuration. I lived with one for 24 hours, and though it wasn't perfect, I was very impressed. Gateway displayed the device for the press at Katmandu, the computer company's whimsical name for an attached condo on a residential street a few miles from its North Sioux City, South Dakota, headquarters. It was there that I was able to get my hands, eyes, and ears around the newest category in hybrid electronics for the home.

Hybrid devices are not new in the computer field if you count the various add-in boards that have been available. You can insert a VGA-to-NTSC converter card in a computer slot to display PC output on any television set. The trouble is, text is difficult to read, and the picture is never as sharp as on a dedicated computer monitor. Conversely, you can put a TV tuner card into a PC and watch TV on a 14-inch monitor (actually only 13 inches if it's measured in TV terms) or in an even smaller window on a shared screen. But who wants to watch movies while sitting at a desk?

Gateway's solution is to tether an enormous 31-

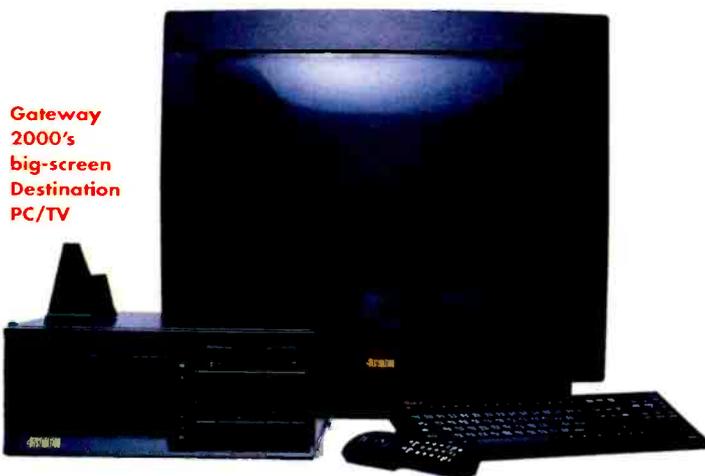
inch (diagonal) Mitsubishi VGA-only monitor to a computer. Any video source (broadcast, cable, satellite, VCR, laserdisc, camcorder, or video game) is first fed into the video card in the computer. The card, made by STB, combines 2 megabytes (MB) of video memory and a 122-channel tuner that accepts a standard RF cable, composite-video input, or S-video input. The card captures both fields of a standard interlaced TV signal and converts them into a noninterlaced (progressive-scan) signal that the monitor can display. You cannot connect a video source directly to the Destination TV monitor. The only input is through the VGA cable. Also, you can't use your own TV with the system.

Besides lacking a tuner and an auxiliary input jack, the 133-pound Destination video monitor has no speaker. Stereo audio jacks on the back of the computer are connected to your own stereo system or to a Harman Kardon sound system Gateway offers as a \$699 option. The sound system includes the AVR10 A/V receiver, with a Dolby Pro Logic surround-sound decoder and an AM/FM tuner, four identical 7-inch-tall satellite speakers, a

center speaker for dialogue, and the AVS10 powered subwoofer, which packs a 50-watt amplifier, adjustable crossover, and 6½-inch woofer. The Infinity speaker system that was set up at Katmandu comprised four tripod-mounted Minuette MPS (Multi-Purpose Satellite) speakers, the Minuette center speaker, and the BU-1 powered subwoofer. Gateway's product manager for Destination, Tom Grueskin, said the Infinity speakers "are very, very similar to the Harman Kardon speakers we're actually supplying. They're not exactly the same, but they're very comparable." (Harman Kardon and Infinity are both owned by Harman International.)

The Destination system is operated by either of two wireless devices, both of which are supplied. One is a full-size keyboard with a touchpad that you can slide your finger on to control the screen pointer. (Don't try this while eating fried chicken.) The other is a handheld remote control that Gateway calls a Field Mouse. It has a built-in trackball that also moves the screen pointer. Rather than relying on an infrared signal, which has to be in line of sight, the two devices use any of four radio frequencies between 49 and 50 MHz. Dip switches can be adjusted if there's a conflict with a cordless phone, for example (I used a cordless phone in the room without a problem). The Field Mouse is a free-range device that got me halfway up the stairs of the condo, about 20 feet, before losing communication with the PC/TV (even after I changed the batteries). Yet the keyboard came through from all the way upstairs. Standing in any of the three bedrooms, and without visual cues, I was able to turn up the volume, change channels, and mute the sound from the keyboard.

The Destination system's base configuration, the one I used, is priced at \$3,799, which includes the big-screen monitor, a 120-MHz Pentium computer loaded with 16 MB of RAM, a 1.2-gigabyte hard drive, an 8× CD-ROM drive, a 1.44-MB floppy drive, and a 28.8k internal fax modem. Instead of wearing an office tan, all of Destination's component pieces are charcoal-colored to assimilate with your audio/video gear. According to the



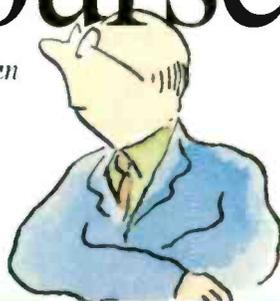
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— excerpts from *Audio Magazine*, by Anthony H. Cordesman

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specifications, the 16-bit wavetable sound card assembled by STB has an average signal-to-noise ratio of 83.5 dB. The software bundle includes Microsoft Windows 95, Microsoft Internet Explorer 2.0, Harman Interactive Smart TV, Microsoft Encarta 96 Encyclopedia, Microsoft Works for Windows 95, Quicken SE, and a variety of CD-ROM-based games and educational titles. Destination is available in four computer-hardware configurations. Depending on the speed of the Pentium and size of the hard drive, among other specifications, you can spend as little as \$3,499 or as much as \$4,699. Gateway, which sells all of its products factory-direct, will send a representative to set up Destination anywhere in the United States for \$179 (\$40 more to hook up the sound system too). The price does not cover custom installations that require drilling through walls. Gateway has a thirty-day return policy, but the customer sends the equipment back at his own expense.

Online computer users have become accustomed to paying monthly access charges, but in the case of Destination there's also a \$6 per month subscription charge if you want to take full advantage of the Harman Interactive Smart TV software that serves as an on-screen TV program guide. Whenever you change the channel, a text overlay appears with the name of the program. When you call up the guide, the TV image shrinks to a picture-in-picture-size window while you read a synopsis of the current show or check listings for one to two weeks ahead. You can search by theme or actor, among other categories, and you can set an on-screen reminder to watch an upcoming show. The information is stored on the PC's hard drive. The modem automatically dials in the middle of the night once a week to update the program listings.

At present, the Smart TV software only works with the tuner in the computer. It cannot be used to command your VCR to record a program or to change the channel on an external tuner such as a set-top cable box. According to Harman Interactive, however, an upgrade is planned for later this year that would make Destination compatible with VCR's, cable boxes, and even

"Spectacular!"

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Digital Satellite System (DSS) receivers. (Non-computer-based electronic program guides such as StarSight, Video Guide, and TV Guide Plus, which are found in some TV sets, VCR's, and dedicated boxes, are already able to relay infrared signals to VCR's and cable boxes.) A monthly fee may be harder to justify in the future as VCR's and TV's from Magnavox and TV's from JVC, among others, include Gemstar's TV Guide Plus, which will be free of any subscription fee.

During my stay at Katmandu, the Smart TV software didn't quite live up to its name, misidentifying some of the channels. Gateway's Grueskin said the local cable system had recently reconfigured its channel lineup and the Smart TV server hadn't yet been updated. Evidently, tracking the thousands of cable systems around the country will be a challenge. I was disappointed that an RCA DSS receiver that had been unpacked was not installed and that the premium movie channels on cable were all scrambled. Gateway wasn't paying for the extra channels. Okay. At least there was CNN and the local hog-carcass counts.

A/V Performance

So how well does Destination work? First, the TV picture is good enough that it should fool most people into thinking they're watching a regular set. As for using the display for computing, I had no trouble reading text from the sofa 10 feet away. The typical Times New Roman typeface was crisp on the big screen, and there was no flicker. In fact, World Wide Web pages were easier to read than movie credits on my 35-inch TV at home.

Buyers who follow computer specs may be put off by the monitor's 0.83-millimeter dot pitch (a good desktop monitor normally comes in at about 0.26mm), but the larger dot size is justified given the jumbo dimensions of the screen. Also, if the dots were much smaller, the picture wouldn't be as bright. Though the monitor supports up to 800 x 600 pixels and 16.7 million colors, Gateway says that for optimal video quality you should use the video card's default setting of 640 x 480 pixels (standard VGA) and 256 colors. Sure, this is not a system meant for computer-assisted design applications, but the resolution is good enough for entertainment and educa-

tional purposes. In comparing the display with a no-frills Mitsubishi TV set, I would be hard pressed to decide which one was the PC/TV and which the standard TV.

The Harman Kardon sound system joins a number of \$500 to \$1,000 "home theater in a box" systems that include all the speakers, amplification, and wires you'll need for surround sound. Though the bundled package is available only through Gateway, the AVR10 audio/video receiver (\$429) is sold separately in stores. When I played the Delos "Surround Spectacular" CD set (with test tracks prepared by STEREO REVIEW's technical editor David Ranada) on Destination's CD-ROM drive pumped through the AVR10, the left, center, right, and surround channels delivered as promised. The AVR10 is rated to deliver 35 watts per channel in stereo mode or 30 watts x 3 plus 20 watts x 2 in surround mode. The unit comes with its own remote, but the controls are not mimicked via on-screen software. The Destination mouse or keyboard controls volume as long as the PC/TV is in the loop and the receiver is on. When audio cables are connected directly from a VCR or laserdisc player and you want to change the station or simply forgot to turn the sound on, you'll have to walk over to the receiver or use its dedicated remote.

The quality of the sound system will satisfy nondiscriminating listeners, though an audiophile will already own or want something better. There was no noticeable hiss, blurring, or excessive coloration as a result of the audio signal's being passed through the sound card. In any case, the system was certainly loud enough. In the morning at Katmandu I awoke early to a blaring radio from next door that most certainly was my thin-walled neighbor's revenge for my having turned up the home theater the night before.

The Computer Side

As a home computer, Gateway's Destination offers everything you'd expect to run today's multimedia software, including a stack of cool CD-ROM's. But be warned: Destination crumbles the boundary between home and home office. If you crave the isolation of

computing at a desk — and reject the notion of socializing around a PC complete with TV — you'd be better off with a non-Destination system from either Gateway or one of its competitors. A big-screen PC/TV also costs more. On a 120-MHz Pentium-based Destination, for example, you pay a \$1,450 premium over Gateway's comparable Family PC with 15-inch monitor and no TV-to-VGA electronics. But what you get with the big screen is the ability to change computing from an essentially private activity into one that can be experienced in the shared space of a living room. In this context, new applications and ways of doing things become possible.

Windows users will get the joke when someone refers to Destination as Alt-Tab TV. (That key combination switches between your current application and your most recent one, which in the living room is likely to be the TV and the PC.) You can switch over to the PC whenever those increasingly long commercial breaks come on. Why wander aimlessly around the dial when you could . . . write a check, read your e-mail, or create an electronic Post-It note? During the wee hours at Katmandu, I stretched Tom Snyder into a funhouse-mirror-like window on the right side of the screen while I perused STEREO REVIEW's America Online site on the left.

A big-screen PC/TV liberates game play for titles such as *3D Monopoly* (Virgin Interactive) and *You Don't Know Jack* (Berkeley Software). No one has to get up or move over so that someone else can take his turn. Slouch on the couch or spread out on the carpet. Forget about dice. Just pass the mouse, please.

Destination also seems the perfect platform on which to play enhanced CD's (ECD's), music discs that also contain video segments and graphics viewable on a computer. I was finally able to view the bonus video on the Rolling Stones' "Stripped" ECD. The Virgin Records disc uses the Pre-Gap format, one of several formats that the recording and computing industries are wrestling with as they come to terms with a true ECD standard. (See "Enhanced CD" in the April issue.) I was also able to see the musician Craig Chaquico strut a guitar on his "A Thousand Pictures" ECD (Higher Octave Music). The Destination sys-



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PERIPHERALS

tem I was running contained a Tottori Sanyo CD-ROM drive, but Sanyo is not the only supplier of CD-ROM drives for Destination. I did not have a chance to try a CD Plus format disc (also referred to as CD Extra), although Grueskin claimed he had successfully accessed the multimedia portion of Bob Dylan's "Greatest Hits," Volume 3, a CD Plus disc from Columbia. (He just wasn't sure which manufacturer's drive was in the Destination he was using at the time.) The bottom line is that there's a good chance your ECD's will work in a Destination system, but there are no guarantees.

Perhaps the most compelling use for Destination is the ability to visit World Wide Web addresses mentioned on TV while simultaneously watching the program. Using the wireless keyboard and the Microsoft Internet Explorer 2.0 browser software bundled in the system, I was able to get onto the Web and open a window of concert dates related to a band being featured on one of the cable channels. In the past, I had to scribble down an address, move to another room, and boot up my computer; a few minutes later, I'd get to the right page, but by then the excitement had crested.

The first version of Destination does not implement InterCast, a data-delivery system promoted by Intel in which a special chip in the PC decodes Internet data inserted in the vertical blanking interval of a TV signal. A link to a particular site could be sent moments ahead of its reference in a broadcast so that the viewer wouldn't have to type in an address at all but merely click the on-screen button. Clearly, Destination and InterCast are made for each other, and future models will support it.

As for work, I found that using the wireless keyboard on my lap (even with a pillow between us) or on the cocktail table in front of the sofa was okay for short spurts of typing, but I wouldn't want to do it for more than an hour at a time. What I found tiresome was not the screen but the setting. To be comfortable for prolonged periods you do need to sit up straight (yes, Mom) in a chair with a back and to position the keyboard on a tabletop under which you can slide your legs without elevating your wrists. Even

Gateway admits that Destination is not meant to be your only PC.

Gateway doesn't expect Destination to be your only TV, either. Perhaps if you live alone, Destination could be the one. But if you thought family battles over the remote were heated before, you haven't seen anything yet. Suddenly people are fighting not only over what channel to watch but over which home page to visit or which CD-ROM to play. You can split the screen only so many ways, and when one person holds the mouse and another the keyboard, either can overrule the other. Welcome to Chaos Manor.

Buying into a PC/TV isn't much different from putting all your eggs in one of those fax/scanner/copier/printers for a small office. If it breaks, you're cooked. In this case, when the device goes down, you lose not only your PC but also your TV. Gateway's standard one-year on-site warranty is for the computer only. Because of the monitor's high voltage, the company will not service it on the premises. Gateway will send a replacement, but you have to return the bad monitor at your own expense.

Since all of the TV's intelligence — the tuner, program guide, and video-to-VGA signal converter — resides in the computer, a certain leap of faith is necessary. As a matter of fact, I did have to reboot the TV — I mean, computer — twice during my stay at Katmandu. Those were the only times I turned the system power off, since the PC is Energy Star-compliant, meaning that it goes into a sleep mode when it's not active. (Besides, for the modem to retrieve program listings during the night or to receive faxes, the system has to be able to awaken.)

The power buttons on the Field Mouse and keyboard are strictly for the monitor, a prudent design choice, as anyone who has ever sat on a remote can attest. The monitor itself doesn't automatically go into a sleep mode, as it might if it were used only for computing. Computer users tend to provide input at least once every 5 minutes, but TV watchers can be passive for hours. How is a big dumb tube to know when no one is watching? I guess that's for next year's model.

Gateway 2000, Dept. SR, P.O. Box 2000, N. Sioux City, SD 57049-2000; telephone, 1-800-846-2000.

"Polk's SRT System will give you a thrill a minute"

David Ranada, Stereo Review, January, 1996

The most influential audio journals of Europe and America agree, the Polk Audio Signature Reference Theater system is a stunning achievement.

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David Ranada, Stereo Review, January, 1996

"...better than real cinema."

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What Hi-Fi?, Great Britain. February, 1996

For more information and the location of a Polk SRT dealer near you, call **(800) 377-7655**. Or visit our web site at <http://www.polkaudio.com>.



The SRT system consists of 35 active drive units housed in seven enclosures (including two 300 watt powered subwoofers) and a Control Center with wireless remote.

Matthew Polk
Co-founder, Polk Audio

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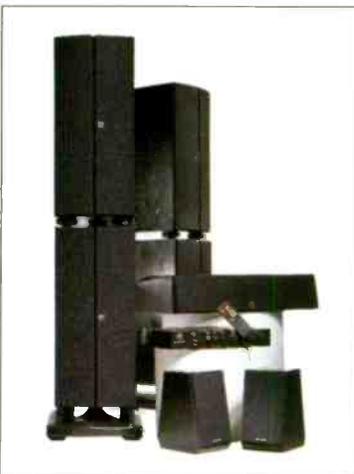
Ad code: 10014

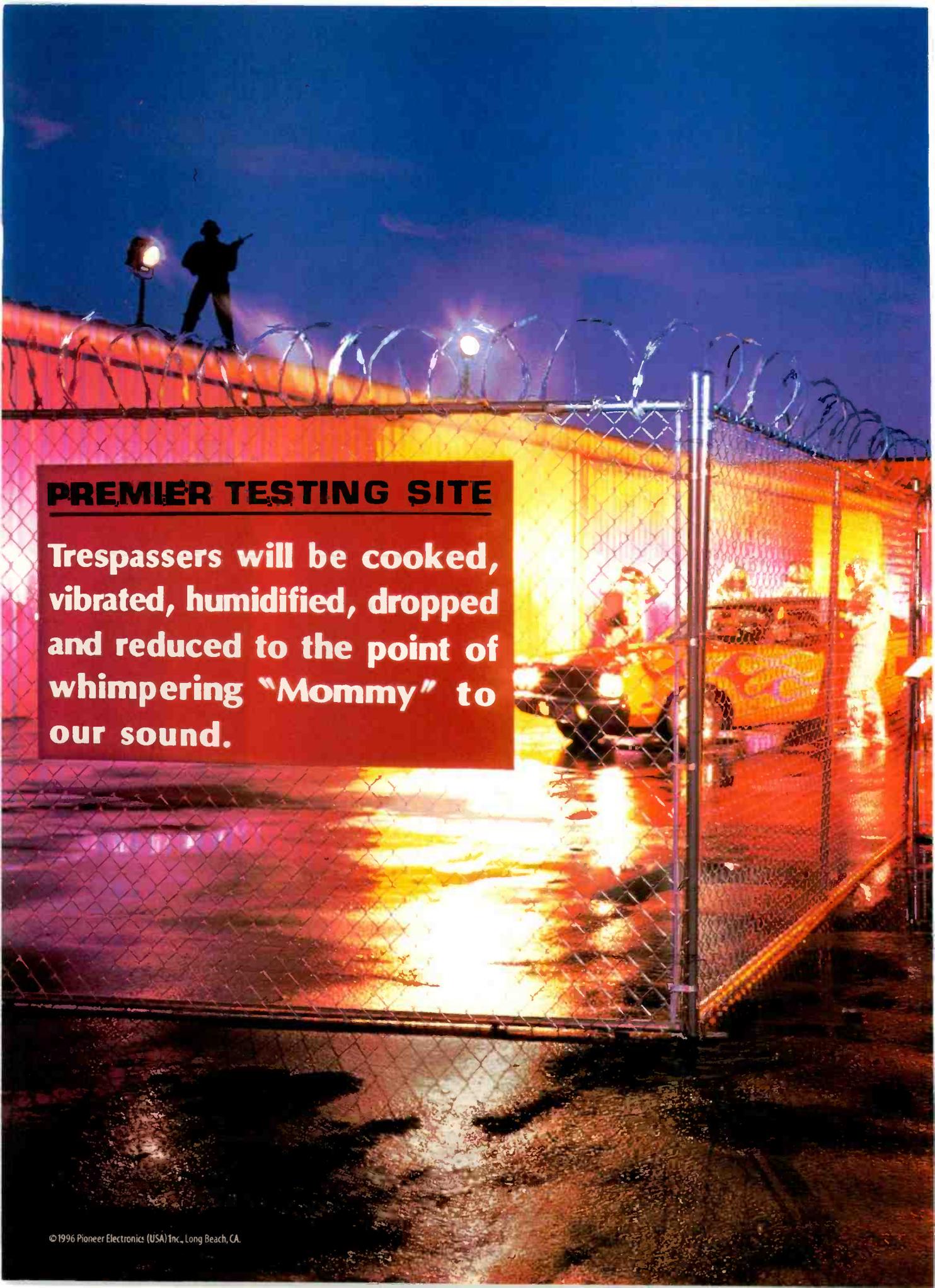
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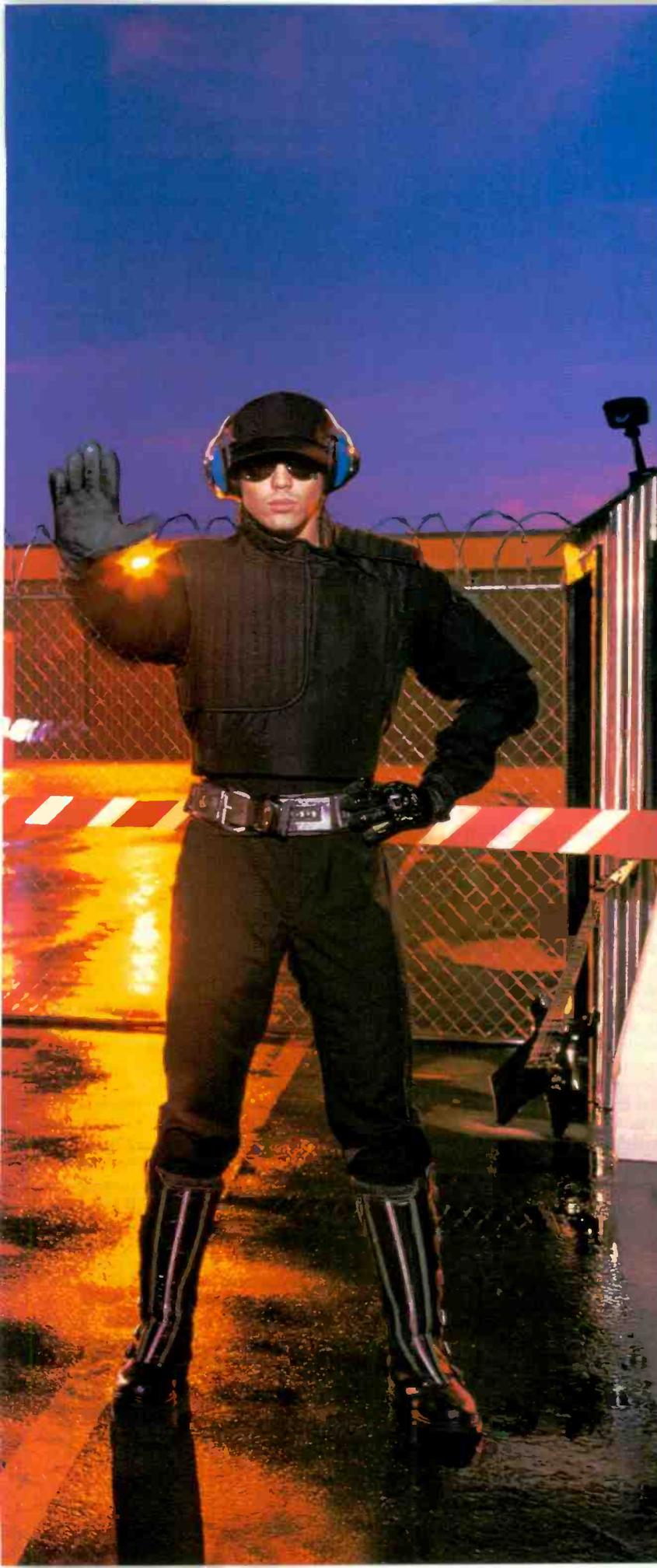
CIRCLE NO. 34 ON READER SERVICE CARD



A night scene of a prison. A guard stands on a roof with a searchlight. A fence with barbed wire is in the foreground. A sign on the fence reads: "PREMIER TESTING SITE. Trespassers will be cooked, vibrated, humidified, dropped and reduced to the point of whimpering 'Mommy' to our sound."

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Our Premier speakers wish they could be so lucky.

Their hell consists of acoustical analysis tests, strength tests, ultraviolet radiation tests, more extreme temperature tests and weatherability irradiation tests, which force them to belt out an obscene amount of volume for 150 head-kicking hours.

Whew! (Wipe sweat from forehead and flick.)

Special robotics and computer-aided design and manufacturing techniques were built by our own hands to ensure a nod from our furrow-browed engineers. Then to keep the obsessive-compulsive dedication to sound quality consistent, we chiseled Premier dealers from the same slab of concrete as the engineers.

Hopefully the headunits inherit some of our approach-me-and-get-racked attitude. But we felt the fools lurking. So Premier invented Detachable Face Security™ and then added a car alarm, built into the unit itself, that blasts its warning inside the car to terrorize the thieving rodents into scampering away without your beloved stereo.

These premises, these conditions, these posture-perfect engineers exist solely to bodyguard the reliability and ultimate sound performance of your Premier system. But if you're able to create a more unlikely condition in your own car than our tests simulate (good luck), and the stereo starts to cower, our warranty will be idling for two long years, anxiously awaiting the chance to participate.

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PREMIER



TECHNICAL TALK

JULIAN HIRSCH

What's a Watt . . . and Why?

Paradoxically, one of the most common terms in the audio lexicon is also one that is misunderstood by a good many audio enthusiasts. Ask any audiophile to explain the significance of the *watt*, and you may receive answers ranging from "how loud the sound is (or can be)" to how heavy the amplifier is likely to be. Actually, although both are true to some degree, neither really answers the question.

This situation reminds me of the fable about the group of blind men who described an elephant after feeling different parts of its anatomy. The one who touched a leg described it as being like a tree trunk, another encountered its trunk and concluded that it resembled a large snake, and so on. Obviously, although each conclusion was based on observation, they went so far beyond the evidence as to be totally erroneous.

Let's return to some fundamentals. *Voltage* (measured in volts) can be thought of as the force that "pushes" electrons through a circuit. *Current* (measured in amperes or "amps"), on the other hand, refers to the electron flow, or how many electrons pass by a certain point in a circuit during a second. Simple, or "ohmic," resistance to electron flow (measured, naturally, in ohms), such as that produced by a resistor like a light-bulb filament or a toaster coil, generates heat.

Power is the ability to do work, such as heating up a resistor, at a given rate, and it is measured in watts (1 horsepower = 746 watts). Power in a DC (direct-current) electrical circuit is simply the product of the voltage applied and the current flowing in that circuit: 1 volt times 1 ampere equals 1 watt. That sounds easy, and it is — much too easy to be valid for most audio applications. The main problem is that audio signals are alternating current (AC) in which the direction of electron flow changes periodically. Furthermore, when a speaker is connected to an amplifier, the electrical load it presents to that amp does not behave like a simple resistor but also includes some "impedance," the AC form of resistance, which varies with frequency. These factors substantially complicate the power calculation.

Fortunately, the user of an audio system really does not need to know how

much power his amplifier is delivering or what the reactive components of the loudspeaker load actually are. Amplifiers and speakers are generally rated in terms of their operation into simple resistive loads and are normally tested under that condition. Though this may seem like a cop-out, it is a reasonable compromise between ideal and real-world conditions.

There are a couple more complications in the loudspeaker/amplifier interface. First, the current delivered by an amplifier is proportional to its output (signal) voltage and inversely proportional to the load resistance. In other words, at a given signal voltage level, a 4-ohm load draws twice as much current from the amplifier

Most amplifiers can deliver much more power for brief periods than their rated continuous output.

as an 8-ohm load. Most amplifiers are designed to cope with this situation without damage and with at most a moderate increase in distortion.

But the load impedance of most loudspeakers also varies widely with frequency, sometimes dropping to 2 ohms or even lower. A 2-ohm load could draw four times as much current for a given input signal level as an 8-ohm load, or sixteen times as much power! In a worst-case scenario, that could damage the amplifier, or at least blow a fuse. Fortunately, this kind of situation is rare, because the playback volume and distortion are likely to reach intolerable levels before a dangerous power-draw level is reached.

Virtually every hi-fi amplifier (I can't think of any exception) is rated to deliver its specified power into 8-ohm loads. Many are also rated for operation into a lower impedance, such as 4 or 6 ohms. A few years ago, 4 ohms was the "low-impedance" rating of almost all amplifiers. Nowadays, the proliferation of home-theater systems has resulted in a number of affordable (and generally quite good) receivers with four or five audio power

channels instead of just two. To keep the prices of such components down, many manufacturers have economized (without any significant loss of performance, as far as I have been able to determine) by designing their power amplifiers for a minimum rated load of 6 ohms.

Actually, in most of the receivers I have tested, the amplifiers behaved quite well into 4-ohm loads even when rated for a minimum load of 6 ohms. And this was under extended operation with a sine-wave signal, which is far more taxing than a typical music program. The most obvious result of such operation is usually an increase of measurable, though not necessarily audible, distortion and, if prolonged, an increase in the heat-sink temperature of the amplifier.

Some amplifiers — generally large, heavy, and expensive ones — are rated to drive loads of 2 ohms or even lower without risk of damage or degradation of performance (although standard home electrical wiring may not always be able to support such operation without tripping the main circuit breakers). Such an amplifier is an ideal choice, and sometimes a necessary one, for a handful of very good (and expensive) speakers.

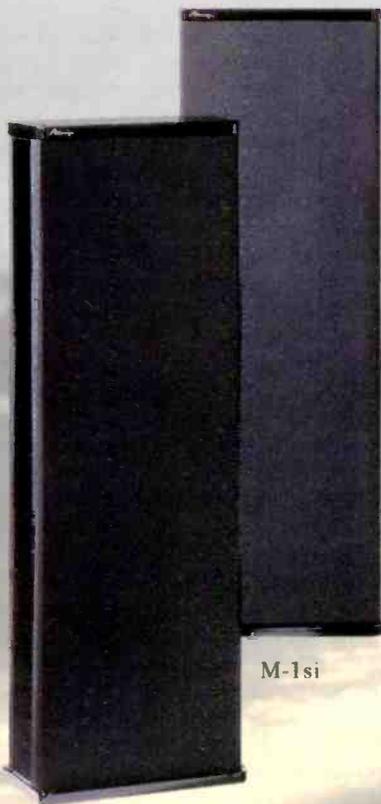
But for most people, selecting an amplifier with adequate current-delivering capacity is not a serious problem. Since most music is highly dynamic in nature, the amplifier's maximum output is rarely required, and most amplifiers can deliver for brief periods an output much greater than their rated continuous power. That is the basis of the *dynamic power* ratings for amplifiers.

We measure the dynamic power output of every amplifier we test. Made with a short-duty-cycle tone-burst signal (20 milliseconds duration, twice per second), the test measures the maximum short-duration power an amplifier can deliver into a resistive load, typically 8 or 4 ohms but frequently as low as 2 ohms or even less, without significant waveform distortion. The *dynamic headroom* of an amplifier, expressed in decibels, is the ratio of its 1-kHz output power at the clipping point, with a 1-kHz tone burst, to its rated steady-state power output into 8 ohms.

Given the dynamic nature of most music, this rating is at least comparable in importance to the amplifier's steady-state (continuous) rating. The tone-burst signal (lasting only a fiftieth of a second) does not endanger the amplifier and is much closer to the characteristics of musical material than a steady-state test signal.

As you can see, amplifier power ratings are somewhat more complicated than the simple numbers generally used in product ads. Although no single rating actually defines an amplifier's performance, an understanding of the significance of the various specifications can help you make the best choice for your system. □

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Fortunately most people are discerning enough to know - and hear - the difference.

They're aware that many manufacturers are now trying to duplicate the unique design and outstanding performance of Mirage, the inventors of the original Bipolar loudspeaker. Yet they're equally aware that no one has even managed to come close.

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*"Since there aren't
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— THE INNER EAR REPORT

channels, subwoofers and satellite surrounds. No matter where you are in the room, with Mirage Bipolar you're utterly immersed in the most spacious, three-dimensional music and sound effects imaginable.

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LOOK P. LEUNG

Marantz SR-96 Home THX Audio/Video Receiver

DAVID RANADA • TECHNICAL EDITOR

Having tested the waters with THX power amplifiers and a THX tuner/preamp, Marantz has now jumped in with both feet and produced one of the industry's few THX receivers, the SR-96. It performs both Dolby Pro Logic decoding and subsequent Lucasfilm Home THX functions in the digital domain by means of two specialized digital signal-processing (DSP) chips. And although it doesn't contain a Dolby Digital (AC-3) chip, the SR-96 is ready to accept an outboard Dolby Digital decoder.

Had Marantz's companion Dolby Digital decoder, the \$700 DP-870, been available during our test period, it would have connected to an array of six RCA jacks on the SR-96's rear panel (labeled 6-Ch. Direct Input). Providing standard connectors for this input (instead of the computer-style DB-25 multipin connector on some other Dolby Digital receivers) allows the SR-96 to be used with non-Marantz Dolby Digital decoders as well as other multichannel devices not necessarily using Dolby processing. The receiver will amplify the signals at the 6-Ch. Direct Input whenever the 6-Ch. Direct Mode button on the front panel or the 6Ch button on the supplied remote is pressed.

Besides Dolby Digital compatibility, the SR-96 has three auxiliary DSP modes: Movie, Hall, and Matrix. Movie mode is Dolby Pro Logic decoding with the surround-channel delay time adjustable up to 90 milliseconds (ms) instead of the Pro Logic maximum of 30 ms. Hall mode, which generates multiple artificial reflections and sends them through all speakers of a system, is supposed to simulate the ambience of a "medium-sized circular hall with rich reverberations." Matrix mode is similar in action to Hall but derives its reflection signals differently and feeds the center speaker with a reflection-free signal.

The manual's description for the SR-96's 3Ch Logic mode does not accord with other manufacturers' explanations I've seen for it or with Dolby's usage: Dolby explains that the mode is for home-theater systems that don't have surround speakers. In such cases

the SR-96, just like other devices with a three-channel mode, mixes the decoded surround output with the front channels. Marantz, however, says that 3Ch Logic is to be used to improve "the sound field of the center channel" if the left and right front speakers are located far apart, totally ignoring the contributions of the surround channel. Hmm . . . Finally, as in other THX products, the mono "mode" turns the amplifier output into strict mono, with no additional spatial or other digital processing, and sends it to the center-channel speaker, if any.

Other important features of the receiver include high power-output capabilities in all channels, a key requirement that must be met for a receiver to get THX certification. During surround operation into 8-ohm loads, the SR-96 is rated to deliver 110 watts per channel to the three front speakers and 90 watts to each surround speaker. Those concerned about the 20-watt difference between the front and surround ratings can relax — at these power levels 20 watts represents a tiny difference (less than a decibel) in maximum output. The SR-96 should do well powering a Dolby Digital system given that format's ability to generate very high levels in any or all of its six channels. In two-channel stereo mode, the SR-96 is rated to deliver 110 watts per channel into 8 ohms.

As important as high power are the SR-96's bass-management facilities. While they are not as versatile as some we've seen, they do provide for the correct hookup and adjustment of a THX subwoofer by supplying an 80-Hz, 24-dB-per-octave low-pass cross-

DIMENSIONS: 16¾ inches wide, 4¾ inches high, 14¾ inches deep

WEIGHT: 31¾ pounds

PRICE: \$1,499

MANUFACTURER: Marantz America, Inc., Dept. SR, 440 Medinah Rd., Roselle, IL 60172-2330; telephone, 708-307-3100

over filter on the (mono) line-level subwoofer output as well as 80-Hz, 12-dB-per-octave high-pass filtering on the speaker outputs. All these filters, which are engaged whenever the subwoofer output is turned on, should also work well with non-THX subwoofers and main speakers. The speaker-balancing test-tone sequence includes a tone for balancing the subwoofer, a rare and useful function.

The array of SR-96 features also includes a thirty-preset AM/FM tuner, connections for audio and video recorders that allow taping one program while watching or listening to another, and a handy on-screen display (available only on the composite-video monitor output, however). The rear panel has audio-only connections for a CD player and two audio recorders (one set designated, somewhat over-optimistically, for a DCC deck), as well as A/V connections for two VCR's, a laserdisc player, and an auxiliary A/V source. Another auxiliary A/V input is located on the front panel for hookup to a camcorder or video-game console. All video connections, including the single TV-monitor output, are supplied with both composite-video and S-video jacks. There are also



facilities for multiroom operation and for operating other Marantz equipment with the receiver's handset.

An F-connector jack serves as the input for an FM antenna, while the supplied AM loop antenna is attached with spring clips. A complete (five-channel) set of jumpered pre-out/main-in connectors is provided along with the line-level subwoofer output. Speaker connections are via binding posts that take dual banana plugs. Two AC convenience outlets are provided, one switched and one unswitched.

The programmable remote control has buttons that are nicely clustered by function but are too similar in size, shape, and regularity of layout. The front-panel display normally shows the selected input and the volume setting (in decibels relative to the THX-standard volume setting).

In our lab tests the SR-96 performed very well indeed. Its power ratings were all exceeded, noise and distortion levels in both stereo and Dolby Pro Logic operation were very low, and deviations from THX standards for re-equalization and surround equalization were both small. The bass-management facilities performed according to spec. Tuner FM performance was, however, merely average. (Although we rarely see truly superb tuner performance in receivers nowadays, the average FM performance level is, in absolute terms, quite high.) The AM band was as miserably served by the SR-96 as by other recent receivers.

In listening tests, the SR-96 had very few performance anomalies. In our listening room, connected to a complete set of THX speakers, there was no audible background noise at any setting of the volume control below -10, a position that effortlessly

MEASUREMENTS

AMPLIFIER SECTION

All data for two-channel stereo operation.

OUTPUT AT CLIPPING (at 1 kHz)

8 ohms	121 watts
4 ohms	187 watts

CLIPPING HEADROOM (re 110-watt rating)

8 ohms	0.43 dB
--------	---------

DYNAMIC POWER

8 ohms	134 watts
4 ohms	250 watts

DYNAMIC HEADROOM (re 110-watt rating)

8 ohms	0.87 dB
--------	---------

DISTORTION AT RATED POWER

	0.013%
--	--------

SENSITIVITY (for 1 watt output into 8 ohms)

CD input	31.7 mV
----------	---------

NOISE (re 1-watt output in 8 ohms, A-wtd)

CD input	-82 dB
----------	--------

FREQUENCY RESPONSE (tone controls centered)

20 Hz to 20 kHz	+0.13 dB, -0.33 dB
-----------------	--------------------

TONE-CONTROL RANGE

100 Hz	±11.5 dB
10 kHz	+10.1, -10.6 dB

TUNER SECTION

All figures for FM only except frequency response.

SENSITIVITY (50-dB quieting)

mono	20 dBf
stereo	23 dBf

NOISE (at 65 dBf)

mono	-70 dB
stereo	-68 dB

DISTORTION (THD+N at 65 dBf)

mono	0.3%
stereo (including pilot leakage)	0.2%

CAPTURE RATIO (at 65 dBf)

	1.3 dB
--	--------

AM REJECTION

	50 dB
--	-------

SELECTIVITY

alternate-channel	81 dB
adjacent-channel	38 dB

PILOT-CARRIER LEAKAGE

19-kHz	-76 dB
38-kHz	-65 dB

HUM

	-80 dB
--	--------

CHANNEL SEPARATION

100 Hz	54 dB
1 kHz	36 dB
10 kHz	35 dB

FREQUENCY RESPONSE

FM	30 Hz to 15 kHz +0.8, -1 dB
AM	54 Hz to 2.9 kHz +0.7, -6 dB

DOLBY PRO LOGIC PERFORMANCE

FREQUENCY RESPONSE

left, right	20 Hz to 20 kHz +0, -1.3 dB
center	20 Hz to 20 kHz +0, -1.3 dB
surround	20 Hz to 7.6 kHz +0.1, -3 dB

OUTPUT AT CLIPPING (8-ohm loads)

left, center, right	129 to 136 watts
surround	111 watts

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

left, right	-71 dB
center	-72 dB
surround	-72 dB

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

left, right	0.04%
center	0.04%
surround	0.07%

SURROUND-DECODER INPUT-OVERLOAD

MARGINS (at 1 kHz)

left, right (re 2-volt input)	+1.2 dB
center (re 1.4-volt input)	+4.2 dB
surround (re 1.4-volt input)	+4.2 dB

SURROUND-CHANNEL NOISE-REDUCTION

CALIBRATION ERROR

re THX spec (141.4 mV)	+0.25 dB
------------------------	----------

CHANNEL SEPARATION (100 Hz to 7 kHz)

left output, right driven	>57 dB
left output, center driven	>49 dB
left output, surround driven	>47 dB
center output, left driven	>55 dB
center output, surround driven	>56 dB
surround output, left driven	>51 dB
surround output, center driven	>56 dB

THX RE-EQUALIZATION ERROR

16 kHz	-0.9 dB
20 kHz	-2.2 dB

THX SURROUND-EQUALIZATION ERROR

worst case	+0.9 dB at 1.6 kHz
------------	--------------------

TEST REPORTS

produced extremely loud reproduction of music CD's and movie soundtracks. Our measured data, however, which were taken at a volume setting of -3, don't show that the amplifier section's background noise increased very, very slightly whenever the volume setting contained a "5" (-5, -15, and so on). This interesting but inconsequential increase was never audible beneath program material. I had to push my ears up to the speakers to hear it.

The THX processing produced its desired effects properly. Pink-noise test tones showed that the surround-channel decorrelation, which serves to increase the theater-like sense of envelopment produced by a pair of surround speakers, utilized a pitch-shifting technique whose cycling operated at a faster rate than we have previously noticed. It was only occasionally noticeable as a coloration. The other aspects of THX processing, re-equalization and surround equalization, again worked as they should to reduce soundtrack harshness and match the timbres of front and surround speakers.

Quite noticeable colorations were introduced by the Hall and Matrix modes. While they are presumably intended for enhancing music, I found their virtually unadjustable, too regularly spaced artificial reflections annoying after only a few seconds of listening. So while the SR-96's remote does have separate buttons allowing an instant change of surround-processing mode, as opposed to the round-robin buttons on the front panel, I found myself using only the Dolby Pro Logic and THX settings besides mono and stereo playback.

Operationally, the SR-96 had remarkably few quirks considering how much was going on inside. The only significant ones I found — and they should hardly be considered disqualifying — were that the volume setting is not always shown in the front-panel display during certain remote-control operations, and the position of the continuously rotating volume knob gives no clue to the setting either. These lapses could produce startling consequences when you switch between different program sources.

The Hall and Matrix modes aside, anyone looking for a single component offering state-of-the-art reproduction of Dolby Surround soundtracks and complete compatibility with present and future Dolby Digital media need look no further than Marantz's SR-96 receiver. □



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TEST REPORTS



RALPH MASTILO

PSB Model 1000 Speaker

JULIAN HIRSCH • HIRSCH-HOUCK LABORATORIES

PSB Speakers — the company's name is derived from the initials of its founder and chief designer, Paul Barton — are designed and manufactured in Canada. Over the years, the PSB product line has grown in size and diversity, always maintaining the high standards of its creator, formerly a professional musician.

The new PSB 1000, though outwardly resembling other currently popular columnar speakers, differs

DIMENSIONS: 37¾ inches high, 9 inches wide, 12¾ inches deep

WEIGHT: 39 pounds (each)

FINISH: black oak or dark cherry wood grain vinyl or high-gloss black; removable matte-black fabric grille

PRICE: black oak or dark cherry, \$999 a pair; high-gloss black, \$1,199 a pair

MANUFACTURER: PSB Speakers, Dept. SR, 633 Granite Ct., Pickering, Ontario L1W 3K1; telephone, 905-831-6555

from them in many respects. According to Barton, it features a newly designed woofer and tweeter and a cabinet that is constructed for exceptional rigidity and freedom from vibration.

Rated to handle up to 150 watts of input, the PSB 1000 is a "two and a half way" system, with its two 6½-inch cone woofers mounted one above the other and flanking the single 1-inch ferrofluid-cooled dome tweeter. The woofers operate as a vented system, with a single 2½-inch port below the lower one, which serves as a sort of subwoofer, handling the bass range up to a few hundred hertz. The upper woofer's response (which also covers the full range of the lower driver) continues upward to the vicinity of 2.1 kHz before crossing over to the tweeter. According to the manufacturer, each of the long-throw woofers combines a treated, compressed-felt cone and a highly efficient magnet system in a rigid, nonmetallic basket.

The tweeter's 1-inch dome is a blend of textile, linen, and silk that PSB says provides an exceptionally smooth and uncolored response over a wide frequency range. An extended cavity beneath the dome's surround is said to lower the tweeter's low-frequency resonance to well below the 2.1-kHz crossover frequency. The result of these and other design features is said to be an audible gain in natural, precise timbres in the vocal range and a remarkably accurate overall frequency response of 45 Hz to 20 kHz ±1.5 dB. Low-frequency cutoff is given as -10 dB at 29 Hz.

On the outside, the PSB 1000 resembles many other tower speakers, but inside it's as unusual as its drivers. PSB says that the enclosure is assembled from high-density, nonresonant wood composites using rounded, extruded corner moldings that make it extremely rigid. That rigidity can easily be verified by a simple knuckle test. Rapping any portion of the cabinet exterior produces a sharp click, strikingly free of any ringing or other sign of cabinet resonance. The rear panel of the enclosure has dual sets of gold-plated binding posts with jumper straps suitable for biwiring.

The rated sensitivity of the PSB 1000 is a relatively high 92 dB sound-pressure level (SPL) with a 2.83-volt input signal. Its nominal (and minimum) impedance is specified as 4 ohms. Our measurements confirmed that figure and also showed that the system impedance was unusually uni-

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form. We measured a minimum impedance of 4 ohms between 100 and 300 Hz, which rose to a rather uniform 7 ohms from 700 Hz to 20 kHz. The bass peak of 15 ohms occurred at 60 Hz. Presumably there was another impedance peak in this vented system, but it apparently occurred below 20 Hz and therefore did not appear in our measurements.

Our frequency-response measurements confirmed the exceptional qualities claimed for the PSB 1000. The room response, averaged for the left and right speakers, was within ± 4 dB from 50 Hz to 12 kHz. Close-miked on-axis measurements at 18 inches from the tweeter showed a response that was flat within 5 dB overall from 45 Hz to 20 kHz. A similar measurement midway between the lower woofer and the port yielded a response flat within ± 4.5 dB from 20 Hz to 2 kHz.

Perhaps most impressive of all the measurements, however, was the quasi-anechoic MLS response at distances of 1, 2, and 3 meters from the speaker. The "worst" result was a ± 2 -dB variation from 300 Hz to 20 kHz at 3 meters. The best was ± 1.5 dB at 1 meter over the same frequency range.

Those figures represent by far the flattest response we have measured from a speaker over the major part of

the audio range. They do not necessarily mean that anyone will experience such response uniformity in actual use (the MLS measurement excludes many reflections that will inevitably appear in a real-world listening situation), but they certainly speak eloquently for the care that went into creating the PSB 1000.

Probably the most "conventional" characteristic of the speaker is its horizontal dispersion. The response curves on-axis and 45 degrees off-axis diverged above 3 kHz, with a drop of about 13 dB at 15 kHz. That is not unusual, especially for speakers with 1-inch tweeters, but it contrasts sharply with the PSB 1000's superb on-axis performance.

System sensitivity measured 94 dB, slightly higher than rated. With an input of 1.78 volts (equivalent to a 90-dB SPL at 1 meter) the bass distortion was less than 1 percent from 60 Hz to 2 kHz, with a minimum of 0.6 percent at 100 Hz.

The sound of the PSB 1000, as might be expected from its measurements, was excellent. It was well balanced and free of such common vices as shrillness or boominess. The bass was solid and clean with music having substantial content as low as 30 Hz. In short, this is one fine speaker. □

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John Sunier *Audio Magazine* April 96



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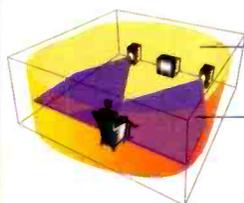
"...the VHT-200's action with surround-encoded soundtracks and music did produce a surprisingly satisfactory sense of envelopment and front-to-side sonic continuity, if not front/surround directionality....The VHT-200 can produce, with less noise and distortion than many Dolby Pro Logic circuits we've tested, much of the excitement of surround-sound home theater with only two speakers. *Stereo Review, May 96 David Ranada*

"Using SRS with the "70mm" setting of a Fosgate/Harman Kardon Dolby Pro Logic processor achieved excellent surround effects from music and movies on laserdiscs and from telecasts." *Audio Magazine, April 96 John Sunier*

Improve Multizone Sound

The Vivid 3D Theater actually eliminates several problems installers run into when connecting a multizone sound system. By placing the Vivid 3D theater between the audio feed and the distribution amplifier, SRS will provide improved sound coverage in all zones, even if the speaker position in these rooms is less than favorable. The Vivid 3D Theater also gives a new dimension of sound to in-wall and ceiling speakers, bringing them to life with a full, rich sound.

Stereo processing creates flat, two-dimensional sound, where as SRS processing fills an entire room with lifelike, three-dimensional sound.



SRS 3D Sound

Stereo Sound

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"The health club had very low ceilings and I wanted to avoid having to put in too many speakers, yet even coverage was needed. It turned out that the solution lay in signal processing, not acoustics. A NuReality SRS processor was used, and the effect was that the loudspeakers become essentially impossible to localize." *Sound and Communications, February 96 Rob Baum*

Mono Recordings

Put multi-channel excitement back into any mono recording with the Vivid 3D Theater. Old movies come to life with SRS technology.

"The SRS mono mode is used when stereo is not available...and is very effective in adding ambience. One of the best I have ever heard done correctly." *High Performance Review, Winter 95/96 John Gatski*

How it Works

You only have two ears, yet you hear in three dimensions. Patented SRS technology is based on a natural psychoacoustic phenomenon, known as Head Related Transfer Functions or HRTFs, that have been largely ignored by modern sound reproduction technologies. HRTFs allow your brain to localize sound because the spectral characteristics, or frequency response, of the sound varies. These "spatial cues" supplied primarily by the outer ear, or pinna, are transferred to the brain—enabling you to position sounds very accurately in three-dimensional space. SRS technology essentially mimics these diffractive effects of the pinna by extracting information from a recording that originally came from the sides and rear. This ambience information gives you a sense of acoustic space. SRS then uses HRTF-based corrections to cause the ear to perceive these sounds in their original spatial relationships. The result is that the sense of realism you perceive from reproduced sound is dramatically enhanced.

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Ensemble is our best speaker system. We think it competes with audiophile tower speakers selling for over \$1,000 a pair. Yet its unique four-piece design literally disappears in your room.

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Our dual-subwoofer Ensemble outperforms expensive tower speakers because of its great room placement flexibility. \$599.99

and two slim-line (4 1/2" thick) subwoofer cabinets enclosing 8" woofers.

Because the bass produced by the subwoofers is non-directional, you can put them in out-of-the-way places...even behind or under furniture. Then place the satellite speakers to create a realistic stereo image. *High Performance Review* describes *Ensemble* by saying "...stereo imaging is phenomenally sharp...the dynamics are stunning...some of the speakers I'm comparing it to cost \$1900 to \$2800." White or charcoal grey. **\$599.99**

Ensemble II

Ensemble II is our best value high-performance speaker system. It uses the same satellites as *Ensemble*, but with a single subwoofer cabinet that holds two 6 1/2" woofers in an acoustic suspension enclosure.



Ensemble II is our best value in a high-performance speaker system. Its satellite speakers are identical to Ensemble's. \$499.99

Because 90% of the music is reproduced by the satellites,

Ensemble II sounds much like *Ensemble*. *Stereo Review* says "Ensemble II can be compared only with much larger speakers at substantially higher prices." White or charcoal grey. **\$499.99**

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Our most compact and affordable subwoofer/satellite speaker system is *Ensemble IV*. It consists of two "cube" satellites containing wide-range 3" speaker drivers and a shoebox-sized subwoofer with a 5 3/4" woofer. It doesn't have the same deep bass extension as our more expensive speakers – but it sounds terrific.



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Home Theater Technology says "Ensemble IV produces a level of sound quality that is so much bigger and better than you'd expect from an inexpensive system that it's almost ridiculous." **\$249.99**

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Our all-weather speaker is called *The Outdoor*. It has the natural, accurate, wide-range sound that Henry Kloss designs are known for. We don't know of any all-weather speaker that sounds better. Free-standing (shown), **\$299.99pr.** In-wall version, **\$349.99pr.**



Center Channel Speakers

Cambridge SoundWorks manufactures two speakers specifically for use as center channel speakers in Dolby® Pro Logic® home theater systems. Both are magnetically shielded so they can be placed near a TV or computer

Cambridge SoundWorks To Price Yours Below The Competition."

Inc. Magazine



Center Channel Plus



Center Channel

monitor. *Center Channel* is identical to an *Ensemble* satellite (but with magnetic shielding). **\$159.99**. *Center Channel Plus* uses an ultra-low, ultra-wide design that is ideal for placement above (or, with optional support stand, below) a TV monitor. It is, we believe, the finest center channel speaker available. **\$229.99**

with a 140-watt amplifier and a built-in electronic crossover. *Stereo Review* said it provides "deep powerful bass...31.5 Hz bass output was obtainable at a room-shaking level... it opens the way to having a 'killer' system for an affordable price." **\$699.99**. Our *Slave Subwoofer* uses the same woofer driver and cabinet, but does not include the electronic crossover. It can be used only in



SoundWorks

something so small. Connect it to a portable CD/tape player, boombox, TV or computer – anything with an earphone jack – for beautiful, room-filling sound. *Audio* called it "really amazing...exceptionally good." *PC Computing* named *SoundWorks* "the best multimedia sound system costing

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*Actual prices may vary by store.



Powered Subwoofer

Slave Subwoofer

Powered Subwoofer II

Surround Speakers

Cambridge SoundWorks makes two "dipole radiator" surround sound speakers. Dolby Laboratories recommends dipole radiator speakers for use as surround speakers. *The Surround* has high power handling capacity and is often selected for "high end" surround sound systems. **\$399.99 pr.** The smaller *The Surround II* is arguably the country's best value in a dipole radiator speaker. **\$249.99 pr.**

in conjunction with the *Powered Subwoofer*.

\$299.99 The new *Powered Subwoofer II* uses a 120-watt amplifier with a custom designed 8" woofer. **\$399.99**



The Surround II



The Surround

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Adcom GFA-7000 THX Power Amplifier

JULIAN HIRSCH • HIRSCH-HOUCK LABORATORIES

Performance and installation requirements for home-theater systems vary as widely as those for conventional stereo systems. An A/V installation can be as simple as a basic receiver with a built-in Dolby Pro Logic decoder and four channels of amplification plus five modest speakers and a TV. Properly installed, such a system can provide, at minimum cost, a reasonable simulation of the dynamic and spatial characteristics incorporated in the soundtracks of many movies and other video programs.

Unfortunately, such a basic home-theater installation is likely to be as far from realizing the *full* potential of a movie soundtrack as a department-store "shelf" system is from a serious high-fidelity music system costing many times as much.

Most people are familiar with the THX logo displayed at many topnotch movie theaters. The THX trademark is licensed by its creator, Lucasfilm, to theater installations that meet a number of critical requirements, primarily dealing with audio performance. In addition to audio quality, the THX

movie-theater program also covers things like the spatial qualities of the complete installation.

In recent years THX has also become a factor on the home-theater scene. Speakers, amplifiers, surround-sound processors, and other components bearing the THX logo are available from many companies. In order for a manufacturer to display the THX logo on its products, they must meet rigorous requirements imposed by Lucasfilm dealing with such matters as the frequency-response and dispersion characteristics of loudspeakers, the power capabilities of amplifiers, the performance of Pro Logic decoders, and even the design of interconnecting cables and connectors. The goal of these requirements is to insure that the

spatial, spectral, and dynamic properties of film soundtracks mixed for large theaters are preserved in the smaller home-theater environment.

The Adcom GFA-7000 is a five-channel THX-certified power amplifier whose construction and performance dramatically demonstrate some of the differences between ordinary stereo amplifiers and those designed to deliver the impact of a movie soundtrack in your home.

The GFA-7000 is rated to deliver up to 130 watts into an 8-ohm load or 200 watts into 4 ohms in each of its five identical channels, with less than 0.05 percent total harmonic distortion. That makes it suitable for a discrete 5.1-channel Dolby Digital (AC-3) system, in which the ".1" channel reproduces only low frequencies and would normally be powered by the amplifier built into the subwoofer. These ratings apply to continuous (and simultaneous) operation at any frequency from 20 Hz to 20 kHz.

As might be expected from an amplifier with such capabilities, the GFA-7000 is quite large, though not unreasonably so considering its power ratings. It is effectively protected against the damage risks that might be expected in normal home use. If any individual channel overheats, the amplifier's thermal-protection circuit will shut it down and a red LED on the front panel will light up until the temperature drops to a safe level; the other channels continue to operate normally. If

DIMENSIONS: 17 inches wide, 7 $\frac{3}{4}$ inches high, 14 $\frac{7}{8}$ inches deep

WEIGHT: 41 pounds

PRICE: \$1,300

MANUFACTURER: Adcom, Dept. SR,
11 Elkins Rd., East Brunswick, NJ 08816;
telephone, 908-390-1130

MEASUREMENTS

All data are for two-channel stereo operation.

OUTPUT AT CLIPPING (at 1 kHz)

8 ohms	200 watts
4 ohms	300 watts

CLIPPING HEADROOM (re rated output)

8 ohms	1.87 dB
4 ohms	1.76 dB

DYNAMIC POWER

8 ohms	225 watts
4 ohms	390 watts

DYNAMIC HEADROOM (re rated output)

8 ohms	2.38 dB
4 ohms	2.90 dB

DISTORTION AT RATED POWER

(130 watts, 1 kHz, 8 ohms)	0.003%
(200 watts, 1 kHz, 4 ohms)	0.007%

SENSITIVITY

(1-watt output, 8 ohms)	100 mV
-------------------------	--------

NOISE (re 1 watt, A-wtd)

	-99 dB
--	--------

FREQUENCY RESPONSE

(20 Hz to 20 kHz)	+0.01, -0.03 dB
-------------------	-----------------

the temperature of the massive power transformer exceeds 257° F, a built-in thermostat shuts down the entire amplifier (it automatically returns to service when the temperature falls to a safe value). Adcom says that this condition is unlikely to occur unless the amplifier is operated for extended periods into loads of 3 ohms or less at very high listening levels.

In addition to a large pushbutton power switch and the thermal-protection indicators, the front panel of the GFA-7000 contains a row of five red distortion-alert LED indicators. These light up when the distortion in the corresponding channel reaches 1 percent and serve as a warning to reduce the playback volume.

The GFA-7000, despite its enormous power capability (totaling 1,000 watts continuous into 4 ohms) and imposing bulk, is relatively light at 41 pounds. It is also unusual among its peers in not being fan-cooled. Each channel is constructed as a separate module containing input and output connectors, a heat sink, and power-supply components, including 24,000 microfarads of filter capacitance, which can greatly improve dynamic-headroom performance. The top and bottom of the cabinet are extensively perforated and should provide effective cooling under almost any reasonable operating condition.

The power transformer, a high-efficiency toroidal design, occupies much of the forward part of the GFA-7000.

It's positioned so that its considerable weight balances that of the amplifier section, making the component relatively easy to handle.

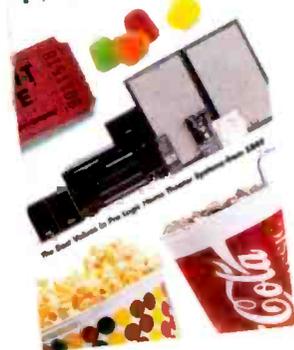
The input and output connectors are in a row across the top rear of the cabinet (integrated with the individual amplifier modules). The signal inputs are gold-plated phono jacks, and the speaker outputs are insulated dual binding posts that accept lugs, wires, or banana plugs. The rear panel also contains the line cord, a 15-ampere AC fuse, and a 25-pin computer-type connector that makes connecting the amplifier to a THX processor a single-cable affair. An optional rack-mount adaptor is also available, and a 230-volt version of the amplifier is available for the European market.

The logistics of using a large number of high-wattage load resistors, which would become *very* hot when dissipating a total of a kilowatt or so (to say nothing of taking up more room than our test bench provides), limited us to driving only two channels of the GFA-7000 at a time, into either 8-ohm or 4-ohm loads, during our lab tests.

The performance of the amplifier modules was superb, confirming the manufacturer's claims and closely matching the test data on the review sample that was supplied to us by the manufacturer. Not only did the test unit easily surpass its ratings, but its exterior never became unreasonably hot to the touch, not even directly over the heat sink of the driven channel. Also, although it would probably have little effect on the ultimate sound quality, the amplifier's harmonic distortion (the rated maximum is 0.05 percent) rarely reached 0.01 percent under any conditions and was typically in the vicinity of 0.002 percent or less at any usable power and frequency.

The Adcom GFA-7000 should be a star performer in any serious home-theater installation, especially one set up to reproduce Dolby Digital soundtracks, which are available now on some laserdiscs and will be standard on the 5-inch DVD movie discs expected to be introduced in the coming months. Too often we find that very powerful amplifiers must be handled with some delicacy to avoid an expensive mishap. Judging from how easily the GFA-7000 dealt with overloads and occasional ventures into hard clipping, and how close to perfect its electrical performance was, its price tag seems like a downright bargain! □

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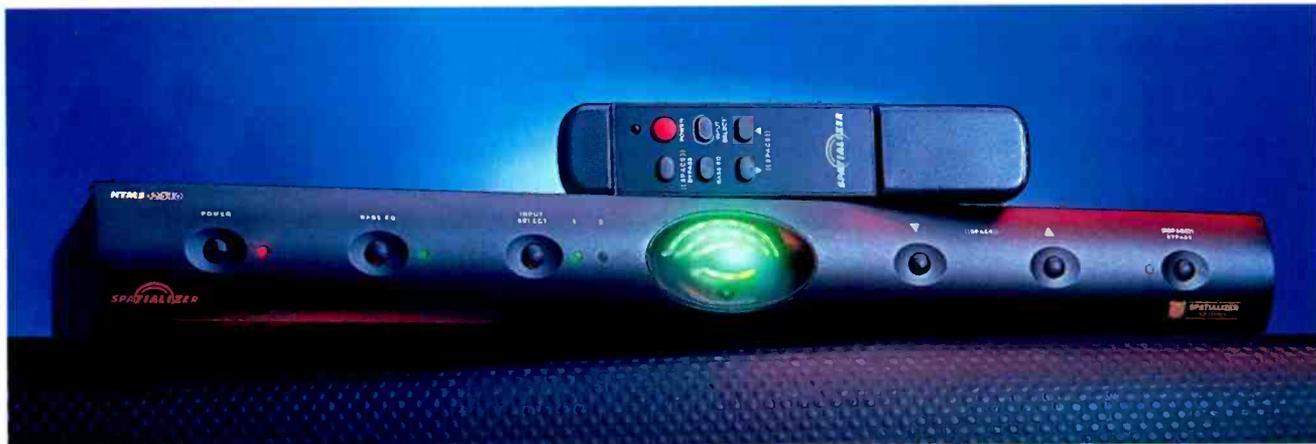
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Spatializer HTMS-2510 Surround Processor

DAVID RANADA • TECHNICAL EDITOR

Spatializer's HTMS-2510 is a stand-alone accessory component intended to be, in its manufacturer's words, "a convenient and affordable alternative to complicated and expensive sound-enhancement and multispeaker surround-sound systems." It produces enhanced imaging effects using only a pair of stereo speakers.

Hooking it up is indeed uncomplicated. It connects via standard line-level jacks into a system's tape-monitor or external-processor loop. Two stereo inputs are provided but only a single processed-stereo output. A small AC adaptor module supplies power. The front panel has pushbuttons for power, a bass boost (producing a shelving low-frequency boost of 5 dB below 100 Hz), input selection, and processing bypass. Two Space buttons are used to select among the three available levels of processing. When held down, the bass-boost button also activates a test tone for optimizing setup. All front-panel functions except the test tone are duplicated on the supplied infrared remote control.

Spatializer's brochure trendily emphasizes the device's abilities for playing surround-sound material, but my measurements and Spatializer's patents indicate that the HTMS-2510 is a variant of the classic stereo crosstalk-cancellation scheme. Such schemes are used to "correct" for each ear's hearing both speakers in a stereo pair.

Crosstalk cancellation works by having each speaker reproduce a signal deliberately "leaked" from the opposite channel together with the signal from its assigned channel. The leaked, crossfed signal is reproduced with its polarity inverted (180 degrees out of phase). For example, the left speaker will emit the normal left-channel signal *plus* an out-of-phase version of the right-channel signal. At the *left* ear, this crossfed signal meets the right-channel crosstalk signal from the *right* speaker, and since the two are out of phase, the crosstalk is canceled, at least in theory.

A rigorous embodiment of crosstalk cancellation can produce headphone-like imaging effects over loudspeakers. But precision crosstalk cancellation requires complex equalization (EQ) as well as a recirculating delay, both expensive circuits. The process also requires some rigor from the listener: The cancellation works correctly only in a small listening area, and a turn of the head can throw it awry.

DIMENSIONS: 17 inches wide, 1 3/4 inches high, 7 inches deep

WEIGHT: 3 1/2 pounds

PRICE: \$250

MANUFACTURER: Spatializer, Dept. SR, 20700 Ventura Blvd., Suite 134, Woodland Hills, CA 91364; telephone, 818-227-3370; World Wide Web, www.spatializer.com

Not so with Spatializer's HTMS-2510, which is simpler than a theoretically ideal crosstalk-cancellation processor. It has no delay circuit, and its EQ produces frequency responses unlike those typically used for precision crosstalk cancellation. Our measurements showed the HTMS-2510's EQ circuit to be a two-pole bandpass filter centered at 500 Hz (more on the effects of this later).

The processor's Space control varies the level of the crossfed signal relative to the original signal in the opposite channel. At low input-signal levels, the channel-separation figures for mid-range output were 8.5, 4.5, and 2.5 dB at, respectively, the low, medium, and high settings of the control.

At high signal levels Spatializer's Double Detect and Protect circuitry (DDP) comes into play. DDP is intended to prevent the exaggerated effects that would occur if, say, a Spatializer-processed recording were to be played through the HTMS-2510. When both the overall signal level and the difference between the two channels are high, DDP reduces both the amount of midrange EQ and the levels of the crossfed signals. Mono signals receive essentially no processing.

Our graph on page 54 illustrates the three main aspects of HTMS-2510 processing: crossfeeding, equalization, and DDP. With a pseudo-Dolby Surround-encoded center (mono) signal, it had a very flat response (green trace). With a pseudo-Dolby Surround-encoded surround signal, the response normally receives a midrange boost from the EQ. But the red trace shows how the response at high input levels was flattened by DDP. The actions of DDP are even more evident in the blue and black traces. With DDP inactive and the HTMS-2510 fed a left-only

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signal, the left-output response was as shown by the solid blue trace. The dashed blue trace shows the equalized crossed output of the right channel with the crossfeed only 5 dB below the left output. With DDP nearly fully activated, the black traces show that the midrange EQ on the left output was reduced considerably (solid black) and that the crossed signal was lowered to 14 dB below the left output (dashed black).

As I see it, there are three keys to the HTMS-2510's sound quality. First, the device's EQ limits strong cross-talk-cancellation effects to the midrange, where they can most influence imaging without producing excessive low-frequency "phasesyness." This also trades off the image precision obtainable with more complex EQ for increased freedom in listener position.

Second, the application of the same EQ curve to both the crossed signal and the original signals means that at the ears the equalization boost is also partially canceled. The tonal balance is therefore not greatly altered by the processing. Although there was some coloration, the HTMS-2510 never sounded like it was producing 8-dB boosts in the midrange.

Third, Spatializer tells us that the DDP circuitry is active about a third of the time with typical music. That intervention probably prevents many undesirable side effects that can occur at high signal levels, such as excessive phasesyness.

So what *did* the Spatializer HTMS-2510 sound like? With an appropriate setting of the Space control the frontal phantom images, which are normally spread between the stereo speakers, moved outward so that some of the phantom sound sources imaged to

the left of the left speaker and to the right of the right speaker. It was as if the physical separation between the speakers had increased. Also, depending on the recording, reverb-like (random-phase) sounds came out from the sides, louder toward the front and softer directly to the left or right, with very little from behind the listener. The diagram in Spatializer's literature showing a horseshoe pattern of "virtual speakers" spread around the front of the listener is actually an accurate portrayal of the sound the HTMS-2510 produced, which is unusual for a promotional drawing.

While the effect was most pronounced when I listened from the center line, the processing stood up well when I turned my head up to 30 degrees off-axis. The frontal imaging effects were less vivid when I listened from off-center, though a sense of increased spaciousness remained. Because of the polarity inversion of the crossed signals, the system always produced a slight sensation of unequal pressure on the ear drums. But this side effect varied in obviousness depending on the tempo of the music — the faster the music the less it was apparent.

That variation with tempo only emphasizes how dependent Spatializer's sonic results are on the program material. The most spectacular effects were with dry (fairly reverb-free) electronic music, ranging from Wendy Carlos's pioneering synthesizer recording "Switched-On Bach" to Yello's technopop "Zebra." Pop music benefited from the HTMS-2510 more than it usually does from digital ambience enhancement, which usually adds an unwelcome sense of distance to such material.

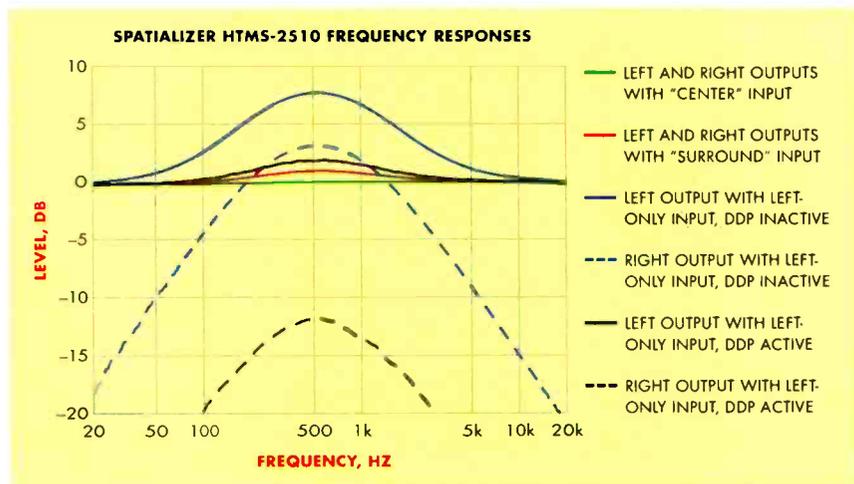
Certain classical works also benefited from the processing. A prime example was Bach's *St. Matthew Passion*, with its dueling orchestras and choirs. Three recordings of the work all acquired a nearly theatrical impact with the HTMS-2510's expanded frontal images. With more spatially conservative acoustic music I sometimes wished for a lower processing setting than the lowest provided.

With all recordings featuring a solo singer there was a slight diminution in the prominence of the center-stage vocals. With music this was not too significant a drawback — though the vocalists might not like it — but with soundtracks that had passages of marginally audible dialogue the effect sometimes pushed the words into unintelligibility.

It's possible that the DDP circuitry actually makes certain effects in movie soundtracks seem less spectacular. Loud surround-channel effects will appear to the HTMS-2510 as previously applied spatial processing and thus activate DDP. That's probably why the opening shock-wave sequence from *Star Trek VI* was not as overwhelming as it is in true five-speaker playback and only slightly better than playback in plain stereo. Moreover, the HTMS-2510 does not reduce the importance of having a center-channel speaker to lock the dialogue onto the screen.

Use of the HTMS-2510 together with a Dolby Pro Logic decoder is risky because its processing can severely disturb the surround decoding, depending on where the processor is connected in the signal chain. In home-theater systems with a mono subwoofer, the signal cancellation at low frequencies may require resetting the subwoofer level or activating the bass boost. Finally, since it possesses only a two-channel input, the HTMS-2510 cannot produce the discrete-channel surround effects of a 5.1-channel Dolby Digital (AC-3) decoder.

In sum, although the HTMS-2510 cannot be considered a replacement for a true multispeaker surround-sound system, I enjoyed playing with it. Spatializer's word "alternative" is well chosen. The effects the device produces are fascinating and often more musically appropriate than those produced by digital ambience processing. It'll give you, as it gave me, an excellent excuse to listen to some favorite old recordings once again. □



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USER'S REPORT



Celestion HTiB System

DANIEL KUMIN

Audio designers have been beating a path along the ascent to a certain Himalayan height, seeking wisdom from the Swami of Surround. It's an arduous journey, and few make it. At last, one A/V devotee reached the wind-swept peak where the Punjabi of Pro Logic resides.

"Oh, knowledgeable one," the seeker asked, "we beg of you enlightenment. How can we achieve home-theater oneness?" The wizened guru assumed the lotus position, meditated for a month and a day, and replied, "Easy — put all the electronics inside the subwoofer."

The idea of plug-and-play "home theater in a box" is a compelling one — so compelling that several manufacturers are now packaging complete surround-sound audio systems (minus a source component) in a single carton. By "complete," I mean you get five speakers, a powered subwoofer, five channels of amplification, and a Dolby Pro Logic surround-sound proc-

essor incorporating basic, remote-controlled preamp functions.

Many of these one-box systems sell for less than \$1,000 and are assembled around a conventional A/V receiver or tabletop surround processor/amplifier. But at least one manufacturer, Britain's Celestion, has taken the wise one's advice. Best known here in the States for its compact high-end speakers, Celestion has come up with a jewel of a home-theater system. It's called HTiB, which is short for — what else? — home theater in a box.

The \$999 HTiB system does indeed come in one carton, a good-size one measuring 20 x 20 x 27 inches. And, just as the guru advised, all the electronic goodies are built into the subwoofer module: a Dolby Pro Logic processor, a remote-controlled preamp/controller, a five-channel power amplifier (plus the sub's own power amp), and a two-way electronic crossover. Output power is rated as 30 watts per channel plus 60 watts for the subwoofer, all with less than 0.5 percent

total harmonic distortion over an unspecified bandwidth or frequency. The crossover point is listed as 120 Hz with 12-dB-per-octave slopes.

The HTiB package includes four identical satellite minispeakers, each housing a 3½-inch woofer and a 1-inch tweeter in a molded-plastic enclosure measuring 8 x 6 x 4 inches. There's also a horizontal center speaker that contains similar drivers but doubles up on the woofers. Its tweeter sits between the woofers in a waveguide-like depression that's designed to improve sensitivity while controlling dispersion. All of the speakers are magnetically shielded.

Celestion's subwoofer/electronics module is a roughly 15-inch cube with a small display window near the bottom of its front panel and an elliptical peephole on top for an infrared "eye" that receives signals from the remote control. The module's bottom panel, which has feet that lift it an inch or so off the floor, holds a downward-firing 10-inch driver and four ports — one in each corner. There's no screen to protect the woofer, which strikes me as a poor design choice — I can just see my cat chasing a mouse under there and puncturing the woofer cone.

Around back, the module has five spring-loaded push connectors for the main left/right, center, and surround ("effects") speakers. Three pairs of RCA jacks handle stereo input, pass-through (unprocessed) stereo output, and front-channel (processed) output. There's also a large knob for adjusting subwoofer level and an L/R Reverse switch: If the channels are accidentally reversed during hookup, a simple flick of this switch will put the violins back on the left where they belong.

Sculpted corners and a slightly curved baffle give the HTiB satellites a sleek, attractive look. The center speaker is equally classy, and the sub sports a curved, sculpted front panel that complements its siblings. All six enclosures are handsomely finished in an understated matte gray.

The supplied arrowhead-shaped remote control covers the basics — power on/off, volume, bass and treble, front-rear and left-right balance, mute, and bass boost — as well as providing buttons to select among four surround modes: Bypass (four-speaker stereo), Concert (matrixed surround), Reverb (matrixed surround with enhanced steering and elevated rear-channel levels), and Pro Logic.

To my eye, Celestion's HTiB sys-

tem is drop-dead gorgeous. What's more, its industrial design is very practical. For example, each satellite has an integral bracket for wall mounting that becomes a nifty stand for shelf or tabletop placement when inverted.

Fit, finish, and overall quality of manufacture are very fine all around, especially considering the system's modest price tag — there's some real value here. The HTiB system is manufactured in the People's Republic of China, which no doubt helps to keep the cost down. This is the first "higher-end" consumer electronics product from mainland China that I've encountered, and I have to say that I am more than a little impressed.

Setting up HTiB was exceedingly easy. Celestion includes five extra-long lengths of 18-gauge speaker wire with nicely tinned ends. But the system's single line-level input, which is meant to connect to a hi-fi VCR or stereo TV, may create a conundrum for some users. When the HTiB is hooked up directly to a TV, the TV's remote is used to switch between sources. This arrangement will work fine as long as the TV has a fully switched audio path. If it doesn't — as with older sets whose audio jacks pass only TV-tuner signals — an outboard A/V switcher might be needed for full flexibility (Radio Shack sells a decent one for about \$75).

In all fairness, though, most people will manage just fine with a single input. They'll simply connect the stereo outputs from their hi-fi VCR to the HTiB and use the VCR's remote to switch between the deck's output and TV audio.

I wired the HTiB to a set of record-out jacks on my main preamp, which allowed me to switch easily between a laserdisc/CD combi-player, the TV tuner, and a Digital Satellite System (DSS) feed. I also did some listening with the combi-player connected directly to the HTiB. I placed the center speaker on top of my TV and set the front left/right pair on top of my everyday tower speakers, which put the three HTiB front speakers in an almost perfect horizontal array. I mounted the surround speakers in my usual "rear"-speaker position — 6 feet off

Setting up HTiB was

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Celestion even includes

speaker wire.

the floor, about even with the listening position and angled inward.

Usually I put subwoofers in the right front corner of my listening studio, but that wasn't an option in this case because you need a clear line of sight from the bass/electronics module to the main listening position for the system's infrared remote to work properly. Ditto for the left corner. The position I ultimately settled on was about 3 feet from the corner, hard against the front wall, and roughly 3 feet behind the video screen. That location provided the best balance between the satellites and subwoofer, and the remote worked okay.

A FEW NUMBERS

Some "unofficial" test-bench work on the Celestion HTiB (performed *after* all the listening, of course) produced fairly impressive numbers.

Frequency response of the front left, right, and center channels matched well, very flat but down barely 1 dB at 20 kHz; the surround channel was dead on Dolby's 100 Hz to 7 kHz spec for Pro Logic; and the crossover response was right on the money (12 dB per octave) and smoothly contoured.

Power output at clipping was about 40 watts all around (I didn't measure the subwoofer's power

amp because that would have required removing the driver), and A-weighted, Pro Logic signal-to-noise ratio (re: 1 watt) was about 76 dB up front and about 72 dB in the surround channel. That works out to a real-world, full-system dynamic range of about 90 dB — very good for a value-oriented system. Pro Logic crosstalk (at 1 kHz) ranged from about 44 dB (center-surround) to 26 dB (center-left). Input overload was just about 2.4 volts for left, right, L + R, and L - R sine-wave signals. Pretty darned handsome results for so compact and inexpensive a system. —D.K.

System calibration was straightforward, though a couple of quirks made it harder than necessary. The HTiB cycles only once through the standard Dolby noise sequence when the remote's test key is pressed, and neither the center-channel level nor the front-rear balance can be adjusted while the test mode is engaged. Since these adjustments are typically done only once, though, it's not that big a deal. A more serious gripe is that there is no rear-level calibration mode; you have to use the front-rear balance control. So if you adjust front-rear balance on the fly or when switching among surround modes (as I frequently do), there is no convenient way to go back to the calibrated Pro Logic setting.

Sonically, the HTiB was mostly a treat. Overall balance was open and crisp, with a faintly recessed top octave and an equally subtle helping of warmth through the midbass region — characteristics that are quite common among smaller sub/sat systems. Adjusting the subwoofer level affected the midbass warmth, of course. Celestion engineered the HTiB's bass-bin to be "flat" at the minimum position of its sub-level knob, giving you the option to boost relative bass levels but not to cut them. Most of the time this arrangement was fine (and it's sensible for novices, preventing them from short-changing themselves bass-wise), but occasionally I felt that a little less bass would have been helpful — something I was ultimately able to accomplish by simply pulling the sub out into the room a foot or two.

Overall, the compact subwoofer was an impressive performer: It went surprisingly low (a solid sub-40 Hz to my ear), it wasn't overtly boomy like some mini sub/sat systems, and it played plenty loud (about 95 dB SPL on average) without obvious distress. Auditioned solo, the sub still sounded remarkably good, with relatively little port "chuffing" or industrial-type noises caused by driver scraping or stopping, and with good dynamic potential. The sub's crossover was steep enough to suppress the midrange effectively, enabling the system to reproduce male vocals without the vaguely chesty quality that plagues so many three-piece speaker systems.

While the overall sound of the HTiB system was nicely balanced, the front left and right satellites sounded very different from the center speaker, tonally speaking. The sats were far brighter, better detailed, and more

USER'S REPORT

open, whereas the center speaker was obviously warmer, with a fuller, more organic-sounding midrange and vocal region. Both sounded pretty good, but different — actually, a cross between the two at all three speaker positions would have been just about perfect.

Most of the time, whether listening in two-channel or Pro Logic modes, the tonal mismatch was not that big a distraction (though switching between Bypass and Pro Logic modes revealed a fairly obvious difference in overall tonal balance as well as stereo image). But on movie soundtracks in which left-right pans play a big part, the tim-

I eventually identified the problem, I think, as an odd sort of input overload (later, by phone, Celestion tentatively confirmed my analysis). It appeared only with *non-Dolby* recordings having very strong stereo components — like a piano recorded in a concert hall. A quick bench test yielded perfectly normal input-tolerance results of about 2.4 volts for all channels in Pro Logic mode. I further checked my combi-player's digital-full-scale output, which measured 2.2 volts (mono), but that is a steady-state signal, not a dynamic one. It's possible that the HTiB's decoding circuitry can accept higher

Putting the electronics inside the subwoofer brings many benefits: smaller size, fewer components, a controlled amp/speaker relationship, and easy setup.

bral shift was quite noticeable to ears accustomed to listening for such things. For example, in the night battle scene of *The Last of the Mohicans* laserdisc (Chapter 9), the various gunshots and explosions seemed to come from three discrete speakers instead of an enveloping sound field; the odd quick-pan lateral shot or ricochet also stood out a little too much.

Otherwise, Pro Logic steering was generally good, with clear, intelligible dialogue and stable imaging. The HTiB was also relatively quiet in Pro Logic mode — quieter than several entry-level A/V receivers I've reviewed. (A bit of power-line hum was evident, but it was never audible during a program.)

The system played loud enough for most sensible adults, even in my 2,300-cubic-foot studio. At tiptop levels, which the young at heart might wish to dial in for a knock-'em-dead *Jurassic Park* screening, the HTiB stumbled into harsh clipping, but for normal use that should not be a limitation.

Somewhat more mysteriously, in Pro Logic and Reverb modes the HTiB's surround channel emitted occasional crackling regardless of the master volume setting. It was particularly noticeable on non-Dolby-encoded recordings of solo piano. The crackling was never unequivocally audible during playback of movie soundtracks in Pro Logic mode, or of music in Bypass (stereo) mode, but it was problematic on many solo-piano CD's in Pro Logic or Reverb modes.

steady-state signals without input clipping: in any event, the output of many combi-players should be somewhat lower.

Whatever its precise cause, the problem would be easy to fix. Resistive voltage-pads wired to the input cable could lower the HTiB's input signal by 6 dB or so. Total parts cost: about \$1.50. Dealers (or Celestion) might consider making such adaptors available to HTiB buyers who are bothered by this effect. (Of course, using them would reduce the system's full volume potential by a tick or two, but that shouldn't be a problem for most people. Even in my large studio I would probably never use the last three volume steps during normal listening.)

Somewhat oddly, the HTiB's Bypass mode is not plain-vanilla stereo: it sends left/right-channel stereo to the surround speakers as well. You can move the remote's front-rear balance control fully forward to glean something close to pure two-channel stereo, but the surrounds will still play softly. Once you fool with the front-rear balance, though, you have to recalibrate the system when you want to switch back to Pro Logic. (And HTiB forgets its settings if you unplug the bass/electronics module or turn off its master power switch.)

Putting the electronics inside the subwoofer brings many benefits: smaller size, fewer components, a predetermined, controlled amplifier/speaker relationship, and easy setup. In fact,

you may well be asking yourself, "Why doesn't *everybody* put the whole home-theater enchilada inside the subwoofer?"

One reason is that subwoofers almost always work best in corners, and a corner is not always the best location for infrared-remote communications. (While the HTiB remote worked adequately once I moved the sub out of the corner, Celestion should consider adding an input for a remote infrared "eye," which would enable you to put the module just about anywhere.) Another reason is that without a separate receiver or amplifier there's no practical place to put the system's control-status window. The near-floor location of the HTiB's display is a joke. Except for the volume-setting bar-graph, the status icons can be seen only if you get down on your hands and knees directly in front of the thing!

Frankly, though, it's all too easy for us equipment reviewers to miss the big picture. Okay, Celestion's HTiB isn't quite state-of-the-art surround sound — but it does sound very nice and will thrill most surround-sound-deprived listeners. It can't play quite as loud as the best cinemas (or home theaters) — but it will easily overpower most real-world listeners. And it provides no practical upgrade path to multichannel digital sound — but many potential buyers will likely say, "Who cares?"

In short, as a one-box home-theater package for folks who don't want to bother with mixing and matching components, HTiB is tough to beat. It looks flat-out terrific and was fairly easy to operate once I learned my way around its somewhat unconventional remote control. Best of all, the simplicity of the system was a welcome change; for day-to-day listening, the remote's volume keys were the only controls I really needed.

Sure, for \$1,000 you might be able to pick up a comparably powered A/V receiver, five speakers, and a powered subwoofer. If carefully selected, they might even outperform the HTiB in some areas, but they would almost certainly take up more space and would not be as well integrated. They would lack what I consider to be one of the HTiB system's best traits: It's socially acceptable in rooms and spaces where typical, clunky, Christmas-tree-lit A/V gear is simply not welcome.

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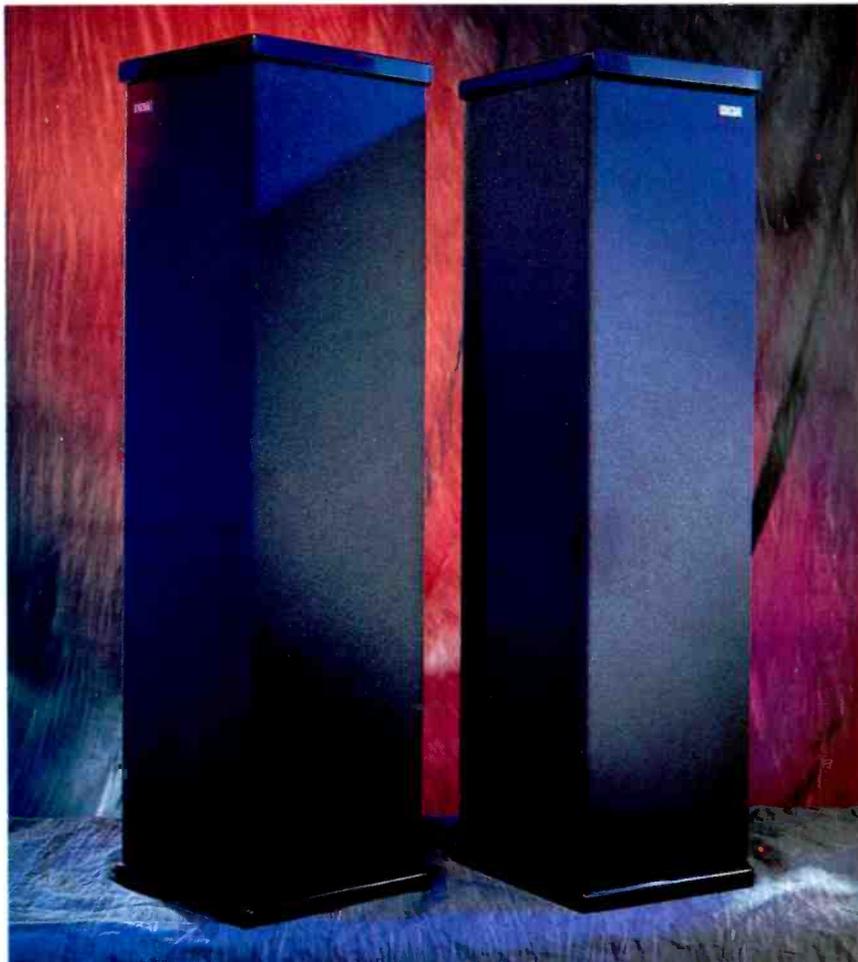


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USER'S REPORT



BOOK & LEUNG

DCM TimeWindow SurroundScape Speaker

DAVID RANADA • TECHNICAL EDITOR

If you've wanted to get into home theater but have balked at the installation of two additional surround speakers — whether for reasons of wiring, space, or decor — DCM may have just the ticket. On a promotional data sheet for the TimeWindow SurroundScape speaker system, DCM says that it “expands the performance envelope for home theater while eliminating the need for rear channel surround speakers!” (emphasis in original).

Unlike two-channel surround processors that are also said to eliminate the need for separate surround speakers, the DCM TimeWindow SurroundScape speakers (\$1,298 a pair) do not use any signal processing. The Sur-

roundScape towers are magnetically shielded transmission-line systems with a rated impedance of 6 ohms and a sensitivity of 92 dB sound-pressure level (SPL) at 1 meter with a 2.83-volt signal. Each speaker has two pairs of gold-plated binding posts — one for the main (front) channel and one for the corresponding surround channel. As in other DCM speakers, the grille is a wrap-around cloth and the wood base and top are glossy black. Each enclosure weighs 43 pounds and measures 40³/₄ inches high, 15³/₄ inches wide, and 12 inches deep.

The enclosure is actually seven-sided in cross section, and there are drivers on four of the sides. The diagram on the facing page shows a top

view of a mirror-image pair, with each active side numbered for convenience. Sides 1 and 5 each contain a 6¹/₂-inch polypropylene-cone woofer mounted coaxially behind a ³/₄-inch “hard-dome” tweeter, which itself is housed in an anti-diffraction acoustic lens. Sides 2 and 4 each contain a single ³/₄-inch hard-dome tweeter. All of these drivers are mounted toward the top of the enclosure, about 36 inches above the floor. The rear panel (Side 3), contains the input connections and, right above them, a 3-inch port that is situated 12¹/₂ inches above the floor.

The basis for DCM's surround-sound claims is the way these various speaker elements are driven. A signal fed into the speaker's front-channel input is reproduced by drivers on all sides of the unit. The output signal emerging from Side 1 is full-range and is the loudest. Output from Sides 2 and 4 contains only high frequencies, while the output from Side 5 appears to be only from the woofer on that panel. When fed from the front-channel input, all drivers reproduce their signals in phase to produce a multidirectional radiation pattern that's heavily oriented to the output of Side 1.

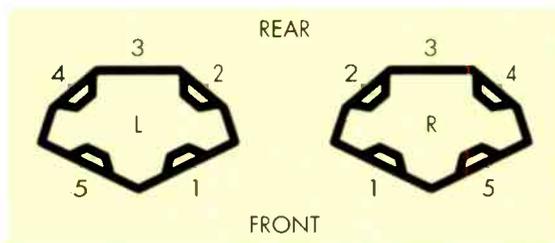
A signal fed to the SurroundScape's surround-channel input is reproduced only by the drivers on Sides 1 and 5, and the output is heavily oriented toward Side 5. Furthermore, when the surround input alone is fed a signal, the output of Side 1 appears to come only from the woofer and is definitely out of phase with that of Side 5. This out-of-phase arrangement serves to partially restrict the radiation pattern of Side 5 by reducing (through acoustic cancellation) its output in the direction of Side 1.

In a correctly set-up SurroundScape system, the speakers are positioned away from any walls; Side 1 of each speaker is aimed toward the main listening position, while the drivers on Side 5 radiate toward the side walls of the room. DCM is counting on reflections from the walls to convey the impression of surround speakers.

In our listening tests, we also used a SurroundScape center speaker (\$259), which contains the same driver complement as the tower speaker's Side 1 or Side 5 but has an acoustic-suspension enclosure measuring 7¹/₂ inches high, 22¹/₂ inches wide, and 7¹/₂ inches deep. Its rated impedance is 8 ohms, but it also has a 92-dB sensitivity rating. Being a forward-radiating speaker, its radiation pattern is very

different from that of the SurroundScape towers, which precluded an optimum timbral match.

Speakers like the SurroundScape that depend on loud wall reflections to obtain a primary sonic effect are extremely — I repeat, *extremely* — sensitive to room placement. The DCM owner's manual for the SurroundScape devotes only one paragraph and two diagrams to room placement, and unfortunately the recommendations



Cross sections (not to scale) of the mirror-image, seven-sided DCM TimeWindow SurroundScape tower speakers. The sides with drivers (1, 2, 4, and 5) or a port (3) are numbered for reference.

are simply too general to be of much help. The manual encourages users to experiment to find the locations that deliver the best results. But since there is only one sound "beam" from the surround drivers (Side 5 in our diagram above), you will probably be able to get loud reflections only from the side walls and not from the wall behind the listener as DCM suggests in its diagram.

I found that the best way to set up the SurroundScape towers was to have an assistant slowly rotate the speakers while I played a surround-channel level-balancing tone from an A/V receiver. I used the position that produced the loudest side-wall reflection while keeping the Side 1 drivers aimed toward the main listening position. Any major asymmetries in placement or room acoustics (including furnishings and wall coverings) may considerably diminish the surround effects.

Those surround effects were often surprisingly good with standard Dolby Surround recordings decoded by a Dolby Pro Logic circuit as long as the speakers were set up symmetrically in our rectangular listening room and I was sitting near the center line between them. When I sat far off-center, the sense of envelopment was noticeably diminished because the front/surround balance was disturbed in favor of the surround output.

Seriously consider the manual's suggestion to reverse the leads to one (not

both) SurroundScape speaker's surround input to render the speakers out of phase. That will prevent frontal imaging of the surround signal. If you have a THX processor, use the THX mode to switch in the surround-channel decorrelation. That will further increase the sense of envelopment the SurroundScapes can produce when playing conventional Dolby Surround soundtracks. Even with THX processing, though, I got better surround envelopment more reliably with separate surround speakers than with the SurroundScape towers. So while they did produce some of the effect of true side-located surround speakers, I would not say that the SurroundScape system totally eliminates any need for them with all program material.

With Dolby Digital (AC-3) soundtracks, the SurroundScape system produced a far

less vivid impression than a more conventional five-enclosure home-theater speaker system. Low-level ambience effects (such as background traffic noise) were convincing, producing some envelopment, but realism was diminished considerably when the occasional surround-only sound effect was panned into the left or right surround channel: Such effects were not localizable directly to the side, much less to the rear. In *True Lies*, for example, the Stinger missile launched by the terrorists at the attacking Harrier jets, instead of zooming by your left ear as they would with a five-speaker system, careened off to the far front left, which was out of sync with the visuals. So while the SurroundScape system could be described as being "compatible" with Dolby Digital soundtracks, in that it will reproduce them to some degree, its spatial reproduction of the format's stereo surround channels left much to be desired.

The SurroundScapes sounded best reproducing music that was processed by an advanced ambience-recovery system. By "advanced" I mean one that for optimal results normally requires a seven-speaker setup — such as the systems from Lexicon and Yamaha — with the two "extra" ambience speak-

ers placed in front. When the SurroundScape's surround inputs were fed these front ambience signals and true surround speakers were used to either side of the listening position (effectively producing a seven-speaker system using only five enclosures), the musical results were every bit as satisfying as those produced by systems incorporating separate auxiliary front speakers, and a whole lot more convenient. Such ambience recovery systems usually work best with classical music and other acoustical programs.

In two-channel stereo-only operation the SurroundScapes sounded very good, though, like all full-range speakers, they suffered from the inability to optimize bass response through the use of a separately placed subwoofer as in other home-theater speaker systems. In our listening room they were a tad bottom-heavy but quite smooth-sounding at high frequencies. Imaging in stereo was good in positioning and depth but rather fuzzy, probably because of the output reflected from the room's side walls.

After a week of placement experimentation, both with and without assistance, I still wasn't sure I'd found the ideal location and angling for the speakers in our listening room. The SurroundScape system's need for critical positioning may make them as inconvenient (or disruptive of room decor) as conventional side- or rear-mounted surround speakers. It all depends on the size and shape of your room. There's no sense in avoiding

LOOK UP LEUNG



DCM's SurroundScape center speaker

surround speakers for appearance's sake if you have to totally rearrange the furniture to get the SurroundScapes to work optimally. Try to audition these speakers at home. Rare is the stereo showroom that will take the time to set them up properly.

DCM Loudspeakers, Dept. SR, 670 Airport Blvd., Ann Arbor, MI 48108; telephone, 1-800-878-8463.

not be closely matched to the front speakers to reproduce ambience, movie sound engineers today often pan moving sources — notably flying machines and bullets — to or from the surrounds. In this case a good timbral match *is* required to avoid obtrusive or unnatural effects.

Nonetheless, matching surrounds to the front speakers in a home listening room is difficult, not only because of the typical location of the surrounds in the middle of the side walls or in the rear corners of the room, but also because the shape of the head and ears makes us hear sounds differently from the back. The debate continues about whether speaker designers should compensate for the rear-source effect (which, after all, occurs in nature), but the need for good subjective matching remains. Good matching is even more important now that movies are being mixed digitally with discrete, full-range left and right surround channels; sound engineers are taking advantage of the new technology more and more by locating specific sources to the side or rear of the soundfield.

Now for dispersion patterns: Should

you choose a pair of direct-radiating surrounds? Or should you use dipoles, which radiate sound from both sides in opposite phase, mounted with the “null” side facing the listeners?

In the April 1996 issue of *STEREO REVIEW*, Tom Nousaine reported on listening tests he conducted to examine this and related questions. His premise was that good surrounds had to provide three things: envelopment without gaps, seamless motion of moving sources, and convincing placement of stationary sounds. I agree with his findings that dipoles are somewhat more effective surround performers than direct-radiating speakers, but both can be good if properly positioned, and you shouldn't restrict your choice to one or the other.

How much bass do you need from the surrounds? Many effects that are panned to the rear do contain quite a lot of bass, but large speakers are hard to place high off the floor, which Nousaine found to be ideal. If you love your front speakers, the following suggestion may seem like blasphemy, but you might do well to add a subwoofer for movie sound no matter how good your two-channel bass is. As with the center speaker, response down to 90 Hz should suffice in the surrounds as long as the rest of the system has plenty of bass reach and undistorted output. A single powered subwoofer placed unobtrusively in a front corner could meet those requirements neatly.

Beyond these considerations, the same basic shopping rules apply for surrounds as for center speakers: Borrow different models, including some built by the same manufacturer as your front speakers; arrange for a week's home trial; use equalization if you can, at least to help get a feel for things during your auditions; and start with the Dolby test signal to obtain the closest match before doing your final testing with movies.

Just be prepared to spend much more time tinkering with placement for surround speakers, as their position alters not only their spatial effects but also their match with the front speakers. Nousaine found wide variations in timbre depending on placement, so experiment by moving the speakers around. Wherever you put them, however, try to keep them up above ear level to minimize your ability to localize the source of the sound.

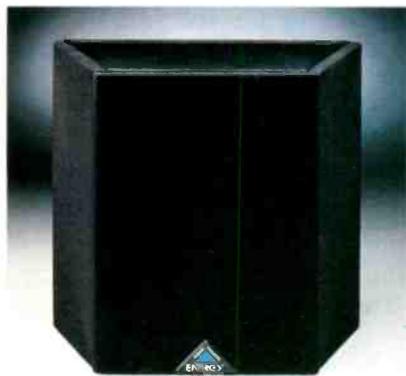
Now, sit back and enjoy the movie. □



M&K's unique SS-150 "tripole" surround (top, \$995 a pair) radiates sound simultaneously as both a dipole and direct radiator. The S-125C center (\$550) offers selectable tonal balance for matching to non-M&K speakers.



The Q10 bookshelf speaker from KEF (top, \$350 a pair), with a single 6 1/2-inch Uni-Q coaxial driver in a bass-reflex cabinet, makes a good surround speaker for a system using KEF's Q series tower speakers. The Uni-Q driver in the matching Model 90 center speaker (\$300) is said to have exceptional dispersion.



Energy's EC-200 center speaker (top, \$300) has two 5 1/2-inch woofers flanking a 1-inch dome tweeter. The EFX dipole surround (\$400 a pair) becomes bipolar at low frequencies to reduce bass cancellation that can occur with dipoles.

Hidden Treasure

Audio/videophile William Parker, Jr. — or “Sonnie,” as he’s known to family and friends — has a secret buried in his home in Troy, Alabama, about 50 miles south of Montgomery. Parker, 34, was born and bred in Troy, where he now runs his own finance company and a licensed concert-ticket brokerage. His wife, Angie,

Then, in 1984, he subscribed to *STEREO REVIEW*, and within a year his car stereo salesman, Walter Barno, was pushing him into a new habit. Parker’s first home system, with NAD components, was modest enough, but it had high-end aspirations. “I remember sitting at the kitchen table and Walter coming over and going over that system for us,” he says. “We spent \$1,800, which was a lot of money for us in 1985. But we thought it was the greatest system in the world. We had a system that — well, what we said back then was that it really *jammed*.”

That system eventually evolved into what you see here: a superb home theater that puts the music first but still kicks on movie soundtracks. It blends nicely into the Parkers’ 20 x 22-foot family room, thanks in part to concealed wiring (installed when the house was built 4½ years ago) and a custom wood equipment rack tucked into one corner. Finished in oak veneer, the rack was designed by Parker and meticulously constructed by Henderson Cabinet Works of Banks, Alabama. It holds ten components — all accessible from the rear via a half-door in a bedroom — as well as the Parkers’ 500-plus CD collection, with artists running the gamut from Joe Walsh to Garth Brooks to Spyro Gyra.

The system starts with a reference-quality CD player: California Audio Labs’ Icon MkII. “I was looking for something that wasn’t too expensive but would still have a digital-to-analog converter good enough that I wouldn’t have to buy a separate processor,” Parker says. One audition was all it took for him to fall in love with the Icon’s “great, smooth sound.”

Another audio source is a classic McIntosh MX 115 preamplifier/tuner, which Parker bought used, primarily for its FM radio. Video signals are supplied by a Sony SLV-920 VCR, a Sony MDP-600 laserdisc player, and an RCA DS2430RW Digital Satellite System, which also receives digital music channels the Parkers play for

background. Parker was first on his block to own a DSS after being on a three-month waiting list to buy the system from his local retailer’s initial shipment. Why so anxious? “Our cable system — pardon my French, but it stinks,” he says. “The digital picture on the satellite system is remarkably good, especially when you’ve got a big-screen TV that clearly reveals any flaws in the signal.”

That’s certainly true of the TV that Parker chose, a massive 61-inch Sony KP-61V15 rear projector, which he feels has the cleanest picture of any set of that size. Still, it took some time getting used to after it replaced the family’s 35-inch direct-view set. “The first two weeks, it was making us dizzy,” he laughs. “Now we don’t know what we’d do without it. I look at a 27-inch TV and it just looks *tiny*.”

All these components need a traffic cop. In this system, a Lexicon CP3+ surround processor does double duty as the main preamp. The CP3+ has four sets of inputs that allow Parker to switch between his CD player, laserdisc player, VCR, and preamp/tuner, which in turn acts as a switcher for the DSS receiver and the TV’s audio output. But the CP3+ is also a world-class THX-certified processor, providing Dolby Pro Logic and THX-



and six-year-old daughter, Chelsea, know about the treasure hidden under their family room. But most folks who come visiting haven’t the faintest idea what’s down there — until it’s too late.

In the early Eighties, Parker was a car stereo fanatic with a penchant for rock music, primarily Pink Floyd and the Eagles. His mobile hobby consumed every spare dollar he could earn — thousands spent in pursuit of the best-sounding car system in town.





enhanced DPL modes, not to mention Reverb, Panorama, and various other ambience modes.

Beyond the Lexicon are three McIntosh amplifiers that juice a suite of Snell speakers. The main amp, a McIntosh MC 7300, delivers 300 watts each to a pair of Snell Type B Minor towers flanking the Sony projector. An MC 250, set for bridged mono operation, provides 100 watts for the Model HCC500 center-channel speaker atop the TV. And an MC 2505, rated at 50 watts per channel, drives a pair of SUR500 surround speakers mounted high up in the rear corners of the room's vaulted ceiling. Parker chose the McIntosh amps for what he says is their rich sound and extreme reliability, while the Snell speakers won their place in the system after a tussle at the local audio shop with a pair of Martin-Logan Quests. Parker found the Martin-Logan electrostatics a bit more open than the Snells, which use dynamic drivers, but he liked the Snells' versatility with his wife's favorite country music and with movie soundtracks. And the result was silky

smooth when they were married to the McIntosh amps. "They integrate so well together," Parker notes, "that it's hard to say which makes the bigger contribution to the system."

Of course, this system wouldn't be complete without a subwoofer to put a little oomph in your step. And at the Parker house, that's literally what you get, because *that's* the hidden treasure buried below the family room.

In a nod to his car stereo roots, Parker called in his old friend and salesman Walter Barno, now of CKR Automotive Products in Montgomery, to build a custom enclosure around a huge 18-inch Kicker Competition subwoofer designed for high-end, head-banging car systems. The fiberglass-sealed cabinet measures 3 x 3 x 2½ feet. The cone fires into a chamber that ports the bass toward the floor at a spot near the middle of the family room.

It was no simple matter muscling this beast into its hideaway. First, Parker and Barno had to go under the house and knock a hole in the family room's concrete-block foundation to

gain access to a cramped 3½-foot-high crawlspace. Then, with another helper from CKR Automotive, they pushed the sub toward the center of the crawlspace, stopping along the way to excavate a trough below the main floor beam so they'd be able to slip the behemoth by. Finally, Parker and Barno climbed out to conduct extensive listening tests, while the dismayed helper remained below to move the box six inches at a time until they were satisfied that it delivered clear, natural bass to any listening position in the room. "It took us a day just to get it positioned right," Parker says.

The subwoofer is driven by an NAD 2200 Power Tracker amplifier left over from Parker's original NAD system. In bridged mono, it delivers up to 1,600 watts of dynamic power for transient peaks. Parker's wife summed up the total effect in her comment at a recent Garth Brooks concert. When the show opened with tremendous bass notes that shook the hall, Parker reports, "Angie just looked at me and said, 'This sounds like your stereo!'"

—Rob Sabin

ROLLING

Many people hoping to upgrade their car stereo systems anticipate some difficult decisions. Stepping up often means adding component speakers and a subwoofer, and cutting new holes for speakers or fitting your trunk with a custom woofer enclosure can be a hassle. Worse, it can chew up valuable cargo space and reduce the car's resale value. And if you lease your car, it may even violate the terms of the lease.

But nowadays a car system can be upgraded in a way that provides enhanced sound quality with few alterations. The secret? Most cars, regardless of the factory-installed sound equipment, have a variety of speaker cutouts hidden in the interior sheet metal, and upgrading to topnotch "drop-in" replacements can deliver a big improvement. Other equipment, such as head units, power amplifiers, CD changers, and wiring, can also be installed with little effect on the dashboard or upholstery. In most cases the upgraded audio equipment can even be "uninstalled" when the car is sold and moved over to a new vehicle. And, best of all, if you're handy with tools you can probably use this approach to install a respectable system on your own.

CHOOSING COMPONENTS

The first step in any upgrade project is component selection. Most people starting with a basic FM radio or cassette receiver and two or four speakers will replace the head unit with a CD receiver, add an external power ampli-

YOUR OWN

A drop-in car system that'll smooth out the road ■ by Ken Pohlmann

fier, and either add or upgrade to new component or coaxial speakers. Some advice: Go for a head unit that includes CD changer controls, which will provide a ready path to your next upgrade. If you're doing a drop-in system, choose a power amplifier with enough channels and crossovers to do what you need without extra components. And make sure it delivers enough power to let you rock a little.

Speaker selection is absolutely critical — choose good drivers with power-handling capability commensurate with the amplifier. Finally, look for speakers that will fit into your vehicle without requiring you to tear it up. Many good speakers can directly replace original factory speakers (or fill empty cutouts), and you'll often be

able to use the existing speaker grilles. Following these principles, I recently assembled four components, including a CD receiver from Alpine, a four-channel amplifier from Stillwater, and two pairs of speakers, from a/d/s/ and Blaupunkt, for the front soundstage and rear fill, respectively. The total suggested retail price of all this gear is \$1,468. Then, to test the theory that an upgrade project can be fun and harmless to both car and owner, I programmed 911 on my cell phone's speed-dial and headed for the garage.

ALPINE CDM-7829 CD RECEIVER

The Alpine CDM-7829 (\$450) is a fine example of late-generation mobile CD playback. Its detachable faceplate enjoys modern styling and a functional

PHOTO BY MICHAEL GRAND



Alpine CDM-7829 CD receiver



DIMENSIONS: 7 x 2 x 6 inches

PRICE: \$450

MANUFACTURER: Alpine, Dept. SR,
19145 Gramercy Pl., Torrance, CA 90501;
telephone, 310-326-8000

MEASUREMENTS (Hammer Labs)

TUNER SECTION

All measurements for FM only except frequency response.

SENSITIVITY (50-dB quieting)
mono (75-ohm input) 12.3 dBf

AM REJECTION (at 65 dBf) 39.3 dB

DISTORTION (THD+N at 65 dBf)
mono 0.29%
stereo 0.51%

SIGNAL-TO-NOISE RATIO (at 65 dBf)
mono 75.9 dB
stereo 63.2 dB

CAPTURE RATIO (at 65 dBf) 2.5 dB

SELECTIVITY
adjacent-channel 16.4 dB
alternate-channel 73.8 dB

FREQUENCY RESPONSE
FM 30 Hz to 15 kHz +1.4, -2.9 dB
AM 30 Hz to 3 kHz +0.4, -13.3 dB

MAXIMUM OUTPUT
(100% modulation) 1.6 volts dB

CD SECTION

MAXIMUM OUTPUT LEVEL 2.2 volts

FREQUENCY RESPONSE
20 Hz to 20 kHz +0, -1.3 dB

DE-EMPHASIS ERROR (at 16 kHz) 0.02 dB

SIGNAL-TO-NOISE RATIO
(A-wid, re 0 dB) 93.6 dB

DYNAMIC RANGE 95.8 dB

QUANTIZATION NOISE 86.6 dB

DISTORTION (THD+N, 1 kHz)
0 dB 0.076%
-20 dB 0.46%

LINEARITY ERROR (at -90 dB) +1.2 dB

**MAXIMUM INTERCHANNEL
PHASE SHIFT** 197.3° at 20 kHz

DEFECT TRACKING
(Pierre Verany #2 disc) 2,000 µm

AMPLIFIER SECTION

All measurements made with 14.4-volt DC power supply, all channels driven into 4 ohms.

OUTPUT AT CLIPPING (at 1 kHz) 12.7 watts

SIGNAL-TO-NOISE RATIO
(A-wid, re 1 watt) 82.5 dB

DISTORTION
(THD+N at 1 kHz, 1 watt) 0.09%

FREQUENCY RESPONSE
20 Hz to 20 kHz +0, -1.4

layout. A power button turns the unit on and off, but you can also power up by simply inserting a CD or hitting any button except Eject or Clock. Volume, bass, treble, balance, and fader adjustments are handled by a single pair of dual-speed keys. Press lightly and the levels change slowly; press hard and they go faster. Bass and treble settings are individually memorized for CD, FM and AM sources, and a loudness mode is provided.

Radio operation is a snap. You can select auto-seek or manual tuning, or use the six preset buttons to access up to twenty-four stations in four bands. There are two FM bands, one AM band, and a convenient Direct Access Preset (DAP) band that can hold both FM and AM stations. For any band, the presets can be programmed manually or automatically with the six strongest stations in the locale. The tuner automatically blends between

stereo and mono reception to reduce noise on distant broadcasts.

While CD playback begins unprompted as soon as you load a disc, there's also a play/pause button and keys for track skipping and searching. Separate buttons select track repeat, random play, and intro scan (which plays the first 10 seconds of each track). Another button is used for control of an optional Alpine six-CD changer, with the station-preset buttons used to select discs. The LCD readout provides alphanumeric, icons and labels for radio and CD modes, and a clock. In addition, it flashes diagnostic messages to help pinpoint installation malfunctions. A supplied remote control duplicates many front-panel operations.

On the back of the CDM-7829 are four speaker outputs, rated at 25 watts (max) per channel, and two stereo preamp outputs to feed outboard amplifi-

ers for the front and rear channels. The front preamp output has an optional nonfading mode; when this is activated, the signal is unaffected by the fader control, as is preferable for driving a subwoofer amplifier.

KICKER IMPULSE 354XI POWER AMPLIFIER

The Kicker Impulse 354xi from Stillwater (\$349) is a four-channel, full-featured power amplifier rated at 35 watts per channel (rms) into 4 ohms. It contains a pair of active crossovers as well as bass and treble boost controls. The amp is housed in a smart black slab of aluminum. One end sports four RCA jacks for front and rear line-level inputs and two four-pin connectors for high-level (speaker) inputs, which are useful if your head unit doesn't have preamp outputs.

Two potentiometers adjust input sensitivity for the front and rear input pairs. In addition, there are four knobs for bass and treble boost for the front and rear. The bass controls are fixed at 40 Hz and are variable from 0 to +18 dB; the treble controls are set at 12 kHz and offer up to +12 dB of boost.

Slide switches control the crossovers for the front and rear channels. Both can be independently set to all-pass, high-pass, or low-pass at 70 or 110 Hz with 18-dB-per-octave slopes. At the other end of the chassis are terminals for battery power, ground, a remote turn-on lead, and speakers.

Like most high-quality power amps, the 354xi contains soft-turn-on/off circuitry to prevent power thumps, and other circuits guard against thermal overload, short-circuits, and undervoltage conditions. Depending on your need, the 354xi can be wired as a two-, four-, or six-channel amp.

A/D/S/ 325IM SPEAKER SYSTEM

The a/d/s/ 325im speaker package (\$499) includes two "component coaxial" speakers, two external passive crossovers, metal speaker grilles, and all mounting hardware. The system, derived from the drivers used in the a/d/s/ 325is component set, includes a pair of 5¼-inch woofers with copolymer cones and butyl rubber surrounds, each with a concentric 1-inch dome tweeter with a neodymium magnet. The woofer's curvilinear geometry is said to deliver better bass response through its increased rigidity and better off-axis response, which helps when the speaker is mounted low in a door.

The woofer and tweeter of each

speaker can be independently connected. In many cases, the 325im's will drop right into factory cutouts, but you may need to buy an adaptor kit to fit 5 x 7-inch or 6½-inch holes.

Each passive crossover, housed in a small plastic module, uses a second-order network with the crossover frequency fixed at 3 kHz, a Linkwitz-Riley alignment for smoother response, and a Zobel network to stabilize the system's impedance. In addition, a/d/s/ uses polypropylene capacitors; their low internal resistance is said to improve transient response.

Inside the crossovers you'll find a three-position slide switch (flat, -3 dB, -6 dB) to adjust the tweeter level for different placements in the car or personal preference; there's also a tweeter-protection circuit. A second switch allows two-way equalization (EQ) for the entire system, with options for flat response (Car mode) or a slightly boosted midrange (Demo mode) for store demonstrations or to compensate for unusual reflections in the car.

Each crossover can be wired to either one or two amplifier channels; with biamplication, the tweeter and woofer are driven independently. The crossovers can be mounted near the amplifiers or merely stuffed into a convenient cubbyhole somewhere in the car's interior. To speed installation, a/d/s/ supplies four 10-foot speaker cables complete with heat-shrunk lugs attached to the speaker end.

BLAUPUNKT VELOCITY VPD693 TRIAXIAL SPEAKERS

When you buy Blaupunkt's Velocity VPD693 package (\$170), you get what at first glance look like typical three-way, 6 x 9-inch drivers. Each has a 6 x 9-inch woofer with a centrally mounted midrange, tweeter, and passive crossover. Similar speakers have been popular for decades as drop-in replacements for factory speakers.

Closer inspection, however, reveals an unusual feature of the VPD693: Each woofer cone has two voice coils wound together on the speaker bobbin to allow biamping. One voice coil connects to a full-range amplifier channel and is driven conventionally along with the midrange and tweeter elements. The extra voice coil, however, is dedicated to the woofer and accepts an amplifier channel that has been low-pass-filtered. This allows the woofer to be driven harder, thus increasing bass output without endangering the midrange and tweeter ele-

ments. At the same time, the full-range channel is relieved of some of its bass obligations, so it can play cleaner and with less distortion.

Yet another benefit is that if the VPD693's are in the rear of a vehicle, the head unit's fader output can drive the full-range coil while a nonfading output drives the woofer. The fader can then be used to adjust rear fill without significantly altering overall bass output. Alternatively, if you're looking to draw maximum power from your amp, and providing that it's stable into a 2-ohm load (as the Kicker amp is), you can wire the two 4-ohm woofer coils in parallel and drive them from a single amp channel.

Beyond its dual voice coils, the VPD693 features a light and rigid injected poly-graphite woofer cone with butyl rubber surround. The 1½-inch polyamide dome midrange and 1-inch polyamide dome tweeter have neodymium magnets, while the woofer

features a 25-ounce magnet. Power handling is rated at 100 watts rms. This speaker also employs Blaupunkt's new "extended pole" design, which is said to control the magnet's flux field to decrease harmonic distortion at high levels and help control cone movement. To ease the pain of installation, Blaupunkt obligingly supplies four 14-foot speaker cables, all mounting hardware, and attractive metal grilles.

MEASUREMENTS

The Alpine CDM-7829 performed well on the test bench. Its CD player's frequency response was flat to within 1.3 dB, total harmonic distortion plus noise (THD+N) was a low 0.07 percent at 0 dB, and digital-to-analog (D/A) converter linearity was quite good. Curiously, this player showed an interchannel phase error of 197.3 degrees at 20 kHz, though it was not an audible problem. Defect tracking was about par.

The tuner showed very good sensitivity numbers and relatively low distortion figures. Its mono S/N was also quite good. Adjacent- and alternate-channel selectivity were both pretty good, and AM and FM frequency response were about par. The power amplifiers inside the head unit were surprisingly peppy, and their S/N and distortion readings were also quite good. This is a good all-around head unit.

Similarly, the Impulse 354xi power amplifier was very solid on the test bench. Harmonic distortion was quite low, and the S/N was respectable. The amp easily exceeded its power ratings into 4 ohms in four-channel and bridged two-channel modes (note that it should *not* be bridged into 2-ohm loads). Moreover, even when I ran continuous 100-Hz sine waves through it at its rated power, the 354xi neither shut down nor even ran particularly hot. This amp looks very good indeed.

My STEREO REVIEW colleague Tom Nousaine performed bench tests on both the a/d/s/ and Blaupunkt speakers. Overall, he was quite pleased with both sets of speakers (see his "Notes on Speaker Measurements" below). The a/d/s/ 325im showed excellent frequency response both on-axis and 30 degrees off-axis while presenting an efficient and stable load to the amplifier. The Blaupunkt VPD693 speakers also provided excellent on-axis frequency response for a triaxial design, and at 30 degrees off-axis response was still quite reasonable.



DIMENSIONS: 13 x 2½ x 9¾ inches

PRICE: \$349

MANUFACTURER: Stillwater Designs,
Dept. SR, P.O. Box 459, Stillwater,
OK 74076; telephone, 405-624-8510

MEASUREMENTS (Hammer Labs)

Unless otherwise noted, all measurements made with 14.4-volt DC power supply, all channels driven into 4 ohms.

OUTPUT AT CLIPPING

4 ohms with 12 volts	48.1 watts x 4
4 ohms with 14.4 volts	61.1 watts x 4
2 ohms with 12 volts	59.2 watts x 4
2 ohms with 14.4 volts	84.1 watts x 4
4 ohms with 12 volts	113.6 watts x 2
4 ohms with 14.4 volts	145.5 watts x 2

SENSITIVITY

(for 1 watt output).....15 to 330 mV

SIGNAL-TO-NOISE RATIO

(A-wtd, re 1 watt).....75.6 dB

DISTORTION (THD+N at 1 watt)

at 1 kHz	0.07%
at 20 kHz	0.15%

FREQUENCY RESPONSE

20 Hz to 20 kHz +0.75,-0.16 dB

INSTALLATION

Installing these components did not pose any real problems, and many car owners should be able to handle the job themselves. If not, your local car stereo shop will be happy to oblige. The secret formula for success is to plan the install carefully, and proceed slowly. In particular, be careful of gas tanks, gas lines, hydraulic lines, and electrical wiring. Don't poke your screwdriver into unknown nests of wiring harnesses. You might, for example, accidentally inflate your airbags and learn firsthand just how expensive they are to replace.

I installed this system in my 1968 Porsche 911, a car that sees new sound systems almost as often as my neighbor changes hairstyles (though usually with better results). First I disconnected the negative cable from my battery to avoid electrical shorts while working. I removed the existing head unit and slipped in the Alpine head. Depending on your car and what kind of head is currently there, this step could take five minutes or five days (particularly if you own a new Taurus). In my case, it was easy to insert and secure the metal mounting sleeve in the dash cutout, then slip the head right in.

Next I mounted the power amplifier in my front trunk using four self-tapping screws. I have a wood mounting base in my trunk for this purpose, but it's also easy to drill directly through the carpet and into the car's chassis. Just be sure you know what you're drilling into (in my case, there's a gas tank underneath). Since my power amp was only a few feet from the head, it was easy to connect the line-output cables between them using conventional RCA interconnects. I also hooked the head's antenna lead to my antenna and its remote turn-on lead to the power amplifier. The switched power lead ran to the fuse box.

Returning to the car's interior, I sized up speaker locations. The front speakers should be mounted as high as possible for good high-frequency response, usually either in the door panels or on top of the dashboard. If you mount speakers in doors, be sure they clear the window-lowering mechanism and the glass as it retracts down. If you choose a dashboard mount, the ideal spot to avoid undesirable reflections is close to the lip of the dash, as far from the glass as possible — though for a drop-in install you'll be limited to the factory speaker locations. My Porsche has cutouts in the

a/d/s/ 325im



DIMENSIONS: 5¼ inches; 2½ inches mounting depth; crossover, 3½ x 1½ x 4 inches

PRICE: \$499 a pair

MANUFACTURER: a/d/s/, Dept. SR, One Progress Way, Wilmington, MA 01887; telephone, 508-658-5100

MEASUREMENTS (TN Communications)

FREQUENCY RESPONSE
(EQ and tweeter settings flat)

on-axis	55 Hz to 20 kHz ±5 dB
30° off-axis	55 Hz to 20 kHz ±3 dB

SENSITIVITY (2.8 volts, 1 meter)92 dB

MINIMUM IMPEDANCE
(EQ and tweeter set flat)3.37 ohms

doors, so I used some plastic spacer rings to reduce the hole diameters and mounted the a/d/s/ speakers there.

Traditionally, rear speakers are mounted in cutouts on the rear package tray. In most cars, the trunk can be used as an infinite baffle for the woofers, thus augmenting bass response. With most hatchbacks the stock speaker locations are usually found under the hatch's side panels. Of course, my back seat was sacrificed long ago for custom speaker enclosures, so the VPD693's went there.

My car is similarly well equipped with speaker cables; in yours you'll probably find factory-installed (and possibly unused) speaker wires leading right to the factory cutouts. For best performance, however, you may want to run your own cables. This is perhaps the hardest part of the job, because you'll need some time to find cable routes that are protected and concealed, and that avoid unnecessary bending or crimping. Also, carefully observe speaker polarity, and be sure to use a grommet wherever wires pass through a metal opening.

Returning to the trunk, I mounted the a/d/s/ crossovers near my power amplifier and connected cables to all the speakers. For this particular test, to take advantage of the Blaupunkt VPD693's flexibility, I chose a unique

wiring configuration. First, I wired the head's fading (rear) preamp outputs to two amp channels for the a/d/s/ coaxials and their external crossovers. Then I wired the head's nonfading (front) preamp outputs to the two remaining amp channels, which were cut off above 70 Hz by the amp's low-pass crossover for driving the Blaupunkt speakers' dedicated woofer voice coils. Finally, I used the head's front speaker-level outputs to drive the Blaupunkt's full-range voice coils, allowing independent adjustment of rear fill. This configuration results in reversed front and rear fader control, since the Alpine's nonfading (that is, woofer) output is designated for the front channels — a minor inconvenience.

To finish off, I tackled the power arrangements, first connecting the head and amplifier ground leads to a ground point on my chassis. A fused cable from my battery's positive terminal was run to the amplifier and head. If your amplifier is trunk-mounted and your battery is in the engine compartment, that will require another long cable run from the positive battery terminal. Use the same principles as with speaker cables, but don't place speaker cables alongside battery cables or you might pick up noise; it's best to run them on opposite sides of the car. And, for safety, always place an appropriate fuse in the power line just after the positive battery terminal.

After reattaching my battery's negative cable, I powered the system, set the amplifier sensitivity, and checked functions. Everything was A-OK. After some preliminary listening, I set the amp's bass and treble boost flat for both the front and bass-only channels. The EQ switches on the a/d/s/ crossovers were set to Car mode (flat) and the tweeter controls to low (-6 dB).

A final word about installation. If you are in any way uncomfortable with electrical wiring or power tools, don't try this at home! A modern car's electronics are quite complex, and you can do serious, serious damage. If in doubt, ask your dealer to do the honors. Experienced pros can drop in a system like this faster than you can slurp a cup of coffee, and they'll guarantee their work.

EVALUATION

The installation chores completed, I grabbed a wallet of CD's and hit the open road to enjoy a sunny afternoon drive through Miami. I spent a few minutes familiarizing myself with the

Alpine's front panel. Overall, its ergonomics are good, with no mysterious button sequencing required, but I was not entirely happy with the hard-to-feel volume buttons, probably the most often used head controls, and I wished they were bigger or more prominent, though this is a minor negative.

The tuner proved to be quite good. I cruised through a few urban canyons with known multipath and dead zones, and the radio did a good job of hanging onto stations as the signal level fluctuated. The automatic stereo/mono blend circuit worked well, too. Another minor quibble: The scanning time of the radio's seek tuning seemed very slow. The CD player was quite road-worthy and proved very resistant to shocks from potholes and railroad tracks. You'd probably need an off-road experience to challenge it seriously — an experiment I wasn't about to try in my Porsche.

Parked by the bay, in the shade of some palms, I turned off the engine and tried some critical listening. I returned briefly to the tuner to verify that FM sound quality was good, then settled in for more serious CD auditioning. The CD player was very good, lacking only the ultimate sense of re-

Notes on Speaker Measurements

The a/d/s/ 325im and Blaupunkt VPD693 proved to be two of the best-measuring coaxial or triaxial drivers I've seen. Frequency response for both was fantastic considering the restrictions of the post required to suspend the elements above the woofer. The VPD693 was remarkably flat, with just a small crossover notch. The 325im showed incredible response at 30 degrees off-axis as well as on-axis, and Thiele-Small measurements of both speakers in the pair were quite close, suggesting tight manufacturing tolerances and good quality control.

All measurements were made in a quasi-anechoic laboratory environment. The cabin gain of the typical car (+12 dB per octave below 70 Hz in a small to midsize vehicle) will help these speakers deliver excellent bass in spite of the modest cone sizes; in any event, a 6 x 9-inch driver has roughly the same piston area as an 8-inch woofer. A pair of 325im's working in tandem with a pair of VPD693's should deliver a minimum of 110 dB of clean bass output. Sound quality, of course, will depend heavily on the vehicle and the speaker placement. — Tom Nouraine

finement provided by the most expensive players. For folks listening in a mobile environment, the sound will be quite satisfactory.

I was also happy with the Stillwater amplifier. Contrary to some reviewers who describe amplifiers as having "smooth sound" or "liquid response," the best amps have no sound of their own and instead transparently amplify the source material. The Stillwater did a nice job of this. I felt the music had a smooth, extended frequency range and snappy transients, and the amp had plenty of power on reserve. It did not struggle even at relatively loud listening levels (exceeding 100 dB) and only occasionally went into mild clipping when driven hard.

Of course, what you hear in a car system is always a unique function of the speakers and car interior. In this case, I was very impressed with the a/d/s/ front speakers. They are relatively expensive but worth every penny. There's no mistaking the sound of good speakers, and the 325im's sounded absolutely great, with smooth response, low distortion, and good power-handling capability.

The Blaupunkt VPD693 speakers also performed well, providing very good rear fill with reasonably good frequency response and level — particularly considering that they were being driven by the head unit's internal amplifiers. The additional woofer voice coil worked great. I switched it off and on, and there was no question that it added tremendous solidity to the bass response in the absence of a bona fide 10- or 12-inch subwoofer. This is a terrific feature that will certainly be copied. Many people disparage 6 x 9's, but these Blaupunkts soundly disprove that prejudice.

In sum, while this system obviously can't compete with the ultra high-end custom systems that win sound-off competitions, it's a major improvement over standard factory-installed fare. Best of all, it requires only a relatively modest investment, and it can be installed with little pain and, in most cars, no structural modifications. Bottom line: It will please the great majority of listeners who value good music and good sound.

UPGRADES

The world is an uncertain place, but some things can be predicted with a high degree of probability. One sure bet is that after you've heard the sound of your upgraded car system, you'll be begging for more. The next upgrade, and probably the easiest and most enjoyable, is the addition of a compatible Alpine CD changer. The six-disc S600 Shuttle, for example, is so small that it could be mounted in your glove compartment.

Beyond a changer, you might want to consider adding a multichannel parametric equalizer (to counteract the severe response anomalies imposed by car interiors), using electronic crossovers instead of passive ones (they're more flexible and preserve power), or adding a large subwoofer (or two) for truly deep bass.

Of course, for the genuine car audio nut, sound is more important than the car itself. He abandons any hope of resale value and attacks a car's interior like a mad scientist. For some of us, though, any cut is one too many. Fortunately, we've seen that it's possible to install a good sound system that's essentially a drop-in modification — one that's guaranteed to enliven the next 100,000 miles. □

Blaupunkt Velocity VPD693



DIMENSIONS: 6 x 9 inches; 3.1 inches mounting depth

PRICE: \$170 a pair

MANUFACTURER: Blaupunkt, Dept. SR, 2800 S. 25th Ave., Broadview, IL 60153; telephone, 708-865-5200

MEASUREMENTS (TN Communications)

FREQUENCY RESPONSE

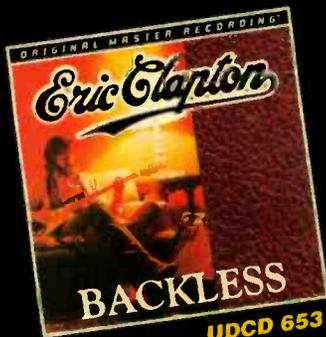
(with both voice coils driven)
on-axis 64 Hz to 16 kHz ± 2.75 dB
30° off-axis 64 Hz to 16 kHz ± 4.2 dB

SENSITIVITY (2.8 volts, 1 meter) 91 dB

MINIMUM IMPEDANCE

both coils/full-range only 3.4 ohms
woofer coil only 4.1 ohms

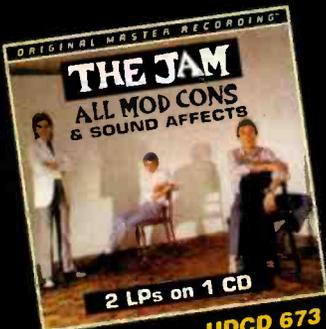
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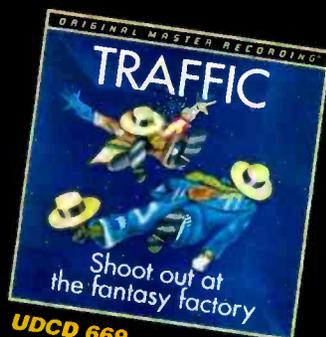


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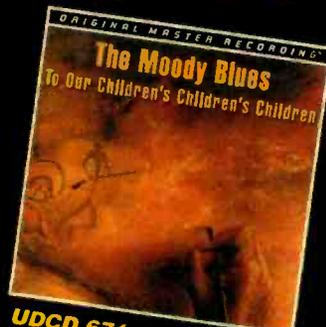
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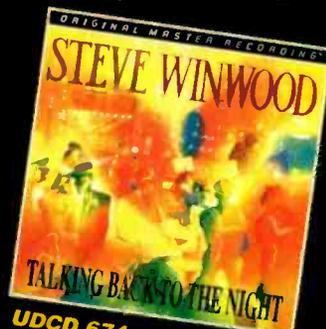
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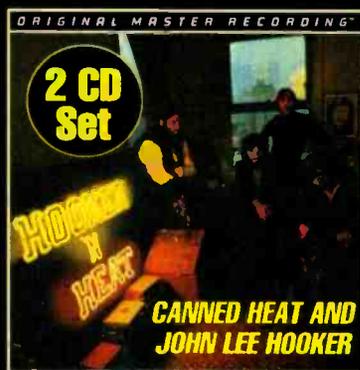
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BEST OF THE MONTH

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



JIM RUDOW/GREENLINNET

The Kennedys Make It Big

Anyone who caught Pete and Maura Kennedy's "River of Fallen Tears" last year would expect certain things of their follow-up, "Life Is Large": chiming guitars and irresistible melodies, lyrics that range from enjoyably banal to psychedel-

ically mind-expanding, and vocals that flow from every tributary from the Go-Go's to Annie Lennox and Dave Stewart. Fortunately, that's exactly what's here.

The Kennedys' stuff chases the most influential sounds of the Fifties and Sixties (Buddy Holly, the Beatles, and, yes,

the Byrds) but adds tweaks of accordion, mandolin, and Hammond organ. Simultaneously shallow and sincere (at times the material sounds like the Partridge Family with a conscience), the songs deal with such subjects as the relationship between Saturday and Sunday: "Saturday don't ask about tomorrow / Saturday can tell a thousand lies / Saturday will take you down when you're too weak to fight / And Sunday doesn't make it right." *Tribe*, set to the beat of two perfectly joined hearts, speaks the secret language of lovers, and *Velvet Glove* is about the politics of love ("Watch out for the iron fist").

Fresh from the bands of Mary Chapin Carpenter and Nanci Griffith, Pete Kennedy is a wildly versatile guitarist, and wife Maura could have given Belinda Carlisle a run for her money. But here they make it a party, recording live with pals Roger McGuinn, Steve Earle, Kelly Willis, John Gorka, Susan Cowsill, Jimmy LaFave, and Monte Warden, all of whom appropriately had a large time. Chances are, you will too. *Alanna Nash*

THE KENNEDYS: Life Is Large.

Life Is Large: Velvet Glove; St. Mark's Square; Sunday; Heart of Darkness; One Heart; One Soul; Mystery; Tribe; I'm Not You; Right as Rain; Blackberry Rain; Sirens. GREEN LINNET 2123 (40 min).

Persuasive Schumann from Radu Lupu

When Radu Lupu, a gratifyingly serious and communicative artist as well as a master pianist not heard from in far too long, turned 50 last year, London Records issued his superb disc of two Schubert sonatas, the towering B-flat Major and the "Little" A Major. Now we have a Schumann recital that may be even more persuasive, an altogether extraordinary matching of artist and repertory. The program, surely chosen for the striking contrasts it affords, comprises the too-seldom-heard *Humoreske*, the frequently abused *Kinderszenen*, and the kaleidoscopic *Kreisleriana*.

One hardly thinks of "interpretation" here. Lupu doesn't appear to be filtering the music through interpretive insights so much as simply responding with confident and powerful directness to the essential spirit of Schumann's impulse. The elegance of the playing, a quality that is second nature to this pianist, in no way contravenes the aura of impassioned spontaneity. But the insights are there, of course, and they are formidable. In this respect, the smallest-scaled and most fa-

BEST OF THE MONTH

miliar of the three works may well be the most revelatory. Lupu resolutely refuses to indulge the *Kinderszenen*, but at the same time his approach is anything but cold-hearted or condescending. He is the most convincing kind of storyteller, capturing Schumann's uncontrived simplicity in every section with neither undue emphasis nor gratuitous understatement.

His performance of the two bigger works, with their greater variety of expressive gesture — wild, tender, witty, severe, earthy, otherworldly — and consequently greater technical demands, could be richly enjoyed on the level of virtuosity alone. The pleasure they afford runs much deeper, though, because of Lupu's unflinching instinct for making sense of each of these broad-ranging works as a cohesive sequence rather than merely an intriguing succession of fantasy pieces. The fantasy element is definitely touched by nobility, and nothing is fragmented or isolated; the cumulative effect is quite exceptional.

The short of it is that this disc is bound to be on everyone's list of the year's best, and I expect it will actually be taken off the shelf and played more frequently than most. Lupu and Schumann are well served by the realistic, well-focused sound, in its way as honest and clarifying as the performances themselves.

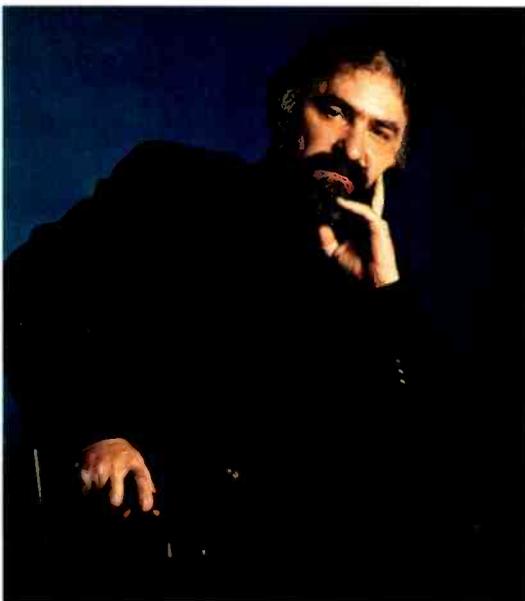
Richard Freed

SCHUMANN:

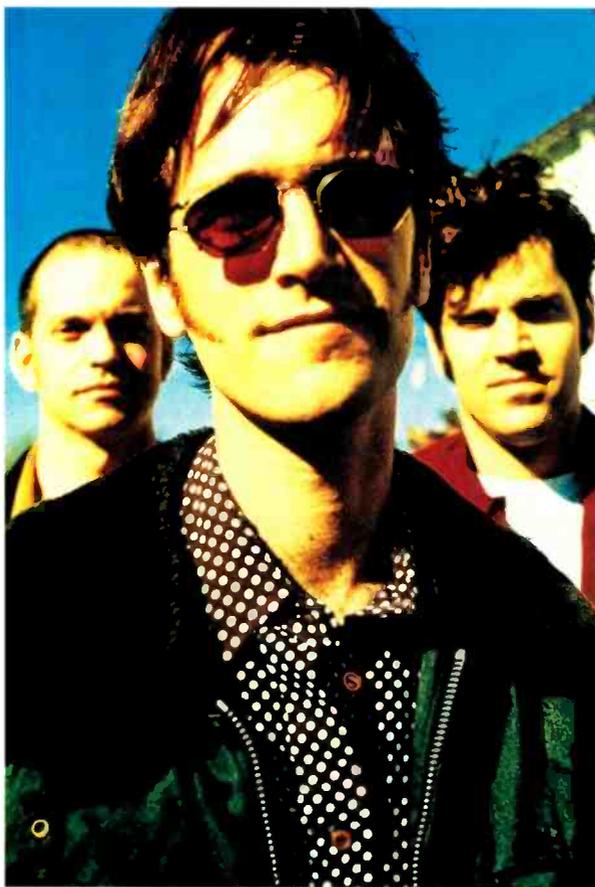
Humoreske, Op. 20; Kinderszenen, Op. 15; Kreisleriana, Op. 16.

Radu Lupu (piano).

LONDON 440 496 (75 min).



Pianist Radu Lupu



ANNALS/AMCA

Semisonic Builds a Better Poptrap

Over the past several months or so, you've been reading a lot of catchwords. Catchy. Retro. Early-, mid-, and late-Sixties. Pure pop for now people. Can you say "Beatlesque"?

"Oh, no," you say, "here comes another Nineties pop thang." And, yes, what with the proliferation of bands like Oasis, Blur, Pulp, Cast, Elastica, Wanderlust, and the Falling Wallendas, it's no wonder you're suspicious of an umpteenth pop revelation. Nonetheless, dear reader, it's discovery time again.

Semisonic began in earnest three years ago when guitarist, singer, and chief songwriter Dan Wilson and bassist John Munson, having survived the Minneapolis band Trip Shakespeare, hooked up with drummer Jacob Slichter and headed for the clubs. Prompting indie interest, the trio released an EP, "Pleasure," on Cherry Disc. Prompting major-label interest, the group has now released a full-length album, "Great Divide," on MCA.

"Gimme three good reasons why I should buy it." Okay. (1) The guitars aren't just jangly or grungy, they have bite, as Wilson deals out dexterous riffs and skydiving solos. (2) The ever-expected melodies and harmonies come in unexpected colors and never fail to delight. (3) After you bob to the upbeat first half, you can stick around and relax in the thoughtful second half. Bonus reason: Producer Paul Fox brings the rich sound he gave XTC's "Oranges and Lemons," nurturing Semisonic in both its loose feel and its studio craft. Craving a sharp song for One of the Ten Best Days of the Year? *Down in Flames* isn't getting airplay for nothing (stay tuned for *If I Run* and *F.N.T.*). Or a widescreen song for a bittersweet night? The fifth track isn't called *Across the Great Divide* for nothing either, and in the mist of *No One Else* hangs the refrain, "No one else can make me cry like you."

"So let's have your in-depth examination of

the lyrics." Sorry, but you'll get no psychoanalyzing from me. These are simple, direct songs about love, and when Wilson sings lines like "I'm surprised that you've never been told before / That you're lovely and you're perfect / And that somebody wants you," he's not obsessing over a relationship warped by the travails of any wannabe who has suffered a lifetime of postmodern Minneapolis angst. No. He's just surprised that she's never been told before that she's lovely and she's perfect and that somebody wants her.

"Great Divide" is great music, and reason enough this summer to vote for Semisonic as the Best Pop in America.

Do you love rock-and-roll?

Ken Richardson

SEMISONIC: Great Divide.

F.N.T.: *If I Run*; *Delicious*; *Down in Flames*; *Across the Great Divide*; *Temptation*; *The Prize*; *No One Else*; *Brand New Baby*; *Falling*; *In Another Life*; *I'll Feel for You*. MCA 11414 (46 min).

Dawn Upshaw's Songs of the Night

There is no lovelier or more graceful singer of art songs now recording than Dawn Upshaw. Her recital discs for Nonesuch (two of which have won Grammys) are characterized by shimmering, exquisitely colored vocalism and flawless musicianship — and that's just for starters. What other singer picks vocal material with such originality and intelligence? Certainly there are others who can compete with her on a tune-by-tune basis, but Upshaw thinks long and hard about the historical context and inner meaning of the songs she chooses — and, more important, she makes her listeners think about these issues, too.

"White Moon — Songs to Morpheus," her new collection of songs in a nocturnal mood (Morpheus being the god of sleep or dreams), alternates between the seventeenth and twentieth centuries, tracing mysterious affinities between the dreamy airs of the English and Italian Baroque and the exuberant fantasies of avant-garde composers such as George Crumb and Ruth Crawford Seeger. *White Moon*, the title piece, Crawford Seeger's ravishing, sneakily seductive setting of a poem by Carl Sandburg, establishes the collection's theme — the deep, ineffable connections between nighttime and the human psyche. How fluidly the song flows from Handel's *Alceste* aria "Gentle Morpheus," with a delicately performed accompaniment by members of the Orpheus

Chamber Orchestra, and Monteverdi's "Oblivion Soave" (from the opera *L'Incoronazione di Poppea*), which has been treated to an unusual but very tasty arrangement for soprano and guitar duo by Sérgio Assad.

Befitting the subject matter of dreams, eccentric arrangements abound. The best-



BERGHAH FENG/OLYMPIA/NONESUCH

Soprano Dawn Upshaw: sweet dreams

known piece here, the melismatic aria from Villa-Lobos's *Bachianas Brasileiras* No. 5, is famous for its unusual instrumentation, being scored for soprano and eight cellos. The work has been recorded many, many times, but Upshaw's performance is hypnotic, and it's enhanced enormously by its context, sandwiched between a lament by John Dowland, with a solo accompaniment on guitar, and George Crumb's *Night of the Four Moons*. The Crumb work is the most extraordinary piece of music in the collection, a setting of passionate, surrealistic poetic fragments by Federico García Lorca in a percussive musical idiom based on classical Japanese music. The disc ends on an appropriately dreamy note. Night's aria from Purcell's *The Fairy Queen*: "Let soft Repose her eyelids close, and murm'ring streams bring pleasing dreams: Let nothing, let nothing stay to give offence." Upshaw's musical dreams give nothing but pleasure, and make the listener hope he never wakes up.

Jamie James

DAWN UPSHAW:

White Moon — Songs to Morpheus.

Warlock: *Sleep*. Handel: *Gentle Morpheus*.

Monteverdi: *Oblivion Soave*. Crawford Seeger:

White Moon. Schwantner: *Black Anemones*.

Dowland: *Weep You No More, Sad Fountains*.

Villa-Lobos: *Aria from Bachianas*

Brasileiras No. 5. Crumb: *Night of the Four*

Moons. Purcell: *See, Even Night*.

Dawn Upshaw (soprano); Margo Garrett (piano);

Sérgio and Odair Assad (guitars); members of

Orpheus Chamber Orchestra; others. NONESUCH

79364 (47 min).

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POPULAR

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(original soundtrack recording).

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JOHNNY MERCER:

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THE SPOTNICKS: In Outer Space.

DEL-FI 6002. First U.S. reissue of early Sixties material by the deeply weird Swedish surf band best known for performing in space suits.

MERLE TRAVIS:

Folk Songs from the Hills.

CAPITOL NASHVILLE 35810. The great country



singer's 1947 "folk" album, including the original recording of *Sixteen Tons*.

CLASSICAL

JULIUS BJÖRLING: O Paradiso.

RCA Victor Orchestra, Rome Opera Orchestra, various conductors. RCA VICTOR 68429.

Arias and duets from Italian and French operas recorded in concert and in the studio by the great Swedish tenor in the 1950's.

CHERUBINI: Missa Solemnis.

Patricia Wells, Maureen Forrester, George Shirley, Justino Diaz; Clarion Concerts Chorus and Orchestra, Newell Jenkins cond.

VANGUARD SVC-44. "The four [solo] singers are excellent, and the recording is clear and well-balanced" (April 1973).

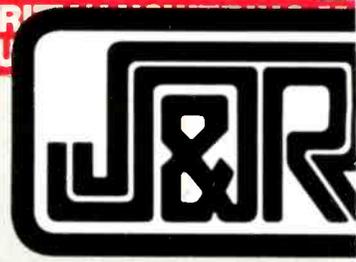
ORFF: Carmina Burana.

Gundula Janowitz, Dietrich Fischer-Dieskau, Gerhard Stolze; Chorus and Orchestra of the Deutsche Oper, Berlin, Eugen Jochum cond. DEUTSCHE GRAMMOPHON 447 437.

"... a most satisfying and moving listening experience" (October 1968).

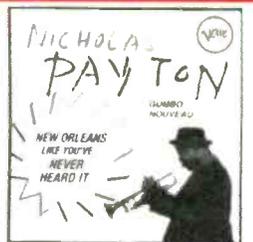
PROKOFIEV: Romeo and Juliet (complete ballet).

London Symphony, André Previn cond. EMI 68607 (two CD's priced as one). "... Previn's treatment of the score lacks nothing in the way of refinement" (November 1973).



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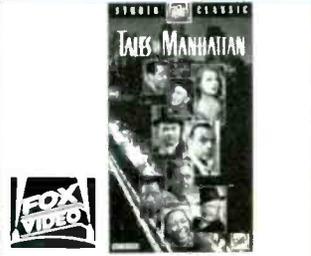
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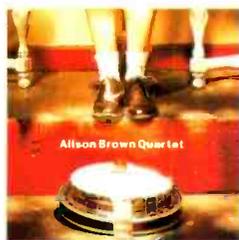
NEW RECORDINGS REVIEWED BY CHRIS ALBERTSON, FRANCIS DAVIS,
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ALANNA NASH, PARKE PUTERBAUGH, KEN RICHARDSON, & STEVE SIMELS

ALISON BROWN: Quartet.

VANGUARD 79486 (37 min).

Performance: Seductive
Recording: Very good

For the uninitiated, Alison Brown — not to be confused with bluegrass/country star Alison Krauss — is a most uncommon banjo player. Akin more to Bela Fleck than to Grandpa Jones, she plays a form of lite jazz-pop that arrives with an intellectual attitude and a brainy IQ. Writing both on her own and with the other three members of



her understated quartet, Brown is capable of emotional, romantic material (*Song of Monterey*, which incorporates Latin flavors) as well as more cerebral stuff, like the polished marriage between bluegrass and bebop that is *G Bop*. Unlike Fleck, however, she never strays too far away from the melody or into a stratosphere of rhythm with few ties to earth. Call "Quartet" snazzy, call it odd, but don't call it New Age. Brown may have a degree from a modern school of thought, but she's an old-school musician at heart. And soul. **A.N.**

THE BUZZCOCKS: All Set.

I.R.S. 36962 (41 min).

Performance: Not quite
Recording: Characteristic

The Buzzcocks were the first true romantics to spring from British punk: If the Sex Pistols wanted anarchy and the Clash wanted a riot, these guys just wanted girl friends. The good news is that they've made a comeback album every bit as terrific

as their late-Seventies stuff. The bad news is that "All Set" isn't it. The real musical comeback was "Trade Test Transmissions," almost unnoticed when it was released two years ago. That disc (and its live follow-up, "French") proved the Buzzcocks' killer guitar sound, knack for hooks, and wide-eyed pop appeal had made it to the Nineties.

So what about "All Set"? Not bad, just a little tepid, although it's likely to get more attention than "Trade" because of big-name producer Neill King, who has paid homage to the Buzzcocks' sound many times with his more famous clients, Green Day. The old magic holds up on the first track — *Totally from the Heart*, a song near-guaranteed to lift your spirits — and reappears on a pair of surprises: *What Am I Supposed to*

Do?, a more-blatant-than-usual Beatles pastiche, and *Hold Me Close*, the band's first real ballad after all these years. It's the more traditional pop-punk numbers that fall short: The likes of *Your Love* and *Kiss and Tell* are pleasant but forgettable, and it doesn't help that the new, youngish rhythm section seems more plodding than the old.

Save for a few barely audible keyboards, King doesn't mess with the sound. Pete Shelley's choirboy voice still makes an oddly perfect mix with the buzzsaw guitars, and co-guitarist Steve Diggle still chips in with a few gruffer numbers (his *Point of No Return* sounds for all the world like a Cars homage). Judging from the lyrics, they still haven't found the girlfriends they were looking for. Maybe one more full-strength album will do it. **B.M.**

CRACKER: The Golden Age.

VIRGIN 41498 (49 min).

Performance: Eclectic
Recording: Very clean

Jeez, the backlash is beginning to mount. Bob Mould titles a song *I Hate Alternative Rock*, while David Lowery of Cracker, who has been known to fret over his band's standing relative to all the many upstarts in alterna-land, opens the group's latest album with a risible broadside called *I Hate My Generation* — sung with the raw-throated abandon of Joe Strummer to boot. Goosed along by Cracker's ace-in-the-hole guitarist Johnny Hickman and Lowery's distaff sensibility, "The Golden Age" genuinely rocks harder than all of the cookie-cutter grunge bands for whom the alternative movement began as some sort of shotgun marriage of Black Sabbath and Black Flag. Buried under Lowery's seeming bluster, however, lies a cagey, cynical, and well-cultivated sense of the absurd. And because of the sort of group Cracker is — a dry-witted, truly al-

DANNY CLINE/VIRGIN



Cracker: attracting the highest-IQ mash pit on the planet?

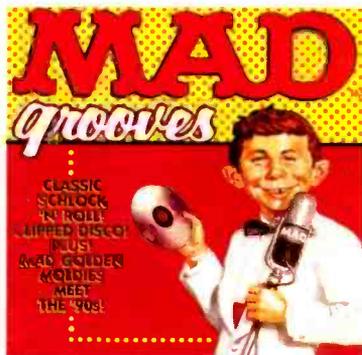
POPULAR MUSIC

ternative band for people who don't find rocking and thinking mutually exclusive — it no doubt attracts the highest-IQ mosh pit on the planet.

Lowery's droll vocals are heard to best effect in *I'm a Little Rocket Ship*, a Bowie-esque power-pop tour of the universe. Industrial-strength riffing and a touch of tremolo fuel *Nothing to Believe In*, a bit of dour positivity that includes such lines as "I've got nothing to believe in except for you / I've got nothing to believe in and I feel fine." *100 Flower Power Maximum* is as wacked-out as its title, soaring on the wings of Hickman's surf-guitar leads and punk-style chording. Interestingly, eight of the twelve songs are Lowery-Hickman co-writes, suggesting an even tighter fusing of sensibilities than was evident on Cracker's previous two albums, which were dominated by Lowery. Although there's nothing as instantly anthemic on "The Golden Age" as *Low*, the new album is endlessly engaging. Highlights include the infectious *Sweet Thistle Pie*, the exquisitely long and weird *Dixie Babylon* (recalling the arcane word-play of *Kerosene Hat*), and the Neil Young-style funky country rocker *How Can I Live Without You*. P.P.

THE USUAL GANG OF IDIOTS

If that phrase rings a bell, you're probably one of the zillions of people who first realized the media were not completely trustworthy thanks to the advertising parodies in *Mad* magazine. If so, you'll doubtless appreciate "Mad Grooves" (Kid Rhino 72435), a sort of Greatest Hits collection of pop-song takeoffs (and other



stuff) the magazine's creators have unleashed over the years. We're totally taken with the hilarious *She Got a Nose Job* (from the 1962 album "Mad Twists Rock 'n' Roll") as well as with *Barely Alive*, a killer disco-era parody of the Bee Gees, but just about everything here is pretty darned funny and/or nostalgic. In short, a nice job — thanks, guys, for the whole fershlugginer mess. S.S.

DEF LEPPARD: Slang.
MERCURY 532-486 (51 min).
Performance: Surprising
Recording: High-tech

Def Leppard doing a Nine Inch Nails sound-alike? The mind may boggle, but there it is in *Truth*, the opener of "Slang," and darned if it's not as potent as the real thing. With its mechanical beat, abrasive guitar sound, ominous lyric, and distorted vocal, *Truth* is a million miles away from the carefree pop-metal that made this band a guilty pleasure in the late Eighties. So is most of the album, where Def Leppard makes its first-ever play for depth, with a new compactness in the writing (all but two songs come in under five minutes), more ambitious instrumentation (*Turn to Dust* includes synthesized tablas and Indian violin), and a heavier turn in the lyrics, as the word "flesh" or "blood" turns up in five of the ten tracks.

The first half of "Slang" works surprisingly well. Def Leppard always had a Brill Building, keep-it-catchy approach to songwriting, and the band has applied the same smarts to its new alterna-rock sound. The best moments have the same cheap thrills of the early stuff; take the fat production and hip-hop percussion off the title track, and you've got a proudly dumb anthem that Slade could have recorded twenty years ago. *All I Want Is Everything* is a classy prom ballad in old Leppard style, with singer Joe Elliott doing his best Steve Marriott impression. Unfortunately, the disc's second half is a ponderous string of midtempo, minor-key numbers that push the new direction a little too far. Still, tell your trendy friends that "Slang" is an album by a new band, produced by Steve Albini and released by Matador, and they'll probably believe you. B.M.

VINCE GILL: High Lanesome Sound.
MCA 11422 (43 min).
Performance: Extremely listenable
Recording: Clean and clear

Vince Gill is one of country music's most gifted performers, but despite an angelic tenor and solid guitar skills, his albums — heavy on haunting, bluegrass-flavored ballads mixed with lightweight rhythm numbers — have sounded somewhat samey for several years now. On "High Lanesome Sound" he both continues in his usual vein and branches out.

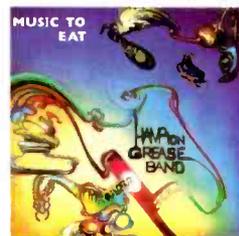
The title song, whose name doubles as the very definition of bluegrass, appears twice, first in an affable, pop-styled rendition and later in a wonderful, deep-dish mountain version with Alison Krauss and her crack band, Union Station. Elsewhere, Gill comes up with another of his gorgeous ballads of failed love and yearning, *Pretty Little Adriana*, but his real growth is in his rhythm numbers, as he explores different cadences in *Down to New Orleans*, a bluesy salute to the Crescent City, and puts a scorching hot blues-guitar intro to *One Dance with You*, a rocking shuffle that incorporates the names of every major rock-and-roll squeeze: Peggy Sue, Mary Lou, Maybellene, and so on. In other words,

Gill's dance songs still may be the most undernourished of his musical children, but he's dressing them better.

Overall, give "High Lanesome Sound" two thumbs up. A.N.

HAMPTON GREASE BAND:
Music to Eat.
SHOTPUT/COLUMBIA/LEGACY 67483
(two CD's, 89 min).
Performance: Demented
Recording: Much improved

When first released in 1971, "Music to Eat" was unusual in several respects. It was a double album, rare in those days. There were only seven tracks spread across its four sides, and three pieces clocked in at somewhere in the neighborhood of 20



minutes. Most of all, the music by Atlanta's Hampton Grease Band was suffused with surreal humor, a study in absurdism as an end in itself. And a quarter-century later, it still holds up as a brilliant aural demolition derby of dual-guitar interplay, off-the-wall wordplay, and ferocious collective improvisation, delivered in a coded and incomprehensible language that only makes sense when you allow it not to.

The high points are two of the longer pieces, *Halifax* and *Six*. Both show off the propulsive acumen of guitarists Glenn Phillips and Harold Kelling, who engaged in the sort of reach-for-the-stars dialogue/competition that causes sparks to fly. True fans of extended guitar improv that orbits around a solid core — as exemplified by such classics as Quicksilver Messenger Service's "Happy Trails," the Allman Brothers Band's "Live at Fillmore East," and the Grateful Dead's "Live Dead" — will be euphoric over (re)discovering "Music to Eat." Be advised, however, that lyrics serve solely to create a crazed subtext beyond linear meaning, as when vocalist Bruce Hampton shouts disjointed fragments about the Nova Scotian city of Halifax using phrases lifted from reference works ("The land is fertile and filled with lime / We wish you would come there and spend some time").

So how did the Hampton Grease Band debut with a double album and then break up? That question is answered in Phillips's absorbing liner notes for this labor-of-love reissue. Suffice it to say that revisiting this brazenly inventive album 25 years later makes me lament the dearth of truly witty, avant-garde, anticommercial spirit in contemporary music. If you've got an adventurous set of ears, by all means pick up "Music to Eat" — Southern-fried kin to Captain Beefheart's "Trout Mask Replica" — before it disappears again. P.P.

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POPULAR MUSIC

CHRIS LeDOUX: *Stampede*.

CAPITOL 34071 (40 min).

Performance: Improved

Recording: Good

Chris LeDoux is a genuine rodeo cowboy who also writes and sings contemporary western and country music. An indie-cult phenomenon, he jumped into the mainstream when Garth Brooks mentioned him in *Much Too Young to Feel This Damn Old*. On "Stampede," LeDoux scores best when his music hangs around the chutes; the title song, which he wrote, is full of western drama and vivid details of a cattle drive gone askew. When he leaves that territory, however, LeDoux is just another fair-to-middlin' cowboy singer. Lucky for him, he's picked better-than-average outside material from Alex Harvey, Kostas, Gary Nicholson, and others, shining especially bright on Gary Vincent and Doug Gill's bitter-sweet *Calico Moon*. Still, lasso "Stampede" mostly if you've got a taste for traildust — or if you just want to see where Garth picked up some of his chops. *A.N.*

LYLE LOVETT: *The Road to Ensenada*.

CURB/MCA 11409 (57 min).

Performance: Uneven

Recording: Fine

This is not, by a long shot, Lyle Lovett's most inventive record. Some of the songs on "The Road to Ensenada" sound like retreads. *Don't Touch My Hat*, where the quirky singer/songwriter gives up his girl more readily than his Stetson, is mildly amusing, but too many of its conceits are too familiar. That said, the album is also packed with everything that makes a Lyle Lovett record special: swing and blues melodies in a big band sound with oddball lyrics, guitar-based folkie ruminations on impossible love, and meditations on regret, sorrow, and the state of the universe, both personal and global.

It's the personal references that spark the most interest. Two stanzas in the delightful swing number *That's Right (You're Not from Texas)* pay homage to old songwriting

chums David Ball, Champ Hood, and the late Walter Hyatt, who rose to a measure of fame while Lovett was writing his name in the history books. And, yes, all you Enquiring Julia Roberts fans, two songs mention a Georgia girl who found her way in — and out — of his life; one, *I Can't Love You Anymore*, is filled with the sadness of the ages. Even when Lovett gets bogged down in pretension (a flat, if wry-dry, remake of *Long Tall Texan* with Randy Newman), you've got to give him his due: Nobody else out there riding the fringes of the country range takes the kinds of chances he customarily takes. Lovett may be negotiating his way out of an intimate crisis, but he has not forgotten the thrill of voyeurism. On "The Road to Ensenada," he lets us feel good about feeling bad. *A.N.*

BOB MARLEY: *Soul Almighty*:

The Formative Years, Vol. 1.

JAD 1001 (39 min; enhanced CD).

Performance: Good ECD value for money

Recording: Archival, with updates

The start of a commercial juggernaut, "Soul Almighty" is the first of three expected enhanced CD's and nine discs overall of previously unissued Bob Marley material, to be joined by a CD-ROM, a book, and eight two-hour documentaries. This initial ECD, featuring R&B-styled tracks from the late Sixties, does plenty of selling on its own, providing links to America Online and vendors of reggae clothing and photography. Still, it boasts the involvement of such Marley principals as producer Danny Sims, engineer Joe Venneri, and Tuff Gong label manager Allan "Skill" Cole, as well as widow Rita Marley.

The attention shows in the thoroughness of the multimedia offerings, which include video interviews with Sims and colleagues, a Marley bio and song chronology, a photo gallery, and a rasta glossary, not to mention the ultra-rare recording of *Selassie Is the Chapel*. You can also go "Into the Vault" and do A/B comparisons of four tracks in raw/restored states. "Sweetened" vocals

and "added" guitars and keyboards may not always be to your liking, but the result is joyous music: the "contemporary vibe" remixes of three tracks, though, are definitely a matter of taste. And it's too bad that some of the ECD's hot buttons lead you to the same destinations — and that the nice graphics are momentarily spoiled by misspellings like Curtis "Mayfield" and, shudder, "Oatis" Redding. Nevertheless, "Soul Almighty" is a fine ECD that aims to teach as much about reggae culture as it does about its foremost proponent. *K.R.*

NEVILLE BROTHERS: *Mitakuye*

Oyasin Oyasin (All My Relations).

A&M 540 521 (49 min).

Performance: Average

Recording: Full-bodied

In the last few years, the Neville Brothers have tended to trot out two, but only two, acts: hyped-up rhythm numbers tinged with Latin and jazz influences and laced with socially conscious lyrics, and genuinely soulful R&B tracks deftly punctuated with Memphis-style horns and guitars. On "Mitakuye Oyasin Oyasin," the Nevilles provide too much of the former and not enough of the latter. You know you're in trouble when the highlights are Aaron Neville's cover of Bill Withers's *Ain't No Sunshine* and a four-minute instrumental, *Orisha Dance*. Where are the Meeters when we need them? *A.N.*

THE POSIES: *Amazing Disgrace*.

GEFFEN 23244 (49 min).

Performance: Transitional

Recording: Needs salt

Richard Posies fans appear to be polarized over "Amazing Disgrace," which completes a three-album progression from a Sixties-styled pop sound to an alternative-styled pop sound. In other words, goodbye to the Hollies comparisons, hello to the Nirvana and Cheap Trick comparisons.

Is Seattle's least grungy band finally jumping on the bandwagon? Not quite, though the Posies have evidently invested in wah-wah pedals and turned their amps up a few notches. The harsher edge of the music does suit the crankier tone of the songs they've been writing; a pounder like *Hate Song* just doesn't call for the acoustic guitar and strings of old. The biggest stretch may be *Grant Hart*, a tribute to Hüsker Dü's troubled drummer, which accurately recreates the old Hüsker sound down to the chord changes and razor guitar. Fortunately, the Sixties touches haven't been junked altogether: Frontmen Jon Auer and Ken Stringfellow (joined here by a new, feisty rhythm section) still do some of the best harmonies around — those Hollies comparisons weren't for nothing — and they can still turn a gorgeous melody when the mood strikes. Here, it strikes often enough, with *Please Return It, Broken Record*, and *Throwaway* all adding warmth to the clatter.

Call "Amazing Disgrace" a more ambitious if less consistent follow-up to 1994's fine "Frosting on the Beater." And salute it for having its catchiest hook in a song with the F-word in the title and chorus. *B.M.*

Neville Brothers: This time, there's no fiyo on the bayou.



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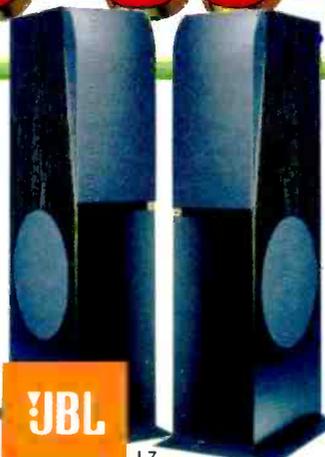


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POPULAR MUSIC

PRIMUS: Tales from the Punchbowl.
 INTERSCOPE 92665 (54 min; enhanced CD).

Performance: Best ECD I've seen
Recording: Loud and crunchy

If you haven't acquired a taste for Primus, the reissue of "Tales from the Punchbowl" as an enhanced CD should do the trick all by itself.

How does one describe Primus? Mean power-trio funk/rock? Comic-aggressive music for dueling lead guitarist and lead bassist? Rush without the lush? Those'll do. "Tales" is tops, including the mirthful *Wynona's Big Brown Beaver* — and unlike almost every other ECD, the entire album can be accessed through its multimedia program. Just take the wheel and throttle of Captain Shiner's ferryboat and chug through "an enchanted liquid atmosphere" to various islands, each leading to visuals and lyrics for a full-length song in CD-quality sound. Besides viewing the video (and "Making Of" footage) for *Wynona*, you can watch a squadron of flying elephants in *Southbound Pachyderm*, deposit quarters in a peep-show booth for *Glass Sandwich*, learn the dark secret behind the abundant puppies at *Professor Nutbuter's House of Treats*, and much more — all via superb graphics that complement the music in Primus fashion.

Among the ECD's other bells and whistles are (literally) bells and whistles, photos both still and wildly interactive, a fully playable drum set, a bonus cover of the Residents' *Hello Skinny*, a Pong game from hell, and a computer "Help" file that should be a model for the format. In fact, "Tales from the Punchbowl" instantly becomes the enhanced CD against which all others must be judged. K.R.



RAGE AGAINST THE MACHINE:
Evil Empire.

EPIC 57523 (49 min).

Performance: Overdone
Recording: Crisp

Confidential to Rage Against the Machine frontman Zach de la Rocha: I agree with everything you're saying, but for God's sake, shut up. If you really want to be mentioned in the same breath as Che Guevara, Malcolm X, Bob Marley, and even Jean-Paul Sartre — whose works are all pictured on your CD's inner sleeve — you're going to need a more nuanced message than one that too often boils down to "the government sucks, dude."

Not that it doesn't. Still, Rage Against the Machine doesn't provide much of a retaliation, unless you mistake garden-variety metal for musical danger. "Evil Empire" includes some intelligent swipes at social in-

tolerance and political injustice in De la Rocha's lyrics, but you have to cut past a lot of street-rebel attitude and plain incoherence to find them. That said, the band's sophomore album sports a few signs of improvement over its overrated debut. The opening *People of the Sun* shows real ferocity, suggesting what might happen if the Beastie Boys sat in with Henry Rollins's band. And *Tire Me*, a fairly cogent jab at political poseurs, contains a surprising (and uncredited) bit of lyrics lifted from Human Sexual Response's New Wave cult classic, (*I Wanna Be*) *Jackie Onassis*. Hey, a borrowed sense of humor is at least better than none at all. B.M.

STONE TEMPLE PILOTS:

Tiny Music . . .

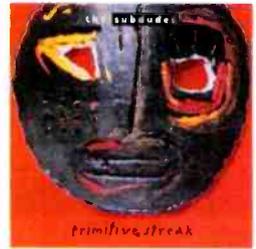
Songs from the Vatican Gift Shop.

ATLANTIC 82871 (42 min).

Performance: Solid
Recording: Very good

Stone Temple Pilots have been pegged as Pearl Jam copyists and grunge opportunists by those who guard the hallowed gates. In a sense, not being taken so seriously has liberated STP from issuing heavy-duty slacker *pronunciamientos*, leaving them free to be heavy when they wanna be and facile and fun when they don't. Meanwhile, they've evolved into one tight band, possessing a verve and a versatility that may make some of their Seattle counterparts envious. No doubt some credit must go to producer Brendan O'Brien, who conveys a sense of urgency with tight segues and a sense of purpose with a dense, economical mix that fairly explodes out of the speakers. Yet the songs themselves are entirely band-written, with words by singer Scott Weiland and music mostly by brothers Robert and Dean DeLeo, who play guitar and bass, respectively.

"Tiny Music . . . Songs from the Vatican Gift Shop" opens with a brief instrumental and then dives headfirst into *Pop's Love Suicide*, a sly and sinuous tune with churning guitars and a descending vocal from Weiland, whose latest round of drug problems can no doubt be divined from the song's allusions to "pop star homicide." More of the same gossip-column fodder turns up in *Tumble in the Rough*, a laundry list of ills from Weiland, who nonetheless insists he is "not looking for a new way to die." What's interesting about STP is the way they laminate a trashy, glam-pop sensibility onto their dark underside, as in *Big Bang Baby* and *Art School Girl*, which are littered with wry, winking references to the Rolling Stones ("Orange crush mama is a laugh, laugh, laugh") and Lynyrd Skynyrd ("She left her home from sweet Alabama"). Older still are the arcane quotes from dreamy, obscure Beach Boys instrumentals that can be heard in the disarmingly pretty *And So I Know*. Such moments reveal STP's solid grounding in rock fundamentals, combined with an ability to retool them in fresh contexts. In short, Stone Temple Pilots are not so easily dismissed, and "Tiny Music" is an album full of hard-core grunge-pop kicks. P.P.



THE SUBDUDES: Primitive Streak.

HIGH STREET 10344 (50 min).

Performance: Joyful
Recording: Just fine

The Subdudes play loose, funky, bluesy rock-and-roll, sometimes spoken with a French accent (read: accordion) in a New Orleans cafe. There's a celebratory feel to almost every track on "Primitive Streak." Think of the Doobie Brothers, Nineties style, dolled up with just a touch of urbane sophistication — the quarter-style violins dancing under the gospel-like harmonies of *She*, for example. Like Richard Thompson, the Subdudes aren't afraid of mixing eclectic influences, as in *Sarita*, where Celtic, funk, and folk strains simmer in a most fetching brew. But for all the band's invention, there's also plenty of down-home stuff, such as the cameo by Bonnie Raitt in *Too Soon to Tell* (not her song by the same name) and the Otis Redding-styled *Don't Let 'Em*, which reaches down the Mississippi with a tambourine, an accordion, and a well-behaved but insinuating saxophone up its sleeve. The Subdudes? The Sublimes is more like it. A.N.

Collection

SONGS IN THE KEY OF X.

WARNER BROS. 46079 (63 min).

Performance: So bod it's scary
Recording: Varies

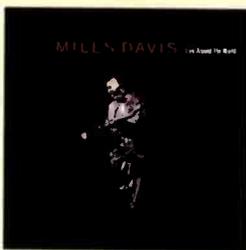
Isn't marketing great? Take a wildly uneven bunch of songs by a grab bag of artists and sling them onto a disc under the banner of a hit TV series, and you've got a smash CD for no other reason than contrived cross-genre coattail-riding. Save for the main-title theme and Nick Cave's *Red Right Hand*, these songs don't actually appear in the show but were "inspired by" it. Which means that any old thing — leftover, reject, experiment, toss-off — will suffice as long as it sounds weird.

As a result, juxtapositions are stranger than an *X-Files* plot line — Danzig to Screamin' Jay Hawkins to Elvis Costello with Brian Eno — but not nearly as riveting. Whoever thought of having William S. Burroughs croak the words to R.E.M.'s *Star Me Kitten* over the original backing track deserves a Grammy for Worst Recorded Idea: the cranky Nike shill sounds as miscast as Sebastian Cabot reciting Bob Dylan. Meat Puppets (*Unexplained*) and Foo Fighters (*Down in the Park*) rise above the morass with typically cool songs, but on the whole "Songs in the Key of X" is a waste of time built around a concept that's nebulous at best and cynical at worst. P.P.

QUICK FIXES

TURGUN ALIMATOV: Ouzbekistan.
OCORA 560086 (76 min).

From the fabled city of Tashkent comes Turgun Alimatov, who plays Islamic folk music of Central Asia on a two-stringed lute (*dutar*), a fretted lute (*tanbur*), and a bowed *tanbur* (*sato*), assisted by his son Alisher on similar instruments. At the beginning the spare, astringent sound of the *sato* seems quite minimalist, but when the *tanbur* is strummed, it builds to a pleasing, weightier texture. Authentic, but not excruciatingly so. *William Livingstone*



MILES DAVIS:
Live Around the World.

WARNER BROS. 46032 (71 min).

Here are concert performances recorded between 1988 and 1990, and though their technical quality is fine, I must confess that they document the Miles Davis period I like the least. During those years, he surrounded himself with good but uninteresting musicians, leaned heavily on synthetic sounds, and only occasionally lit up the stage with his own performance (as he does here in *Time After Time* and *Hannibal*). In short, "Live Around the World" is well made but hardly memorable. *C.A.*

DAVE DOUGLAS: Five.

SOUL NOTE 121276 (61 min).

Douglas's rejigging of Thelonious Monk's *Who Knows* and Rahsaan Roland Kirk's *The Inflated Tear* for an unusual configuration of violin, cello, bass, drums, and his own trumpet would be reason enough to hear "Five." Add to that the adventurous spirit of Douglas's originals and his acuity as an improviser and you've got a worthy successor to last year's "In Our Lifetime" — further proof that Douglas is the boldest and most well-rounded talent to emerge in jazz so far this decade. *F.D.*

DICK GRIFFIN:

A Dream for Rahsaan and More.

KONNEX 5062 (66 min).

This is a combined-on-one-CD reissue of 1979 and 1985 sessions by the gifted trombonist Dick Griffin, a long-time member of Rahsaan Roland Kirk's band. The Kirk influence is very much in evidence; Griffin uses a multiphonic tech-

nique that allows him to produce up to six notes simultaneously on his trombone, and believe me, you'll know it when he does it. (Com-Four Music Distributors, 7 Dunham Place, Brooklyn, NY 11211.) *C.A.*

DOUG HOEKSTRA: Rickety Stairs.

BACK PORCH 3030 (55 min).

On his second album, alterna-folkie Hoekstra recalls the hushed intensity of Nick Drake, the plainspoken deadpan eloquence of Lou Reed, and the off-kilter arrangements of recent Tom Waits albums — a fascinating fusion. Pick hit: the sneakily catchy *In a Crowd*, where a spectacular background vocal opens up the track in a way that verges on the psychedelic. *S.S.*

MIKE OLDFIELD:

The Songs of Distant Earth.

REPRISE 45933 (56 min; enhanced CD).

Divided into seventeen tracks, "The Songs of Distant Earth" is in fact an album-length composition — the format of Mike Oldfield's best work, as opposed to his attempts at actual songwriting. Here, though, his musical ideas are rather thin, conjuring not a distant Earth but a mere Tangerine Dreamscape. And the multimedia of this MAC-only enhanced CD is minimal, providing a short video, an endless birth of a supernova, and the opportunity to wake up Mike from deep-space hibernation. This material was created in 1994, the dawn of ECD, and it shows its age badly. *K.R.*



SCOTS PIRATES:

Revolutionary Means.

SCHOOLKIDS 1539 (55 min).

That's "Scots" as in Scott Morgan, leader of Detroit's legendary Rationals, and his latest band (with drummer Scott Asheton of the Stooges) flaunts what you'd expect: inimitably soulful vocals, a churning metal/jazz rhythm section, and a great MC5-style twin-guitar attack. Best moment: the elegiac *Marijuana Wine*, which has all of the above plus a touch of cowboy blues à la the Stones circa "Let It Bleed." *S.S.*

SURRENDER TO THE AIR.

ELEKTRA 61905 (49 min).

Phish guitarist Trey Anastasio, who apparently worships Sun Ra and "Bitches Brew"-era Miles Davis, presides here over a messy blowout that owes its scattered moments of coherence to guitarist Mark Ribot and the Arkestra's Marshall Allen — who are practiced hands at this sort of thing. *F.D.*

licking atmosphere of a Thirties Kansas City jam, but the image they actually evoke is of a bunch of extras shouting "Peas and carrots, brother, peas and carrots" on cue.

That said, there's some fine music here, beginning with Craig Handy's arrangement of Coleman Hawkins's *Queer Notions*. It features solos by tenor saxophonist David Murray, pianist Cyrus Chestnut, and guitarist Russell Malone, all of whom successfully balance modernist inclinations with a desire to be faithful to the original. And singer Kevin Mahogany, who has sounded glib on his own albums, turns in a very credible performance here in *I Left My Baby*, not exactly capturing Jimmy Rushing's spunk but choosing instead to give one of his best-known numbers an air of menace that Rushing probably never imagined. It might be great fun if not for all of those jive talkers in the background. *F.D.*

DAVE LIEBMAN GROUP: Miles Away.

OWL 30485 (56 min).

Performance: Miles away, but not far
Recording: Excellent

Just when you thought fusion had finally gone the way of rotary phones, here comes Dave Liebman with a plugged-in nod to his old boss, Miles Davis. Okay, it's not as bad as it sounds. In fact, "Miles Away" is a loving tribute, and on the one occasion when Liebman runs up the electric bill to an uncomfortable point, he does so to mirror a facet of Davis — who was, after all, the progenitor of fusion.

Liebman, who joined Davis when the rejuvenated trumpeter was still taking bows for "Bitches Brew," is a fine soprano saxophonist whose scope obviously goes well beyond what he played with Davis between 1972 and 1974. Here, in a program of eleven beautifully structured arrangements, he offers a well-balanced impression of the Miles he knew and admired. And just as he begins with the band fully charged, so he ends with a dulcet version of *Boplicity*, his saxophone accompanied only by Vic Juris's acoustic guitar. From the sound of it, "Miles Away" is a sincere hosanna. *C.A.*

WAYNE SHORTER: High Life.

VERVE 529 224 (53 min).

Performance: No life
Recording: Quite good

Weather Report co-founder Wayne Shorter is one of the most interesting musicians of recent decades. His keen improvisational skill and good taste certainly helped make many Miles Davis recordings more interesting than they would have been without him. Now in his sixties, Shorter is still an inspired weaver of melody, but on "High Life" he's unable to shake the fusion sound that he helped foster and that for all too long clogged up our ears. He buries himself in a synthesized muddle, accented unimaginatively by the overly prominent bass guitar of Marcus Miller, who also produced the album (which explains some of the misdirection). I would love to hear the present-day Wayne Shorter unencumbered by heavy-handed arrangements and a rhythm section that hasn't any. Hated it! *C.A.*

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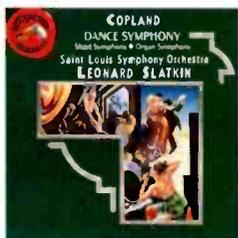
NEW RECORDINGS REVIEWED BY ROBERT ACKART,
RICHARD FREED, DAVID HALL,
JAMIE JAMES, GEORGE JELLINEK, AND ERIC SALZMAN

**COPLAND: Organ Symphony;
Dance Symphony; Short Symphony;
Orchestral Variations.**

Simon Preston (organ); Saint
Louis Symphony, Leonard Slatkin cond.
RCA VICTOR 68292 (67 min).

Performance: Committed
Recording: Full-bodied

For too long Aaron Copland, the craggy, propagandizing Grand Old Man of American music, has overshadowed the younger Aaron Copland, the iconoclastic young modernist who took Paris by storm during the 1920's. This collection of his early works for orchestra, conducted with



authority by Leonard Slatkin and played with stylish flair by the Saint Louis Symphony, should help redress the imbalance.

The Symphony for Organ and Orchestra (1924), Copland's first considerable symphonic work, was one of the earliest American orchestral works to incorporate elements of real jazz (as opposed to Parisian nightclub music), deploying what the 23-year-old composer called "rhythms that would not have been there if I had not been born and raised in Brooklyn." Written as a showpiece for an American tour by his teacher, Nadia Boulanger, the symphony is clearly influenced by the raw energy of the ballets of Stravinsky, who exercised absolute rule over the musical roost in Paris in those days. Yet Copland's distinctively American voice is apparent in the moody, minor-key string introduction to the third movement and the erratic rhythms that follow.

The disc chronicles the composer's continuing evolution as a symphonist with the Dance Symphony (1922-25), which won him the RCA Victor prize for composition, and the Short Symphony (1932-33). The latter, also called the Second Symphony, presents forbidding rhythmic complexities; Serge Koussevitzky once said that it was not difficult but impossible. The CD concludes with a fine performance of the Orchestral Variations, Copland's 1957 symphonic scoring of his famous Piano Variations (from 1930). After the jagged excrescences of the early symphonies, it seems to possess a sublime, Parnassian restraint. *J.J.*

**GAGNEUX: Triptyque for Cello and
Orchestra. SHCHEDRIN: Cello Concerto**
("Sotto Voce").

Mstislav Rostropovich (cello);
London Symphony, Seiji Ozawa cond.
TELDEC 94570 (56 min).

Performance: Definitive
Recording: Excellent

Mstislav Rostropovich, now in his seventieth year, continues to encourage the enrichment of his instrument's repertory in the most meaningful way. He gave the premières of the two works here less than two years ago.

Renaud Gagneux, a Frenchman born in 1947, composed his delicately scored, pastoral-tinged *Triptyque* (with some very imaginative use of percussion) for his compatriot Frédéric Lodéon, who abandoned his own career but forwarded the score to Rostropovich. Rodion Shchedrin is one of the senior eminences among contemporary Russian composers; his association with Rostropovich has been virtually lifelong, and this new concerto is the latest of several works composed for him. As the title *Sotto Voce* suggests, this work, too, is delicately scored, its pastoral character enhanced by alto and tenor recorders.

Both works are well worth discovering, and they are given performances of unreserved conviction by Rostropovich and the

extremely sympathetic Seiji Ozawa. The recording itself is exemplary in respect to both balance and all-round vividness, and the documentation includes comprehensive notes by the composers. *R.F.*

**GLIÈRE: Symphony No. 2; The Red
Poppy, Suite.**

New Jersey Symphony, Zdenek Macal cond.
DELLOS 3178 (73 min).

Performance: Good
Recording: Full-bodied

For this first release using Delos's newly developed Virtual Reality Recording technique, developed with surround-sound playback systems in mind, the producers chose to feature a sonic showpiece without much musical substance, Reinhold Glière's Second Symphony. Glière belonged to Russia's "inter-revolution" generation, following Glazunov but preceding Prokofiev and Shostakovich. Stylistically, his music is similar to Glazunov's but with less refinement and more virility. He is best known today for his blockbuster Third Symphony ("*Il'ya Muromets*"), from 1909-11, and for the long-popular Russian Sailors' Dance from his 1927 ballet, *The Red Poppy*.

The Second Symphony (1907-08) has its moments of high color and heroic gesture,

Sky Music

It's a long way from Thessaloniki, Greece, to Oklahoma, but that's where the family of harpist Yolanda Kondonassis settled when they came to America. A highly regarded soloist, Kondonassis appears with orchestras all over the world in music for her instrument by composers from Mozart to Ginastera. Her third Telarc recording, "Sky Music," titled after a piece by Ned Rorem, also includes works by Debussy, Fauré, Hovhannes, and Salzedo.

PARISH KOCHANIK/SHEILA PORTER



Yolanda Kondonassis: flying high

but for my money it doesn't hold a candle to No. 3. The first movement is like a more gutsy Glazunov, the second Borodin-esque, with a strong lyric element. The theme-and-variations slow movement is balletic in the Glazunov fashion, and the finale echoes Borodin's *Polovstian Dances* and anticipates some of the heroic gestures of *Il'ya Muromets*. The suite from the *Red Poppy* that fills out the CD offers a mix of nationalism and orientalia that's definitely the musical high point.



Zdenek Macal and his New Jersey orchestra exhibit plenty of power, with passion to burn in the string department. I would take issue only with the solo violinist's wide vibrato in the fourth movement of *The Red Poppy*. Macal brings more tautness and color to this score than to the symphony, where he tends to accentuate the lyric rather than dramatic aspects. Heard in conventional stereo playback, the sound was very solid in body and depth, with excellent lateral imaging and "spotting" of solo instruments, though without any exaggeration. *D.H.*

HANDEL: Ariodante.

Lorraine Hunt (Ariodante), Juliana Gondek (Ginevra), Lisa Saffer (Dalinda), Jennifer Lane (Polinesso), Nicolas Cavallier (the King), Rufus Müller (Lurcanio), others: Wilhelmshaven Vocal Ensemble; Freiburg Baroque Orchestra. Nicholas McGegan cond. HARMONIA MUNDI 907146/48 (three CD's, 202 min).

Performance: Bold and idiomatic
Recording: Excellent

Nicholas McGegan, based in Germany, has taken on the immense and remarkable body of Handel's operas and oratorios — recording at least a dozen so far. Like his more famous *Orlando*, *Ariodante* is based on a story from Ariosto, but the plot is extremely simple and only modestly picturesque. Ariodante loves Ginevra (Act I is all bliss), but so does the evil Polinesso, who convinces Ariodante that Ginevra is unfaithful (Act II: misery and evil triumphant). It takes a lot of bravura singing to do the job, but eventually everything gets straightened out (Act III: doubt and resolution).

Until the villain is outjosted and dispatched, very little actually happens on-stage, but everybody feels deeply all the time and sings to us at length about their huge, larger-than-life emotions. All the acts end, a little too tamely perhaps, with modest choruses and charming ballet music in the French manner; my favorite of these is the "Battle between Pleasant Dreams and Nightmares."

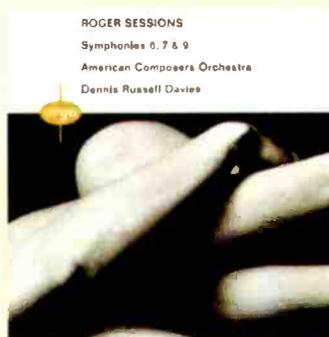
Ariodante has fairly substantial roles for

Roger Sessions, Symphonist

The end of this year will see the centenaries of three important American composers: Howard Hanson (October 28), Virgil Thomson (November 25), and Roger Sessions (December 28). Sessions remains the least well known of the three, and the one most in need of the kind of advocacy Dennis Russell Davies and the American Composers Orchestra provide on an enormously welcome Argo disc comprising première recordings of the Sixth and Ninth Symphonies and what is surely a definitive one of the Seventh.

Sessions, who died in 1985 at the age of 88, composed music of seriousness and substance with as little regard for popular tastes as for the latest fad among the cognoscenti. He did use tone rows, but in a very subtle way, consistently creating music able to reach listeners on both the intellectual and emotional levels.

Though the occasion for his Sixth Symphony (1966) was the celebration of the New Jersey tercentenary, both it and the Seventh (1967), he advised, according to Andrea Olmstead's comprehensive notes with the CD, "form in my mind a kind of series connected with the events of that time" — namely, the war in Vietnam. The Seventh, which he described as "grim all the way through," seems to have been his own favorite among his nine symphonies, particularly for its poignant Epilogue.



The Ninth was completed in 1978, when Sessions was 81. Its outer movements are more expansive and lyrical than those of the two earlier works on the disc, but it is never lacking in drive. Far from being a reflective valedictory, this final symphony represents in quite dramatic terms a coming to grips with the notion of evil and the basic conflict of temperaments presented in William Blake's poem *The Tyger*. Olmstead's notes advise further that Sessions wrote of this work's

middle movement, "I'm afraid it will not be easy to play, but it has to be what it has to be!"

No argument with that from Davies and his committed players, who take Sessions on his own terms and make what is perhaps the strongest argument to date for the proposition that this composer, still so

little known even to his compatriots, was one of the major symphonists of his time. The transparent, well-focused recording and the authoritative annotation do their part in making this distinguished and important release one of the happiest of discoveries for listeners everywhere. *Richard Freed*

SESSIONS: Symphonies Nos. 6, 7, and 9.

American Composers Orchestra, Dennis Russell Davies cond. ARGO 444 519 #71 min).

a tenor and a bass, but all the other roles, male and female, were written for sopranos and altos of the male and female varieties. With the disappearance of the castrati, this kind of light-voiced, flexible, virtuosic singing is today mostly a woman's art. The *prima donna* of the early-opera divas is, without a doubt, Lorraine Hunt, who sings regularly with both William Christie and McGegan and is the splendid Ariodante here. She has a firmness of sound, an expressive legato, flexibility, and enough darkness to her tone to give us a real notion of what those legendary, heroic castrati must have sounded like.

The lighter but no less flexible voices of Juliana Gondek and Lisa Saffer in the two main female roles are hardly less thrilling. The male villain, originally played by a female contralto, is performed here by mezzo-soprano Jennifer Lane, who is just a notch below the others in ease of style. The two men are perfectly competent but inevitably overshadowed.

McGegan's approach to the music is bold and idiomatic. The recording results from a staged production at the Göttingen Handel Festival in Germany, but it has more of the quality of an expressive, lyric/vocal spectacle than of a dramatic experience. As in all the productions of this series, the orchestral playing and the recorded sound bring us close (as close as we're likely to get) to the fabulous ambience of the gilded high-Baroque opera. *E.S.*

HARRISON: Suite for Piano; Sonatas Nos. 3, 5, and 6 for Cembalo or Pianoforte; Prelude for Grand Piano; other works.

Michael Boriskin (piano). NEWPORT CLASSIC 85606 (53 min).

Performance: Relaxed, attractive
Recording: Close but strong

Even now that his contemporaries are mostly gone, Lou Harrison (b. 1917) refuses to play the grand old man of American music. Still active in his eighties, he

CLASSICAL MUSIC

will not let himself be pigeonholed. Although for many years he has rejected Western tuning systems in favor of so-called mean-tone intonation, this album — pointedly called “The Equal-Tempered Lou Harrison” — is a collection of music for traditional piano (and its traditional tuning system). It shows every aspect of his work,

from the exoticisms of the Sonatas for Cembalo to the Schoenbergian Suite for Piano to the neo-Bach-with-strumming-inside-the-piano Prelude for Grand Piano to traditional waltzes and a tango.

Which is the “real” Lou Harrison? All of it, of course. I’m not sure that these disparate works cohere in any significant way,

but maybe it doesn’t matter. This album is like a portrait of a lively and creative mind, and its many and disparate pleasures are well represented by Michael Boriskin’s easy and measured performances. *E.S.*

MACDOWELL: Piano Concerto No. 2.

LISZT: Piano Concertos Nos. 1 and 2.

André Watts (piano); Dallas Symphony.
Andrew Litton cond. TELARC 80429 (65 min).

Performance: Stunning
Recording: Very good

In 1965 André Watts, then 21 years old, was scheduled to perform the MacDowell Piano Concerto No. 2 with the New York Philharmonic, but he was indisposed and sat in the audience instead, listening to the pianist who substituted for him, Van Cliburn. Both Cliburn and Watts have been conspicuous champions of this work, which has never had enough of them. It’s heartening to have Watts represented in a recording of it at last, and with a conductor who shares his enthusiasm, as Andrew Litton obviously does. They make a very strong case for it even if they do not quite match the levels of poetry, drama, and all-round intensity achieved by Cliburn and Walter Hendl, whose 1960 Chicago Symphony recording carries stunning impact and clarity in its recent remastering for a midprice RCA disc.

Watts and Litton do benefit from richer contemporary sonics, and their performances of the Liszt concertos are also on a very high level in respect to brilliance, subtlety, and the level of interaction between them. Again eminently satisfying in their own right, again just edged out by existing favorites: in this case Richter with Kondrashin (Philips), Zimerman with Ozawa (Deutsche Grammophon), and Thibaudet with Dutoit (London). *R.F.*

MOZART: Così Fan Tutte.

Renée Fleming (Fiordiligi), Anne Sofie von Otter (Dorabella), Frank Lopardo (Ferrando), Olaf Bär (Guglielmo), Adelina Scarabelli (Despina), Michele Pertusi (Don Alfonso); London Voices; Chamber Orchestra of Europe. Georg Solti cond. LONDON 444 174 (three CD’s, 179 min).

Performance: Overdriven but well sung
Recording: Singers underexposed

Recorded live at a London concert performance, this set has a welcome touch of theatrical illusion, but it also includes a considerable amount of applause that, however deserved, may prove intrusive on repeated hearings. It is surprising, given a cast of uniform excellence, that the audio perspective does not really favor the singers. Georg Solti’s approach to this very special opera has not altered measurably since his previous recording more than twenty years ago. His control of the vocal ensembles is unerring, and he gets admirably precise execution from his orchestra. A more relaxed and smiling approach would, however, be welcome to mitigate the drive that propels the action relentlessly forward.

Even Solti must surrender to expansive lyricism in the face of Renée Fleming’s exquisite soprano in Fiordiligi’s aria “*Per pi-*

FIRE WATER PAPER: A VIETNAM ORATORIO

Elliot Goldenthal is well known for his theater work and film scores (*Drugstore Cowboy*, *Interview with a Vampire*, *Heat*). But his accomplishments in the theatrical media do not quite prepare us for the power of his *Fire Water Paper*, a memorial to the Vietnam War comparable in many ways to Britten’s *War Requiem* or Bernstein’s *Mass* and a remarkable achievement for a composer still young and relatively unknown in the concert world.

Unlike many of his contemporaries, Goldenthal is a “maximalist” not a minimalist. He assembled an extraordi-

nary collection of texts on the subject of war and the themes of fire and water — drawing on eleventh- and twentieth-century Vietnamese and medieval French writing and folk poetry, the Catholic liturgy, classical Latin, the Old Testament, the poetry of Pulitzer Prize winner Yusef Komunyakaa, and military archives of the war — and scored them for soprano and baritone soloists, men’s and women’s choruses, western and Vietnamese children’s choruses, a solo cello, and a good-sized orchestra with expanded percussion. There are many musical influences here as well,

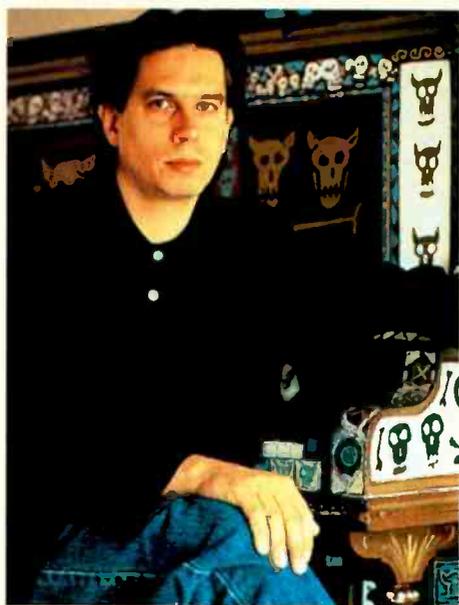
from Mahler and Shostakovich to Bernstein and Britten, and more than a suggestion of Eastern music as well. In spite of all this diversity, the piece is no hodgepodge. And despite all the references and influences, it creates a strong and dramatic profile of its own. Goldenthal does not think small. He organized this oratorio in the manner of a gigantic choral symphony, with a 30-minute vocal/symphonic opening movement (“Offertorium”) on the theme and imagery of fire, a bitterly ironic scherzo (“*Giang Co.*,” or “Tug of War”) that quotes Vietnamese folk songs, Cicero, Tacitus, Virgil, and the Pentagon Papers, and a slow finale (“Hymn”) made out of verbal and musical images of water, boat people, and reconciliation. This is serious, moving stuff, sometimes on the thin edge of portentousness but always redeemed by intelligence and deep feeling.

The work was commissioned by the Pacific Symphony Orchestra, which is located in Orange County, California, the home not only of many Vietnam War veterans but also of the largest Vietnamese population outside Vietnam. It was largely recorded in the orchestra’s home base at the Orange County Performing Arts Center in Costa Mesa; portions were also recorded separately at Seiji Ozawa Hall at Tanglewood in Massachusetts.

All these diverse elements are held together remarkably well by the strong leadership of Carl St. Clair, the director of the Pacific Symphony since 1990 and a major player in the genesis of this work. The high level of the performance is matched by Sony’s recording, which has a live feel and dramatic ambience despite the complexity of the production. This release deserves the attention of anyone interested in a major contemporary musical and musico-dramatic experience. *Eric Salzman*

GOLDENTHAL:
Fire Water Paper: A Vietnam Oratorio.

Yo-Yo Ma (cello); Ann Panagulis (soprano), James Maddalena (baritone); Pacific Chorale, Children’s Chorus; Ngan-Khoi Vietnamese Children’s Chorus; Pacific Symphony Orchestra, Carl St. Clair cond. SONY 68368 (66 min).



WARREN GOLDBERG/SONY

Composer Elliot Goldenthal

età," in the captivating duet "Fra gli amplessi," and in the *largo* portion of the final ensemble. Tenor Frank Lopardo's combination of a solid midrange and effortless top suggests an unusually masculine Ferrando. Vocally, mezzo-soprano Anne Sofie von Otter's Dorabella and baritone Olaf Bär's Guglielmo are excellent if somewhat undercharacterized, though the latter's rage in Act II, Scene 3, is quite convincing. The cast is neatly rounded out by Adelina Scaramelli's charming and unexaggerated Despina and Michele Pertusi's sonorous Don Alfonso.



The opera is given uncut. Some embellishments are observed in the fermatas, particularly by Scaramelli. A little more would have been even better, allowing brief points of relaxation in a performance whose only fault seems to be excessive energy on the part of its octogenarian conductor. *G.J.*

SHOSTAKOVICH: Symphony No. 14.

Elena Prokina (soprano); Sergei Aleksashkin (bass); Vienna Symphony, Eliahu Inbal cond. DENON 78821 (52 min).

Performance: Very good
Recording: Excellent

Shostakovich's Symphony No. 14, his most poignant and searingly personal symphony, was dedicated to Benjamin Britten and takes the form of a cycle of nine songs on texts from Lorca, Apollinaire, Pushkin's schoolmate Wilhelm Küchelbecker, and Rilke. All but one are devoted to various aspects of death and dying. The exception is Apollinaire's savage "Zaporozhnye Cossacks' Reply to the Sultan of Constantinople," which may have given the composer a way of alluding to his own ordeal at the hands of Soviet authority.

Among the song cycle's unifying thematic elements, the clearest is the *Dies Irae* motive preceding the first and last songs. The orchestral scoring, somewhat after the fashion of Britten's two great cycles, is for strings and pitched percussion. The result is one of the great expressions of the human spirit in *extremis*.

Although not in the same league as the early Soviet recordings, especially the one with Galina Vishnevskaya and Mark Rešetin as soloists and Mstislav Rostropovich conducting, this performance under Eliahu Inbal, with two splendid singers from the Kirov Opera, is one of the best of those now available — and the finest achievement of his somewhat uneven Shostakovich symphony cycle. Elena Prokina is endowed with a lovely and passionately expressive soprano, welcome free from the acid top register that mars the work of some

Russian artists, and Sergei Aleksashkin is a "black" Russian bass in the grand tradition. Both are ideally cast for this score. Inbal's Viennese players may not convey the devastating intensity that we hear in recordings of this music from Moscow or St. Petersburg, but they do more than well enough, especially solo cellist Wilfried Rehm. The recorded sound from Vienna's Konzerthaus is eminently satisfying in all respects. *D.H.*

STILL: And They Lynched Him on a Tree; Wailing Woman; Miss Sally's Party; other works.

Yolanda Williams (soprano); Hilda Harris (mezzo-soprano); William Warfield (narrator); Ensemble Singers, Chorus, and Orchestra of the Plymouth Music Series of Minnesota, Philip Brunelle cond. COLLINS 14542 (59 min).

Performance: Powerful music
Recording: Okay

William Grant Still's output was wide and various, and he had recognition in his lifetime, but his reputation faded away after his death in 1978. If he had not been African-American, he would undoubtedly be better remembered, but it was his position between traditional black culture and classical Euro-American music culture that gave him his special niche and his music its particular character.

And They Lynched Him on a Tree, a cantata or oratorio for double chorus, mezzo-soprano, narrator, and orchestra, is as powerful a piece of work as you will find in American classical music. The strength is partly in the peculiarly American subject, but it is also in the music, which is a strong, dark, and dramatic expression of the horrific scene conjured up by the words. Still's use of traditional material, once thought to be dated, now seems fresh and relevant again, and the power of the material is as Biblical as that of any Bach Passion. *Wailing Woman*, on a poem by his wife, Verna Arvey, about the Wailing Wall in Jerusalem, is a similar setting for soprano, chorus, and orchestra in a denser, less dramatic form. Ironically, it was not performed until 1990, twelve years after Still's death.

Not all of the composer's work was so intense. *Miss Sally's Party* is a lighthearted dance score reminiscent of Scott Joplin's *Tremonisha* but slightly more sophisticated. It is, in its way, as genuine a piece of Americana as any of the contemporaneous popular-dance works of Aaron Copland or Morton Gould. Two attractive organ pieces (*Reverie* and *Elegy*) and a curious, wordless version of Stephen Foster's *Swanee River* round out the program, Volume II in a series called "Witness" devoted to African-American music.

The performances are respectable but, alas, not very exciting. Philip Brunelle and his Minnesota forces do us all a great service by helping Still's work to become better known, and they bring out the traditional side of his work well enough. But his authentic voice, his personal mixture of an old-fashioned and calm reconciliation with an undertone of intense pain, has yet to find modern interpreters who will do it justice. Until it does, this CD will serve. *E.S.*

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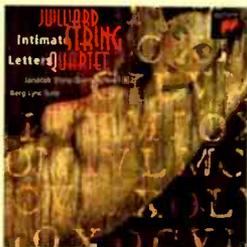
QUICK FIXES

BEETHOVEN: Bagatelles.

John O'Connor (piano).
TELARC 80423 (60 min).
The serviceable Naxos CD of all three sets of Beethoven's bagatelles (Opp. 33, 119, and 126), played by Jenö Jando, is a good buy, but John O'Connor plays them with a bit more character, he includes two additional pieces (WoO 52 and 56) that are not parts of sets, and his piano is far more handsomely recorded. *R.F.*

JACOB: Mini Concerto for Clarinet and Strings; Quintet for Clarinet and Strings; Trio for Clarinet, Viola, and Piano; Concertino for Clarinet and Strings.

Charles Russo (clarinet); Premier Chamber Orchestra, David Gilbert cond.
PREMIER 1052 (67 min).
Gordon Jacob (1895-1984), an authority on instrumentation, composed chamber music whose authority, sheen, and sophistication recall the work of Ravel. The expert clarinetist Charles Russo makes it all sound newly minted, light, and delicious. The concertino is a world-première recording. *William Livingstone*



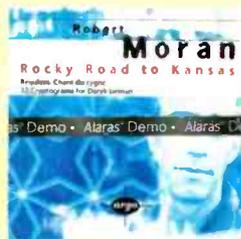
JANACEK: String Quartets Nos. 1 and 2. BERG: Lyric Suite.

Juilliard String Quartet.
SONY 66840 (77 min).
Janacek titled his First Quartet "The Kreutzer Sonata," a reference not to Beethoven but to Tolstoy's novel of that title. His Second Quartet, "Intimate Letters," is actually a sort of love letter in music — as is Berg's contemporaneous *Lyric Suite*. This imaginative program is one of the finest things the Juilliard String Quartet has given us in years. The distinctive character of each work is conveyed with astonishing power and assurance, and the vivid, warm sonic focus is well suited to the material. *R.F.*

MORAN: Rocky Road to Kansas; 32 Cryptograms for Derek Jarman. Requiem: Chant du Cygne.

Erik Johnson, Andrew Morrell (percussion); Joseph Goodrich (keyboards); Kevin Hanson (guitars); Charlie Barber + Band;

Mendelssohn Club Choir and Concerto Soloists of Philadelphia. ARGO 444 540 (65 min).
Nothing much happens during Robert Moran's *Rocky Road to Kansas*, but the 34-minute drive is so pleasurable in its low-key rhythmic manner that you don't mind if the landscape turns out to be almost fea-



tureless and not very rocky at all. The tribute to the late filmmaker Derek Jarman and the three-movement, polychoral *Requiem: Chant du Cygne*, with its references to Mozart's early death and to the AIDS epidemic, are deeply moving. *E.S.*

SCHUMANN: Fantasy in C Major, Op. 17. LISZT: Transcendental Etudes Nos. 5, 8, and 10-12.

Evgeny Kissin (piano).
RCA VICTOR 68262 (60 min).
While Evgeny Kissin is more than impressive here, some of his senior colleagues show a more persuasive regard for momentum in the Schumann and, discounting distinguished recordings of the complete *Transcendental Etudes*, Minoru Nojima remains incomparable in Nos. 5 and 11 in his superbly recorded Liszt recital on Reference. Kissin is put at a bit of a disadvantage, too, by the occasionally twangy reproduction of his piano. *R.F.*

JOSÉ CARRERAS: Passion.

ERATO 12596 (51 min).
José Carreras bleats, sobs, and overromotes as he bawls out trite lyrics set to melodies from such familiar instrumental works as Dvorak's "New World" Symphony, Schumann's *Traumerei*, and Rodrigo's *Concierto de Aranjuez*. The time when this nice man could retire gracefully has passed. This recording is embarrassing. The ludicrous is not far off. *W.L.*

ALEXANDRE LAGOYA: Dances from Bizet's "Carmen"; other works.

Alexandre Lagoya (guitar); Academy of St Martin in the Fields, Kenneth Sillito cond.
PHILIPS 446 002 (56 min).
Alexandre Lagoya's arrangements of a Baroque concerto by Marcelllo, a couple of pieces by early guitar virtuosos, Villa-Lobos's famous *Bachianas Brasileiras* No. 5, music from Bizet's *Carmen* and Granados's *Goyescas*, and a couple of dances by Albéniz and Tárrega, plus his own variations on the theme from the film *Forbidden Games*, make up a pleasant, neatly performed, mildly diverting program. *E.S.*

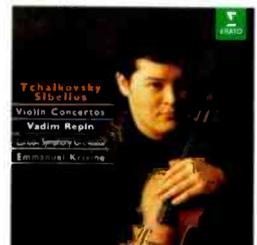
STRAVINSKY: Pulcinella; Renard, Suites Nos. 1 and 2; Ragtime.

Jennifer Larmore (mezzo-soprano); John Aler, Frank Kelley (tenor); Jan Opalach, John Cheek (bass); St. Paul Chamber Orchestra, Hugh Wolff cond. TELDEC 94548 (73 min).
Performance: Sprightly
Recording: Bright

Some of Stravinsky's most lovable, light-hearted works, written during the dark years of World War I and its immediate aftermath, when the composer was in self-imposed exile in Switzerland, are brought together in this delightful recording. *Pulcinella*, a loosely strung-together series of melodic fragments by Pergolesi and other Italian Baroque composers, is one of Stravinsky's most effervescent ballet scores, and this performance has all the liting insouciance one could hope for. The singers generally embody the mock-heroic qualities of their *commedia dell'arte* characters with well-pointed expertise, though John Aler gabbles a bit breathlessly in his allegro air, "Una te fulanzemprece."

Renard, a high-art treatment of an Aesop folk tale, has always seemed to me a bit *too* lovable, too smarmily wise and winking in its whimsical presentation of the cock's attempts to escape the clutches of the fox. The English translation Hugh Wolff has come up with for this recording mitigates that preciosity to some degree, however. The text appears to be truer to the Russian original than Stravinsky's own English version, and it relieves the cock of singing the faintly embarrassing "Chuck-a-dah, chuck-a-dah." In any case, the singers tackle the piece gamely, and Laurence Kaptain's performance on the cimbalom, a dulcimer-like Hungarian folk instrument, rings out with delicate, silvery tones.

The sweetly recorded disc is generously filled up with the two miniature suites for small orchestra as well as *Ragtime*, a strange fantasia for eleven instruments (including cimbalom) that Stravinsky wrote in 1918, based upon his readings of published scores of American jazz — which he had never heard performed live. *J.J.*



TCHAIKOVSKY: Violin Concerto. SIBELIUS: Violin Concerto.

Vadim Repin (violin); London Symphony, Emmanuel Krivine cond.
ERATO 98537 (67 min).
Performance: Pensive
Recording: Very good

Vadim Repin's recent recording of Shostakovich's First Violin Concerto and Prokofiev's Second, with Kent Nagano conducting the Hallé Orchestra, also on Erato, was one of the most exciting releases of its



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kind. Soloist and conductor interacted on an uncommon level of urgency in getting to the very heart of the music, with energy and brilliance to burn and yet with every note beautiful and every phrase convincing. In the far more familiar Tchaikovsky concerto Repin takes a conspicuously more inward approach, reining in the energy to produce a statement of the work that is, at least through its first two movements, more pensive than demonstrative, catching the listener's hushed attention with exquisite *pianissimos* and lingering phrases. The final movement is suitably exuberant, and it is played without the traditional cuts.

While it is exquisite, this unusually inward approach is not going to suit every listener. I imagine that more than a few, while filled with admiration for the precision and delicacy of Repin's playing, will feel a certain restlessness to get on with it. The same goes even more for the Sibelius concerto, whose contemplative episodes benefit more from a bit of energizing than from added introspection on the performer's part. But connoisseurs of fine violin-playing, who are not likely to settle for only one version of these basic concertos, will not want to miss Repin's recording; there is simply too much in it that is exceptional by any standards. The sound is exemplary in its realism. *R.F.*

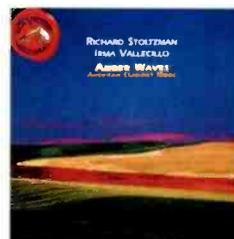
Collections

AMBER WAVES — AMERICAN CLARINET MUSIC.

Richard Stoltzman (clarinet); Irma Vallecillo (piano). RCA VICTOR 62685 (66 min).

Performance: Neat, bluesy, zippy
Recording: Attractive

Richard Stoltzman leads off this collection with a neat arrangement of George Gershwin's Three Jazz Preludes and ends up with encore pieces, but the heart of the CD is three clarinet sonatas by composers born ten years apart: Leonard Bernstein (1918), Clare Fisher (1928), and William Thomas McKinley (1938).



Bernstein's sonata, written when he was only 24 years old, is one of his few pieces of chamber music; a performance like this one makes me wish he had written more. The oldest-fashioned and most original music here is in McKinley's sonata: quiet and almost impressionistic in its first two movements, with an intense slow movement and a rapturous, wailing finale that Stoltzman makes the most of. Fisher's Neoclassical (neo-Baroque, really) *Sonatine* is pleasant enough, but, inevitably, the encores — including Dick Hyman's zippy *Clarinata* and

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Stoltzman's own bluesy version of *Amazing Grace* — steal the show. *E.S.*

ANGELA GHEORGHIU: Arias.

Angela Gheorghiu (soprano): Orchestra del Teatro Regio di Torino. John Mauceri cond. LONDON 452 417 (57 min).

Performance: Ingotiating
Recording: Excellent

Since her Covent Garden debut in 1994 as Violetta in *La Traviata*, a role she subsequently recorded for London, Angela Gheorghiu has attracted considerable international attention. This recital CD, her solo debut, contains two arias from Puccini's *La Bohème*, the opera in which she appeared at the Met this year. Also included are eight arias from the Italian and French repertoire, ranging from Bellini, Donizetti, Verdi, and Catalani to Boito, Massenet, and Gounod, as well as a soprano showpiece from her native Romania.

The program discloses a lyric soprano who sings with charm, a warm timbre, and an even scale. She can float a nice soft note, and her securely placed top notes are free of strain and edginess. Her fine trill is all in place in the "Jewel Song" from Gounod's *Faust*. Her identification with the various characters is not fully explored, however. The Boito *Mefistofele* aria, exquisitely vocalized, lacks tragic pathos, and the scene from Bellini's *I Capuleti e i Montecchi*, rather too modestly embellished, needs more plaintiveness. While Gheorghiu's

enunciation is generally clear, the words become indistinct in the arias from Verdi's *Falstaff* and Catalani's *La Wally*. Obviously, she is still building her repertoire. But the sound of her soprano is ravishingly beautiful, and the orchestral support she gets from John Mauceri is exemplary. *G.J.*

JANOS STARKER: Concerto Collection.

Janos Starker (cello): Santa Fe Festival Orchestra. DELOS 3197. (74 min).

Performance: Energetic virtuosity
Recording: Respectable

Call this CD a brave but not entirely successful attempt by Janos Starker to enlarge the slim cello-concerto repertoire. Boccherini was a famous cello virtuoso, but the Concerto in G Major here, if it is really his, is not among his best. Jean-Baptiste-Aimé Janson, also a cellist and Boccherini's almost exact contemporary, is represented by a rather charming high-Classical Concerto in D Major that is about equal parts inspiration and awkwardness. The Vivaldi Concerto in D Major, Op. 3, No. 9, is a transcription of a violin concerto, and the Couperin *Pièces en Concert* are heavy-handed arrangements of chamber pieces. That leaves the quirky/perky C. P. E. Bach Concerto in A Major, which is certainly the best thing on the disc. Whatever the quality of the music, Starker always plays with energy and virtuosity, and he is accompanied quite respectfully by the leaderless Santa Fe Festival Orchestra. *E.S.*

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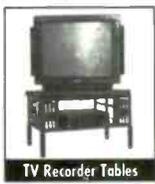
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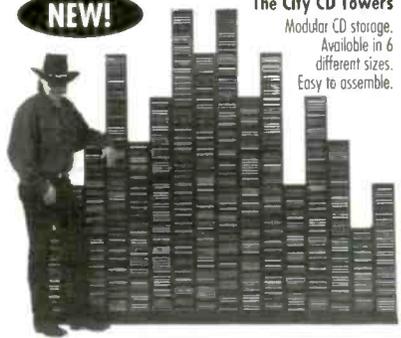
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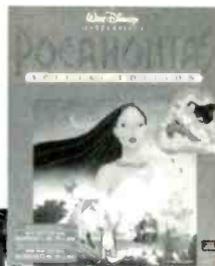
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	Radar Detectors
	BEL
	S80 I Call
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	1430SWH Call
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	UNIDEN
	LRD2150 Call
	LRD2300 Call
	Laser Discs
	PIONEER
	CLDD704 Call
	CLDS104 Call

CD Players	Powered Subwoofers
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XLFD215 Call	BU1 Call
XLMD417 Call	PSW101 Call
	V12SYSTEM Call
	TSW5 Call
	SW300 Call
	JVC
	MXC770 Call
	MXC990 Call
	UXC7 Call
	AIWA
	NSXV90 Call
	NSX999 Call
	KRXV150 Call
	NSX0858 Call
	KENWOOD
	UD403 Call
	UD952 Call
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	KSRT808 Call
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	CDXFM128 Call
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	KEHP6200 Call
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Portable Home Call	SONY
	SPPQ210 Call
	SPPS20 Call
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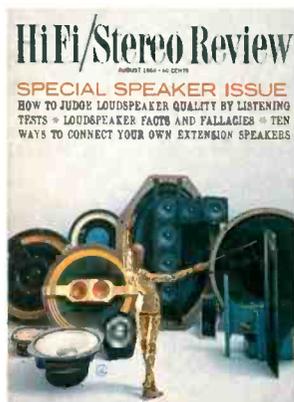
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TIME DELAY



30 YEARS AGO

August 1966 was the month for a "Special Speaker Issue," as the cover made eminently clear. John Milder skewered eight myths in "Loudspeakers: Fact and Fallacy." Acoustic Research's Roy Allison offered the illustrated "Wiring Your Extension Speakers: Ten Solutions," and technical editor Larry Klein explained "How to Judge Speaker Quality with Listening Tests." Other articles included a profile of "the movie theme team," piano duo (Arthur) Ferrante and (Louis) Teicher, and studio veteran Jack Somer's tour "Behind the Scenes in Classical Recording."

In Best of the Month, George Jellinek hailed Angel's "Choral Music of the Spanish New



The Dustmite, 1966

World 1550-1750" by the Roger Wagner Chorale, and Paul Kresh endorsed RCA Victor's original-cast recording of John Gielgud's staging of the Chekov play *Ivanov*.

New products included Heath's kit version of the Thomas Color-Glo "Artiste" ART-1 organ, with keys that lit up with letters and colors for easy playing, and the Dustmite, a record-cleaning device that tracked grooves by means of a pile fabric on the bottom of a weighted disc. Hirsch-Houck Laboratories tested the Garrard Model SP 20 record player, \$37.50, "an excellent choice for a low-priced music system," and ADC's 10/E



James Brown, 1966

phono cartridge, "unquestionably one of the handful of top-quality cartridges that typify the present state of the art."

Funny, we thought he was the Godfather of Soul: Reviewing the organ album "James Brown Plays James Brown Today and Yesterday," Morgan Ames described J.B. as "the most grotesque bore in the business."

20 YEARS AGO

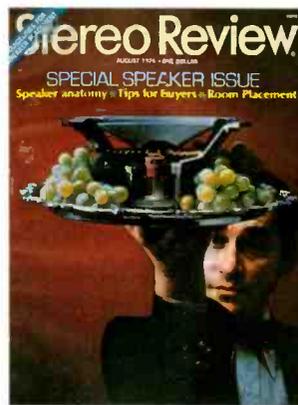
Roy Allison returned for another speaker special in August 1976, contemplating where to place "The Speaker and the Listener," and Larry Klein examined the "Anatomy of the Loudspeaker." In test reports, Hirsch-Houck Labs reviewed Dual's Model 510 manual turntable and McKay Dymek's AM5 AM tuner and DA5 AM antenna, finding the tuner "remarkable."



McKay Dymek antenna, 1976

Richard Freed selected for Best of the Month a L'Oiseau-Lyre disc of Shostakovich string quartets by the Fitzwilliam Quartet, and Steve Simels flipped for the self-titled debut album by singer/songwriter Warren Zevon. Music features included a profile of conductor Antonio de Almeida and an interview with pop duo the Captain and Tennille.

Oh, Joel, you sentimental old softie: Reviewing "Wedding Album" by Leon and Mary Russell, Joel Vance observed, "People in love should sometimes keep their hearts open and their mouths shut."



10 YEARS AGO

Following up the July 1986 report on Japanese audio technology, the August '86 issue looked at European audio. In a photo accompanying his editorial, William Livingstone was shown with Swiss turntable maker Remy Thorens. E. Brad Meyer and Peter W. Mitchell surveyed new European gear, including the Scottish Linn Sondek LP-12 turntable, the French-made Galiste speaker from Cabasse, and the Swiss-German Revox B215 cassette deck — also the subject of one of the issue's test reports, where Craig Stark



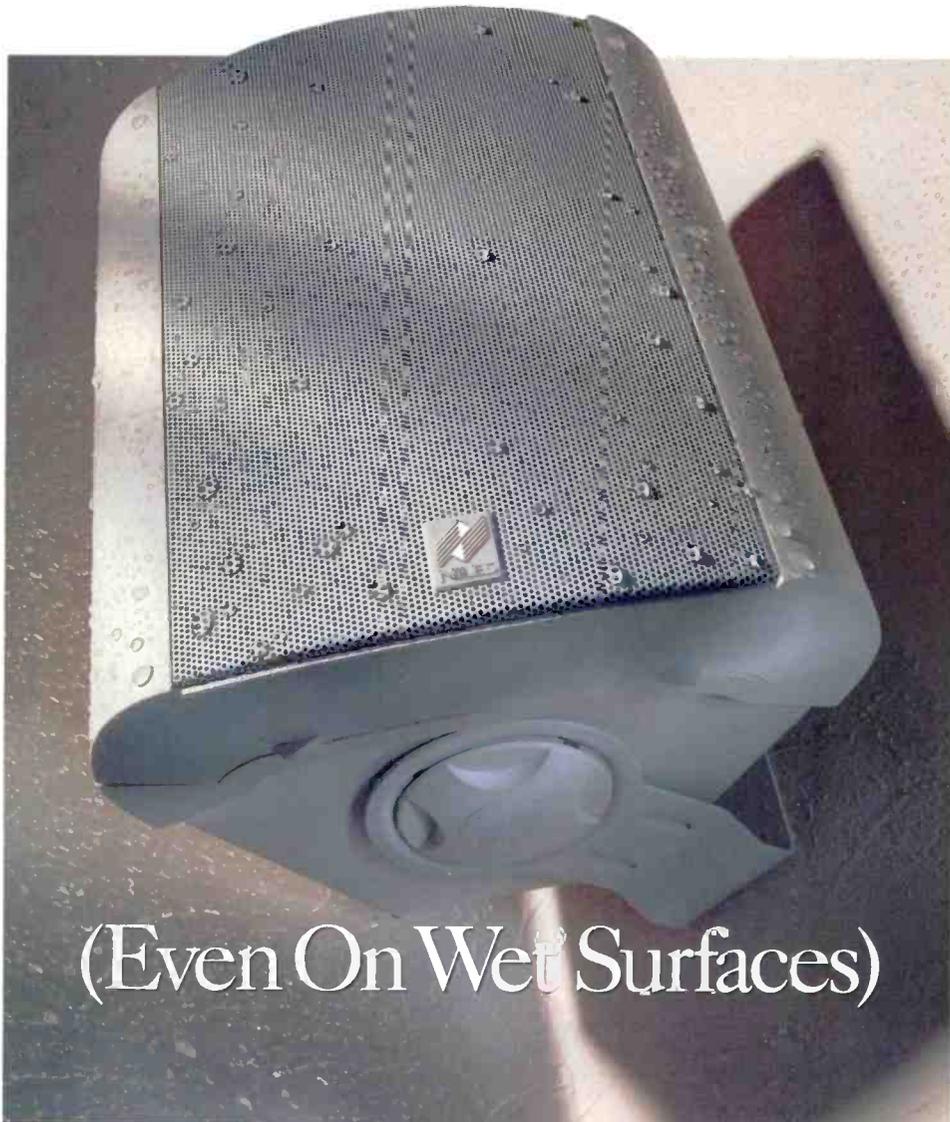
Revox cassette deck, 1986

concluded that it was "among the two or three cassette decks that could with good reason be called the finest in the world." A related story examined the resurgence of Europop, predicting that German New Wave singer Nina Hagen would have a hit, "given the American public's documented appetite for hectoring harpies."

The Boy George Contract with America: Reviewing "From Luxury to Heartache" by Culture Club, a band endorsed today by Republican honcho Dick Arney, Mark Peel said it shows why an LP "doesn't have to be ugly or inept to be bad. Bland will do just as surely."

— Steve Simels

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